

A decorative vertical bar on the left side of the cover. It consists of a series of horizontal bars of varying lengths and colors (dark teal, white, orange, and light teal) stacked vertically, creating a stylized, abstract shape.

UNDER PRESSURE

Recalibrating the Future of
Development in Latin America
and the Caribbean

Copyright @ 2025

By the United Nations Development Programme
1 UN Plaza, New York, NY 10017 USA

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by means, electronic, mechanical, photocopying, recording or otherwise, without prior permission.

Language: English
Sales no: E.25.III.B.3
PRINT ISBN: 9789211592979
PDF ISBN: 9789211545449
Print ISSN: N/A
Online ISSN: N/A

General disclaimers. The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Regional Bureau for Latin America and the Caribbean of the United Nations Development Programme (UNDP) concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

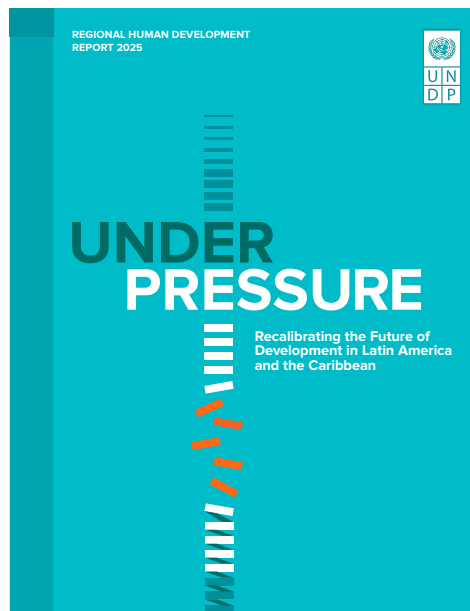
The findings, analysis, and recommendations of this Report, as with previous Reports, do not represent the official position of the UNDP or of any of the UN Member States that are part of its Executive Board. They are also not necessarily endorsed by those mentioned in the acknowledgments or cited.

The mention of specific companies does not imply that they are endorsed or recommended by UNDP in preference to others of a similar nature that are not mentioned.

Some of the figures included in the analytical part of the Report where indicated have been estimated by the RBLAC or other contributors to the Report and are not necessarily the official statistics of the concerned country, area or territory, which may use alternative methods. All the figures included in the Report are from official sources. All reasonable precautions have been taken by the RBLAC to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied.

The responsibility for the interpretation and use of the material lies with the reader. In no event shall the RBLAC and UNDP be liable for damages arising from its use.

The signed contributions in boxes and spotlights represent the opinions of the authors and are the product of independent research of their responsibility. They do not represent necessarily the position or opinions of the RBLAC or UNDP. Any errors or omissions are the authors' responsibility. They are presented in the Report to stimulate debate and to encourage further dialogue between researchers and decisionmakers.



**Regional Human Development
Report for Latin America and
the Caribbean 2025**



**REGIONAL HUMAN
DEVELOPMENT REPORT 2025**

Under Pressure

Recalibrating the Future of Development
in Latin America and the Caribbean

Regional Human Development Report for Latin America and the Caribbean 2025

United Nations Development Programme (UNDP)

UNDP Regional Bureau for Latin America and the Caribbean (RBLAC)

Michelle Muschett

Assistant Secretary-General and Regional Director for Latin America and the Caribbean

María del Carmen Sacasa

Deputy Regional Director for Latin America and the Caribbean

Team of the Regional Human Development Report 2025

Lead author

Almudena Fernández

Chief Economist for Latin America and the Caribbean

SDG and Development Policy Team

Rodrigo Barraza

Enrique Crespo

Ana Carolina Díaz

Camila Olate

Irma Ovelar

Ana Pirela

Santiago Rodríguez

Foreword

Latin America and the Caribbean (LAC) holds a unique potential for sustainable development. It is home to vibrant and diverse cultures, extraordinary biodiversity, and abundant reserves of clean energy and strategic minerals. The region's young population and entrepreneurs are creating technology-driven solutions to address pressing social and environmental challenges. Though it faces significant obstacles, LAC continues to show a strong vocation to peace, democratic governance, and social innovation.

Despite this potential, the effects of global economic volatility, geopolitical tensions, and accelerating technological and social change converge in the region with deeply rooted structural vulnerabilities, elevated levels of uncertainty, and the exposure to more frequent, intense and interconnected shocks. These factors, compounded by governance challenges and insufficient institutional capacity to address emerging crises, are pushing down on the region's hard-earned development gains.

LAC's significant—but unequal—progress in terms of human development and poverty reduction, democratic consolidation, and economic growth achieved in the previous decades started to stall even before the COVID-19 pandemic, signaling a vulnerable development trajectory that is no longer keeping up with a changing context.

Acknowledging the intense pressure that this context exerts on today's decisionmakers and the fact that more of the same is no longer enough, we approached this Report with a critical question: What would it take for the region to fully harness its immense potential, transforming pressure into a catalyst for redefining its development trajectory? The answer is complex, as individuals, societies, markets, and institutions also face varying degrees of pressure, exacerbated by a pervasive sense of uncertainty about the future and their ability to cope with it. When uncertainty erodes a society's ability to imagine a future with hope, and act upon it, the very essence of human development—freedom and agency—is compromised.

This dual nature of pressure—as both strain and potential—led us to move the concept of **resilience** to the front of the development agenda as the differentiating element. Building on the concepts introduced by UNDP's previous Human Development Reports, such as human development, human security and agency, this Report goes further, proposing a forward-looking concept of **Resilient Human Development** both as an enabler of agency and protector of effective freedoms, as well as a path forward for development in LAC.

While uncertainty cannot be prevented altogether, thriving under it is possible, if individuals are confident that the mechanisms to withstand adversity are available to them, and that rebounding and flourishing can happen. Placing resilient human development at the heart of public agendas and development strategies would open a path for innovative, context-sensitive solutions that enable people to build or creatively rebuild valuable lives in response to shifting contexts, inspiring collective action and driving meaningful progress.

Beyond a solid and rigorous conceptual framework, this Report is designed to serve as a practical resource to support the region, its people, and decision-makers to navigate uncertain times by recalibrating the institutions, infrastructure, and instruments to match the urgency of today's most pressing challenges with equally audacious solutions. It is an invitation to jump on the opportunity and reimagine a future full of possibilities; to forge bold alliances and inspire collective action across governments, civil society, academia, private sector, and multilateral institutions—and to jointly unlock the promise of resilient human development in Latin America and the Caribbean.

Michelle Muschett

Assistant Secretary-General and Regional Director for
Latin America and the Caribbean
United Nations Development Programme

Acknowledgements

First and foremost, we would like to acknowledge the generous support of the Spanish Agency for International Development Cooperation (AECID), whose decades-long commitment to this Report has provided a vital contribution to human development in Latin America and the Caribbean (LAC). We especially recognize Antón Leis, Laura Oroz, Blanca Yañez Minondo and Mónica Fernández Sánchez for their consistent dedication and for embodying the spirit of international cooperation that sustains this work.

The drafting team is deeply grateful to Achim Steiner, former UNDP Administrator; Michelle Muschett, UNDP Regional Director for Latin America and the Caribbean; María del Carmen Sacasa, Deputy Regional Director; and Linda Maguire, former Deputy Regional Director, for their leadership and guidance through the process of developing this document. Their unwavering trust in our team, combined with their insights and deep knowledge of the regional context, has been instrumental in shaping the conceptual foundation of this Report and the process for its elaboration and consultation. Most importantly, their steadfast commitment to advancing development in LAC was a guiding light to ensure its relevance to the people it aims to serve. We are especially grateful for the safe and collaborative space they created and for encouraging our curiosity and creativity throughout the process.

From the very beginning, our Advisory Board provided invaluable expertise, ensuring that the content of this Report remained relevant, forward-looking and grounded in regional realities. We are immensely thankful to each Board member for their unwavering commitment: Alberto Arenas, Sir Hilary Beckles, Kevin Casas-Zamora, Rebecca Bill Chavez, Sergio Díaz-Granados,

Jessica Faieta, Verónica Frisancho, Antón Leis, Luis Felipe López-Calva, Carlos Malamud, Ángel Melguizo, Laura Oroz, Érika Rodríguez Pinzón, José Manuel Salazar and José Antonio Sanahuja.

We are deeply grateful to friends and trusted advisers, Pedro Conceição, Pablo Gago, George Gray Molina, Luis Felipe López-Calva, Magdy Martínez-Soliman, Juan Carlos Roldán and Heriberto Tapia, who very generously offered their time and knowledge to help us brainstorm and validate ideas throughout this process. Their thoughtful advice, and dedicated engagement, particularly during critical phases of the drafting process, left a lasting mark on the ideas and narrative presented here.

We are equally appreciative of the global experts who, while not formally part of the Board, became active contributors to this project thanks to their strong commitment to the region: Gustavo Béliz, Mauricio Cárdenas, Laura Chinchilla, Isabel de Saint Malo, Alma Espino, James Foster, Stella Hartinger, Juan Infante-Amate, Santiago Levy, Mónica Orozco, Eric Parrado, Marcela Ríos and Carlos Scartascini.

A special mention goes to Ricardo Fuentes-Nieva, whose guidance helped us craft the narrative from its earliest stages, even before it could be called a draft. His ability to see the story before it was fully written was integral to shaping its direction. We are also deeply grateful to María José Abud and Adriana Conconi for their valuable contributions to the drafting and revision of chapters and supporting materials. Thank you to our interns, Carolina de Boeck, David Morales Olalla and Sebastián Vega, for your rigorous and enthusiastic assistance throughout the process, from developing graphics to drafting and reviewing text.

We wish to recognize the authors of the background papers whose substantive contributions helped inform the conclusions and recommendations presented here. We are privileged to have drawn from the minds of distinguished experts, including Sabina Alkire, Azucena Cháidez, Lucia Dammert, Salomé Ecker, Gemma Galdon-Glavell, David Khoudour, Allan Lavell, Amir Lebdioui, Sandra Martínez-Aguilar, Ángel Melguizo, Matías Morales Cerda, Victor Muñoz, Eduardo Ortíz-Juarez, Carolina Sampó, Edgar Valle Álvarez, Mariana Viollaz and Carol Watson-Williams.

A special thanks goes to the UNDP Resident Representatives across LAC whose political acumen, thoughtful contributions during consultations and continued support, particularly through the facilitation of their country offices, greatly enriched our work. We are particularly grateful to the Mexico country office, especially to Lorenzo Jiménez, Resident Representative, for hosting our team of experts for the Second Author's Workshop, and to Oscar Cárdenas, Georgina Siqueiros and Daniela Vallarino for her valuable support in the coordination of this event.

We also want to extend our appreciation to colleagues at UNDP country offices who supported local research efforts, authored papers, provided comments on findings, conducted interviews in the field, participated in workshops and contributed valuable input that deepened our understanding of how the Report's themes resonated within their national contexts: Gabriela Catterberg, María Eugenia López, María Verónica Moreno, Lorena Moscovich, Agustina Moschini, Julieta Mulki, Noelia Oliveri, Patricio Yamin, María Eugenia Di Paola, Matias Mottet (Argentina); Fernando Aramayo, Patricia Choque, Nelly Garcia, Milenka

Ocampo, Alberto Saavedra, Diego Suárez (Bolivia); Betina Barbosa, Thais Delarisse (Brazil); Rocío Berwart, Javiera Troncoso, Rodrigo Herrera, Vicente Silva, Matias Retamales, Maya Zilveti (Chile); Jaime Urrego (Colombia); Randall Brenes (Costa Rica), Dariadna Barrios Tabares, Marta Rosa Muñoz Campos, Leyner Javier Ortiz Betancourt, Arianna Rodríguez García, Aymara Hernández Morales, Grisel Acosta, Ricardo Nunez, Jessica León (Cuba); Sócrates Barinas Guerrero, Arcia Melisa Breton, Julio Díaz, Erika García Suárez, Sandy Ramírez, Jerson del Rosario (Dominican Republic); Fernando Pachano and Alejandra Peña (Ecuador); María José Erazo, Jessica González, Gabriela González, Carolina Molina Medina, Laura Rivera, Eduardo Alas, Rafael Pleitez, Victor Tablas (El Salvador); Elías Miguel Ahuat, Javier Brolo, Juan Roberto Hernández, Alejandra Horjales, Ana Gabriela de León, Carlos Mazariegos, Shabnam Sabetian, José Villagran (Guatemala); Pierre Faubert, Antione Pierre (Haiti); Gerardo Moya (Honduras); Kishan Khoday, Abby-Gale Clarke, Anthony Gordon, Jamaro Marville, Stacy-Ann Tomlinson, Danielle Tomlinson, Kimberley Wilson (Multi-Country Office in Jamaica); Luis Cervantes, Maite García, Jesús Pacheco, Cinthya Martínez, Jorge Munguía, Gabriela Ríos (Mexico); Anibal Cardenas, Jennifer Hotsko, Betty Chemier (Panama); Gabriel Lama, Ivan Lanegra, Mariana Olcese, Noam López Villanes, Camila González, Carlos de los Ríos (Peru); Stefan Affonso, Alan Cooper, Gregory Smith (Trinidad and Tobago); Valentín Balderrín, Verónica Pérez-Bentancur, Rafael Piñeiro-Rodríguez, Fernando Rosenblatt, Sabrina Rodríguez, Virginia Varela (Uruguay); and Daniel Barraez (Venezuela).

Several colleagues across UNDP provided valuable advice and inputs at various stages of the process, participated in consultations and conducted peer reviews of the chapters,

contributions that helped strengthen the quality and relevance of the Report. We are grateful to Jairo Acuña, Juan Manuel Almanza, Gemma Aguado, Claudia Aguilar, Marta Álvarez, Corin Bailey, Ugo Blanco, Flor Bolaños, Gloria María Borrero, María Eugenia Boza, Claudia Bresanovich, María Cortes, José Cruz-Osorio, Luis Dasilva, Daniela de Los Santos, Gedion Dissasa, Alison Drayton, Eileen Fábrega, María Fernández Trueba, Lyes Ferrouki, Adam Forbes, Luis Gamarra, Olivier Guillot Hidalgo, Diego Galvez, Maia Hibben, Ronald Jackson, Richard Kelly, Dylan Kerrigan, Anish Kutamballi, Sara Luaces, Gloria Manzotti, Guillermina Martin, Rodrigo Márquez, Luz Patricia Mejía Guerrero, Xavier Michon, Gianluca Merlo, Robert Opp, Alejandro Pacheco, Luqman Patel, Renata Pardo, Gayan Peiris, Maria Pinedo, Andrea Quesada, Sandra Racines, Erika Rodríguez, Johanna Sáenz, Javier Samper, Karin Santi, Rita Sciarra, Corrado Scognamillo, Marcela Smutt, Miguel Solana, Juliet Solomon, Katy Thompson, Luciana Trindade de Aguiar, Ivonne Urriola, Patricia Vargas, Cynthia Valdés, María Andrea Voria, Montserrat Xilotl and Diego Zavaleta.

Our special appreciation is extended to our colleagues from the UNDP RBLAC team, whose collaboration was essential in ensuring that every piece of the puzzle fell into place, allowing for the development of this document to proceed as smoothly as possible. In particular, we want to acknowledge the impeccable work of the procurement, operations, human resources and administrative teams in New York and Panama, whose support was essential in managing the extensive administrative processes: Vladimir Domínguez, Marco de Luca, Claudia Monzón, Graciela Basset, Clara Arango, Marcela Bernal, Lydabel Cabrera, Bélgica Camero, Ramon Chong, Mitzumari González, Silvana Gramajo-Barboni, Ingrid Lucero,

Ana del Carmen Ortega, Donerys Ramos, Alba Santamaría, and Carola Schwarzbauer. We are also grateful to the Communications team for their enthusiasm and support: Sharon Grobeisen, Vanessa Hidalgo, Melina Loayza, Valeria Maduro, Carolina Moreno, Eleonora Nun, Sandra Pérez and María Gabriela Urbanc.

We are also grateful to the team at Phoenix Design Aid A/S for their exceptional work in shaping the editorial flow, visual design and translation of this Report. A very special thanks to Christian Gallardo for his generous support and creative vision that made the cover design possible.

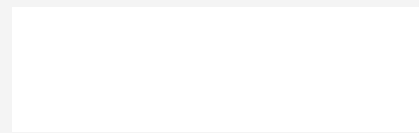
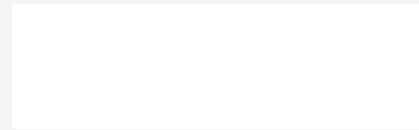
Last, but most certainly not least, our heartfelt thanks go to Irma Ovelar, whose exceptional dedication and graceful orchestration of every logistic and administrative detail made it possible for these pages to come to life.

The theme and research questions of this report were shaped through extensive consultations. We are deeply grateful to all those who participated in the dialogues and workshops that informed this process. We also drew heavily on insights from UNDP's *Graph for Thought* series, which served as both a testing ground and an incubator for many of the key ideas that underpin this work.

This Report is the result of many minds and hands. We are indebted to all those who offered their knowledge, feedback and encouragement along the way. To everyone who walked with us on this journey, thank you.



Almudena Fernández
Chief Economist
Regional Bureau for Latin America and the Caribbean



Abbreviations and acronyms

ACLED Armed Conflict Location & Event Data Project	GDP Gross Domestic Product
AFOLU agriculture, forestry and other land use	GenAI Generative AI
AI Artificial Intelligence	GHG Greenhouse Gas
AR Augmented Reality	GIS Geographic Information Systems
ASP Adaptive Social Protection	GSMA GSM Association
BIOFIN Biodiversity Finance Initiative	GWIS Global Wildfire Information System
BPO Business Process Outsourcing	HDR Human Development Report
BRAC an organization known for its Ultra-Poor Graduation (UPG) approach	HDI Human Development Index
BSE Banco de Seguros del Estado (Uruguay)	HDRO Human Development Report Office
CAF Development Bank of Latin America and the Caribbean	ICT Information and Communication Technology
CCA Climate Change Adaptation	IDB Inter-American Development Bank
CCTs Conditional Cash Transfers	IDR Index-based Disaster Response
CENIA National Center for Artificial Intelligence (Chile)	IDEA Institute for Democracy and Electoral Assistance
CJNG Cártel de Jalisco Nueva Generación	IEA International Energy Agency
COP21 21st Conference of the Parties (to the UNFCCC)	IFAD International Fund for Agricultural Development
COVID-19 Coronavirus Disease 2019	IFRC International Federation of Red Cross and Red Crescent Societies
CRAC-PC Coordinadora Regional de Autoridades Comunitarias – Policía Comunitaria (Mexico)	ILDA Indigenous Languages Digital Archive
CRED Centre for Research on the Epidemiology of Disasters	ILO International Labour Organization
DC Development Cooperation	IMF International Monetary Fund
DFID Department for International Development	IMPACT Institute for Monitoring and Programmatic Analysis and Coordination of Territories
DPI Digital Public Infrastructure	INEGI Instituto Nacional de Estadística y Geografía (Mexico)
DRM Disaster Risk Management	INSMET Institute of Meteorology (Cuba)
DRR Disaster Risk Reduction	IOM International Organization for Migration
EAP East Asia and Pacific	IoT Internet of Things
ECA Europe and Central Asia	IPCC Intergovernmental Panel on Climate Change
ECLAC Economic Commission for Latin America and the Caribbean	IRFF Insurance and Risk Finance Facility
ENSO El Niño Southern Oscillation	IT Information Technology
ESL Extreme Sea Level	ITU International Telecommunication Union
ESPAS European Strategy and Policy Analysis System	IVACC Climate Shock Vulnerability Index (Dominican Republic)
EWS Early Warning Systems	KPMG A global network of professional firms providing audit, tax and advisory services
FAO Food and Agriculture Organization	LAC Latin America and the Caribbean
FAOSTAT FAO Corporate Statistical Database	LAPOP Latin American Public Opinion Project
FEJUVE Federación de Juntas Vecinales de El Alto (Bolivia)	LECZs Low Elevation Coastal Zones
FFLA Fundación Futuro Latinoamericano	LGBTQI+ lesbian, gay, bisexual, transgender, queer and intersex persons
FIBE Ficha Básica de Emergencia (Dominican Republic)	LLM Large Language Model
GCDMX-SMA Gobierno de la Ciudad de México - Secretaría del Medio Ambiente	LRRD Linking Relief, Rehabilitation and Development

Mha Million hectares	SPS Social Protection Systems
MENA Middle East and North Africa	SSA Sub-Saharan Africa
MIT Massachusetts Institute of Technology	SSP Shared Socioeconomic Pathway
MNF Micronutrient Forum	STEM Science, Technology, Engineering and Mathematics
MPI Multidimensional Poverty Index	TFGBV Technology-Facilitated Gender-Based Violence
MSMEs Micro, Small, and Medium-sized Enterprises	U.S. United States
NAP National Adaptation Plan	UHI Urban Heat Islands
NbS Nature-based Solutions	UN United Nations
NDC Nationally Determined Contributions	UNCCD United Nations Convention to Combat Desertification
ND-GAIN Notre Dame Global Adaptation Initiative	UNCTAD United Nations Conference on Trade and Development
NGO Non-Governmental Organization	UNDESA United Nations Department of Economic and Social Affairs
NHC National Hurricane Center	UNDP United Nations Development Programme
NOAA National Oceanic and Atmospheric Administration	UNDRR United Nations Office for Disaster Risk Reduction
OAS Organization of American States	UNEP United Nations Environment Programme
OCHA Office for the Coordination of Humanitarian Affairs	UNESCO United Nations Educational, Scientific and Cultural Organization
OECD Organisation for Economic Co-operation and Development	UNFCCC United Nations Framework Convention on Climate Change
PAHO Pan American Health Organization	UNFPA United Nations Population Fund
PDNAs Post-Disaster Needs Assessments	UN-HABITAT United Nations Human Settlements Programme
PIAAC Programme for the International Assessment of Adult Competencies	UNICEF United Nations Children's Fund
PISA Programme for International Student Assessment	UNIDO United Nations Industrial Development Organization
PNAS Proceedings of the National Academy of Sciences	UNISDR United Nations International Strategy for Disaster Reduction
PPP Purchasing Power Parity	UNOCHA United Nations Office for the Coordination of Humanitarian Affairs
PTSD Post-Traumatic Stress Disorder	UNODC United Nations Office on Drugs and Crime
R&D Research And Development	UPG Ultra-Poor Graduation (approach)
RCA Resilience Context Analysis	USAID United States Agency for International Development
RD\$ Dominican peso	US\$ United States dollar
RHDR Regional Human Development Report	VAWG Violence Against Women and Girls
SAT Servicio de Administración Tributaria (Mexico)	VR Virtual Reality
SELA Latin American and Caribbean Economic System	WEF World Economic Forum
SIUBEN Sistema Único de Beneficiarios (Dominican Republic)	WFP World Food Programme
SINIRUBE National System of Information and Single Registry of State Beneficiaries (Costa Rica)	WHO World Health Organization
SIDS Small Island Developing States	WMO World Meteorological Organization
SISBÉN System of Identification of Social Program Beneficiaries (Colombia)	WPS Women, Peace and Security
SLR Sea Level Rise	WRI World Resources Institute
SMEs Small- and Medium-Sized Enterprises	

Contents of the Regional Human Development Report 2025

Foreword	iii
Acknowledgements	v
Abbreviations and acronyms	viii
Overview	1

PART I THE PRESSURE

CHAPTER 1	21
Development under pressure in Latin America and the Caribbean	21
Changing times	21
Uncertainty, pushing down on Latin America and the Caribbean	23
Stalled and uneven development progress – Uncertainty amidst structural issues	30
Bending without breaking	50
CHAPTER 2	59
Resilient human development: A conceptual framework	59
Why do we care about uncertainty?	59
Why human development and resilience?	60
Resilient human development defined	63
An asset-based approach to building resilient human development in LAC	70
A concept apt for our times—and beyond	74

PART II THE STRESSORS

CHAPTER 3	85
Rapidly evolving technologies: Potential waiting to be unleashed	85
A revolution like no other	85
Mind the gap: bridging the digital divide in LAC	86
Gig jobs: expanded opportunities or precarious prosperity?	92
Will LAC remain on the sidelines?	96
A new extractive economy in the digital age?	103
AI-adoption, in need of safeguards	108
From pressure to opportunity: emerging technologies as catalysts for resilience	118

CHAPTER 4	131
Deepening social fragmentation: Broken aspirations in disconnected societies	131
LAC societies are increasingly fragmented	131
Social fragmentation, a threat to human development	132
A fragmented social structure meets an uncertain and volatile context in LAC	136
Social fragmentation impacts human development through ineffective governance, organized crime and migration	147
Addressing fragmentation: reducing distance and questioning its potential for social change	162

CHAPTER 5	173
Increasingly changing climate: Managing the risks of a crisis foretold	173
From magical realism to relentless reality	173
From climate change concerns to empowering agency	174
Green transitions challenges and risks in LAC	181
Climate driven pressures and human development	187
Planetary and social imbalances in LAC	206
Preparing for the unexpected: climate risks and human development	214

INTERLINKAGES	227
Everything, everywhere, all at once	227
The hidden epidemic: Mental health challenges in LAC	229
The war on truth: How misinformation is undermining reality in LAC	235
Sustainability: The intersection of AI and environmental stewardship in LAC	239
No single road: Rising pressures, waves of change and shifting grounds on human mobility	245

PART III RECALIBRATING DEVELOPMENT

CHAPTER 6	257
Recalibrating the future of development in LAC	257
A new playbook for development in LAC with resilience at its core	257
Shaping instruments to navigate uncertainty	259
Institutions that embrace complexity	275
Building infrastructure that unleashes the resilience of communities	280
A call to action: advancing resilient human development in uncertain times	286

LIST OF BOXES

1.1	A working definition of risk and uncertainty	25
1.2	A historical look at the progress of human development in LAC	31
1.3	Inequalities in HDI within countries	34
1.4	The demographic dividend paradox: can Haiti's youth become the economic engine that redefines development?	37
1.5	A look at poverty beyond income	38
2.1	The capabilities approach at a glance	61
2.2	A historical perspective on the concept of resilience	69
3.1	Mixed but generally positive findings on the impact of smartphone bans in schools	91
3.2	The digital age divide: Older generations may fall behind in an increasingly digital world	92
3.3	What is the gig economy?	93
3.4	Spotlight on Guatemala: Gig economy beyond the regional averages	95
3.5	The concentration of power of global tech giants challenges LAC's digital sovereignty	104
3.6	Harnessing AI to preserve Indigenous languages and empower communities	113
3.7	The political toll of digital gender violence	114
3.8	Increasing women's participation in STEM fields	119
3.9	The near future of AI infrastructure	121
4.1	<i>Corridos tumbados</i> : reflections on the aspiration gaps among youth in LAC	134
4.2	Low trust and specific exclusions in the English-speaking Caribbean	142
4.3	A proposed index to measure political incorporation in Latin America: limited influence in public affairs	150
4.4	The role of social movements during recent constitutional processes in Chile: achievements and lessons	164
5.1	In Argentina, older adults and women express greater concern about the impacts of climate risks compared to younger people and men	176
5.2	Decolonial, reparatory pathways to climate resilience in the Caribbean	186
5.3	Beyond rising waters: sea level rise in Cuba	196
5.4	Implications of droughts in Uruguay from an institutional perspective	200
5.5	Wildfires in Valparaíso and Viña del Mar: a compounded and socially constructed event	203
5.6	Revisiting the IPCC risk framework	209
5.7	Sowing the seeds of disaster—a social construction of risk perspective	214
5.8	Human development resilience to environmental shocks: harnessing transitions and new trends for sustainability in the Dominican Republic	217
11.1	Nearly one-third of older adults in El Salvador have mental health concerns, but diagnoses are rare	230
6.1	Mapping assets and household resilience in Mexico and Chile	263
6.2	Care systems for resilience	267

6.3	Mapping care in Latin America and the Caribbean: Closing policy gaps at the local level	270
6.4	Predators versus producers: Can insurance save both?	274
6.5	The future is a policy choice	278
6.6	Brazil's PIX—a scalable asset for regional Digital Public Infrastructure	281
6.7	Digital innovations in the public sector in LAC	283
6.8	Beyond geography, community-based organizations play a crucial role in fostering social cohesion	284
6.9	Digital tools for resilient infrastructure	285

LIST OF FIGURES

0.1	HDI progress has been slowing since mid-2010s and has yet to recover its pre-pandemic trajectory (Panel A)	1
0.1	HDI progress has been slowing since mid-2010s and has yet to recover its pre-pandemic trajectory (Panel B)	2
0.2	Despite decreasing poverty levels, vulnerability in LAC remains unchanged	2
0.3	Uncertainty in LAC has more than doubled since 1990, surpassing global averages	3
0.4	A new era of uncertainty in LAC	4
0.5	In LAC, digital coverage has expanded, but this alone has not ensured meaningful use	5
0.6	Internet access in LAC displays significant heterogeneity, both between and within countries	6
0.7	Governments in LAC are increasingly integrating AI into public administration	7
0.8	People find shelter in their communities, as trust in most people and in governments falls	8
0.9	LAC is increasingly abandoning traditional parties	9
0.10	LAC, a region polarized like no other	9
0.11	Youth are more willing to justify a coup to confront high levels of crime	10
0.12	Extreme weather events in LAC have more than doubled in frequency	11
0.13	Countries with higher levels of human development are better positioned to navigate climate hazards	12
0.14	Opinions on prioritizing environment versus economic growth in LAC remain almost unchanged	13
0.15	The three "I" framework for resilient human development	14
1.1	Uncertainty in LAC has more than doubled since 1990, surpassing global averages	24
1.2	A visual representation of risk	25
1.3	A new era of uncertainty in LAC	27
1.4	Storm damages in the Caribbean are increasingly severe	28
1.5	An illustration of the "domino effect" across sectors, compounding	29
1.6	HDI declined during the pandemic and has yet to recover its pre-pandemic trend	30
1.7	Upper-middle-income status has not necessarily translated into high human development for all countries in LAC	31
1.8	The slowdown in HDI started before the pandemic	32
1.9	HDI gaps across LAC countries became more pronounced after the pandemic	33
1.10	Progress in poverty reduction, but less in recent years	35

1.11	LAC is the slowest growing region in the world	35
1.12	Poverty recovery has been uneven	36
1.13	Despite progress, one-quarter of the population in LAC remains in multidimensional poverty	38
1.14	Women in LAC experience higher multidimensional poverty than men, particularly in rural areas	39
1.15	Despite decreasing poverty levels, vulnerability in LAC remains unchanged	40
1.16	The uneven distribution of educational achievement	41
1.17	Uneven access to physical assets across genders remains the norm	42
1.18	Significant progress on universal basic services, but not so much for other services	42
1.19	Quality housing remains out of reach for vulnerable groups	43
1.20	The gap in financial inclusion	43
1.21	In family we trust: People in LAC rely on family in case of emergencies	44
1.22	LAC remains the most unequal region in the world in terms of income	45
1.23	Relative to the U.S., productivity in LAC has declined over the past decades, further widening the gap with developed countries and emerging economies	46
1.24	LAC countries show low and declining complexity over decades	47
1.25	People are increasingly pessimistic about the present and future in LAC	48
1.26	A growing optimism gap: People in LAC are more positive about their family's economic outlook than their country's	49
1.27	Most people in Latin America say their countries provide inadequate economic opportunities	49
2.1	Building on human development and human security	60
2.2	The capabilities approach at a glance	61
2.3	Human security for uncertain times	62
2.4	High perceptions of human insecurity in LAC	67
2.5	Resilience in the spotlight	69
2.6	The asset-based approach in context: Uncertainty and shocks impact household income-generation capacity with joint consequences for growth and inequality	71
2.7	The interaction among household assets, enabling environments and outcomes	73
3.1	Potential impacts of technologies on human development	85
3.2	In LAC, digital coverage has expanded, but this alone has not ensured meaningful use	87
3.3	Internet access in LAC demonstrates significant heterogeneity, both between and within countries	88
3.4	Data centers in LAC account for only 5 percent of global total	90
3.5	In LAC, one in three students gets distracted by digital devices during math class	91
3.6	Social security for gig workers remains incomplete	94
3.7	LAC's productivity has stagnated in comparison to rapidly growing economies	97
3.8	AI's potential to improve productivity in LAC remains mostly unfulfilled	102
3.9	Data value creation in the digital economy	103

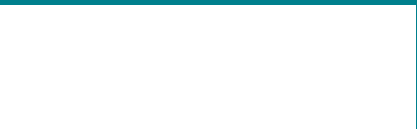
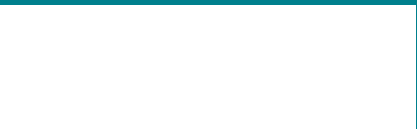
3.10	The region holds over half the world's lithium reserves and over 35 percent of its copper, both critical resources for AI	106
3.11	Estimated global electricity consumption from data centers for 2026 will double, compared with 2022	107
3.12	Leveraging AI in the public sector	109
3.13	Governments in LAC are increasingly integrating AI into public administration	109
3.14	MIT's domain taxonomy of AI risks	111
3.15	Three states of the AI life cycle where bias can arise	112
3.16	LAC lags in cybersecurity frameworks	117
3.17	In LAC, 4 of 10 graduates in STEM are women, varying widely across countries	119
3.18	Enablers for rapidly evolving technologies	120
4.1	Social fragmentation: distance, antagonism and lack of effective mediation	131
4.2	Social fragmentation can hinder human development	133
4.3	Governance can determine development outcomes	137
4.4	For some LAC countries, fiscal policy increases poverty	138
4.5	People find shelter in their communities as trust in most people and in governments fall	141
4.6	Barriers to inclusion: low social tolerance for certain population groups	143
4.7	Political violence is pervasive in the region	145
4.8	Turning towards personalist leadership and away from political parties	145
4.9	The rise of the new: declining average age of winning presidential parties	146
4.10	LAC, a region polarized like no other	147
4.11	Independent judiciary is under pressure	149
4.12	Youth are more willing to justify a coup to confront high levels of crime	150
4.13	Political Incorporation index	151
4.14	Half of LAC's homicides are directly linked to criminal organizations	153
4.15	Violence and crime impact human development at multiple levels	154
4.16	In Central America and the Caribbean, trafficking mostly targets girls for sexual exploitation	155
4.17	Lethal violence in LAC has shifted from Central America to South America and the Caribbean	157
4.18	Negative perception of immigrants rising in LAC	159
4.19	Remittances to LAC continue to grow, but with diminishing rates	160
4.20	For some countries remittances represent a large share of their GDP	161
5.1	Climate change and human development: impacts, transitions, and concerns	174
5.2	LAC speaks on climate change: worries, impacts and a call to action	175
5.3	Adults are more concerned than youth about climate risks in Argentina	177
5.4	Opinions on prioritizing environment versus economic growth in LAC remain almost unchanged	178
5.5	A mixed picture of priorities between the environment and economic growth in LAC (2023)	179
5.6	Paris Agreement commitments and challenges	182

5.7	Growth in LAC is traditionally highly correlated to commodity prices	183
5.8	Taxonomy of transition risks for countries in LAC	184
5.9	LAC's material deficit has grown sharply over time	185
5.10	Influence of climate change on human development	188
5.11	LAC's average temperature has increased significantly in the last few decades	189
5.12	Decreasing labour productivity due to heat stress in most countries in LAC	190
5.13	The number of days that people endure heatwaves has increased in all countries in LAC region	191
5.14	The number of heatwave person-days among infants and adults over 65 has increased over the last four decades	192
5.15	Sea level is expected to rise across LAC	194
5.16	Sea level rise is expected to result in land loss in various countries in the Caribbean	195
5.17	More than half the countries in LAC are currently experiencing some level of water stress	197
5.18	If climate efforts continue as they are today, it is expected that over 80% of countries in LAC will suffer from at least medium water stress	198
5.19	LAC experiences higher water stress than the global average, with the Caribbean region particularly affected	199
5.20	Extreme weather events in LAC have doubled in recent decades	201
5.21	A decrease in the number of wildfires has not resulted in a decrease in the area affected	202
5.22	Food insecurity increased in the last decade	205
5.23	Planetary and social imbalances in the Anthropocene	206
5.24	Central America and the Caribbean face higher climate vulnerability compared to other regions	207
5.25	Countries with higher levels of human development are better positioned to navigate climate hazards	208
5.26	A visual representation of risk according to IPCC	209
5.27	Climate-sensitive events: a shared challenge for CCA and DRR	211
5.28	Resilience as common ground	212
5.29	An illustration of the "domino effect" across sectors, compounding	213
I1.1	In LAC, depression and anxiety rates are 1.5 times higher among women than men	229
I1.2	Percent of respondents who would prefer a world without TikTok and Instagram	232
I2.1	The paradox of news consumption through social media: high distrust but widespread use	235
I2.2	The impact of economic misinformation	237
I3.1	From a resource-intensive to a symbiotic AI approach	240
I4.1	During the last decade, migration within the region experienced a sharp increase, but it has slowed in recent years	246
I4.2	In most LAC countries, more people than in the past have the intention of leaving their country	247
6.1	The three "I" framework for resilient human development	259
6.2	The "missing middle" of social protection systems in LAC	260
6.3	A stylized representation of household poverty status	263
6.4	Household distribution across poverty quadrants and average deprivations, Mexico and Chile	264

6.5	Deprivations and changes by poverty quadrant, Mexico and Chile	265
6.6	Heterogeneity in coverage of social registries across LAC	269
6.7	Identifying care deserts for older adults in Distrito Central, Honduras (2025)	270
6.8	Permanent impacts of shocks across the life cycle	271
6.9	Insurance penetration in LAC	273
6.10	The need for a new playbook for achieving resilient human development	276
6.11	Digital Public Infrastructure framework	280
6.12	Building blocks of DPI	282

LIST OF TABLES

1.1	Risks, uncertainty and threats at a glance	26
2.1	Some definitions of resilience in international development and the social sciences	65
I3.1	Examples of using biomimicry to achieve sustainable energy solutions	242
6.1	A path towards social protection systems that build resilient human development	261
6.2	Multidimensional indices to assess deprivations across dimensions	269
6.3	Common types of insurance products in LAC	273



Overview

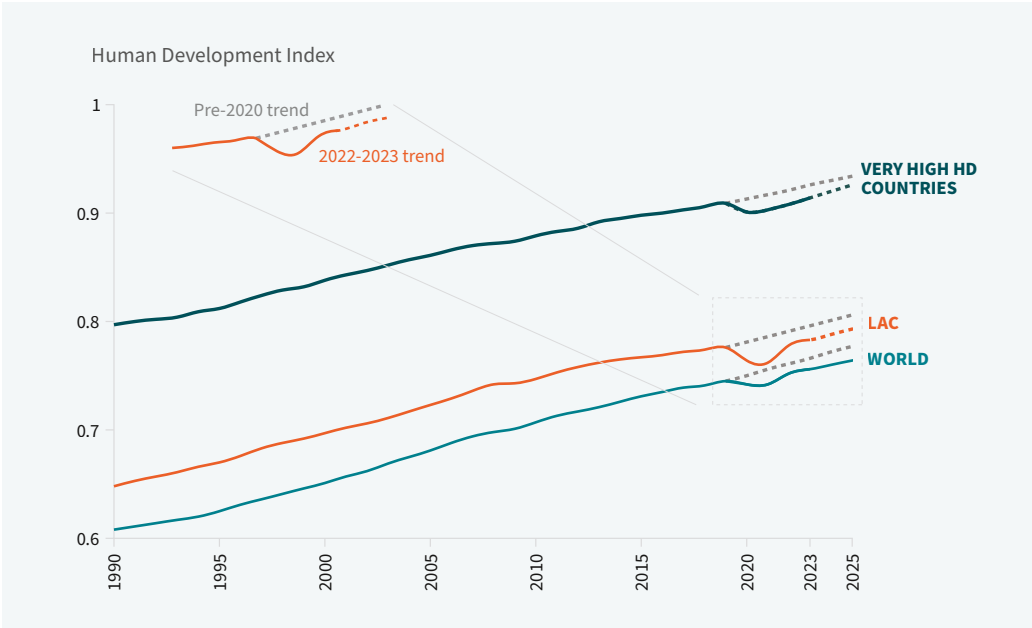
Development progress in Latin America and the Caribbean (LAC) is under pressure. The region is navigating a complex landscape marked by heightened uncertainty, recurring and overlapping crises and multiple interlinked stressors—rapidly evolving technologies, deepening social fragmentation, and an increasingly changing climate. These factors have exposed profound vulnerabilities in the region’s development trajectory, challenging its ability to sustain and advance human development. This Report argues that reimagining development strategies with resilience at their core is not merely beneficial, but imperative for shaping a future in LAC where human development can be secured and sustainably advanced.

LAC is under pressure

The patterns of development progress in LAC over the last decades can be summarized in four simple tenets: significant progress has occurred; that progress has been unequal; it has slowed in recent years; and it is vulnerable to reversals. After decades of sustained progress, advances in human development across LAC began to slow, particularly from the mid-2010s onwards. The rate of growth on the Human Development Index (HDI) in LAC decreased from a steady 0.7 percent between 1990 (when the indicator was

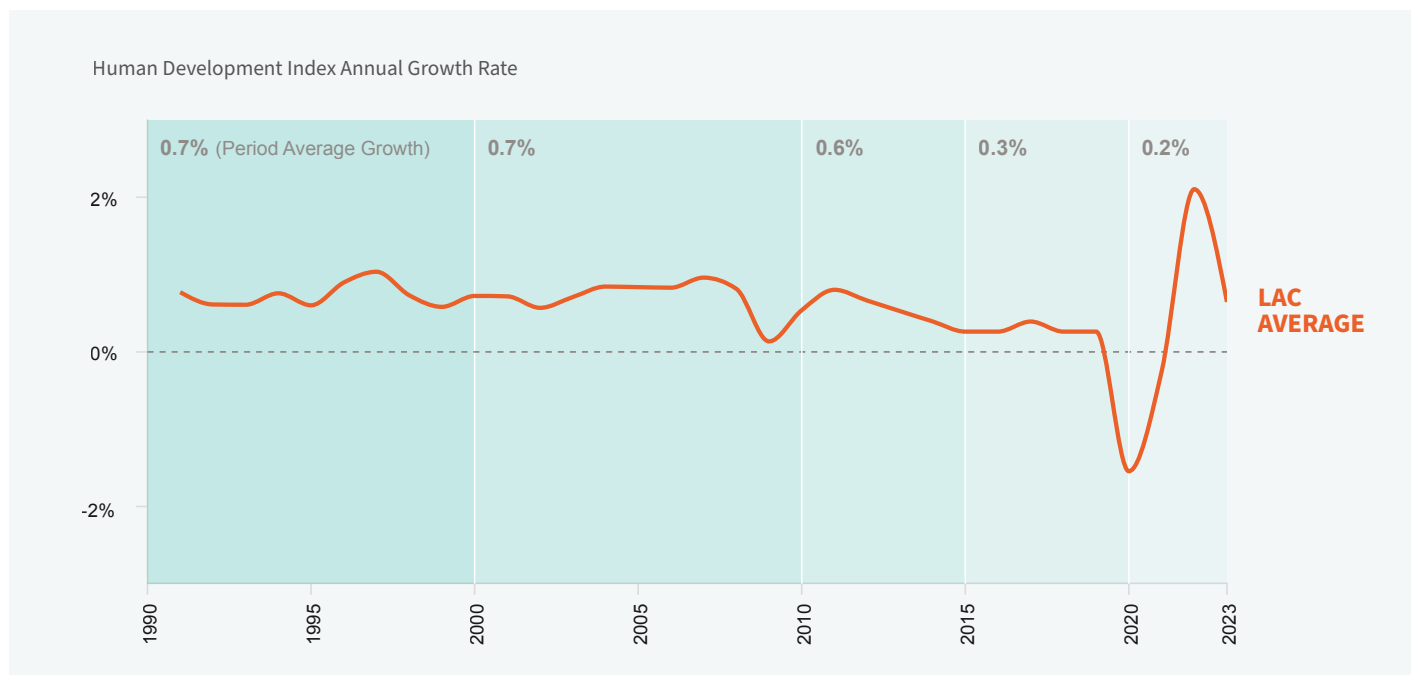
first measured) and 2015, to 0.3 percent in the five-year period before the pandemic, and 0.2 percent since—signalling a stagnation in progress (figure O.1, panel B).¹ The COVID-19 pandemic marked a critical turning point, triggering the first-ever decline in the HDI since its inception (figure O.1, panel A). Although the region has since recovered, the pace of advancement remains sluggish, showing little indication of returning to its pre-pandemic trajectory.

Figure O.1 HDI progress has been slowing since mid-2010s and has yet to recover its pre-pandemic trajectory (Panel A)



Notes: The “Pre-2020 trend” projects HDI levels to 2025 using each region’s pre-pandemic HDI and growth rates. The “2022–2023 trend” uses HDI levels and growth rates from those two years. All regional aggregates are population-weighted and calculated by UNDP’s Human Development Report Office (2025).
Source: UNDP’s calculations based on the Human Development Report 2025.

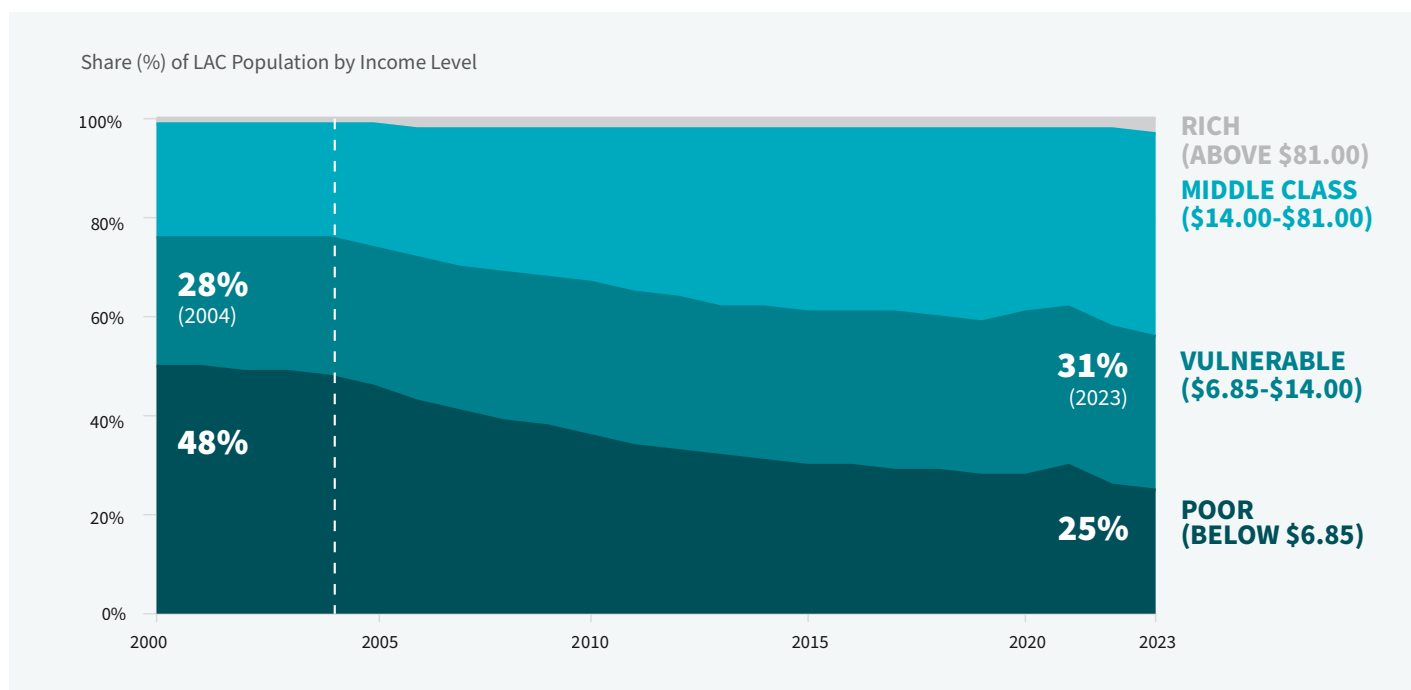
Figure O.1 HDI progress has been slowing since mid-2010s and has yet to recover its pre-pandemic trajectory (Panel B)



Notes: All regional aggregates are population-weighted and calculated by UNDP's Human Development Report Office (2025).

Source: UNDP's calculations based on the Human Development Report 2025.

Figure O.2 Despite decreasing poverty levels, vulnerability in LAC remains unchanged



Notes: Monetary thresholds are expressed in terms of 2017 US Dollars, Purchasing Power Parity (PPP). The Caribbean includes data for the Dominican Republic.

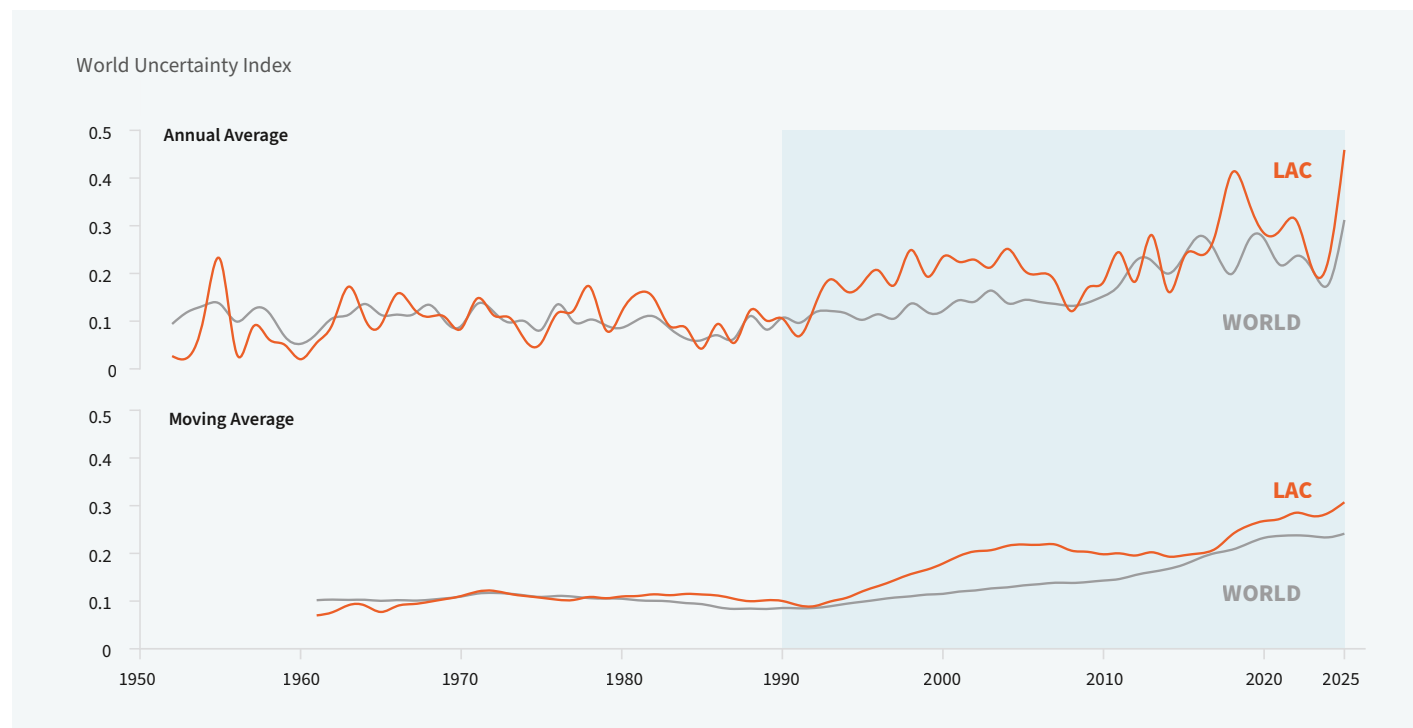
Source: World Bank's LAC Equity Lab (October 2024 update).

More than half of the population in LAC lack adequate coping mechanisms to manage even a moderate adverse event without enduring lasting negative impacts on their well-being. Despite remarkable progress in recent decades, during which LAC successfully halved its poverty rate, approximately 1 in 4 people still live in poverty (figure O.2).² Moreover, the region has not yet consolidated a stable middle class; an additional 31 percent of the population are categorized as vulnerable, hovering just above the poverty line.³ With limited access to assets that could serve as buffers when adversity strikes, this group remains at risk of slipping back into poverty.

While uncertainty has been on the rise globally, it reached especially acute levels in LAC by early 2025—standing nearly 50 percent above the global average and more than double what the region’s own level had been in 1990.⁴ This divergence became even more pronounced during a significant spike in early 2025; at that time, uncertainty increased globally by 77 percent relative to the previous year, while in LAC it surged dramatically by 101 percent over the same period (figure O.3). Such elevated uncertainty levels underscore the region’s heightened sensitivity to global threats.

Uncertainty is not new in LAC, but the types of adverse events that the region is now facing are unlike those that came before. Traditional risks are both more frequent and more intense, and novel threats are emerging due to rapidly evolving technologies, deepening social fragmentation and an increasingly changing climate. Moreover, multiple adverse events and hazards are interacting with each other—and with underlying structural vulnerabilities, such as slow growth and inequality—in complex and, often, unforeseen ways (figure O.4). The term *polycrisis* has entered the mainstream to describe this increasingly common reality—a world where shocks are no longer isolated but interlinked through feedback loops and systemic interdependencies. This environment places enormous pressure for decision makers tasked with making effective choices in contexts where the range of possible outcomes is unknown. Recognizing this complexity marks a paradigm shift in development thinking—one that demands a transformation in policy approaches to address overlapping and interlinked threats.

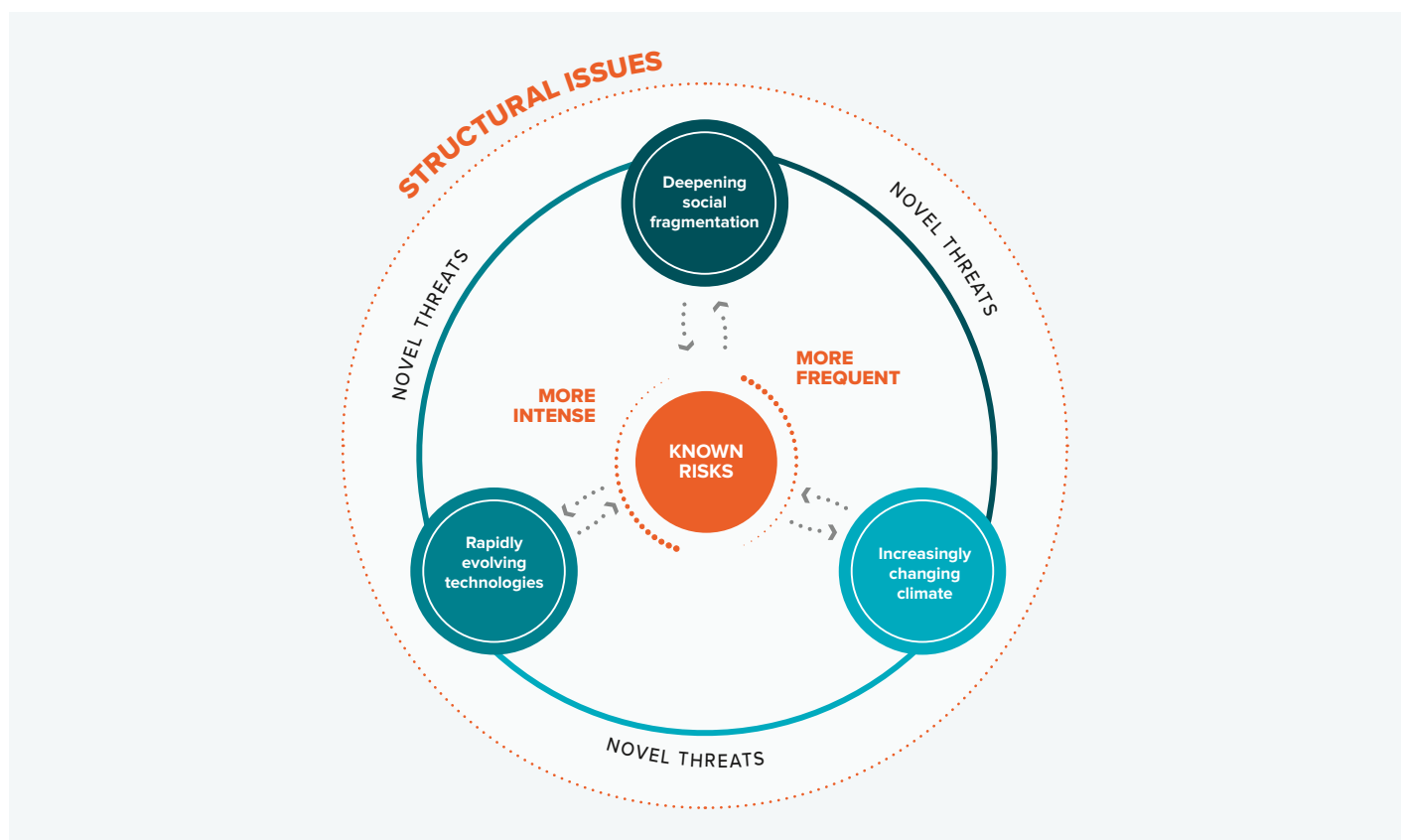
Figure O.3 Uncertainty in LAC has more than doubled since 1990, surpassing global averages



Notes: The World Uncertainty Index is calculated by counting the frequency of the word "uncertainty" (and its variants) in Economist Intelligence Unit country reports. The indices are normalized by the total word count and rescaled by multiplying by 1,000, with higher values indicating greater uncertainty. Moving averages have a 10-year window.

Source: UNDP's calculations are based on the World Uncertainty Index data for 1952 to 2025 (first quarter), Ahir and others (2022).

Figure O.4 A new era of uncertainty in LAC



Source: Authors' elaboration.

Resilience at the core of human development

Growing pressure propels the concept of resilience to the front of the development agenda, framing it as the way forward in LAC. The recent trends described above evidence that focusing solely on progress and doing more of the same is no longer enough. Traditional development thinking in the region implicitly assumed a linear path of social mobility; once people escaped poverty, they would naturally continue upward into a stable middle class. However, this promise has remained mostly unfulfilled in many countries. Development progress turned out to be fragile while threats accumulated.

Additionally, uncertainty breeds fear, a state that is mutually exclusive from freedom. Resilience, which allows individuals to trust the future knowing they have the tools to withstand

adversity and a safety net to rely on, provides hope. Inherent in hope is agency, the power to act and shape the future. In a context of elevated uncertainty and frequent adverse events, human development without resilience is no longer viable. **Resilience, as an enabler of agency and a protector of effective freedoms, constitutes the very essence of human development.**

The Report proposes a conceptualization of resilience from a human development perspective. This concept aims to enable people to enjoy valuable lives in terms of capability and agency in such a way that the impact of critical pervasive shocks on their lives is prevented or mitigated, and that people and communities, especially the most disadvantaged, can shape their lives and, if adversity strikes, rebound and flourish again. Human development is resilient when people's capabilities are safeguarded such that most shocks are prevented or mitigated, and people can rebuild worthwhile lives after the shocks. This shift reframes development not only as progress but as protection of life, of dignity, and of possibility.⁵

Three dynamics stressing development

The Report explores three interconnected dynamics currently placing development under stress in LAC: (1) rapidly evolving technologies; (2) deepening social fragmentation; and (3) an increasingly changing climate. The ultimate impact of these will largely depend on how they are managed. These pressures interact and amplify each other's effects. Digital technologies are reshaping political discourse and altering civic engagement. Climate shocks are fuelling migration and placing additional strain on governance structures. And increasing social fragmentation is undermining the collective action required to effectively address climate change and technological disruptions.

Rapidly evolving technologies: Potential waiting to be unleashed

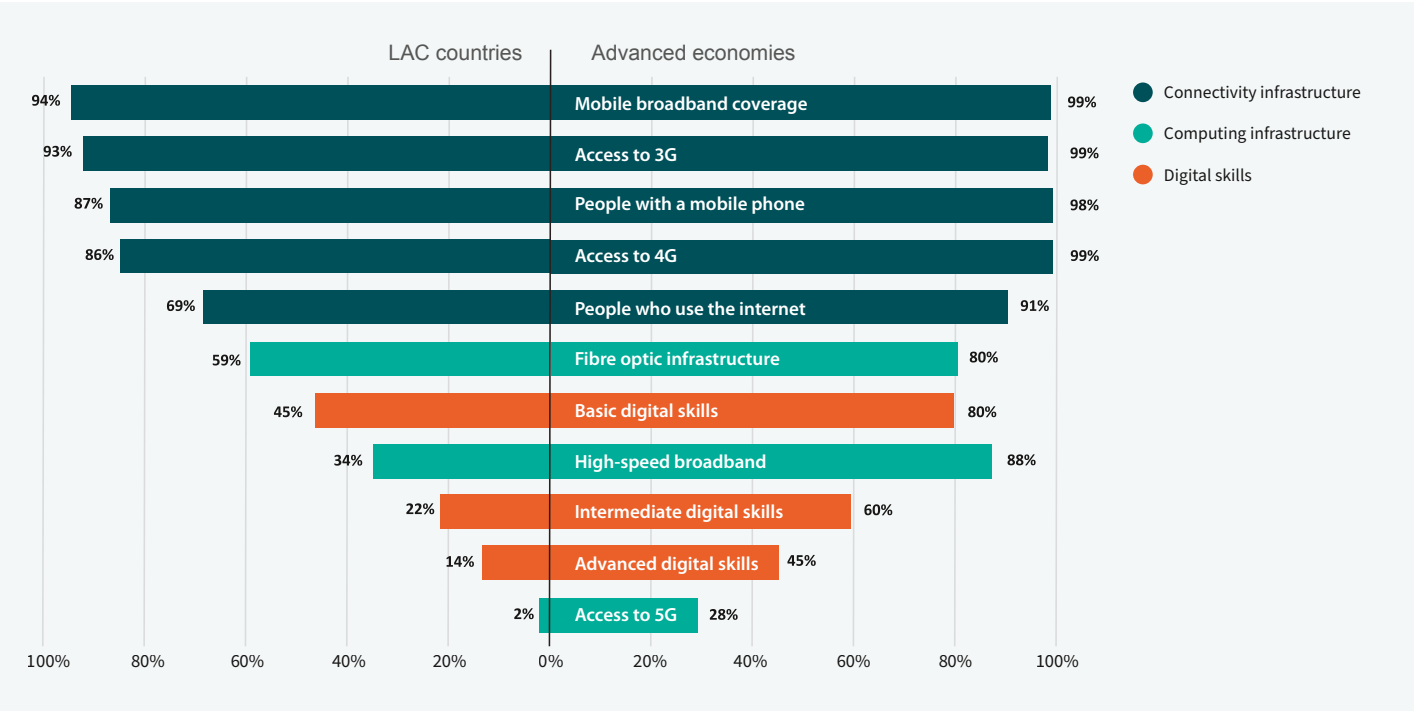
Thus far, LAC's technological transformation has been characterized by: significant progress, especially in expanding

basic digital infrastructure; highly uneven adoption, often reinforcing existing inequalities; an accelerated pace of artificial intelligence (AI) deployment revealing signs of innovation and adaptation; and significant structural barriers that risk leaving LAC behind in terms of translating digital advancements into broader human development gains.

Despite notable progress, digital transformation in LAC remains incomplete. The region continues to lag behind more advanced economies, especially in terms of more sophisticated infrastructure and advanced digital skills.

While digital coverage has expanded, the region still faces significant disparities in connectivity, affordability and digital literacy, all of which create barriers to equitable and meaningful participation in the digital economy. Only 2 percent of people in LAC have access to 5G networks, compared to 28 percent in advance economies (figure O.5). Broadband costs in the region are four times higher than in advanced economies, representing 5.4 percent of the average per capita income in LAC compared to 1.3 percent in the OECD.

Figure O.5 In LAC, digital coverage has expanded, but this alone has not ensured meaningful use



Notes: Percentage of total population.

Source: Authors' elaboration using data from the International Telecommunication Union (ITU) and UNDP (2025).

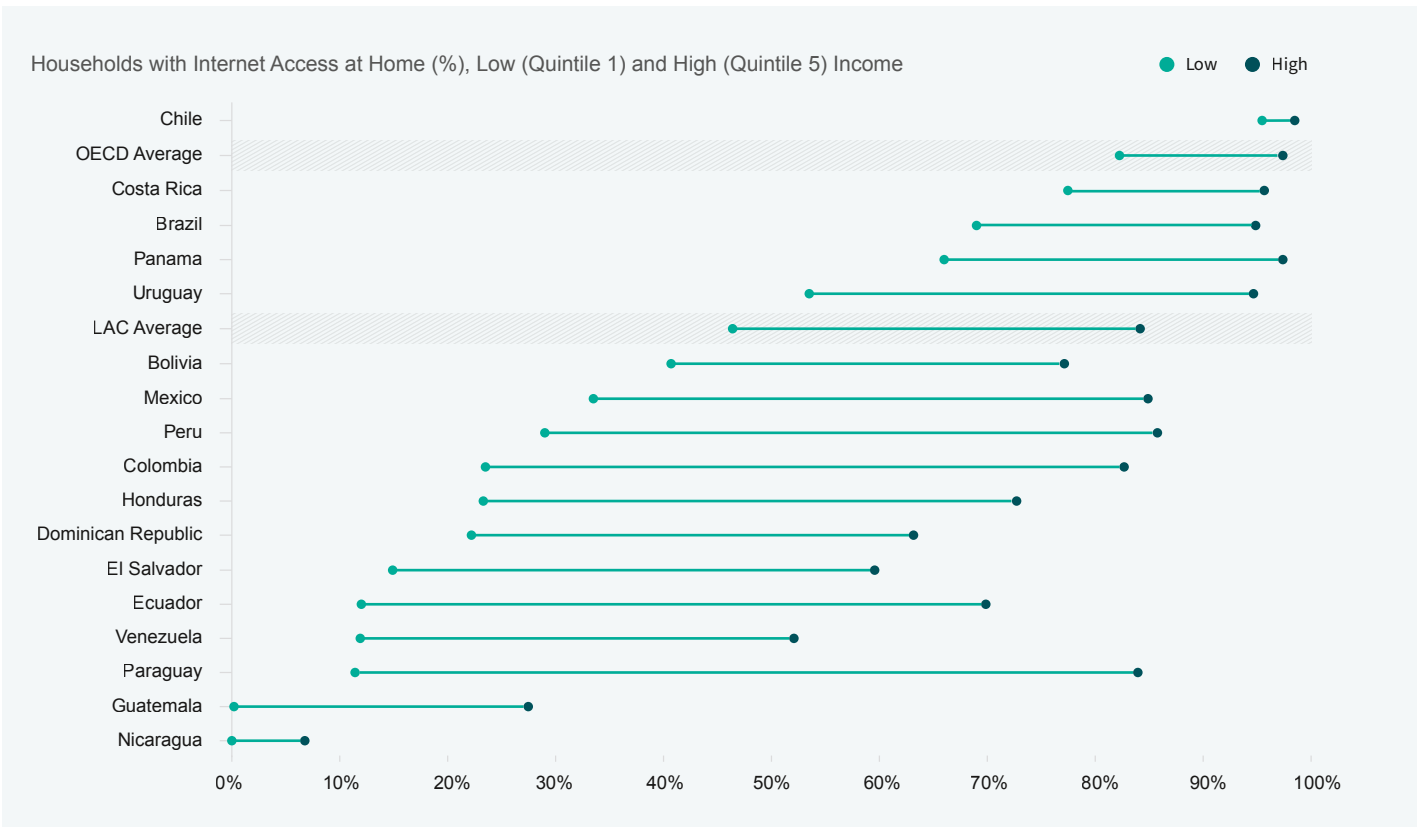
There are also significant differences in Internet access, both between and within countries, in LAC. On average, high-income households are nearly twice as likely to have Internet access as the poorest households (85 versus 46 percent) (figure O.6). A similar split is evident among households in urban and rural areas (75 versus 36 percent).⁶

The expansion of the gig economy⁷ has emerged as a potential source of employment in a region characterized by high informality. Gig jobs offer flexibility and income opportunities, with 74 percent of gig workers in LAC using these platforms to generate a secondary source of income.⁸ They also serve as an entry point into the labour market for young people and migrants. However, gig workers often lack social security coverage, replicating existing patterns of informality. The absence of regulatory frameworks leaves gig workers without adequate social protection, with only

27 to 65 percent contributing to pension systems—often self-financed.⁹

AI promises to reshape the way we work, yet its ability to enhance productivity in LAC remains mostly unknown. Evidence shows that while 26 to 38 percent of jobs in LAC are “exposed” to GenAI,¹⁰ only 1 to 6 percent of employment is at risk of direct automation.¹¹ At the same time, 8 to 14 percent of jobs exhibit augmentation potential, with GenAI offering opportunities for increased efficiency and productivity. However, if access to AI-related skills remains concentrated in certain sectors or demographic groups, the technology could deepen existing labour-market inequalities rather than fostering more inclusive economic growth. Thus, rather than eliminating jobs outright, AI likely will reshape job functions, underscoring the importance of workforce upskilling and reskilling, and digital literacy and education.

Figure O.6 Internet access in LAC displays significant heterogeneity, both between and within countries



Notes: The ECLAC and OECD define households with internet access as those with an internet connection at home, whether through fiber optic, coaxial cable, Cooper pair, or terrestrial or satellite antennas. In all cases, access through mobile devices is excluded. The regional average is a population-weighted average calculated by ECLAC. Data reported for each country is the most recent available: Bolivia, Colombia, and Honduras (2021); Brazil (2019); Ecuador (2017); Guatemala, Nicaragua, and Venezuela (2014); and all other countries (2022). OECD countries average is reported for 2023.

Source: UNDP's calculations based on the Economic Commission for Latin America and the Caribbean (ECLAC) CEPALSTAT data (2023); OECD Going Digital Toolkit data (2024).

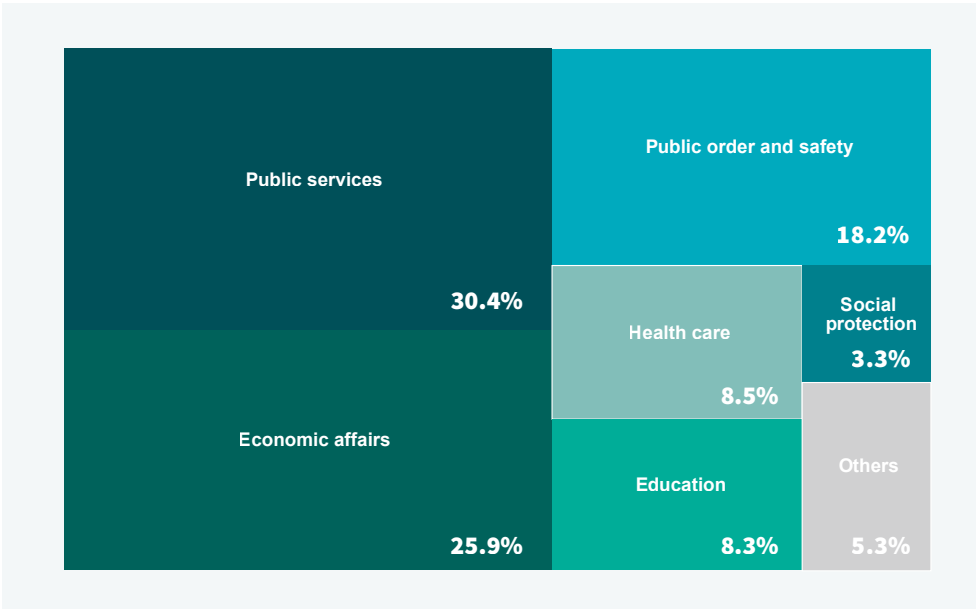
While digital platforms have expanded access to information, they have also contributed to growing social fragmentation, undermining mental health and weakening social cohesion. LAC leads globally in social media usage, with an average of 3 hours and 32 minutes per day, far surpassing North America (2 hours and 13 minutes) and Europe (2 hours and 1 minute).¹² This disproportionate digital engagement raises mental health risks like anxiety, depression and social isolation, particularly among adolescents. At the same time, the spread of misinformation on these platforms distorts public discourse, diminishes institutional trust, and hampers informed decision-making. In contexts where digital literacy is limited, misinformation spreads more easily, deepening polarization and posing a serious threat to democratic governance and individual agency.

Governments in LAC are increasingly adopting AI, with 24 countries actively integrating these tools into their public sector operations. This shift holds significant potential to revolutionize how governments interact with citizens. Public institutions are not only allocating resources for AI promotion and deployment but also actively embedding these technologies in areas such as service delivery, logistics, surveillance and crime prevention (figure O.7).

However, this also brings risks that demand careful management. AI systems are often trained on existing data sets that might have embedded in them societal biases—thus perpetuating and potentially deepening systemic discrimination against women and traditionally marginalized groups. If left unchecked, these biases can reinforce discriminatory practices in areas such as access to public services and social protection. Additionally, cyberattacks on AI systems, especially open data portals, threaten privacy by exposing sensitive information. In LAC, rising cyberthreats against public institutions and businesses disrupt services, facilitate identity theft and cause financial losses.

LAC’s ability to harness rapidly evolving technologies will depend on investments in human capital, digital infrastructure, responsible data governance and robust digital ecosystems. The rising pressure from emerging technologies provides an opportunity to drive positive change, and, if channelled effectively, technological advancements can serve as a catalyst for resilient human development.

Figure O.7 Governments in LAC are increasingly integrating AI into public administration



Notes: Examples of AI tools in public services include chatbots and solutions for service delivery. Economic affairs includes AI tools for infrastructure, logistics, and service delivery. Public safety includes applications for surveillance and crime prevention. Health care features algorithms that support disease prevention and diagnosis. Education includes AI systems that detect absenteeism and manage admissions. Social protection includes algorithms used to target beneficiaries and determine coverage. The “Other” category includes AI systems applied in environmental protection, housing and related services, defense, and recreational, cultural and sports activities.

Source: UNDP’s calculations based on data from AI Systems in the Public Sector of Latin America and the Caribbean, Universidad de los Andes (April 2025 update).

Deepening social fragmentation: Broken aspirations in disconnected societies

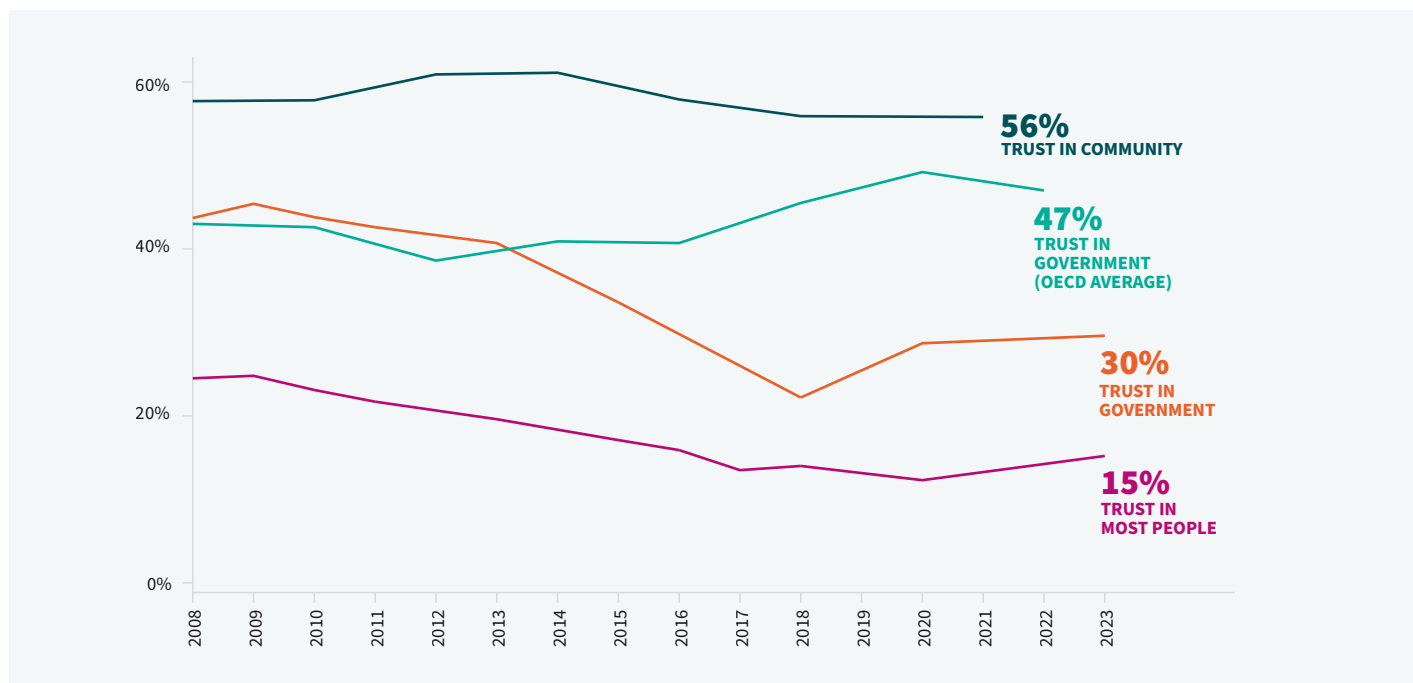
While social fragmentation¹³ has historically been a characteristic of societies in LAC—due partly to structural issues such as economic inequality—it is now being intensified by rising uncertainty and frequent shocks. Heightened levels of uncertainty can exert an emotional toll, fuelling stress, anxiety and depression; which in turn, can erode social cohesion and influences political behaviour. Strong social bonds are essential not only for the mental well-being of individuals but also for fostering cohesive and resilient societies. Yet **in fragmented contexts, these positive feedback loops can break down, further weakening the social fabric.**

Trust, an indicator of how affective attitudes shape social relations, has declined across LAC. Trust in “most people” gradually deteriorated beginning in 2009, reaching its lowest point in 2020 (figure O.8). Despite this erosion of general trust, people continue to trust their immediate social circles. While close-knit networks provide a vital safety net, excessive reliance on them—especially when accompanied

by widespread mistrust of outsiders—can contribute to widening distances between groups, which results in further social fragmentation. In societies where trust is low, citizens increasingly look to governments to act as neutral arbiters to solve disputes. However, from 2009 to 2018, trust in LAC governments also dropped, driving people towards alternative and suboptimal mechanisms—some informal, others illicit—to secure justice or meet basic needs. Socio-economic divides are at the centre of this distrust.

A growing discontent over limited social mobility and perceived ineffective institutions has driven people to abandon traditional political parties and often embrace personalistic leaders who have positioned themselves as anti-establishment outsiders (figure O.9). This is happening at a time when the region is becoming increasingly polarized (figure O.10). The divide between those who feel “represented” by the elected government and those who feel “excluded” is widening, shifting from general discontent with the establishment to direct confrontation among groups. **Social fragmentation, once subtle and latent, is becoming explicitly political.**

Figure O.8 People find shelter in their communities, as trust in most people and in governments fall



Notes: All the computed averages are simple averages.

Source: The data for “Trust in most people” and “Trust in government” was taken from Latinobarómetro 2008-2023; the source for “Trust in community” is LAPOP Americas Barometer 2008-2021. The OECD average was taken from OECD (2024) “Trust in government (indicator)”.

Figure O.9 LAC is increasingly abandoning traditional parties

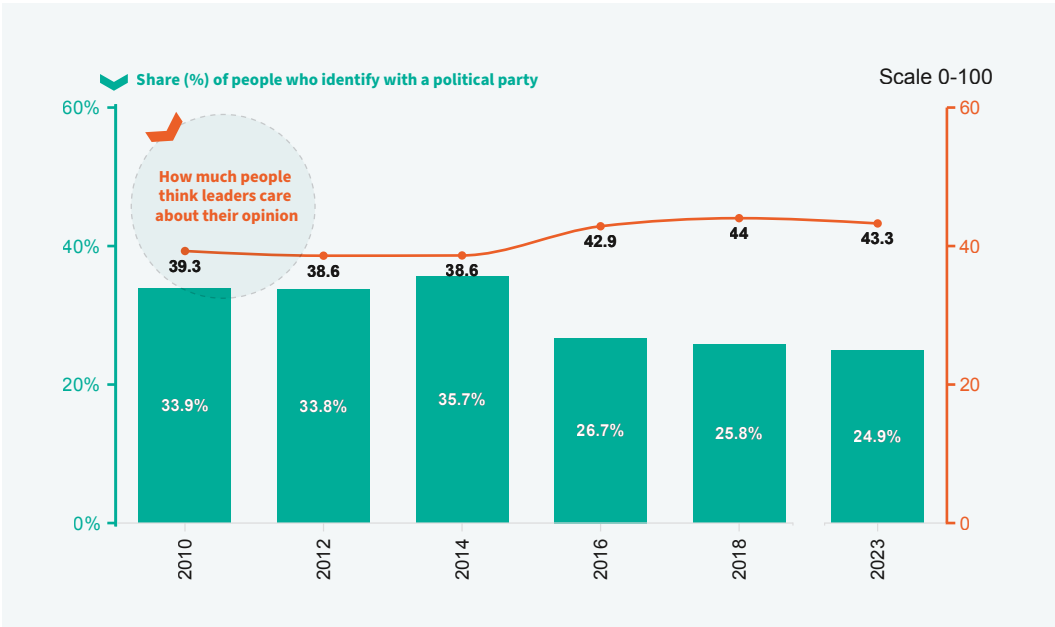
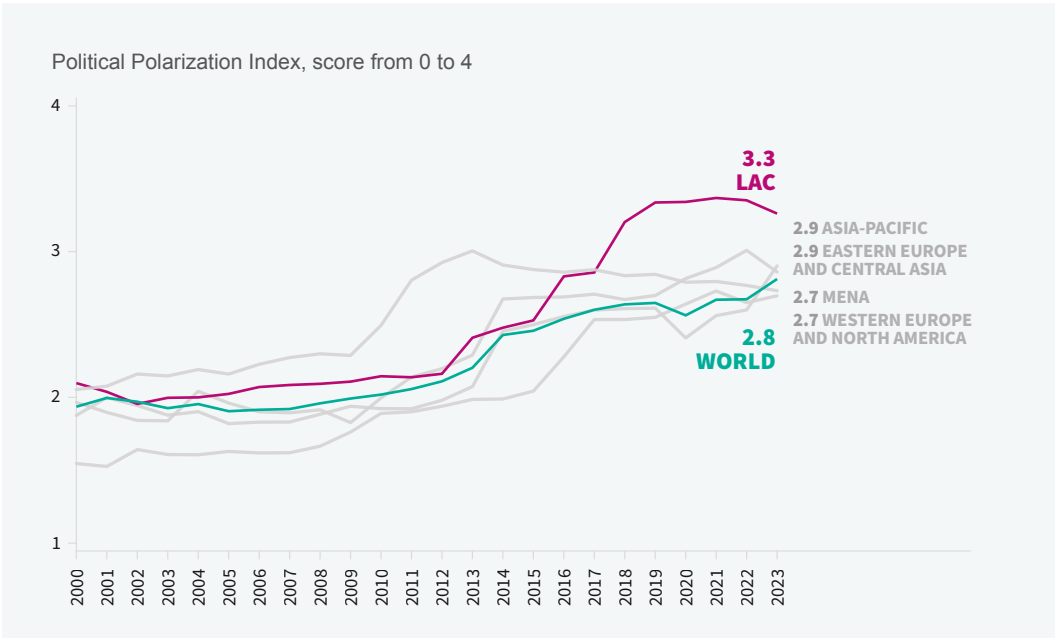


Figure O.10 LAC, a region polarized like no other



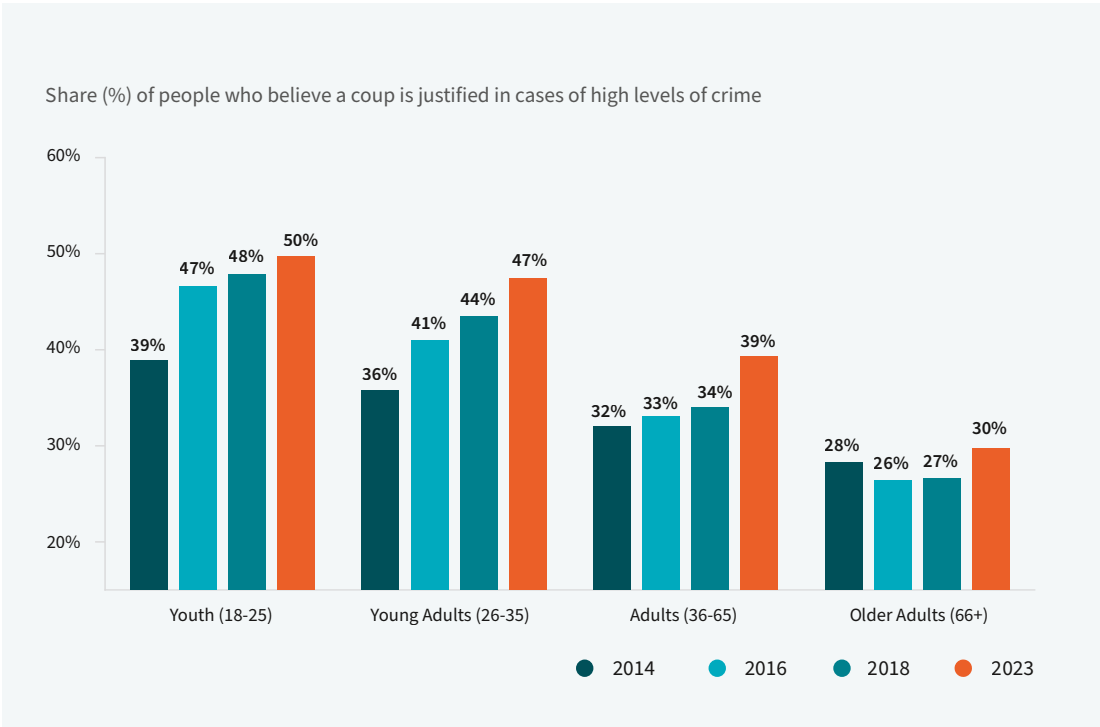
Social fragmentation in LAC has significant implications for both the outcomes and processes of human development. It can weaken governance, for example, resulting in governments prioritizing short-term measures that boost public approval at the expense of long-term investments. It can also reinforce political divisions, making it increasingly difficult to reach agreements, and effectively respond to citizen demands. This can fuel support for more radical forms of governance (figure O.11), or result in citizens opting out of state services altogether, undermining the sustainability of the welfare state and the broader social contract.

Organized crime has grown in LAC's fragmented societies, capitalizing on social divisions and limited state presence. Nearly half of homicides in the region are linked to criminal organizations and gangs. Beyond the direct violence these groups perpetrate, they deeply integrate into local economies and pose a significant threat to human development by exerting a growing influence over governance and the provision of informal services. Their decentralized networks,

involving diverse actors, have facilitated the rapid expansion and diversification of criminal markets. Activities such as human trafficking, illegal mining, logging and extortion have surged, in some instances rivalling the scale of drug trafficking. This diversification has extended criminal influence into areas once considered secure, contributing to a surge of violence across the region.¹⁴

This Report proposes two guiding principles for addressing social fragmentation: closing the economic, identitarian and geographic gaps that fuel fragmentation; and exploring whether fragmentation—despite its downsides—can be seen as a form of social energy that, if properly channelled, could contribute to advancing development. Dissatisfaction and antagonism in fragmented societies can be a catalyst for change with no predetermined trajectory. Political awareness and engagement are strong in LAC's polarized landscape, and voting continues to be the preferred tool to shape our political fortune. This represents an opportunity to continue reshaping our societies.

Figure O.11 Youth are more willing to justify a coup to confront high levels of crime



Increasingly changing climate: Managing the risks of a crisis foretold

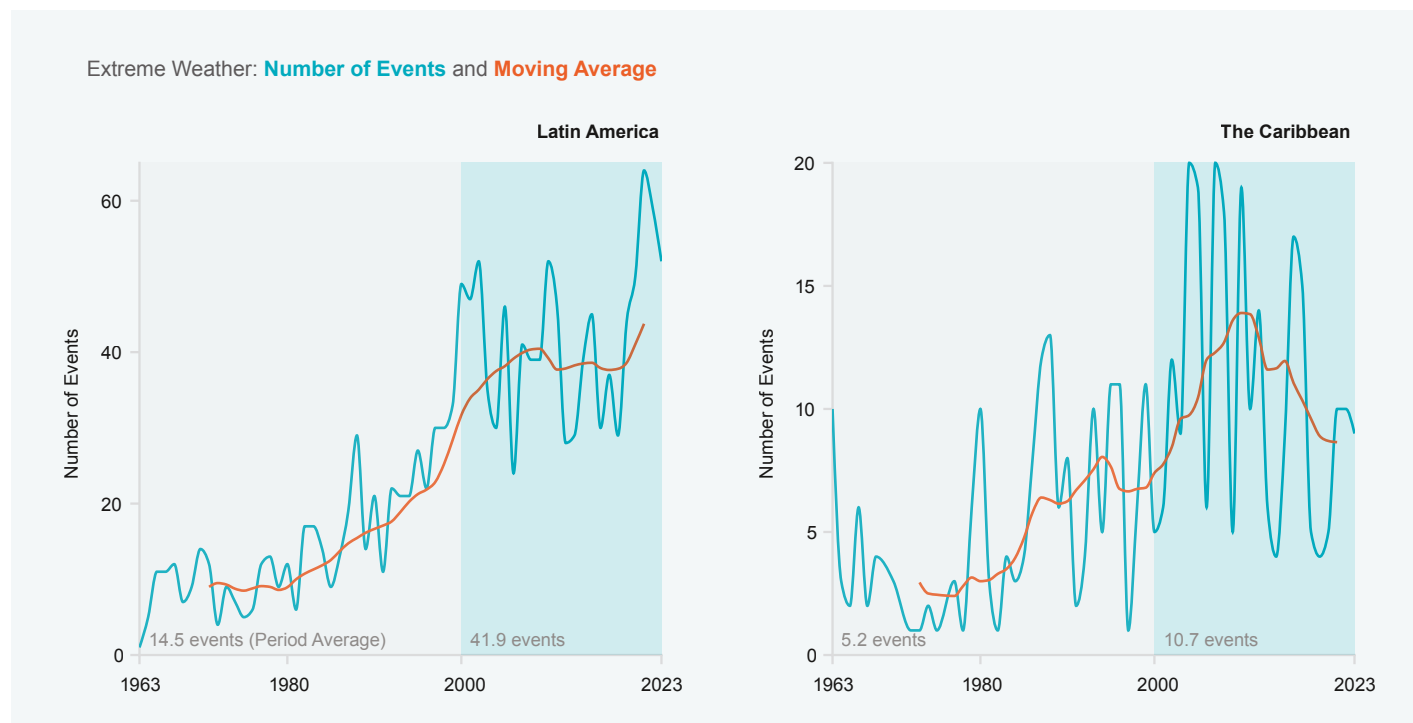
Climate change in LAC is no longer a distant threat; it is a present reality reshaping lives, constraining human development and undermining productivity. The region has experienced a sustained warming trend culminating in the past five years being the hottest period on record. In 2024 the average surface temperature across the Americas was 2.3°C above the 1951–1980 baseline.¹⁵ These rising temperatures have stark human consequences: from 2000 to 2019 heat-related excess deaths in LAC were approximately 36,700 annually,¹⁶ with a dramatic increase observed in the last decade—up to 140 percent higher in Latin America¹⁷ and 103 percent higher in the Caribbean.¹⁸ Economic impacts have also been severe; heat-related reductions in labour productivity resulted in income losses of \$1.78 billion in 2022.¹⁹

The number of weather-related events in LAC has more than doubled in the last few decades. In the Caribbean, the yearly average increased from 5.2 events

for the period 1963–1999 to 10.7 events for the period 2000–2023. In Latin America, this phenomenon is even more pronounced; the number of weather-related events nearly tripled from a yearly average of 14.5 for the period 1963–1999 to 41.9 for the period 2000–2023 (figure O.12). Estimates suggest that 31 percent of the LAC population is exposed to the risks of extreme weather hazards aggravated by climate change—particularly droughts, heatwaves and floods. While LAC as a region shows lower vulnerability to climate change than other parts of the world, some countries in Central America and the Caribbean exhibit significantly higher levels, highlighting critical hotspots within the region.

As the frequency of climate change related events rises, their impacts will be increasingly nuanced, complex and interconnected. Climate variability and extreme events already threaten nutrition, and food and water security. In 2023, roughly 28 percent of LAC's population faced moderate food insecurity while another 9 percent faced severe food insecurity.²⁰ Water stress will impact more countries in the coming years; under current emissions conditions,

Figure O.12 Extreme weather events in LAC have more than doubled in frequency



Notes: Extreme weather events include droughts, extreme temperatures, floods, storms, and wildfires. The moving averages have a 10-year time-frame.

Source: UNDP's calculations based on data from EM-DAT: The Emergency Events Database (1963–2023).

nearly half of the region's countries will face medium to extreme water stress by 2080.²¹ Compound events like wildfires triggered by severe droughts show how climate change is amplifying systemic risks. From 2002 to 2023, wildfires affected nearly 400 million hectares, an area comparable to that of Argentina and Chile combined.²²

Climate change and environmental degradation deepen pre-existing inequalities and intensify cascading and compounding impacts. A critical challenge is ensuring that climate resilience is not restricted to wealthier nations or communities that can afford adaptation. This would further entrench inequalities and exacerbate the impacts of the climate crisis on the most vulnerable. Evidence demonstrates an inverse relationship between HDI level and vulnerability—defined as the propensity or predisposition of societies to be negatively impacted by climate hazards (figure O.13). Conversely, there is a positive relationship between HDI level and readiness, indicating that countries with higher levels of human development are typically better positioned to leverage investment for adaptation actions (figure O.13).

People in LAC are increasingly worried about climate change and demand concrete political and institutional responses. However, surveys over the last decade have consistently shown that a higher portion of people prioritize economic growth over environmental protection (figure O.14). Nonetheless, citizens expect decisive responses from their governments on issues such as protecting and restoring nature, improving climate change education, safeguarding populations at risk, and increasing commitments to combat climate change.²³ The growing awareness about climate change in LAC is an opportunity for advancing agency and a way to move forward on green growth strategies. To seize this opportunity, it is necessary to overcome some political participation and representation challenges, such as misrepresentation (the assumption that others will not support climate action) and the incorporation of climate change issues in political agendas.

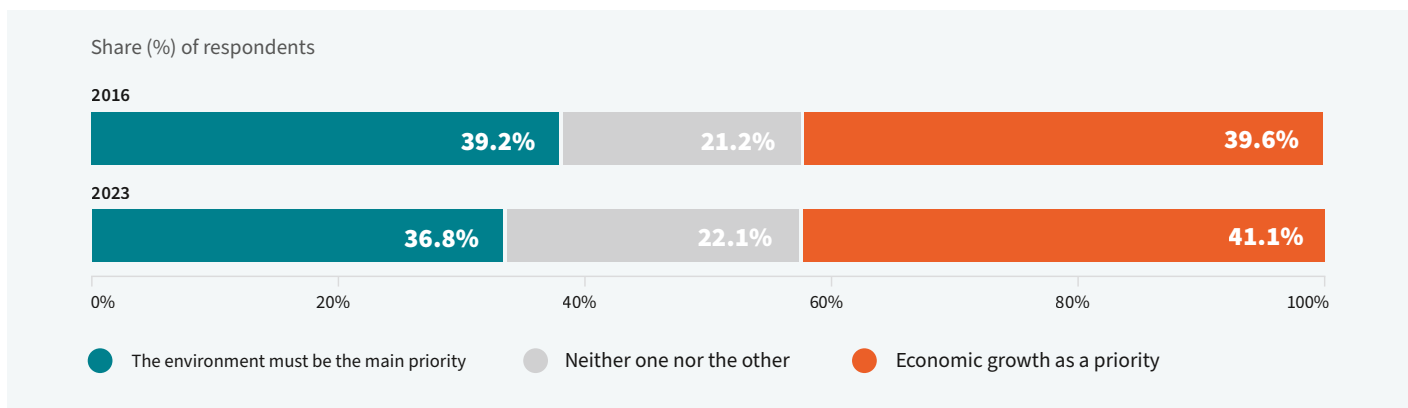
Figure O.13 Countries with higher levels of human development are better positioned to navigate climate hazards



Note: Score calculates the values for vulnerability and readiness indicators on a scale from 0-1. When calculating the vulnerability score—the lower, the better. When calculating the readiness score—the higher, the better.

Source: Authors' elaboration using data from the Human Development Report Office and the Notre Dame Global Adaptation Initiative.

Figure O.14 Opinions on prioritizing environment versus economic growth in LAC remain almost unchanged



Notes: The average is based on the 12 countries included in the 2023 survey: Argentina, The Bahamas, Bolivia, Chile, Dominican Republic, El Salvador, Guatemala, Grenada, Mexico, Peru, Trinidad and Tobago, and Uruguay.

Source: LAPOP, Americas Barometer 2016-2023. Vanderbilt University.

Managing the risks of decoupling economic growth from greenhouse gas (GHG) emissions in LAC can become an opportunity for building resilience.

Many LAC economies depend heavily on material flows and GHG-intensive exports like fossil fuels and agriculture. In a global net zero scenario, fossil fuels and high-emissions products are expected to face shrinking demand over the next two decades. In addition, the Agriculture, Forestry and Other Land Use sector makes up a disproportionately significant component of the total regional GHG emissions. By leveraging its natural capital responsibly and investing in sustainable practices, LAC can lead the way in defining a just and equitable path forward for green growth.

ience is multidimensional, transcending isolated responses to individual threats, and embedding within societies mechanisms that allow them to withstand, rebound and flourish when adversity strikes, regardless of the type of shock. Building resilience is inherently collective, with critical roles for governments, civil society and the private sector.

Three broad policy objectives can be defined within the concept of resilient human development: the ability to prepare for the unknown; the capacity to respond to hazards; and the means to rebound if adversity strikes. Similarly, we can think of three mechanisms through which these objectives can be achieved: instruments to navigate uncertainty; institutions that embrace complexity; and infrastructure that unleashes the power of local communities. **Together, the three objectives and three tools create a three “I” framework, that can provide guidance for building resilience in LAC.**

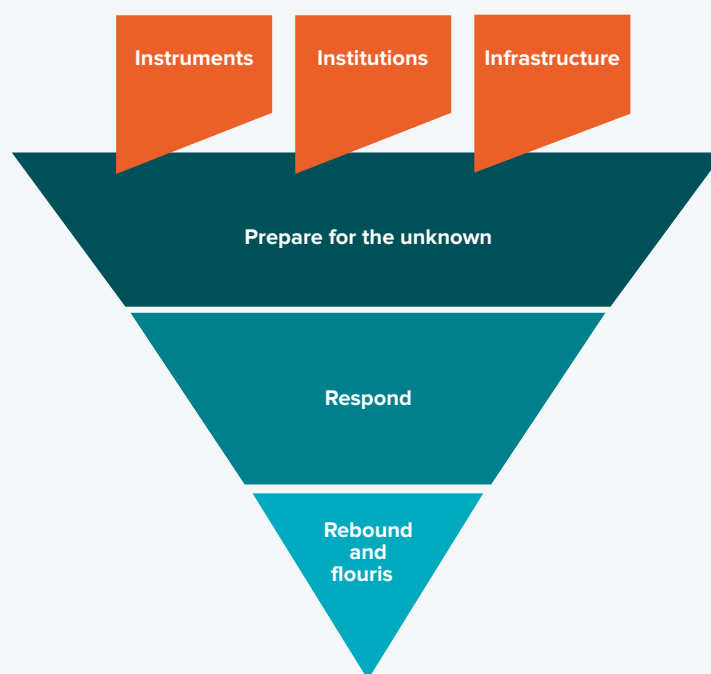
A new development playbook for LAC

A central message of this Report is that the development agenda in LAC is in need of a new playbook, one that fits our times. What worked in the past will no longer suffice. That is partly because there is much unfinished business, but it is also because as times have changed, our instruments, institutions and infrastructure must change to meet new challenges.

At the centre of this new playbook is resilience—not as a by-product of growth, poverty reduction or climate change adaptation but as a core element of our development strategies. Without resilience, progress will continue to be sluggish at best, and face reversals at worst. This approach to resil-

A resilient LAC demands a shift beyond traditional poverty reduction instruments towards those that actively build resilience. This requires expanding coverage for those who are vulnerable and traditionally excluded from social protection systems because they are neither poor nor formally employed. It also entails a broader and more adaptive policy toolkit that focuses on building assets, so that households have the coping mechanisms to withstand adverse events when these take place. Finally, it incorporates mechanisms to ensure that those affected by shocks have the ability to rebound and flourish, rebuilding their capabilities so that temporary impacts do not result in the permanent loss of freedoms.

Figure O.15 The three “I” framework for resilient human development



Source: Authors’ elaboration.

Resilience also requires that institutions embrace complexity, particularly through preparedness, agility and coordination, and continuous state presence. Preparedness entails equipping institutions with risk-sensitive frameworks that anticipate and respond to crises proactively. This includes investing in disaster risk management, financial contingency mechanisms, and early warning systems to prevent shocks from escalating into full-blown crises. Agility and coordination involve enhancing the capacity of institutions to adapt swiftly to evolving crises. This requires overcoming rigid bureaucratic structures and fostering intergovernmental cooperation at national and local levels. Territorial continuity is essential for ensuring state presence in all regions, particularly marginalized and rural areas. Uneven institutional reach exacerbates inequalities and leaves many populations without adequate services during crises. Strengthening local governance and enhancing community engagement mechanisms can improve institutional coverage and effectiveness.

Infrastructure is the backbone of resilient human development. It is not only about safeguarding physical assets, but also about creating systems that enable individuals,

businesses and communities to thrive despite uncertainties. A way forward for LAC includes: (i) developing a robust digital foundation, with Digital Public Infrastructure emerging as a critical pillar for future-ready innovation; (ii) exploring how infrastructure, when designed thoughtfully and inclusively, can bridge geographical divides and reduce inequality; and (iii) confronting the pressing need for climate-resilient infrastructure. Together, these three dimensions form an intertwined and comprehensive foundation that societies can rely on as they navigate uncertainty.

Resilience is not only about withstanding or managing threats; it is fundamentally about agency, carving a path forward and shaping the future of development in LAC. It represents a shift from a scenario in which households face shocks alone, to one where risks are managed collectively, ensuring individuals have reliable mechanisms to cope without suffering lasting impacts. Resilience embodies hope for the future, grounded not in the expectation that adversity will never occur, but in the confidence that when it does, individuals and societies can withstand it without foregoing freedoms—and potentially emerge stronger.

Notes

- 1 Calculations based on Human Development Report 2025.
- 2 LAC Equity Lab
- 3 Using the methodology from López-Calva and Ortiz-Juárez (2013).
- 4 The World Uncertainty Index measures global uncertainty by tracking the frequency of uncertainty-related terms in economic news articles and reports. The Index reflects fluctuations in global economic sentiment, indicating periods of heightened uncertainty that can affect investment, consumption and overall economic activity.
- 5 Based on Alkire 2025, Background paper for the Regional Human Development Report 2025.
- 6 UNDP (2024b).
- 7 The gig economy refers to a labor market characterized by short-term, task-based jobs where workers are typically paid per task or project, often coordinated through digital platforms.
- 8 Violaz (2025).
- 9 Violaz (2025).
- 10 Generative AI (genAI) refers to systems that create new content based on existing data patterns (such as ChatGPT).
- 11 Exposure is categorized into three primary effects: (i) automation, where tasks are fully replaced by AI; (ii) augmentation, where AI complements and enhances human work; and (iii) the “big unknown,” representing jobs whose future trajectory remains uncertain as AI continues to evolve (Gmyrek, Winkler, and Garganta, 2024).
- 12 GWB (2024).
- 13 Understood as the division of society into disconnected groups, often in conflict, with weak mediation mechanisms—such as formal institutions—to resolve disputes.
- 14 Dammert and Sampó (2025).
- 15 Regionally, temperature increases varied, reaching 1.6°C in the Caribbean, 1.8°C in Central America, 1.4°C in South America, and 1.9°C in Mexico alone.
- 16 Zhao and others (2021).
- 17 Hartinger and others (2024).
- 18 Gordon-Strachan and others (2024).
- 19 Hartinger and others (2024).
- 20 FAO and others (2025).
- 21 UNDP (2024b).
- 22 UN (2022).
- 23 UNDP and Oxford University (2024).

References

- Ahir, Hites, Nicholas Bloom, and Davide Furceri. 2022.** “The World Uncertainty Index.” *National Bureau of Economic Research*, no. 29763 (February). <https://doi.org/10.3386/w29763>.
- Alkire, Sabina. 2025.** “Resilient Human Development: Advancing Human Development amidst Shocks and Crises”. *Regional Human Development Report 2025 Background Paper. No. 41 UNDP LAC Working Paper Series*.
- Dammert, Lucía, and Carolina Sampó. 2025.** “What do we know about organized crime in Latin America and the Caribbean? Trends, definitions, and risks for democracy” *Regional Human Development Report 2025 Background Paper. No. 46 UNDP LAC Working Paper Series*.
- ECLAC (Economic Commission for Latin America and the Caribbean). 2023.** “CEPALSTAT Bases de Datos Y Publicaciones Estadísticas.” <https://statistics.cepal.org/portal/cepalstat/dashboard.html?theme=1&lang=es>.
- EM-DAT: The Emergency Events Database. 2024.** “Global Database for Comprehensive Disaster Data.” Data for 1963-2023. <https://www.emdat.be/>.
- FAO (Food and Agriculture Organization), IFAD (International Fund for Agricultural Development), PAHO (Pan American Health Organization), UNICEF (United Nations Children’s Fund), and WFP (World Food Programme). 2025.** “Latin America and the Caribbean Regional Overview of Food Security and Nutrition 2024 – Building Resilience to Climate Variability and Extremes for Food Security and Nutrition.” Santiago de Chile, Chile: FAO. <https://doi.org/10.4060/cd3877es>.
- Gmyrek, Paweł, Hernan Winkler, and Santiago Garganta. 2024.** “Buffer or Bottleneck? Employment Exposure to Generative AI and the Digital Divide in Latin America.” ILO. <https://doi.org/10.54394/TFZY7681>.
- Gordon-Strachan, Georgiana M, Stephanie Y Parker, Heather C Harewood, Pablo A Méndez-Lázaro, Salanieta T Saketa, Kimalie F Parchment, Maria Walawender, et al. 2024.** “The 2024 Small Island Developing States Report of the Lancet Countdown on Health and Climate Change.” *The Lancet Global Health* 13 (1). [https://doi.org/10.1016/s2214-109x\(24\)00421-2](https://doi.org/10.1016/s2214-109x(24)00421-2).
- GWJ (GlobalWebIndex). 2024.** “The 2024 Social Media Trends Report.” GWB. <https://www.gwi.com/reports/social>.
- Hartinger, Stella M, Yasna K Palmeiro-Silva, Camila Llerena-Cayo, Luciana Blanco-Villafuerte, Luis E Escobar, Avriel Diaz, Juliana Helo Sarmiento, et al. 2024.** “The 2023 Latin America Report of the Lancet Countdown on Health and Climate Change: The Imperative for Health-Cen-

tred Climate-Resilient Development.” *The Lancet Regional Health. Americas* 33 (100746). <https://doi.org/10.1016/j.lana.2024.100746>.

ITU (International Telecommunication Union). 2024. “Data Explorer.” ITU DataHub. <https://datahub.itu.int/data/>.

LAC Equity Lab. 2024. “Income Inequality - Income Distribution.” *World Bank*. <https://www.worldbank.org/en/topic/poverty/lac-equity-lab1/income-inequality/income-distribution>.

LAPOP Lab. 2025. “Americas Barometer.” Data 2010-2023. Center for Global Democracy. Vanderbilt University. www.vanderbilt.edu/lapop.

Latinobarómetro. 2025. “Data 2008-2023.” *Corporación Latinobarómetro*. Santiago, Chile. <http://www.latinobarometro.org/lat.jsp>.

López-Calva, Luis F., and Eduardo Ortiz-Juarez. 2013. “A Vulnerability Approach to the Definition of the Middle Class.” *The Journal of Economic Inequality* 12 (1): 23–47. <https://doi.org/10.1007/s10888-012-9240-5>.

OECD (Organisation for Economic Co-operation and Development). 2024a. “OECD Going Digital Toolkit.” Paris. <https://goingdigital.oecd.org/>.

———. **2024b.** “OECD Survey on Drivers of Trust in Public Institutions – 2024 Results: Building Trust in a Complex Policy Environment.” Paris: OECD Publishing.

UN (United Nations). 2022. “Wildfires in Latin America. A Preliminary Analysis, Messages and Resources for RC/ UNCT.” <https://www.undrr.org/media/80887/download?startDownload=20250503>.

UNDP (United Nations Development Programme). 2024a. “Missed Connections: An Incomplete Digital Revolution in Latin America and the Caribbean.” *UNDP*. <https://www.undp.org/latin-america/blog/missed-connections-in-complete-digital-revolution-latin-america-and-caribbean-0>.

———. **2024b.** “Running Dry: Addressing Water Stress in LAC.” United Nations Development Programme. June 26, 2024. <https://www.undp.org/latin-america/blog/running-dry-addressing-water-stress-lac>.

———. **2025a.** “Atlas de Inteligencia Artificial Para El Desarrollo Humano.”

———. **2025b.** “Human Development Index.” <https://hdr.undp.org/data-center/human-development-index#/indicies/HDI>.

———. **2025c.** “Human Development Report 2025: A Matter of Choice: People and Possibilities in the Age of AI.” New York. <https://hdr.undp.org/content/human-development-report-2025>.

UNDP (United Nations Development Programme), and Oxford University. 2024. “Peoples’ Climate Vote 2024 Results.” <https://www.undp.org/publications/peoples-climate-vote-2024>.

Universidad de los Andes. 2025. “Laboratorio de Sistemas de Algoritmos Públicos. Sistemas de IA En América Latina Y El Caribe.” April 30, 2025. <https://sistemaspublicos.tech/sistemas-de-ia-en-america-latina/>.

UNODC (United Nations Office on Drugs and Crime). 2023. “UNODC Global Study on Homicide 2023: Homicide and Organized Crime in Latin America and the Caribbean.” UNODC. https://www.unodc.org/documents/data-and-analysis/gsh/2023/GSH_2023_LAC_web.pdf.

V-Dem. 2025. “V-Dem Country-Year Dataset V15.” Data for 2000-2033. Varieties of Democracy (V-Dem) Project. <https://v-dem.net/data/dataset-archive/>.

Viollaz, Mariana. 2025. “Diversification of Employment in Latin America and the Caribbean: Gig Employment and Implications for Economic Resilience.” *Regional Human Development Report 2025 Background Paper. No. 44 UNDP LAC Working Paper Series*.



Part I

THE PRESSURE



Chapter 1

Development under pressure in Latin America and the Caribbean

1.1 Changing times

“We live in a very changing world, and at any moment a situation may arise in which we are forced to live with it and be resilient” – Dominican Republic (male, 50 years old)¹

Societies across Latin America and the Caribbean (LAC) are feeling the weight of growing pressures. Five years after the onset of the COVID-19 pandemic and the subsequent cascade of crises, the region has settled into a precarious reality in which uncertainty is the new normal and decades of hard-earned development progress seem to be under constant threat of reversal. Recurring setbacks have left individuals and communities feeling fragile, less optimistic about the future, and worried that life could be disrupted in unforeseen ways at any moment. This underlying fear precludes hope, constricting individual freedoms and agency.

While uncertainty has always been present, the type of adverse events that the region and the world are now experiencing are unlike those that came before. Traditional risks are more frequent and intense than ever, and hazards that were unimaginable only a few years ago are recurrent today. Shocks are not only related to climate change or extreme weather events.² Cyberattacks³, for example, have the capacity to paralyse governments services and disrupt markets. Increased levels of social unrest interrupt daily life. Public health crises, the COVID-19 pandemic being only the most recent extreme example, are more frequent and also more likely. Supply chain disruptions, once seen as isolated incidents, have become commonplace, affecting everything from agriculture to manufacturing. These threats are interconnected, amplifying one another, and creating multilayered impacts on people and planet, impacts for which the region is not yet adequately prepared.

This context is further exacerbated in LAC by the intersection of uncertainty with deeply rooted structural

Resilience, as an enabler of agency and a protector of effective freedoms, constitutes the very essence of human development.

vulnerabilities. The region is highly susceptible to extreme weather and has a history of slow and volatile growth, heavily influenced by external conditions such as global economic fluctuations, commodity prices, and changes in trade policies. It remains the most unequal region in the world, not only in terms of income but also in terms of the assets that allow individuals to generate income. These characteristics fuel uncertainty that, in turn, entrenches structural issues. Moreover, these factors are compounded by governance challenges and a persistent lack of institutional capacity to address emerging crises.

Uncertainty is pressuring an already strained development trajectory in the region. In a nutshell, the patterns of development progress in LAC over the last decades can be summarized in four simple tenets: significant progress has occurred; it has been unequal; it has slowed in recent years; and it is vulnerable to reversals. The last decade has been characterized by a severe slow-down in development progress—after decades of significant advancements.

The degree of uncertainty facing the world and the region moves the concept of resilience to the front of the development agenda.⁴ There are two main reasons for this—one intrinsic and one instrumental. Intrinsically because uncertainty breeds fear, a state that is mutually exclusive from freedom. Armed with tools to withstand adverse events and given a safety net to rely on, resilience allows individuals to have confidence and hope in the future. Inherent in hope is agency, the power to act and shape the future (Han, 2024). In a context of elevated uncertainty and frequent adverse events, human development without resilience is no longer viable. Resilience, as an enabler of

In a nutshell, the patterns of development progress in LAC over the last decades can be summarized in four simple tenets: significant progress has occurred; it has been unequal; it has slowed in recent years; and it is vulnerable to reversals.

agency and a protector of effective freedoms, constitutes the very essence of human development.

Instrumentally, resilience constitutes a path forward for development in LAC. Recent trends demonstrate that focusing solely on progress and doing more of the same is no longer enough. Conventional development thinking in the region implicitly assumed a linear journey of upward social mobility: once people escaped poverty, they would naturally continue to ascend into a stable middle class. However, this promise has remained mostly unfulfilled. While millions exited poverty, too many hovered precariously above the poverty line, slipping back frequently and often.

Progress, we learned, was fragile, and the threats were multiple. A focus solely on helping people move across the poverty line is akin to managing a leaky ship—bailing water, without patching the underlying holes. In times of low tides and calm waters (economic growth and stability) this strategy works, and the ship stays afloat. But when the weather turns, bailing water is insufficient, and patching holes only gets harder. A focus on resilience can shift the goalpost and, in turn, change the playbook for the type of development strategies that are most suitable for our times. It shifts attention toward proactively fixing vulnerabilities (“patching the holes”) during calmer periods, while continuing to manage immediate challenges (“bailing water”). This dual focus ensures the vessel—the region’s development trajectory—is better prepared to withstand turbulence and remain stable amidst adversity.

Placing resilience at the centre of the development discourse offers an additional advantage: it creates a platform around which disaster risk reduction, climate change adaptation, humanitarian and development agendas can converge. Building resilience across societies, economies and ecosystems has long been a shared goal of disaster risk reduction and climate change adaptation communities.

Despite significant overlaps, these efforts have historically been managed by separate institutional frameworks and political processes. While there is widespread recognition within these areas of the need to integrate resilience into

development strategies, social policy has generally lagged in adapting to its evolving landscape. In an era when uncertainty and frequent hazards have become commonplace, placing resilience at the heart of development efforts would allow for the meaningful convergence among humanitarian interventions, disaster risk reduction and broader development agendas. This integration could improve coordination, minimize the negative impacts of hazards and optimize the use of limited resources.

While resilience emerges as key for advancing development in uncertain times, the colloquial interpretation of this concept falls short. Resilience in LAC is commonly understood as the ability to endure adversity, or “*aguantar*” in Spanish, a cultural narrative that normalizes, and even idealizes, hardship, focusing on survival rather than an ability to thrive after adverse events (Cháidez, 2025). This narrative assumes that navigating shocks is something that the individual must endure. But enduring while future freedoms are compromised is not resilience. It is quite the opposite of it. Endurance as a coping mechanism fails to protect individual freedoms, people’s beings and doings; it fails to address the root causes of vulnerability, limiting the ability of individuals, communities and institutions to adapt and thrive.

This Report introduces a new conceptualization of resilience centered on human development—specifically, on people’s capacity to thrive amid uncertainty and frequent, intense, and interconnected shocks. Rather than focusing solely on specific hazards (e.g., extreme weather events) or individual systems (e.g., ecosystems, health infrastructure, value chains), this approach emphasizes preparedness for unknown challenges, recognizing that the threats we face increasingly defy predictability.

The Report is divided into three parts. The first part sets the stage, opening with this first chapter—which analyses the changing nature of uncertainty in LAC and the underlying structural vulnerabilities that characterize the current development trajectory, highlighting the pressures faced by the region and their impacts on development. It examines development trends and how these have evolved in the past decades to show signs of stress due to a changing context. This narrative is the motivation for the subsequent discussion in chapter 2, which sets out the overarching framework of the Report based on the concept of resilient human development.

Part II of this Report builds on the framework presented in chapter 2 to investigate three ongoing transformations—or stressors—in the region that are putting pressure on

development: rapidly evolving technologies (chapter 3); deepening social fragmentation (chapter 4); and an increasingly changing climate (chapter 5).

Part III explores how we can recalibrate development by embedding resilience in policy instruments, institutions and infrastructure to drive change (chapter 6).

1.2 Uncertainty, pushing down on Latin America and the Caribbean

The *Human Development Report 2021/2022, Uncertain Times, Unsettled Lives: Shaping our Future in a Transforming World* (UNDP, 2022a) introduced the idea of a new global uncertainty complex “driven by three novel sources of uncertainty that interact at a global scale:

- (i) the intertwined planetary pressures and inequalities of the Anthropocene;
- (ii) the pursuit of just societal transformation to ease those pressures; and
- (iii) widespread, intensifying societal polarization, delaying necessary action for change.”

This Report uses these concepts, together with those explored in subsequent Human Development Reports, namely *Breaking the Gridlock: Reimagining Cooperation in a Polarized World*, published in 2023/2024, and the *A Matter of Choice: People and Possibilities in the Age of AI*, published in 2025, to delve into how this uncertainty is landing in LAC, and how it can be transformed from a source of pressure to a driving force for development.

1.2.1 The rise of uncertainty

Uncertainty is not new to LAC. But for decades, the threats facing the region were somewhat predictable. Commodity price drops resulted in economic contractions. El Niño and La Niña, which occurred every two to seven years, brought periods of intense rain in some places and drought in others. Hurricane seasons threatened physical infrastructure and, at their more extreme, lives. These risks were somewhat familiar; while their outcomes were unknown, the probability of the distribution governing those outcomes could be predicted based on patterns of the past.

But times have changed. These shifts have ushered in a new era of uncertainty, a new territory of unknowns. We might have been able to comprehend the risks inherent in previous states

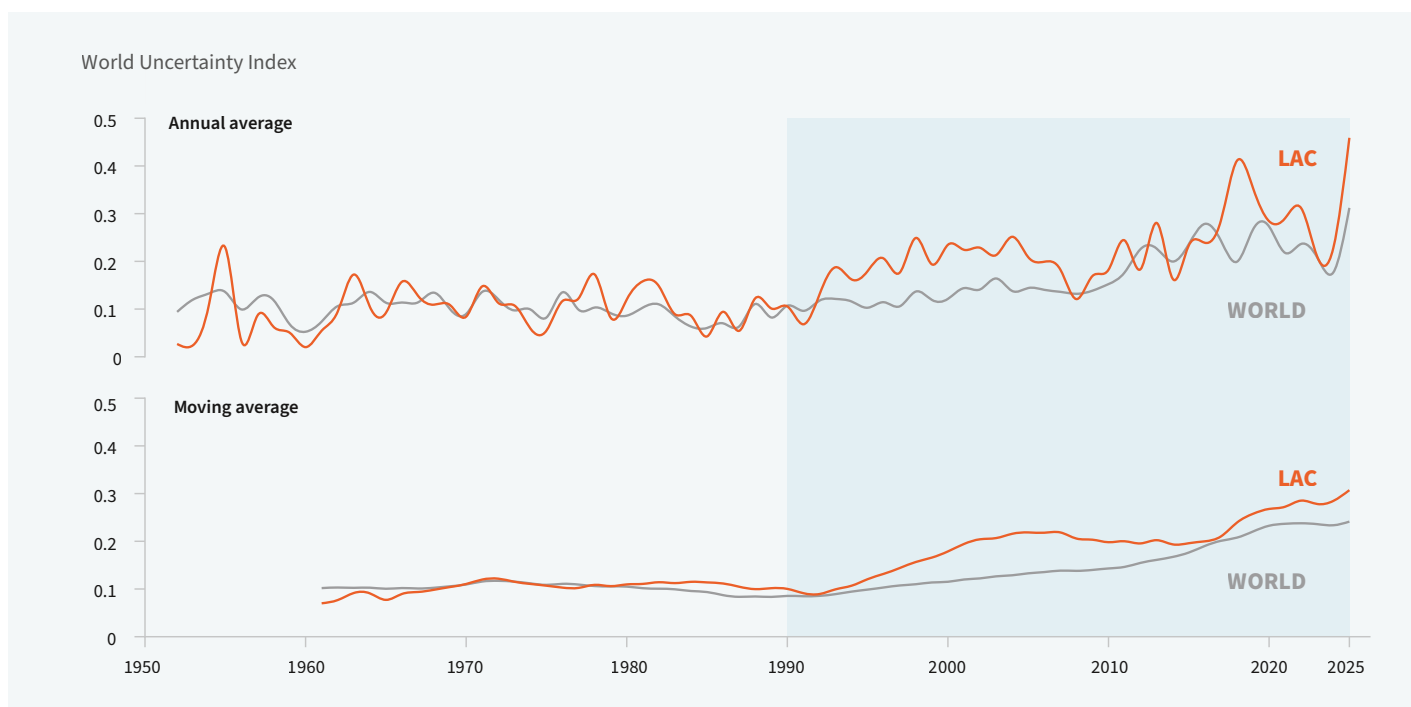
In an era when uncertainty and frequent hazards have become commonplace, placing resilience at the heart of development efforts would allow for the meaningful convergence among humanitarian interventions, disaster risk reduction and broader development agendas.

of the world, but the evolving landscape has introduced a level of unpredictability that defies conventional understanding. Moving from risk to uncertainty means transitioning from a situation where potential outcomes and their probabilities are relatively known, measurable and managed, to a situation where the future is much less predictable, with limited information about possible outcomes and their likelihoods. This is reminiscent of going from a scenario in which the potential for loss can be quantified to one where societies and decision makers are repeatedly caught off-guard. “Unprecedented” is a term that is invoked with growing frequency to capture the scale and novelty of the challenges the region confronts. Currently LAC exists in a state of suspended uncertainty—aware of the risks that lie ahead, yet unable to adequately prepare for them, even as stormy weather is clearly forecasted for the foreseeable future.

Uncertainty is notoriously hard to measure, given that it is a nebulous and somewhat subjective concept based on individuals’ perceptions of a future that may—or may not—happen. It is also blurry because it involves macro concerns, such as the direction of the economy, as well as individual worries, such as illnesses or unemployment (Ahir, Bloom and Furceri, 2022). The World Uncertainty Index measures global uncertainty by tracking the frequency of uncertainty-related terms in economic news articles and reports. The index reflects fluctuations in global economic sentiment, indicating periods of heightened uncertainty that can affect investment, consumption and overall economic activity. A high level of uncertainty often signals caution among businesses and investors, leading to reduced investment and spending, which can slow economic growth (Ahir, Bloom and Furceri, 2022; Cascaldi-Garcia and others, 2021).

Moving from risk to uncertainty means transitioning from a situation where potential outcomes and their probabilities are relatively known, measurable and managed to a situation where the future is much less predictable, with limited information about possible outcomes and their likelihoods.

Figure 1.1 Uncertainty in LAC has more than doubled since 1990, surpassing global averages



Notes: The Uncertainty Index is calculated by counting the frequency of the word "uncertainty" (and its variants) in Economist Intelligence Unit Country Reports. The indices are normalized by the total word count and rescaled by multiplying by 1,000, with higher values indicating greater uncertainty. Moving averages have a 10-year window.

Source: UNDP's calculations based on the World Uncertainty Index data for 1952 to 2025 (first quarter), Ahir and others (2022).

According to this measure, global uncertainty has been rising steadily since 1990. In LAC, however, it is not only higher—by an average of 35 percent—but also more volatile than in the rest of the world. Over the past three decades, uncertainty in LAC has more than doubled, even before accounting for the sharp increase observed in early 2025 due to shifts in global tariff policies. While global uncertainty typically spikes following major events—such as the 2008 financial crisis, the onset of the COVID-19 pandemic, or escalating global conflicts—these surges tend to be even more pronounced in LAC. For instance, during the first quarter of 2025, global uncertainty rose by 77 percent compared to the same period in 2024, whereas uncertainty in LAC surged by 101 percent.

While the sources of increased uncertainty in LAC are perhaps impossible to list comprehensively, we will explore three stressors that are destabilizing the region: rapidly evolving technologies, deepening social fragmentation, and an increasingly changing climate.

While the sources of increased uncertainty in LAC are perhaps impossible to list comprehensively, this Report will explore three stressors that are destabilizing the region: rapidly evolving technologies, deepening social fragmentation, and an increasingly changing climate.

These three sources of stress require decisive action and proper management to be leveraged into opportunities for advancing development in the region. While the impact and time-frame of these stressors varies, they are interlinked and become more pronounced when combined. Social tensions can hinder essential collaborative efforts to address climate change. Advancements in artificial intelligence (AI) can both exacerbate misinformation and aggravate human-induced planetary pressures. Uneven adoption of digital technologies can worsen preexisting inequalities. Chapters 3, 4 and 5 of this Report are dedicated to analysing these drivers of uncertainty and the risks and opportunities they entail. The Interlinkages section after chapter 5 will explore areas where these stressors overlap.

Box 1.1 A working definition of risk⁵ and uncertainty

Using the definition established by the Intergovernmental Panel on Climate Change (IPCC), risks are the combination of three interlinked factors—hazards, exposure and vulnerability. The IPCC focuses specifically on climate-related hazards—defined as the potential occurrence of a physical event or trend, such as extreme weather events (hurricanes, droughts, floods and heatwaves) or slow-onset changes (sea level rise, temperature increases). This Report, in accordance with the approach to risk-informed development taken by the United Nations Development Programme (UNDP), expands that definition to a broad spectrum of risks. These include health risks, social conflicts, emerging technologies, environmental challenges, economic shocks, human rights concerns and related drivers such as migration, governance and inequality.

Exposure refers to the presence of people, ecosystems, infrastructure or assets in areas that could be adversely affected by a hazard. Vulnerability is considered as the susceptibility or sensitivity of a system, society or individual to be harmed by a hazard according to their ability to cope with or adapt to that hazard. Vulnerability is a function of social, economic and environmental factors, such as poverty, inequality, governance and access to resources.

Hazard considers the potential occurrence of an event or trend that may cause loss of life, injury or other health impacts, as well as damage and loss to property, infrastructure, livelihoods, service provision, ecosystems and environmental resources. As explained earlier, hazards encompass both natural and human-induced events that threaten the region.

Figure 1.2 A visual representation of risk



Source: IPCC (2001); UNDP (2022b).

This perspective acknowledges that while hazards are essential conditions for disasters, the social, economic and developmental contexts are equally critical factors in disaster creation.

Uncertainty refers to a state of limited knowledge, a situation where the true value of an outcome or the full scope of a phenomenon is unknown (IPCC, 2001). The IPCC describes uncertainty as “an expression of the degree to which a value (e.g., the future state of the climate system) is unknown.” Uncertainty arises from many sources; it can stem from incomplete data, scientific disagreement or the inherent unpredictability in complex systems (IPCC, 2001). Some uncertainties are quantifiable (we can estimate a range or probability based on models and historical data), while others are deep or irreducible, where we cannot even confidently assign probabilities (IPCC, 2001; Kruitwagen and others, 2016). For example, scientists are uncertain about the exact magnitude of sea level rise by 2100. They can provide a likely range, but unknowns (such as ice sheet dynamics) mean we cannot pin down a single value. Uncertainty is thus a broader concept than risk—it encompasses all that is not known for sure, regardless of whether it can be measured.

Risk and uncertainty are related but distinct ideas, and the terms are not interchangeable. Classic economic theory draws a clear line between them. Frank Knight's influential work (1921) distinguished *measurable* uncertainty (which he called "risk") from true uncertainty. In Knight's formulation, risk applies when we know the probability distribution of outcomes, whereas uncertainty applies when we do not know the probabilities at all (Knight, 1921). In other words, if you can accurately calculate odds (e.g., the 1 percent annual chance of a 100-year flood), you're dealing with risk; if you "cannot know all the information needed to set accurate odds in the first place", it's uncertainty (Knight, 1921). In a simple example, rolling a fair die involves risk (exact probabilities of each face are known); but investing in a brand-new technology market might involve great uncertainty (no reliable data to estimate odds of success). Many analysts use risk as a subset of uncertainty—the portion we can quantify. As one climate economist explains, risk is essentially "a particular type of uncertainty that includes a confident knowledge of probabilities" (Hansen, 2022).

Another distinction is in outcomes and perception. Risk usually implies a focus on specific adverse outcomes (and their likelihood), whereas uncertainty is more about the ambiguity or confidence in our knowledge of any outcomes. In practical terms, risk is "managed" by estimating probabilities and impacts. Uncertainty, in contrast, must be "coped with" when information is too scant or unreliable for precise estimates. Uncertainty also has dimensions; one is the inherent randomness in systems (often called *aleatory uncertainty*, such as natural climate variability), and another arises from a lack of knowledge (*epistemic uncertainty*, such as imperfect models or data gaps) (Kruitwagen and others, 2016). In complex fields like climate or economics, *deep uncertainty* is common, where experts cannot agree on the system model or likelihood of future scenarios. Under deep uncertainty, even the best statistical models cannot confidently predict outcomes (Kruitwagen and others, 2016). In such cases, the concept of risk as a neat probability times impact metric breaks down.

Table 1.1 Risks, uncertainty and threats at a glance

Dimension	Risk (measurable uncertainty)	Uncertainty (true uncertainty)	Threat (hazard)
Knowledge of odds	Probabilities of outcomes are known or can be reliably estimated (decision makers know the odds of various outcomes).	Probabilities of outcomes are unknown or indeterminable (decision makers don't know the odds of various outcomes).	Often unclear or based on intelligence estimates; threats are identified as possible dangers but with uncertainty as to the exact likelihood (typically assessed via scenarios rather than precise odds).
Quantification	Generally quantifiable—risks can be measured or calculated (e.g., expressed likelihood × impact), allowing for numeric risk estimates and statistical analysis.	Not readily quantifiable—lacks reliable probability data, so uncertainty is described qualitatively or via scenario ranges; these situations resist numerical assignment.	Typically evaluated qualitatively—threats are rated by potential impact and approximate likelihood (e.g., categorized as low/medium/high risk) rather than given exact probabilities.
Scope of application	Applied in cases with repeatable or well-understood processes and historical data, enabling statistical risk assessments (common in insurance, finance, engineering, etc.).	Encompasses novel or complex situations with little precedent, covering broader ignorance or variability (e.g. geopolitical upheavals, deep uncertainty in future climate or technological change)	Emphasized in security, defense, and strategic planning – focuses on external dangers (hazards or adversaries) outside one's control that could be disruptive.
Decision approach	Employ probabilistic decision-making and formal risk management techniques—e.g., calculate expected values, perform cost–benefit analyses, and implement risk mitigation or transfer (since odds are known, trade-offs can be optimized).	Emphasize flexibility and robustness—use scenario planning, expert judgment and adaptive strategies rather than strict models (must be prepared for unpredictable changes and “unknown unknowns” in outcomes).	Pursue proactive defense and contingency planning—conduct threat assessment to identify and monitor potential harm, strengthen resilience by reducing vulnerabilities and preparing contingency responses (since threats often cannot be directly controlled).

1.2.2 What is known about the unknowns?

The new era of uncertainty in LAC has three defining features:

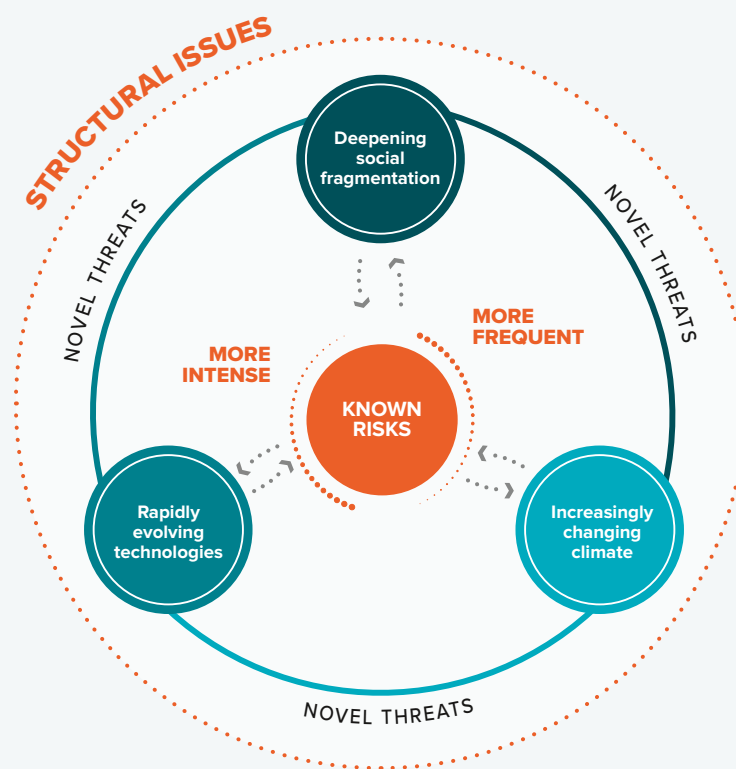
- (i) traditional risks are more frequent and intense than before;
- (ii) novel threats⁶ are emerging due to rapidly evolving technologies, deepening social fragmentations and an increasingly changing climate; and
- (iii) threats compound with one another and with structural issues, amplifying their impact.

In terms of frequency, for example, the number of extreme weather events in LAC has more than doubled in the last two decades compared to any previous period. In the Caribbean, the yearly average number of extreme events more than doubled, going from 5.2 during 1963–1999 to nearly 11 during 2000–2023. In Latin America, the yearly average number of events jumped even more significantly, more than tripling from 14.5 between 1963 to 1999 to more than 40 between 2000 to 2023.

The frequency of other types of adverse events⁷ also increased. From January to July 2024, the number of fire hotspots⁸ in the Amazon increased by 43.2 percent in comparison with the same period in 2023 (INPE, 2025). The number of protests and riots in the region grew 17 percent from 2018 to 2023, and fatalities stemming from riots grew 22 percent in the same period. (Raleigh, Kishi, and Linke, 2023).

Events also tend to be more intense in terms of the number of people impacted and the extent of economic losses suffered. In April and May 2024, the state of Rio Grande Do Sul in Brazil endured unprecedented torrential rains that caused flooding across 90 percent of the state (an area equivalent to the United Kingdom). Up until that point, the state capital of Porto Alegre had never seen a significant flood event (OCHA, 2024; World Weather Attribution, 2024). The average yearly economic losses from storms in the Caribbean tripled in the last 20 years, rising from an average yearly loss equivalent to 7 percent of the GDP from 2000 to 2010, to 21 percent from 2011 to 2023. While significant

Figure 1.3 A new era of uncertainty in LAC



Source: Authors' elaboration.

advances have been made to decrease mortality rates due to extreme weather events, the share of the population affected also increased significantly, with more than twice as many people impacted in the 23-year period from 2000 to 2023 in the Caribbean than in the 36 years before that.

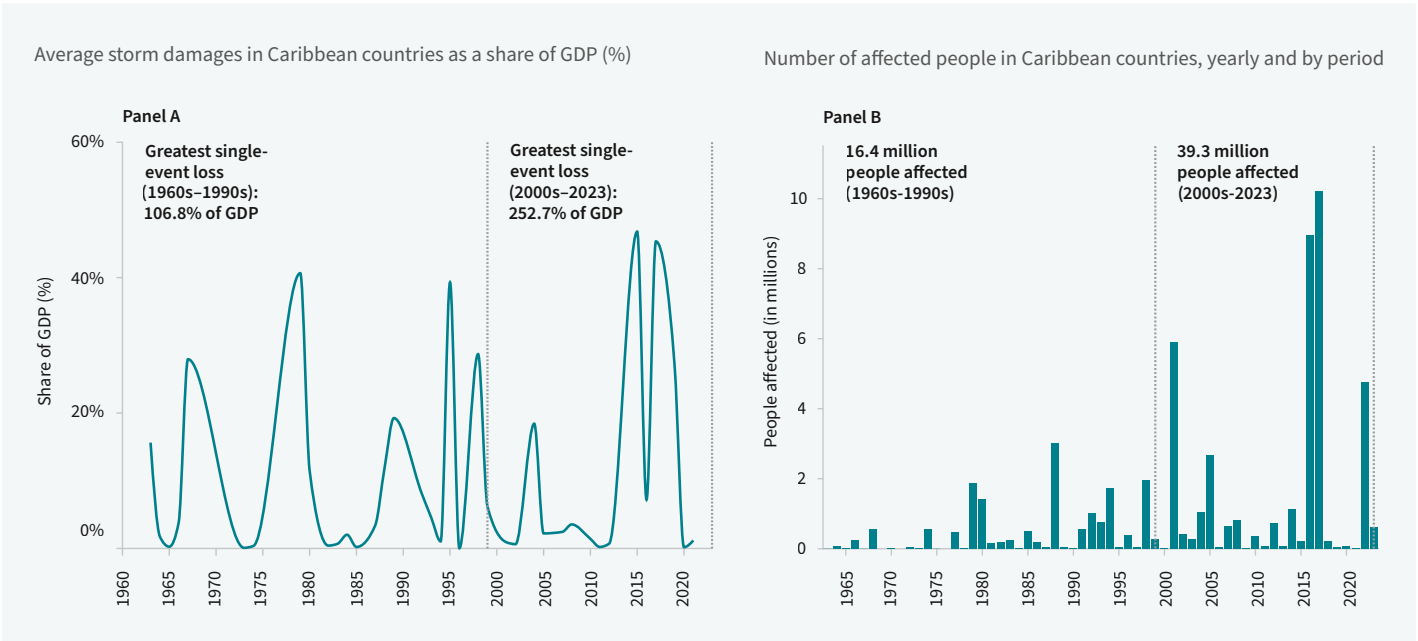
At the same time, new threats are emerging. While cyber and digital threats were unknown only a few decades ago, today LAC has the highest rate of disclosed cyber incidents in the world, experiencing an average annual growth rate of 25 percent from 2014 to 2023 (Vergara Cobos, 2024). Migration is not new, but the levels and patterns of mass migration that the region has experienced in the past decade have no precedent. In 2024, LAC hosted 18 million migrants, 2.5 times more than in 1990.⁹ Today, the question is not if there will be another pandemic but rather, when will it happen?

Finally, multiple adverse events and hazards interact with each other—and with structural vulnerabilities—in complex and often unforeseen ways. These interactions can trigger cascading effects, amplifying individual impacts and making crises more urgent and difficult to manage. The term

polycrisis has entered the mainstream to describe this increasingly common reality: a world where shocks are no longer isolated but interlinked through feedback loops and systemic interdependencies. Events such as the 2008 financial crisis, the COVID-19 pandemic, and the recent cost-of-living crisis—driven by supply chain disruptions and geopolitical conflict—have underscored how risks can jump across sectors and borders overwhelming institutions and reinforcing pre-existing vulnerabilities. Cascading or domino effects are the real, materialized manifestation of systemic risk (Lavell, 2025). This growing recognition marks a paradigm shift in global thinking—from managing individual, siloed risks to navigating interconnected, overlapping and systemic vulnerabilities.

For example, the El Niño Southern Oscillation (ENSO)¹⁰, is one of the most important sources of annual global climate variability in the Pacific Ocean. Increasing global temperatures may be intensifying the phenomenon, as occurred in 2023–2024. Such powerful events can lead to stronger and prolonged issues such as droughts, which may disrupt a country’s ability to generate hydroelectric power, as recently observed in Colombia (El Tiempo, 2024; Reynoso, 2023) and Ecuador (Solano and Rueda, 2024; Turkewitz and León Cabrera, 2024). This disruption may

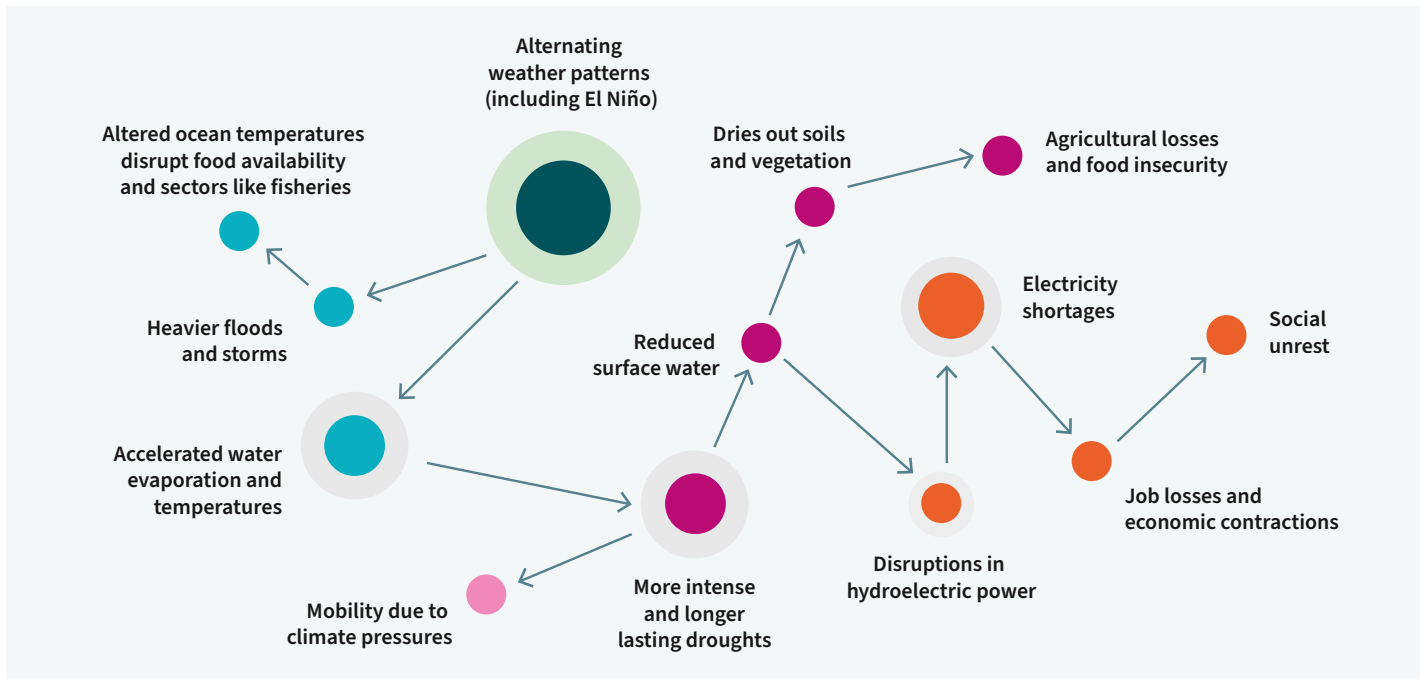
Figure 1.4 Storm damages in the Caribbean are increasingly severe



Notes: GDP figures refer to the year before the storm (current US\$). The sample includes only countries and years with both storm damages and GDP data available.
Source: UNDP's calculations. Storm-related losses from EM-DAT: The Emergency Events Database (1963–2023). GDP data from the World Bank National Accounts.

Notes: Extreme weather events include droughts, extreme temperatures, floods, storms, and wildfires.
Source: UNDP's calculations using data from EM-DAT: The Emergency Events Database (1963–2023).

Figure 1.5 An illustration of the "domino effect" across sectors, compounding



Source: Authors' elaboration.

result in electricity shortages or blackouts that, in turn, can cause job losses, closing of businesses, contractions of local economies and potentially fuel political instability and social unrest. Concurrently, drought-related water scarcity may lead to agricultural losses and increases in food insecurity, as seen recently in Honduras, El Salvador, Guatemala and Nicaragua (WFP, 2024), with serious implications for nutrition and health outcomes. Figure 1.5 illustrates this linked sequence of issues—the “domino effect.”

Similarly, the intersection of political polarization and the widespread use of a variety of digital platforms has resulted in a wave of misinformation, with social media algorithms amplifying content and causing it to go viral within hours. Internet users in LAC have the highest level of concern among users in any region of encountering misinformation and disinformation (74.2 percent compared to a global average of 58.2 percent) (Knuutila, Neudert and Howard, 2022). That concern is ranked as the fourth most likely to cause a material crisis on a global scale in 2025, according to the World Economic Forum’s Global Risk Report (2024). In LAC, over a third (35 percent) of the population believes that misinformation is detrimental for the political discourse (Latinobarómetro, 2025), and disinformation-based campaigns have already affected the democratic fabric of the region.¹¹

LAC stands at the threshold of a fundamentally transformed risk environment—one defined less by measurable probabilities and more by layered uncertainty and compounding threats. The region no longer contends with just familiar cyclical risks but now faces a turbulent mix of the known, the novel and the deeply interconnected. Uncertainty is a defining feature of the current era.

Another example of systemic risks is how climate change, migration, urbanization and overuse of technologies have converged to create a mental health epidemic. According to the Pan American Health Organization (PAHO, 2018), 1 in 4 people in the region will suffer some mental health disorder at a given point in their lives.¹²

LAC stands at the threshold of a fundamentally transformed risk environment—one defined less by measurable probabilities and more by layered uncertainty and compounding threats. The region no longer contends with just familiar cyclical risks but now faces a turbulent mix of the known, the novel and the deeply interconnected. Uncertainty is a defining feature of the current era.

1.3 Stalled and uneven development progress – Uncertainty amidst structural issues

This new era of uncertainty in LAC merges with several structural issues and characteristics of the region's development trajectory, heightening its vulnerability to negative impacts and development reversals. The COVID-19 pandemic starkly illustrates this vulnerability. As the virus spread globally, it caused more devastation in LAC than in any other region of the world. While the global economy contracted by 3.1 percent in 2020, LAC experienced a contraction of 7 percent (IMF, 2021). The region comprises 8.3 percent of the global population, but it accounted for 26.7 percent of the total deaths (WHO, 2022b; PAHO, 2022; UNDESA, 2022). Similarly, while children worldwide lost an average of 1.1 years of schooling due to school closures, those in LAC suffered an average loss of 1.42 years (Dela Cruz and others, 2024; Bracco and others, 2024).

The factors contributing to this vulnerability are several and both structural and interrelated; they include low and volatile growth, a development trajectory that has left many vulnerable to falling back into poverty, persistent

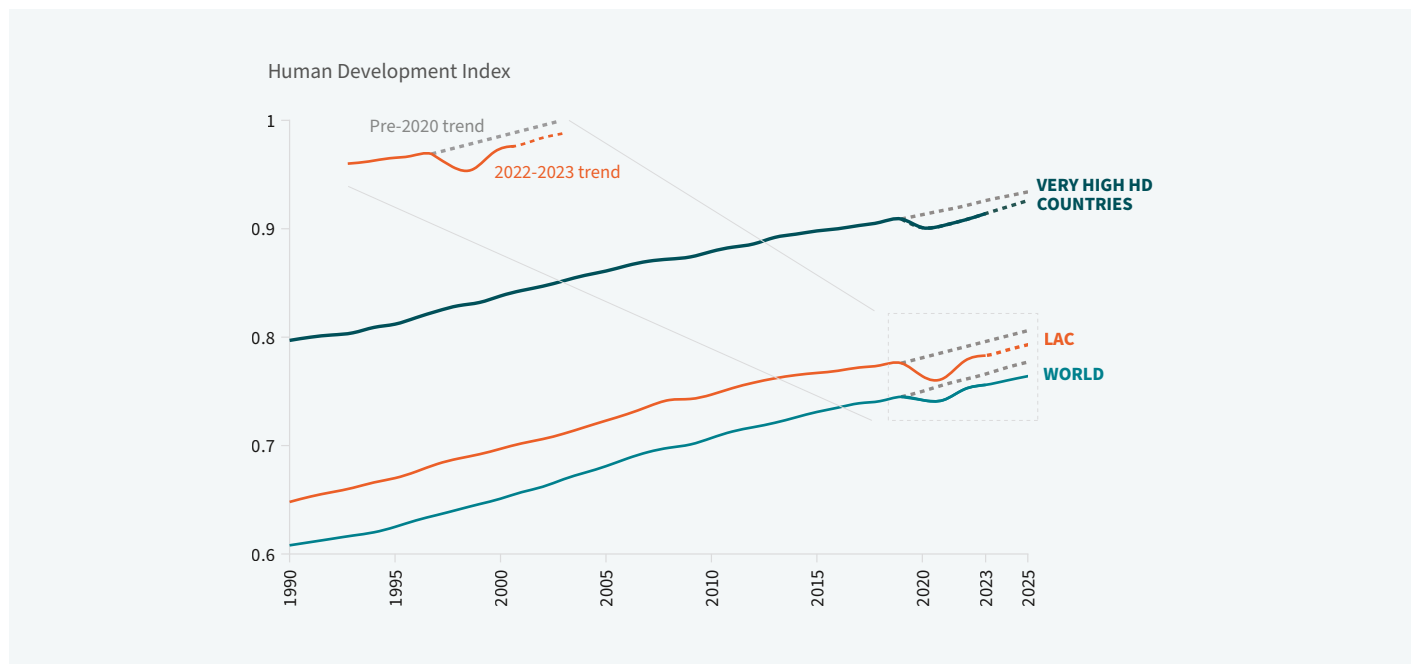
inequalities in income, education, health care and social protection, as well as stagnated productivity. The rest of this section will describe some of these characteristics, focusing on how they relate to development progress, as well as how they interact with uncertainty in the current context.

1.3.1 The delay of convergence towards very high human development

Before the pandemic, human development in LAC had been on an upward trajectory since it was first measured in 1990 using the Human Development Index (HDI). Developed by UNDP, the HDI is a summary measure of average achievement in three key dimensions of human development: a long and healthy life, being knowledgeable, and having a decent standard of living. From 1990 to 2019, the HDI for LAC grew on average at a slightly lower rate than the world average (0.62 percent compared to 0.70 percent). Had that rate continued, LAC would have converged towards very high human development levels¹³ by 2024.

But the COVID-19 pandemic interrupted this progress. LAC suffered the most severe setback among all regions in the

Figure 1.6 HDI declined during the pandemic and has yet to recover its pre-pandemic trend



Notes: The “Pre-2020 trend” projects HDI levels to 2025 using each region’s pre-pandemic HDI and growth rates. The “2022–2023 trend” uses HDI levels and growth rates from those two years. All regional aggregates are population-weighted and calculated by UNDP’s Human Development Report Office (2025).
Source: UNDP’s calculations based on the Human Development Report 2025.

Box 1.2 A historical look at the progress of human development in LAC

Before the HDI was introduced, the concept of development was largely associated with economic growth. Progress was measured in monetary terms, mainly through indicators like GDP per capita (UNDP, 2020). The 1990 Human Development Report broadened this view, emphasizing that development is about expanding people's choices—particularly the opportunity to live a long and healthy life, access education and secure the resources needed for a decent standard of living (UNDP, 1990).

LAC as a region exhibits significant progress in terms of HDI. In 1990, when the HDI was first launched, only five countries in the region had a high level of human development. Most were classified as medium, and seven fell into the category of low HDI. At that time, much of LAC was also in the lower-middle-income bracket, with only The Bahamas and Barbados reaching upper-middle-income status.

Over thirty years later, LAC is considered an upper-middle-income region, with major progress in poverty reduction and economic performance. By 2023, eight countries had achieved high-income status—a category that had been out of reach in 1990—while 20 were classified as upper-middle-income. Only four countries remain in the lower-middle-income category.

Yet human development has not advanced at the same pace as income. While the region has made important gains—no country remains in the low human development category—four countries (12 percent) are still classified as medium HDI. Most (58 percent) fall into the high HDI group, and 10 have reached very high HDI (30 percent). In contrast, non-LAC upper-middle-income countries have made faster progress: 11 percent are in the medium HDI category, 53 percent are classified as high HDI, and over a third (36 percent) have reached very high human development. This suggests that, beyond income gains, other countries have made more rapid advancements in areas such as life expectancy and education outcomes compared to LAC.

Figure 1.7 Upper-middle-income status has not necessarily translated into high human development for all countries in LAC

Gross national income per capita and HDI by income and human development level

LAC vs. Upper Middle Income Countries 2023



Notes: Where GNI per capita data for 2023 is unavailable (Cuba and Venezuela), the latest available values are used.

Source: UNDP's calculations. GNI per capita (Atlas Method, Current US\$) data from the World Bank World Development Indicators. Income thresholds are based on the World Bank's 2023 country classifications. Human Development Index data is sourced from the UNDP's Human Development Report Office, with thresholds derived from the HDR 2025.

world, with the HDI declining for two consecutive years in 2020 and 2021 (UNDP, 2024b); more than a decade of hard-won progress was swept away. Although the HDI rebounded in 2022, the recovery barely reached pre-pandemic levels (0.778 in 2022 compared to 0.776 in 2019). In 2023, HDI

levels in LAC grew but only slightly, reaching 0.783. Perhaps more importantly, in the years since the pandemic ended, LAC has failed to restore its pre-pandemic trajectory of progress, embarking on a slower growth trend and delaying its achievement to very high human development status.

Figure 1.8 The slowdown in HDI started before the pandemic



Notes: All aggregates are population-weighted. Countries included in the calculations are based on data availability: Central America (Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama); Andean countries (Colombia, Ecuador, Peru); Southern Cone (Argentina, Brazil, Chile, Paraguay, Uruguay); Caribbean (Antigua and Barbuda, The Bahamas, Barbados, Belize, Cuba, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago).
Source: UNDP's calculations based on the Human Development Report 2025.

With the current growth rate, LAC's convergence towards very high human development status would be delayed until 2027.

Not only was the pandemic disruptive in terms of the region's development path, but its impact was also uneven. In 2022, out of the 33 countries in the region for which HDI is measured, less than two thirds (19) managed to surpass their 2019 levels;¹⁴ three fully recovered to their pre-pandemic marks,¹⁵ while 11 countries reported HDI levels that remained below those of 2019.¹⁶ By 2023, an additional 9 countries, 28 in total, had managed to surpass their 2019 levels, leaving four that had not fully recovered,¹⁷ and one at exactly its pre-pandemic HDI.¹⁸

But perhaps a more worrisome trend is that even before 2020, progress in human development in LAC had begun to slow. In the five-year period from 2015 to 2019, the HDI growth rate for LAC averaged less than half the rate seen in earlier periods (0.3 percent compared to 0.7 percent), below both the world average (0.52 percent) and that of very high HDI countries (0.31 percent).

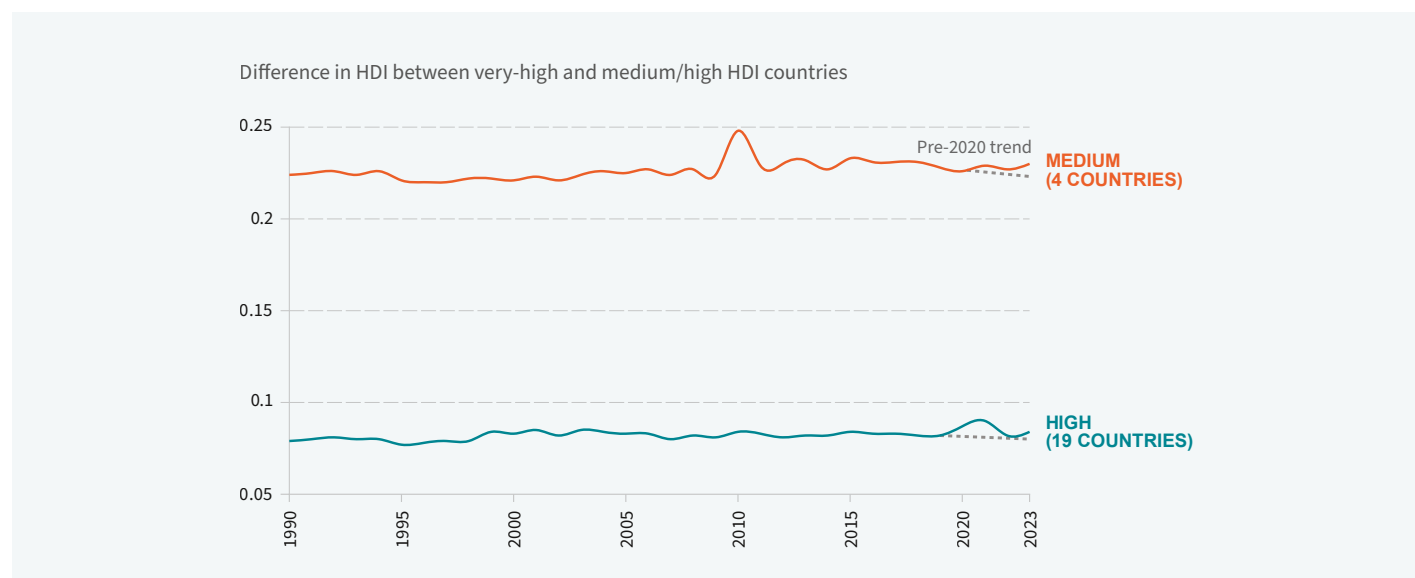
As shown in figure 1.8, subregional trends vary: the Caribbean and Southern Cone showed strong HDI growth before 2010, but their progress began to stall earlier than in other

But perhaps a more worrisome trend is that even before 2020, progress in human development in LAC had begun to slow.

subregions. The sharp swings in the Caribbean around 2010 reflect the impact of the Haiti earthquake, which caused a 15 percent drop in HDI in 2010, followed by an 18 percent rebound by 2011.

COVID-19 impacted countries in the region unevenly. Countries at a high HDI level were the hardest hit in 2020, with a 1.8 percent decline in HDI, compared to just 1 percent for those with a very high HDI, and 1.1 percent for countries with a medium HDI. While recovery has been faster for those with higher levels of HDI (which surpassed 2019 levels by 2022), medium HDI countries lagged, standing in 2022 at development levels comparable to a decade ago. By 2023, all HDI groups had recovered their pre-pandemic levels, but disparities remain. The gap between very high and medium HDI countries, once narrowing, has instead persisted and slightly widened, signaling a divergence in human development trajectories. In contrast, high HDI countries saw a temporary widening of the gap with very high HDI countries, which returned to pre-pandemic levels, only to bounce back slightly in 2023.

Figure 1.9 HDI gaps across LAC countries became more pronounced after the pandemic



Notes: The graph shows the HDI gap in LAC countries between those classified as very-high HDI and those classified as medium or high HDI. Countries are grouped according to their 2023 HDI levels, based on the official UNDP HDI classification. All aggregates are population weighted.

Source: UNDP's calculations based on the Human Development Report 2025.

Box 1.3 Inequalities in HDI within countries

Inequalities in terms of development also manifest themselves within countries. As shown by recent *National Human Development Reports*, the distance within a country between its less developed regions and its most developed regions can resemble the distance between countries in the very high and low HDI categories. For instance, in Colombia, its capital and largest city, Bogotá, is one of its wealthiest areas and has an HDI 27 percent higher than La Guajira, one of its poorest regions. This gap has widened over the past decade (UNDP Colombia, 2024). In Panama, regional disparities follow similar patterns, with HDI gaps within the country mirroring those between advanced economies and low-middle income countries (UNDP Panama, 2024). In Chile, 5.1 percent of the population lives in areas classified as having a very high HDI, while 39.5 percent resides in regions with medium or low HDI levels (UNDP Chile, 2024).

The pandemic's impact also varied widely within countries, with deeper effects on the least advantaged regions. In Costa Rica, 89 percent of districts (*cantones*) experienced a decline in HDI levels from 2019 to 2020. Among the few districts that saw improvements, most already had higher development indicators before the shock (UNDP Costa Rica, 2023). The inequalities in education, health and income are also reflected in the HDI. When the index is adjusted for inequality (Inequality Adjusted HDI, or I-HDI (UNDP, 2025), the gap between LAC and very high HDI countries widens by 45 percent, pushing the region even further away from attaining a very high development status.¹⁹

1.3.2 The dwindling of a decades-long decline in poverty

Progress in terms of poverty reduction follows a similar trend in LAC—notable gains that stalled in the past decade and were subject to reversals when the waters got choppy.

Remarkable progress has taken place in the past two decades, allowing the region to cut poverty levels in half from 2000 to 2024—from 50.3 to 25 percent (measured by a \$6.85 per person per day poverty line). Extreme poverty (measured by a poverty line of \$2.15 a day) during this period was reduced even more significantly—by more than two-thirds—from 13.6 to less than 4 percent. However, most of this progress took place from 2005 to 2014 before slowing and mirroring patterns of economic growth during the following decade (LAC Equity Lab, 2024). Recent improvements largely reflect post-pandemic recovery rather than structural change, positioning LAC as one of the slowest-changing regions in the world in terms of poverty reduction (World Bank, 2024c). One in every four people in the region still lives below the poverty line.

Low economic growth, with its associated high volatility and low productivity,²⁰ is one of the region's main obstacles to poverty reduction. Between 2015 and 2025, the region averaged an annualized growth rate of 1.4 percent, the lowest in the world (figure 1.11). This period is already being coined as the “second lost decade” (ECLAC, 2024a).²¹ In 2024, the region experienced a moderate growth rate of 2.2 percent (World Bank, 2025b), with significant variation across countries; this was 1.1 percentage points below the world average and the lowest growth rate among developing

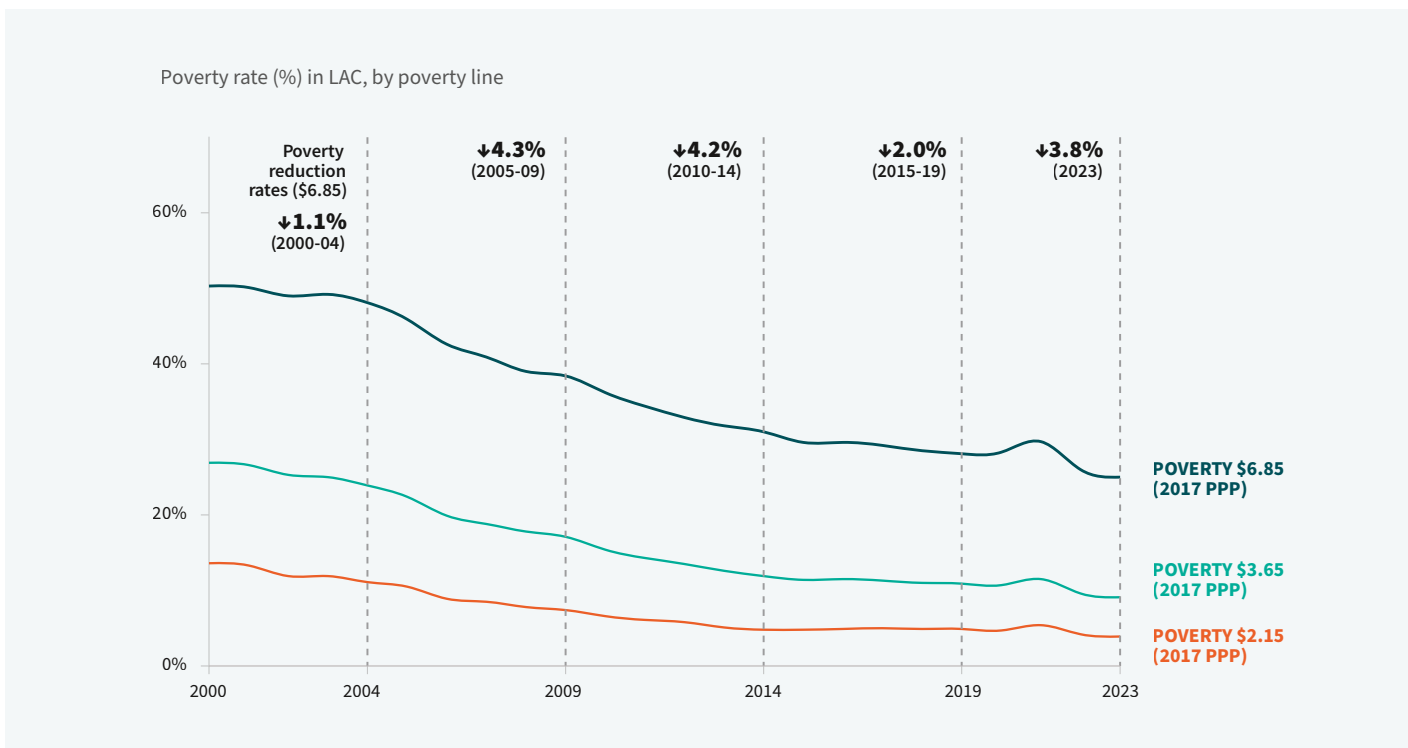
regions. Growth rates for the coming years are expected to continue to hover around 2 percent (World Bank, 2025b).

During the COVID-19 pandemic, the region experienced a significant, although temporary, increase in poverty, from 28 percent in 2019 to 30 percent in 2021. This was the first time since the global financial crisis in 1998 that poverty ticked upward (increasing from 52 to 53 percent from 1998 to 1999). While poverty levels dipped below pre-pandemic levels by 2022 (26 percent), the lives of 13.9 million people in the region were impacted in ways that are likely to have permanent effects.

Furthermore, regional averages hide important disparities. Out of 11 LAC countries for which data is available, only 5 were able to reduce poverty between 2019 and 2022–2023, while in 6 countries poverty remained at levels higher than before the pandemic (figure 1.12). If Brazil and Mexico—two countries that reduced poverty significantly during and after the pandemic, due to cash transfers and labour market gains, respectively—are excluded from the regional average, data shows that poverty in the region had yet to return to pre-pandemic levels in 2022; it was 30.4 percent compared to 29.8 percent in 2019 (World Bank, 2024a).

The characteristics of poverty have also changed in the region. While poverty rates are still significantly higher in rural areas, rapid urbanization in the region has resulted in the number of urban poor and extreme poor far surpassing the number living in rural areas. Starting in the 1950s, LAC underwent a rapid urbanization process, making it one of the most urbanized

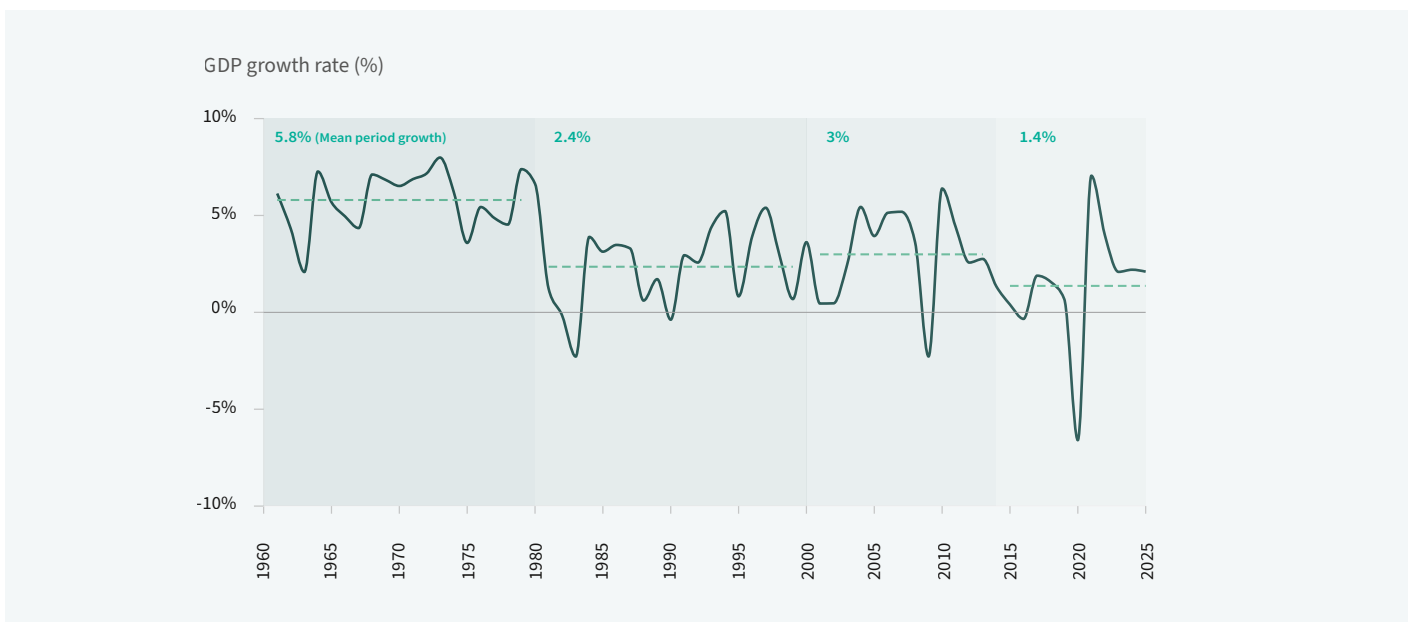
Figure 1.10 Progress in poverty reduction, but less in recent years



Notes: Labels display the average poverty reduction rates by period, based on the \$6.85 poverty line (2017 PPP). The 2023 values reflect the percentage change in the poverty rate from 2022 to 2023.

Source: LAC Equity Lab tabulations of SEDLAC data (CEDLAS and the World Bank).

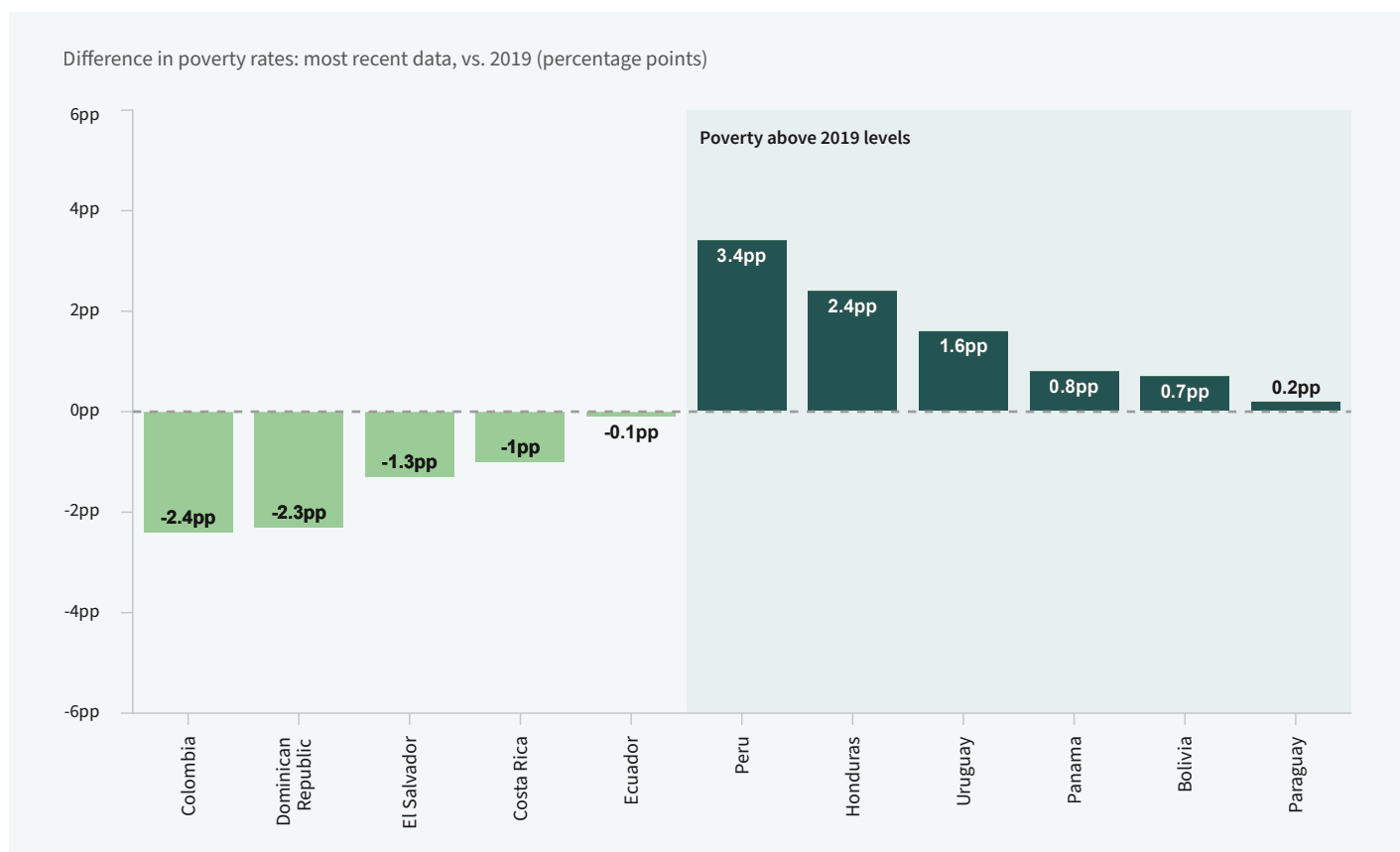
Figure 1.11 LAC is the slowest growing region in the world



Notes: All regional averages are weighted by GDP in constant prices.

Source: UNDP's calculations based on the World Bank's World Development Indicators (2023), Global Economic Prospects (January 2025), and the Latin America and the Caribbean Economic Review (April 2025).

Figure 1.12 Poverty recovery has been uneven



Notes: Poverty gaps are calculated as the difference between the 2023 (or 2022, depending on data availability) and 2019 poverty rates, expressed in percentage points. Data for 2022 is available for Bolivia, Paraguay, Peru, and Uruguay, while all other countries have data for 2023.

Source: UNDP's calculations based on the LAC Equity Lab data.

Progress in terms of poverty reduction follows a similar trend in LAC—notable gains that stalled in the past decade and were subject to reversals when the waters got choppy.

regions in the world. Today, 82 percent of the population lives in urban areas, compared to the global average of 58 percent. The share of the poor living in urban areas increased from 66 percent in 2000 to 73 percent in 2022. The shift is even more dramatic for extreme poverty, with the urban share rising from 48 to 68 percent over the same period (UNDP, 2024c).

Similarly, the region is experiencing a rapid demographic transition. While it took approximately 56 years for European countries to double their proportion of the elderly population from 10 percent to 20 percent, LAC is projected to undergo this shift in just 28 years, highlighting a much faster aging process. This means that LAC will have a shorter

window to capitalize on the demographic dividend—the economic growth potential arising from a larger working-age population—before having to deal with supporting an ageing population. The pace of aging varies across the region. Uruguay, for instance, has the highest proportion of people aged 60 and over in Latin America, reflecting a demographic pattern similar to that of European countries. In contrast, countries like Guatemala and Honduras still have relatively young populations, offering a longer period to benefit from the demographic dividend before facing the challenges of an aging population. Brazil exemplifies a nation experiencing rapid aging; the proportion of its population aged 60 and over nearly doubled from 8.7 percent in 2000 to 15.6 percent in 2023. Projections indicate that by 2070, approximately 37.8 percent of Brazilians will be aged 60 and over. The Caribbean is following a similar demographic shift, but aging faster. Several countries—such as Barbados, Trinidad and Tobago and Cuba—already have over 15–20 percent of their populations aged 60 and over (ECLAC, 2024e).

Box 1.4 The demographic dividend paradox: can Haiti's youth become the economic engine that redefines development

While international observers fixate over Haiti's headlines of crisis and instability, they are perhaps missing a profound economic transformation quietly unfolding—one that fundamentally challenges assumptions about how development actually happens. Haiti possesses the most advantageous demographic pyramid in the Western Hemisphere, with 54 percent of its population under 25 years old. This represents a demographic dividend so concentrated that development economists would recognize it as a once-in-a-century opportunity. Yet this human capital reservoir is systematically overlooked by traditional development frameworks that fail to recognize how this generation has transformed their demographic advantage into innovation ecosystems, creating resilient economic networks that strengthen through volatility rather than collapse under pressure.

This demographic configuration—with over 5 million people aged 15-39 forming the core economic cohort—represents the kind of population structure that historically preceded the most dramatic economic transformations in modern history, from South Korea's miraculous development in the 1970s or Rwanda's remarkable economic renaissance since the 1990s. Yet Haiti's demographic dividend is even more concentrated and potentially more powerful because this youth bulge coincides with the digital revolution, creating unprecedented opportunities for technological leapfrogging that can bypass traditional infrastructure constraints entirely. The depth of this talent pool becomes evident when five young Haitian students recently captured international attention by winning bronze medals and the "Social Media Challenge Award" at Greece's international robotics competition in September 2024, showcasing how Haiti's youth excel not just locally but on global stages when given opportunities—a demonstration of the technical sophistication and competitive capability that exists within this demographic cohort.

The conventional wisdom that economic development can only take place in a context of political stability, institutional capacity, and infrastructural prerequisites is being challenged by this demographic tsunami of young entrepreneurs who have discovered that the absence of these can actually lead to accelerated innovation, and force entrepreneurs to build more resilient, adaptable, and ultimately superior economic architectures than their competitors operating in "stable" environments with aging populations and legacy institutional overhead. When formal banking systems weaken, young Haitian fintech developers do not just create alternatives—they build blockchain-native financial ecosystems that leapfrog traditional banking entirely. Platforms like Mannitòks, which bridges traditional banks and mobile money while processing over 50,000 transactions monthly, demonstrate how these entrepreneurs are creating sophisticated payment infrastructures that strengthen Haiti's digital economy and prove that economic sovereignty can be coded rather than negotiated.

This represents a fundamental inversion of development economics: instead of building institutions first and hoping entrepreneurship follows, Haiti's youth are constructing entrepreneurial ecosystems that are sophisticated and self-sustaining, creating what venture capitalists would recognize as "platform economies" but operating them in contexts where no platforms were supposed to be possible.

What makes this phenomenon truly transformative rather than merely adaptive is that these young entrepreneurs are not responding to market failures—they are creating entirely new market categories that did not exist before, generating economic value through innovation architectures that are inherently more resilient than the systems they replace because they were designed from inception to operate in high-volatility environments. Through partnerships with initiatives like BANJ and support for over 3,000 young entrepreneurs, this example suggests that uncertainty does not necessarily prevent investment and innovation, but when an entire generation grows up navigating extreme uncertainty, they develop cognitive and organizational capabilities that enable them to create economic value precisely where others see only risk, transforming Haiti's challenges into its greatest competitive advantages.

The strategic implications extend far beyond Haiti's borders because this demographic dividend—if properly capitalized in the next 15-20 years before the population ages out of this optimal configuration—could transform Haiti into an innovation hub. But more importantly, this model of demographic dividend optimization through resilience entrepreneurship operating through distributed innovation networks could represent a future for economic development in an increasingly volatile world, where climate change, technological disruption, and geopolitical instability make traditional development pathways less likely and where the competitive advantage belongs to economies with young, adaptable populations that can thrive through chaos rather than merely survive it. Haiti's youth are not just building businesses; they are prototyping the economic operating platforms that could shape the future of inclusive and sustainable growth.

Source: Elaborated by X. Michon, UNDP Haiti (2025).

These shifts have important implications in terms of poverty, and poverty reduction efforts. As the region becomes increasingly urban and older, poverty is taking on new forms—less rural, less about income alone, and more about exclusion from services, inadequate housing, and

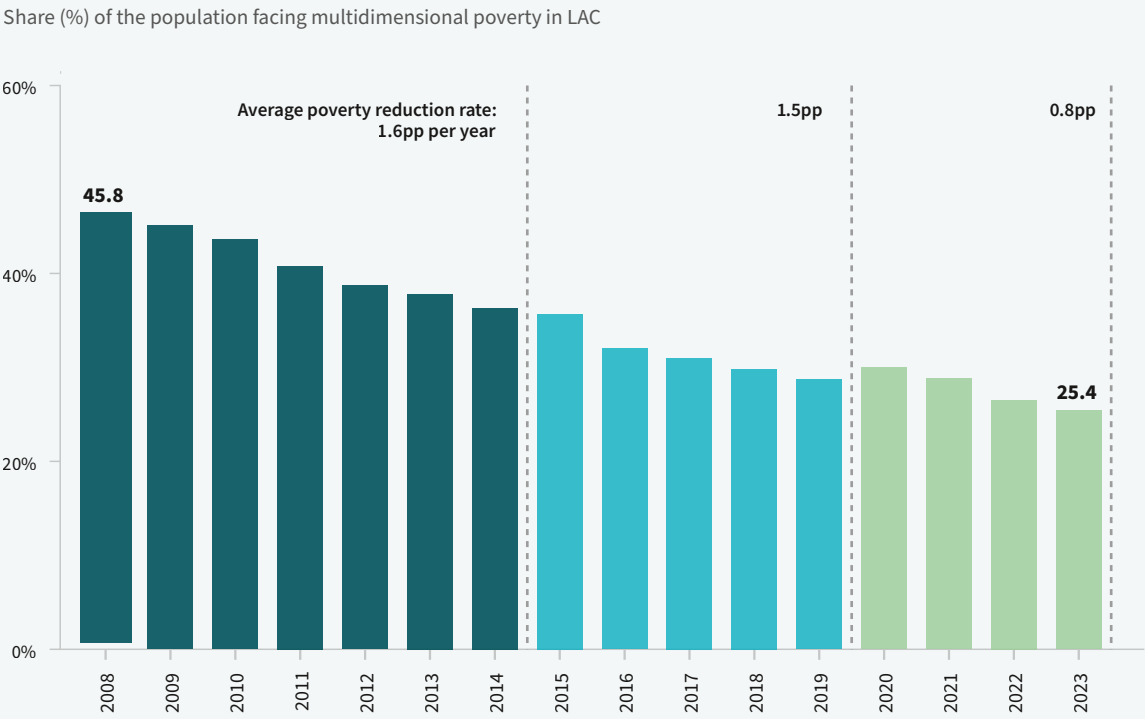
the lack of support for dependent populations. Rapid aging is also placing growing demands on health care, caregiving systems, and pension schemes, which remain fragmented and, in many cases, underfunded.

Box 1.5 A look at poverty beyond income

The Multidimensional Poverty Index (MPI) was developed almost two decades ago to go beyond traditional income-based poverty measures, capturing the multiple deprivations people face in education, health and living standards (Alkire and Santos, 2010). Today, 112 countries release MPIs annually. However, global measurements focus on the most acute deprivations, making it less relevant for LAC, a middle-income region with relatively low levels of acute multidimensional poverty (UNDP and ECLAC, 2025). To better reflect national realities, 12 LAC countries have developed national MPI frameworks.

The Multidimensional Poverty Index for Latin America (MPI-LA) allows for a regionally relevant and comparable measure (ECLAC, 2025). Grounded in a capabilities and rights framework, the MPI-LA covers four key dimensions—health, housing, education and employment—using indicators and thresholds adapted to the regional context. It includes 17 countries and serves as both a tool for comparison and a guide for countries yet to develop national MPIs.

Figure 1.13 Despite progress, one-quarter of the population in LAC remains in multidimensional poverty



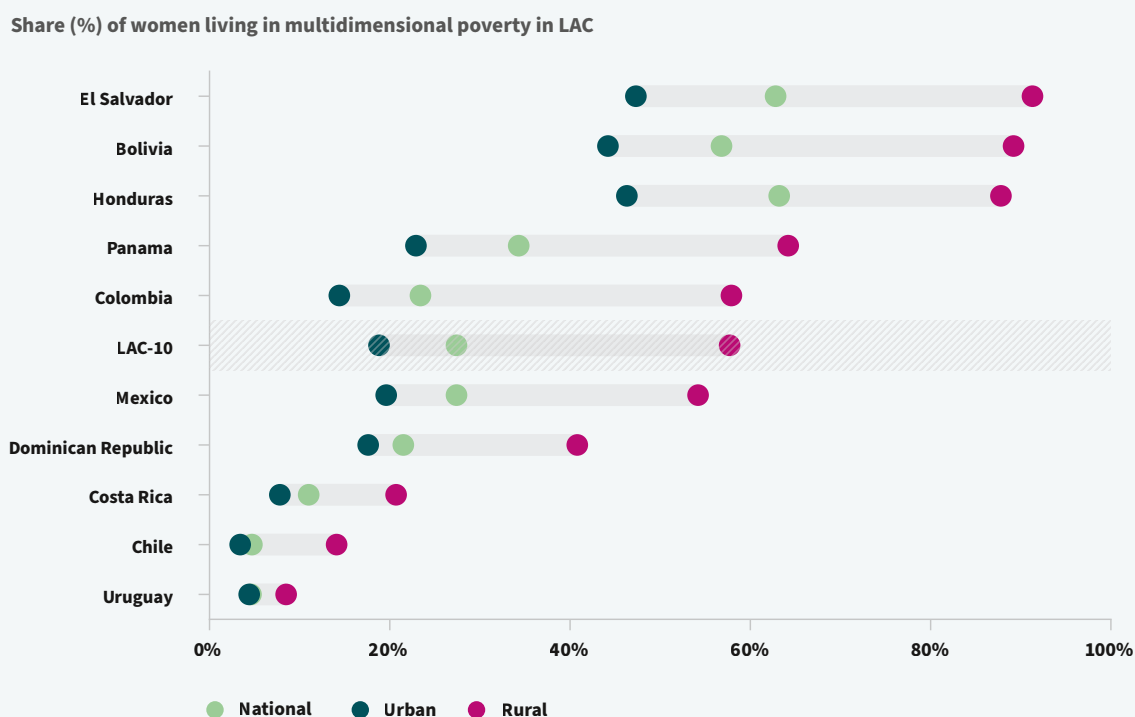
Notes: Regional averages are population-weighted and based on data from 17 countries.
Source: UNDP's calculations based on the Multidimensional Poverty Index for 2008-2023 (ECLAC, 2025).

Figure 1.13 shows that multidimensional poverty in the region dropped from 45.8 percent in 2008 to 25.4 percent in 2023, an average decline of 1.4 percentage points (pp) per year. The only interruption came in 2020, when the COVID-19 pandemic disrupted education and employment. The steepest reductions were seen in deprivations around Internet access (-3.7 pp annually), followed by adult educational attainment, sanitation and overcrowding. However, poverty reduction is losing momentum in the region. From 2008 to 2019 multidimensional poverty decreased between 1.5 and 1.6 pp per year. But after the pandemic the rate of progress has been cut by half, dropping to a 0.8 pp average reduction per year.

Nearly 40 percent of multidimensionally poor households are facing employment-related deprivations, such as low quality jobs and limited access to the labour market—especially for women. Women in LAC are particularly vulnerable to poverty: in 2023, for every 100 men living in poor households, there were 121 women in the same situation (ECLAC, 2023). The women-focused MPI, calculated for 10 LAC countries, considers this gender disparity by revisiting traditional indicators to reflect deprivations that disproportionately affect women, such as access to care services and economic autonomy (UNDP, 2023). Figure 1.14 shows that 27.4 percent of women in LAC live in multidimensional poverty, with rural women facing rates nearly three times higher than their urban peers. While levels vary across and within countries, rural female poverty consistently exceeds urban rates.

Together, the different MPI tools highlight the importance of continuing efforts to reduce poverty, especially beyond income. While significant gains have been made, more targeted policies are needed to improve living standards, particularly for women and rural populations.

Figure 1.14 Women in LAC experience higher multidimensional poverty than men, particularly in rural areas



Notes: The Multidimensional Poverty Index focused on women is developed by UNDP using data from national surveys. Years vary by country based on data availability: Bolivia, Colombia, Costa Rica, El Salvador, Honduras, and Uruguay (2019); Dominican Republic and Mexico (2018); Chile and Panama (2017).

Source: Based on the UNDP Multidimensional Poverty Index focused on Women (UNDP, 2023).

When combining both the poor and the vulnerable populations, over 56 percent of people in LAC have limited coping mechanisms to withstand adverse events without experiencing setbacks in their well-being or a loss of freedoms.

1.3.3 Less poor, but not quite middle class

While the region is less poor, it is not quite middle class, either. Economically, the middle class is often defined using income-based thresholds, vulnerability criteria or consumption patterns (Ferreira and others, 2013; López-Calva and Ortiz-Juárez, 2013).

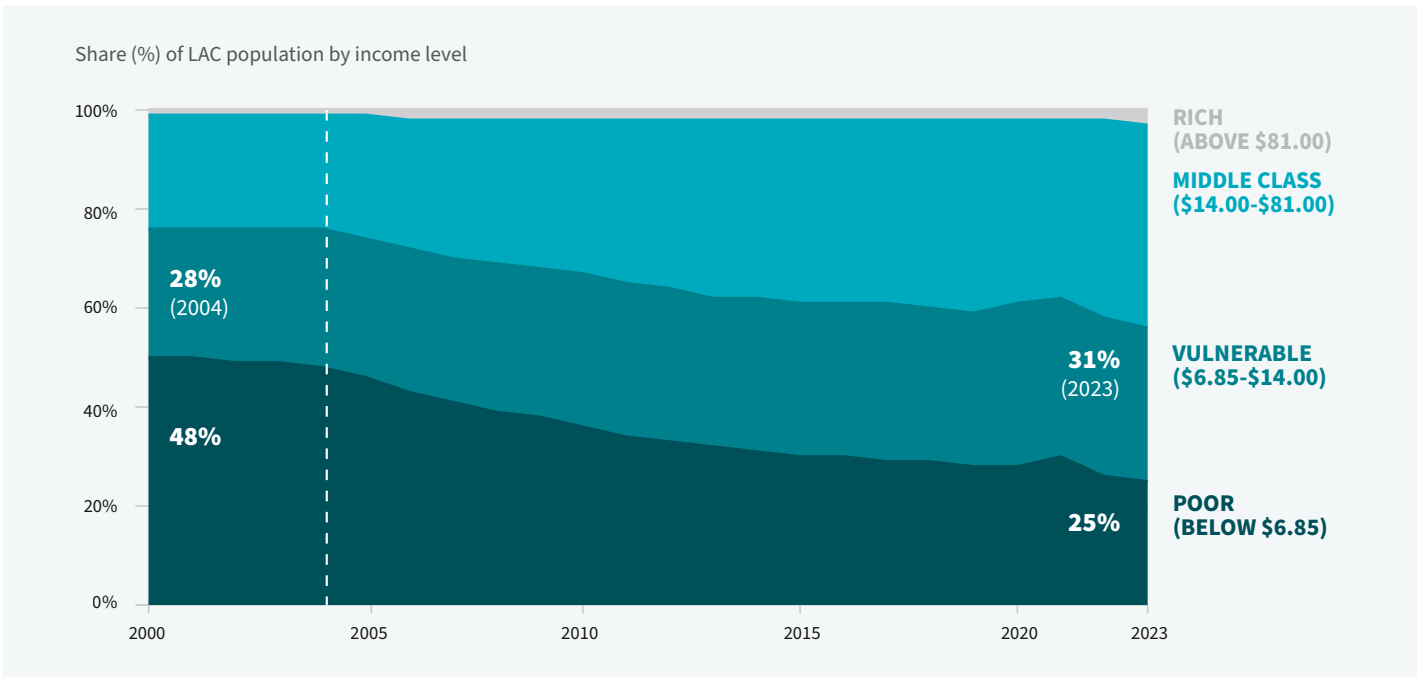
In LAC, we see that as poverty declined in the early 2000s, the portion of the population that hovered right above the poverty line, earning between \$6.85–\$14 per day (2017 PPP),²² remained large and unchanged at around 30 percent. That is, almost one in every three people in the region is vulnerable—they are not poor by standard income thresholds but face a high probability of falling back into poverty when exposed to shocks such as illness, job loss, inflation, or climate events. (López-Calva and Ortiz-Juárez, 2013).

When combining both the poor and the vulnerable populations, over 56 percent of people in LAC have limited coping mechanisms to withstand adverse events without experiencing setbacks in their well-being or a loss of freedoms.

If poverty declined, and middle classes grew, why did the vulnerable class remain so stubbornly unchanged? One explanation is that the decline in poverty during the commodity boom was driven largely by economic growth, improvements in the labour markets, and expanded social programmes. However, most of this upward mobility was precarious: it did not come with sufficient stable jobs, the capacity to accumulate adequate assets for income generation and to act as buffers when hazards occur, or universal social protection.

One clear manifestation of this is that the informal sector continues to employ about half of the workers in LAC, a figure that has remained mostly unchanged for the last decade. Women are overrepresented in this: they comprise about 60 percent of informal workers. This partly reflects gender segmentation in the labor market—for example, paid domestic work (a predominantly female occupation) is characterized by extremely high informality, with roughly

Figure 1.15 Despite decreasing poverty levels, vulnerability in LAC remains unchanged



Notes: Monetary thresholds are expressed in terms of 2017.
Source: UNDP's calculations based on the LAC Equity Lab data (October 2024 update).

77.5 percent of domestic workers in the region lacking formal employment status. Informality is also concentrated among lower-income and less-educated groups. On average, more than three-quarters of households in the poorest income quintiles have no members contributing to social security (a proxy for formal employment), whereas workers with higher education are more likely to obtain formal jobs (OECD, 2016).

Some progress has been achieved in LAC in terms of the accumulation of household assets that allow households to generate income and smooth consumption in times of shocks.²³ Assets categories include human (education, skills, health); physical (housing, land, property); financial (savings, investments); social (strong networks); and natural (access to resources).²⁴ However, as with poverty, progress was insufficient and uneven.

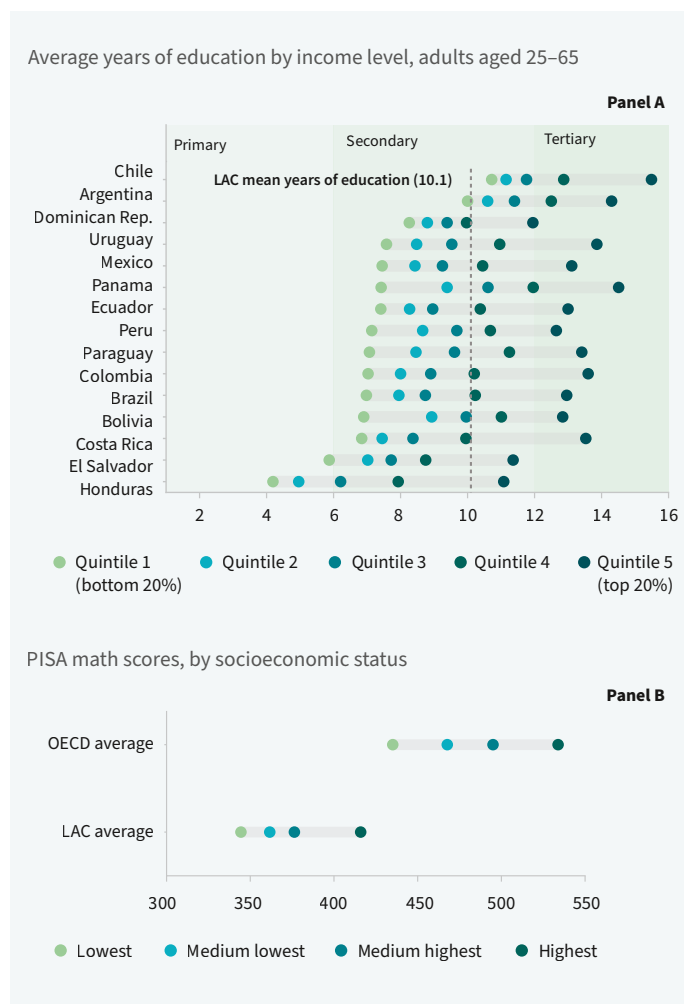
For example, significant gains in primary and secondary educational attainment did not translate to tertiary education or to addressing disparities in the quality of education. While the average years of education in the region is around 10 years (one year below what is necessary to complete secondary education), only those in the richest quintile have access to tertiary education. Women are graduating from tertiary education at higher rates than men and are overrepresented in fields such as education (77 percent) and health and welfare (73 percent). Looking at Programme for International Student Assessment (PISA) scores, students in the bottom socio-economic group achieve mathematics scores that are less than 80 percent of those in the top group. Moreover, the mathematics performance of the highest socio-economic group in LAC falls below that of the lowest socio-economic group in OECD countries (OECD, 2023).

Similarly, when it comes to physical assets, LAC exhibits the world's most unequal land distribution. Estimates show that the top 1 percent of landowners control over half of the region's agricultural land, while 80 percent of the smallest landholders own a disproportionately small fraction. Women own on average around 20 percent of agricultural units in LAC. More specifically, that figure ranges from 8 percent in Guatemala to 31 percent in Peru (World Bank 2023). Insecure land or property rights limit access to credit, technical assistance and other resources crucial for enterprise development and improved living standards (OAS, 2020; FAO, 2022).

Access to basic utilities also shows a pattern of overall improvement, but significant disparities between income

Similarly, when it comes to physical assets, LAC exhibits the world's most unequal land distribution.

Figure 1.16 The uneven distribution of educational achievement



Panel A

Notes: The chart displays the most recent available data for each country: Argentina, Costa Rica, Ecuador, El Salvador, Panama, and Paraguay (2023); Brazil, Chile, Colombia, Dominican Republic, and Peru (2022); Bolivia and Uruguay (2021); Mexico (2020); and Honduras (2019). The regional average is calculated as a simple average of the mean years of education reported by SEDLAC.

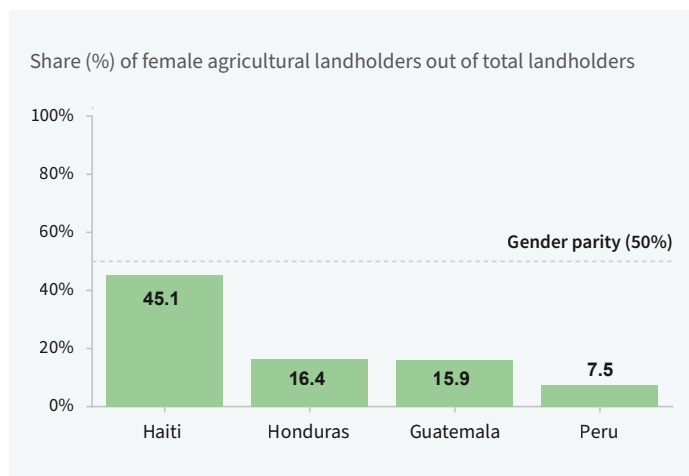
Source: UNDP's calculations based on SEDLAC (CEDLAS and The World Bank) (2024).

Panel B

Notes: Scores are displayed based on the PISA Index of Economic, Social and Cultural Status, as calculated by the OECD. PISA surveys 15-year-old students, and the scores do not have a maximum or minimum limit. The LAC regional average is a simple average.

Source: UNDP's calculations based on PISA 2022 results (OECD).

Figure 1.17 Uneven access to physical assets across genders remains the norm

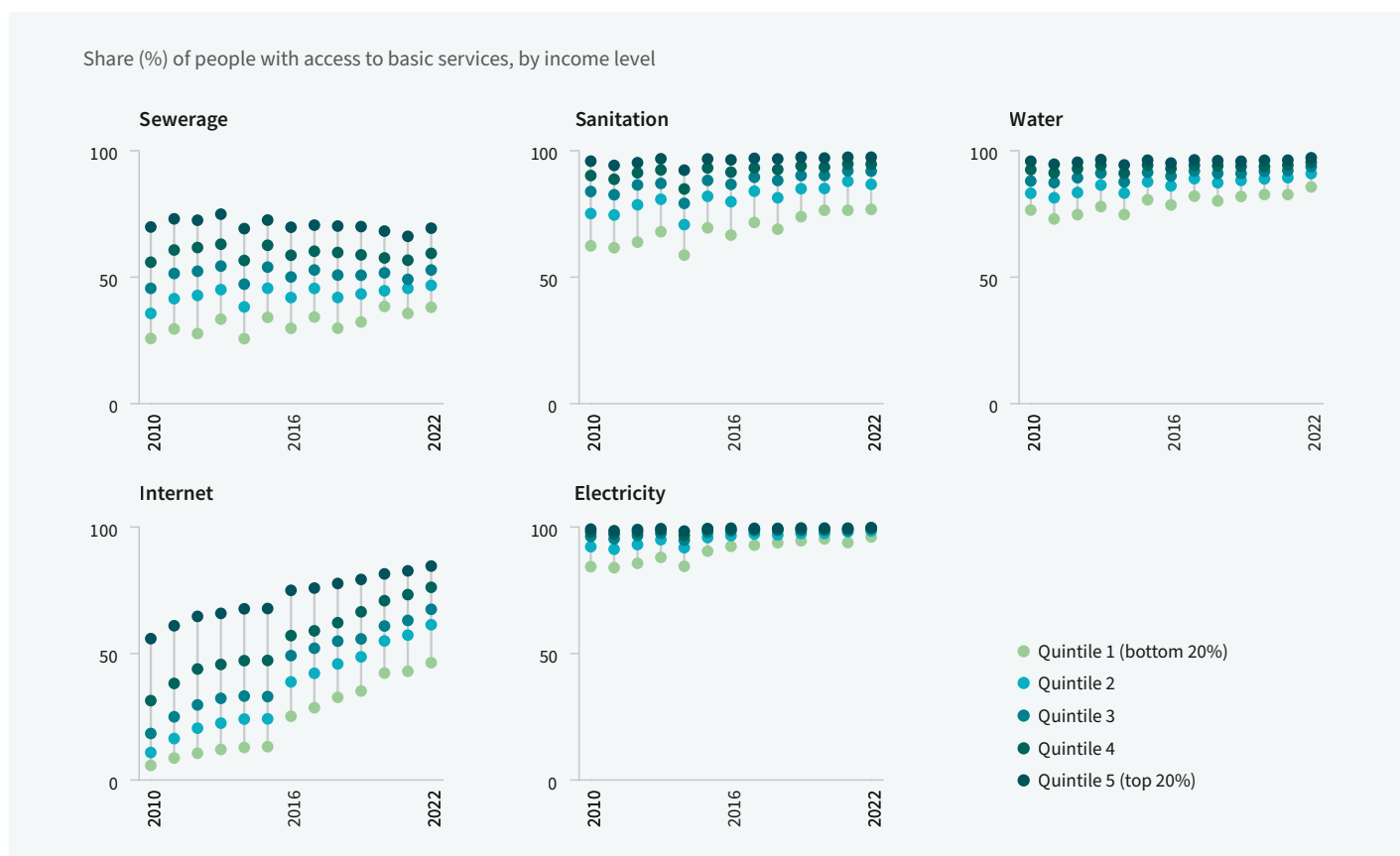


Notes: The chart uses the latest available data for each country: Honduras (2012), Guatemala (2015), Haiti (2016), and Peru (2019).
Source: FAO SDG Indicators data.

groups. These disparities are more pronounced for more advanced services like Internet access than for basic services such as electricity, water and sanitation. Since 2000, gaps in access to electricity, drinking water and (to a lesser extent) sanitation have narrowed considerably, largely due to improvements among the poorest 20 percent of households. However, 40 percent of the poorest households still lack adequate sanitation. Regarding Internet access, on average the richest quintiles are twice as likely to have Internet access than those in the poorest quintile. Overall, less than 70 percent of all households had home Internet access in 2022, far below the OECD average of 91 percent, and with access concentrated primarily in urban areas (ECLAC, 2024d; OECD, 2024b).

LAC has traditionally been a region with very low levels of financial inclusion. However, the pandemic spurred a large jump in the number of people in the region who opened bank accounts, growing from 55 percent in 2017 to 74

Figure 1.18 Significant progress on universal basic services, but not so much for other service



Notes: Regional averages for Internet access are from ECLAC. Averages for other services are simple averages of annual country data from SEDLAC, subject to availability.
Source: UNDP's calculations based on ECLAC (2024), and SEDLAC (CEDLAS and the World Bank) (2024).

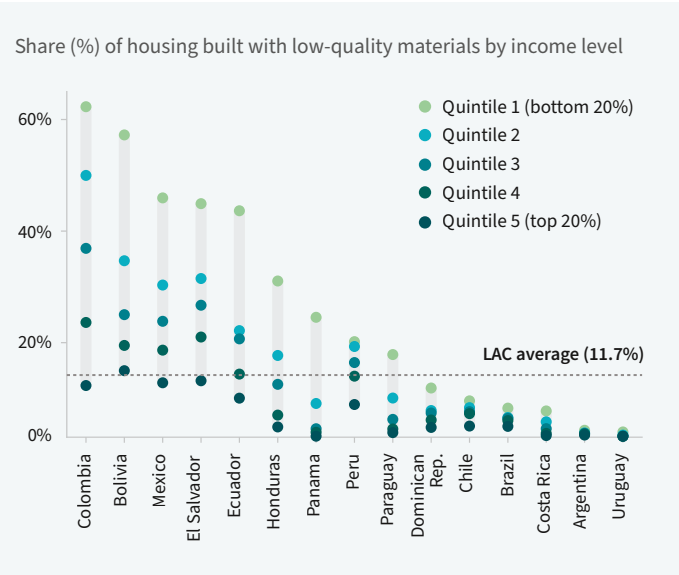
percent in 2021. While this is certainly a step in the right direction, most of these new owners of bank accounts seem to limit their activities to receiving digital payment (in the form of remittances or benefits from social programmes) while the number that leverages these accounts for saving or borrowing remains extremely limited. Only 30 percent of the people in LAC borrow from a formal financial institution. While bank accounts represent significant financial assets, the ability to use them as buffers in times of shocks remains quite limited, particularly for people within the lowest income quintile.

Data from the World Bank’s Global Findex illustrates individuals in LAC consistently declare relying on family networks during emergencies, while using savings appears to be a much less common mechanism (figure 1.20). Selling assets is the least frequently mentioned coping strategy, likely reflecting the limited asset ownership among households in the region (Morales Cerda, 2025).

1.3.4 The stubbornness of inequality

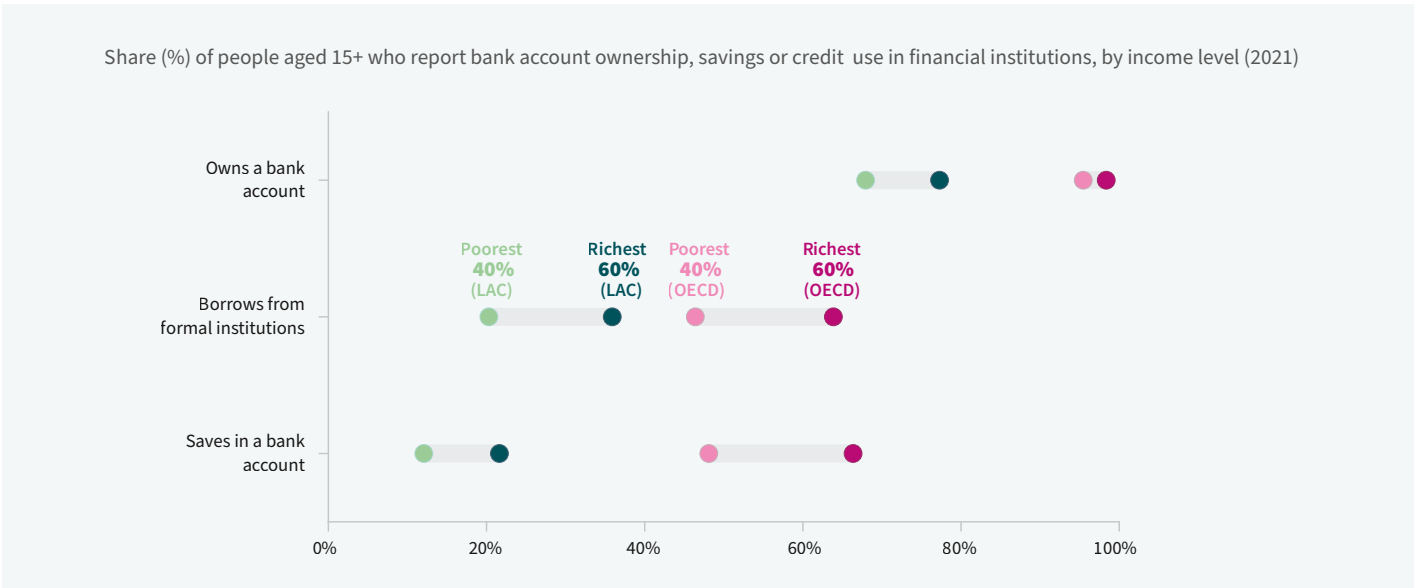
Despite progress, the region continues to grapple with stark disparities. From 2000 to 2023, LAC managed to reduce income inequality, with the Gini coefficient—a measure

Figure 1.19 Quality housing remains out of reach for vulnerable groups



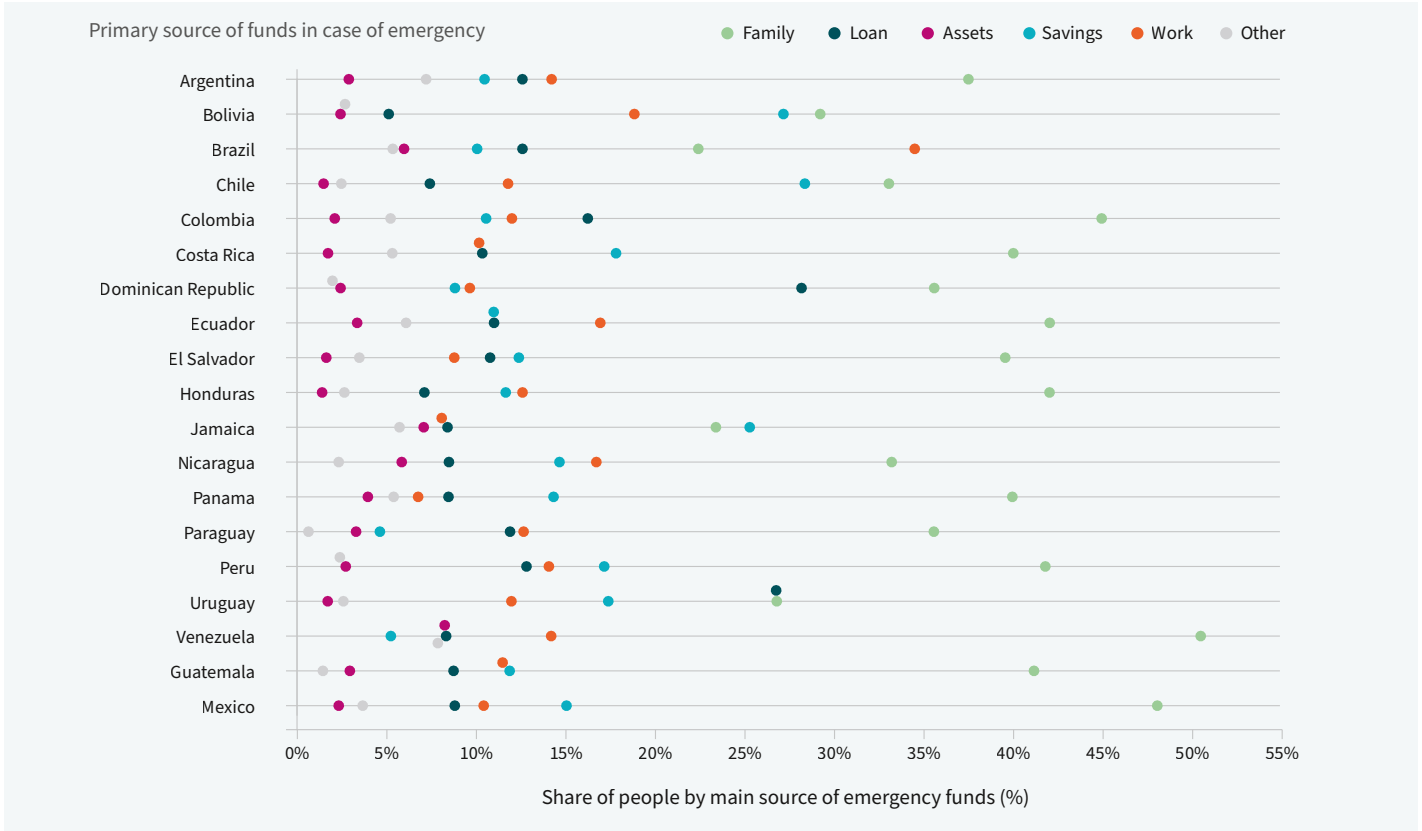
Notes: The chart displays the most recent available data for each country: Argentina, Costa Rica, Ecuador, El Salvador, and Paraguay (2023); Brazil, Chile, Colombia, Dominican Republic, Mexico, Uruguay, and Peru (2022); Bolivia and Panama (2021); and Honduras (2019). The regional average is calculated as a simple average of the share of poor quality housing reported by SEDLAC. **Source:** UNDP’s calculations based on SEDLAC (CEDLAS and the World Bank) (2024).

Figure 1.20 The gap in financial inclusio



Notes: Bank account ownership refers to the share of people reporting owning a bank account (individually or jointly) or using a mobile money service. Credit use indicates the share of individuals who report borrowing money from a bank or financial institution, using a credit card, or using a mobile money account. Savings reflect the share of people who report saving or setting aside money at a bank or other financial institution. Regional averages are weighted and displayed as reported by the World Bank. **Source:** UNDP’s calculations based on the World Bank’s Global Findex (2021) data.

Figure 1.21 In family we trust: People in LAC rely on family in case of emergencies



Notes: Based on responses to the question: “Now, imagine that you have an emergency, and you need to pay [insert 1/20 of GNI per capita in local currency units]. What would be the MAIN source of money that you would use to come up with [insert 1/20 of GNI per capita in local currency units] within the NEXT 30 days?”
Source: World Bank Global Findex Database, 2021-2022.

of inequality in income distribution within a population—declining from 0.568 to 0.498 (LAC Equity Lab, 2024). This progress, however, was uneven and insufficient to alter the region’s position as the most unequal in the world. The underperformance in comparison to other regions with similar levels of economic development serves to highlight structural barriers to equity in LAC.

Most of the decline in income inequality occurred during the first decade of the 2000s, driven by a combination of factors, including an improvement in the distribution of school attainment, and an increase in government transfers to the poor (López-Calva and Lustig, 2010). This decline in inequality coincided with the commodities boom, which resulted in high growth in some South American countries, but also manifested itself in Central America. One key contributor to the decline in income inequality at that time was a decrease in the earnings gap between skilled and low-skilled workers. This can be explained by the relative abundance of skilled workers, resulting from an educational

push in the 1990s, as well as an increased demand for low-skilled workers during the commodities boom and a faster rise in the minimum wages across various sectors (López-Calva and Lustig, 2010). However, this progress stalled in subsequent years as economic growth slowed, and social policies failed to keep pace with evolving challenges.

Recent data from the World Bank shows a slight decline in income inequality in LAC from 2021 to 2023 (World Bank, 2024c), suggesting that post-pandemic recovery has provided an economic boost to those with the lowest incomes. Yet, this improvement has bypassed the fundamental structures that sustain income inequality in the region, such as unequal access to quality education, health care and formal employment opportunities.

Inequality is both a driver and a consequence of uncertainty in LAC. Available evidence indicates that this relationship is characterized by a vicious cycle, whereby disadvantaged groups are more vulnerable to risks, for example, residing in

areas more exposed to hazards (e.g., floods, crime, droughts), while also having fewer coping mechanisms available to navigate shocks. As a consequence, disadvantaged groups suffer disproportionately from the adverse effects, which subsequently results in greater inequality (Islam and Winkel, 2017). In a region where inequality remains a defining characteristic—deeply woven into the region’s social, economic and political fabric—this is of particular importance.

The region has also made significant progress in gender equality. In terms of work, female labour-force participation reached 51.7 percent in 2024, but still lags behind the 74 percent participation of men (ILO, 2025). The COVID-19 pandemic exposed the fragility of these gains, with women’s labour force participation regressing by 18 years in 2020, declining from 51.8 percent in 2019 to 47.6 percent. Simultaneously, women’s unpaid domestic workload, which already ranged from 22 hours to 42 hours per week before the pandemic—drastically increased. Unfortunately, many of these adverse effects have persisted, and women have not re-entered the labour market at the same rate as men, with more than four million jobs held by women disappearing during the pandemic.

Women in the region continue to face significant discrimination and inequalities compared to men, limiting

Inequality is both a driver and a consequence of uncertainty in LAC.

their opportunities for progress. Traditional gender roles remain deeply entrenched, restricting women’s freedoms. For every dollar of labour income earned by men, women earn only 70 cents (Ishak and Siravegna, 2024). For every hour men spend on unpaid work, women spend three, which impacts their ability to achieve economic autonomy. High levels of labour informality, partly driven by the need to balance paid and unpaid work, further constrain women’s economic opportunities. Income poverty in the region significantly affects women, as women head 39 percent of all households and 26 percent of single-parent households (Gutierrez, Martin and Ñopo, 2020).

Gender gaps are not only evident between men and women but also among different groups of women. Rural and Indigenous women face even greater barriers, with their more limited access to education, health care and formal employment. On average, Indigenous peoples in Latin America report significantly higher rates of discrimination than non-Indigenous peoples across all genders and ages (Latinobarómetro, 2025).

Figure 1.22 LAC remains the most unequal region in the world in terms of income



Notes: The series for Latin America and the Caribbean, Eastern Europe and Central Asia, and industrialized countries are primarily based on household per capita income Gini coefficients. The series for East Asia and the Pacific and Sub-Saharan Africa are based on Gini coefficients of household per capita consumption. The figure displays the latest available data for each country after 2020.

Source: UNDP’s calculations based on World Bank Poverty and Inequality Platform data, and Alvaredo, Bourguignon, and Ferreira (2024).

1.3.5 Productivity, interrupted

The region's sluggish economic growth is largely attributed to stagnant productivity, which has remained relatively constant for the past 50 years. This makes LAC the second-lowest performer among the world's emerging markets and developing economies (ILO, 2022; Dieppe, 2021).

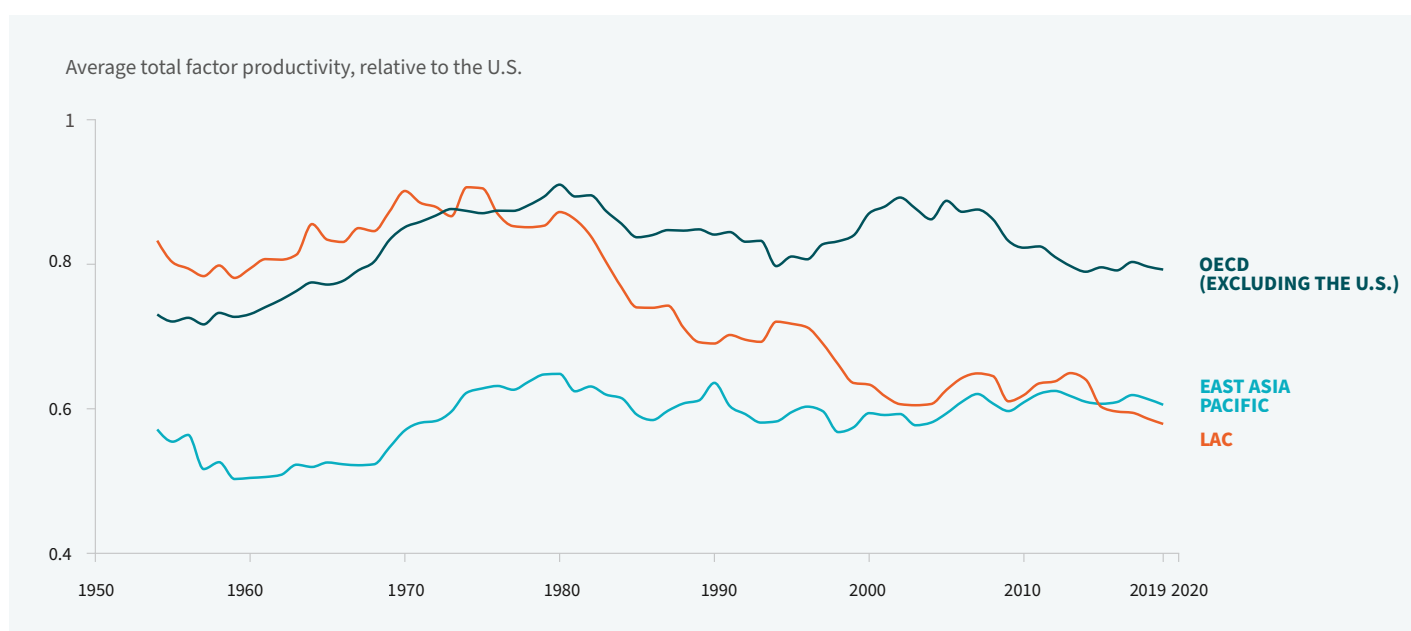
Productivity growth is not simply a matter of technological adoption at the firm level but also of the broader economic environment in which firms operate. In LAC, inefficient public policies, resource misallocation and economic distortions have led to suboptimal productivity outcomes.²⁵ Empirical analysis shows a strong correlation between productivity and per capita GDP growth, far exceeding the correlation with capital accumulation. As figure 1.23 shows, LAC has made little progress in closing its productivity gap with advanced economies, and comparisons with East Asian economies reveal a widening divergence. Regression analysis confirm that nearly 90 percent of LAC's per capita growth shortfall can be attributed to weak productivity growth. While investments in capital have been relatively robust, their impact has been offset by the region's inability to enhance productivity, preventing sustainable economic convergence with more developed economies (UNDP, 2021).

Instead of being driven by sustained improvements in efficiency and innovation, growth in LAC has been predominantly fuelled by fluctuations in commodity prices, which account for 40 percent of the region's total goods exports (ECLAC, 2024c). Even during periods of economic expansion, the region has struggled to diversify its industries, foster industrialization and advance technological sophistication. This persistent lack of structural transformation is reflected in its low economic complexity (Hausmann and others, 2014). As shown in figure 1.24, LAC countries not only show low complexity on average, but they also display a decline in relative complexity over the past decades. Low level of complexity reveals that the region is particularly susceptible to external shocks and price fluctuations in primary export commodities (Güneri and Yalta, 2020).

1.3.6 Surviving, but not thriving

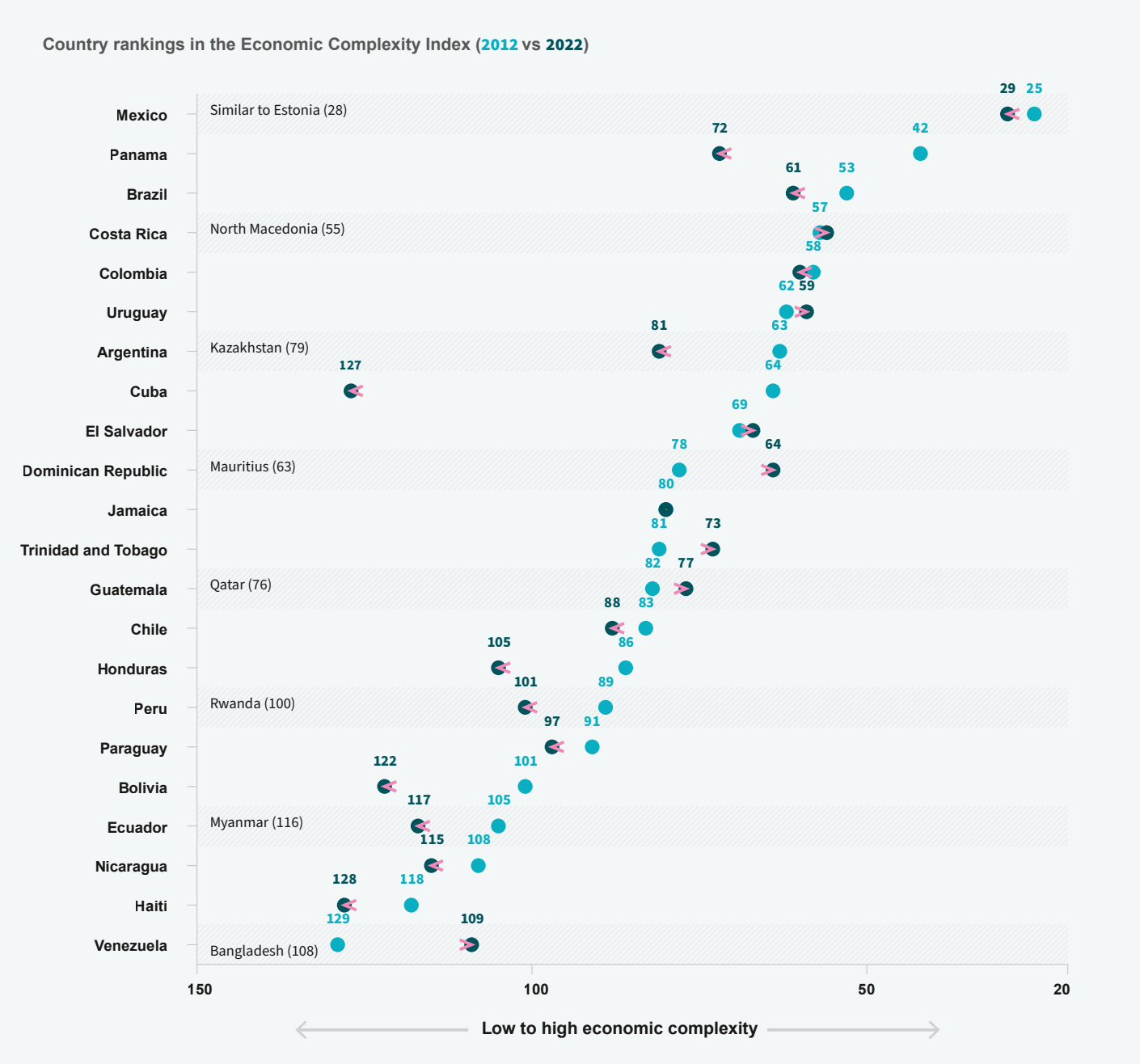
Not only have objective measures of progress in LAC slowed, so have perceptions of well-being. Qualitative research conducted in 10 countries in the region²⁶ through in-depth interviews with people living above the poverty line, but not quite stable middle class, revealed that

Figure 1.23 Relative to the U.S., productivity in LAC has declined over the past decades, further widening the gap with developed countries and emerging economies



Notes: Regional Total Factor Productivity is relative to the US (=1), and is adjusted for inflation and differences in the living cost between countries (PPP, purchasing power parity).
Source: UNDP's calculations based on Feenstra and others (2015) and the Groningen Growth and Development Centre (2023).

Figure 1.24 LAC countries show low and declining complexity over decades

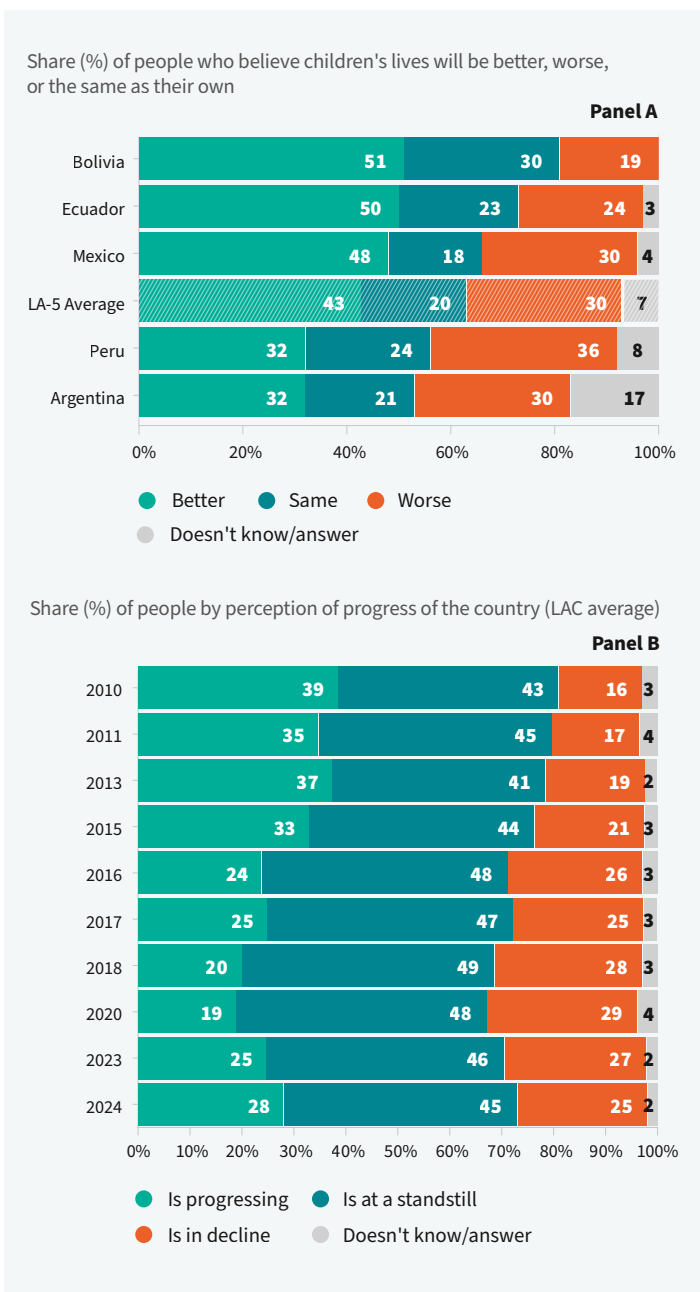


Notes: The Economic Complexity Index (ECI) measures a country's capabilities and know-how based on the diversity, ubiquity, and complexity of its exports. Rankings range from 1 (most complex) to 145 (least complex).
Source: The Atlas of Economic Complexity.

residents feel a profound sense of pressure. People report feeling less in control of their lives and less optimistic about the future. Cháidez (2025) found that individuals emphasize how “economic insecurity makes us live day to day.” Similarly, respondents expressed a sense of being “stuck, unable to progress due to economic constraints.”

Youth described feeling that “nothing is certain about my future,” and people focused on the “need to just survive.” This growing sense of disempowerment is also reflected as youth expressed feeling compelled to migrate due to a lack of prospects. Overall, Cháidez (2025) reveals a growing frustration due to a lack of employment opportunities that

Figure 1.25 People are increasingly pessimistic about the present and future in LAC



Panel A

Notes: Responses are based on the question: "Do you think children today will have a better, worse, or roughly the same life as you?" Regional averages are population-weighted.

Source: UNDP's calculations based on Gallup International Association Survey (2023).

Panel B

Notes: Responses are based on the question: "Would you say that this country... is progressing; is at a standstill; is in decline?"

Source: UNDP's calculations based on Latinobarómetro data (2010–2024).

Less than half of LAC's population believes that their children's lives will be better than their own, an indication of little confidence in social mobility in the region.

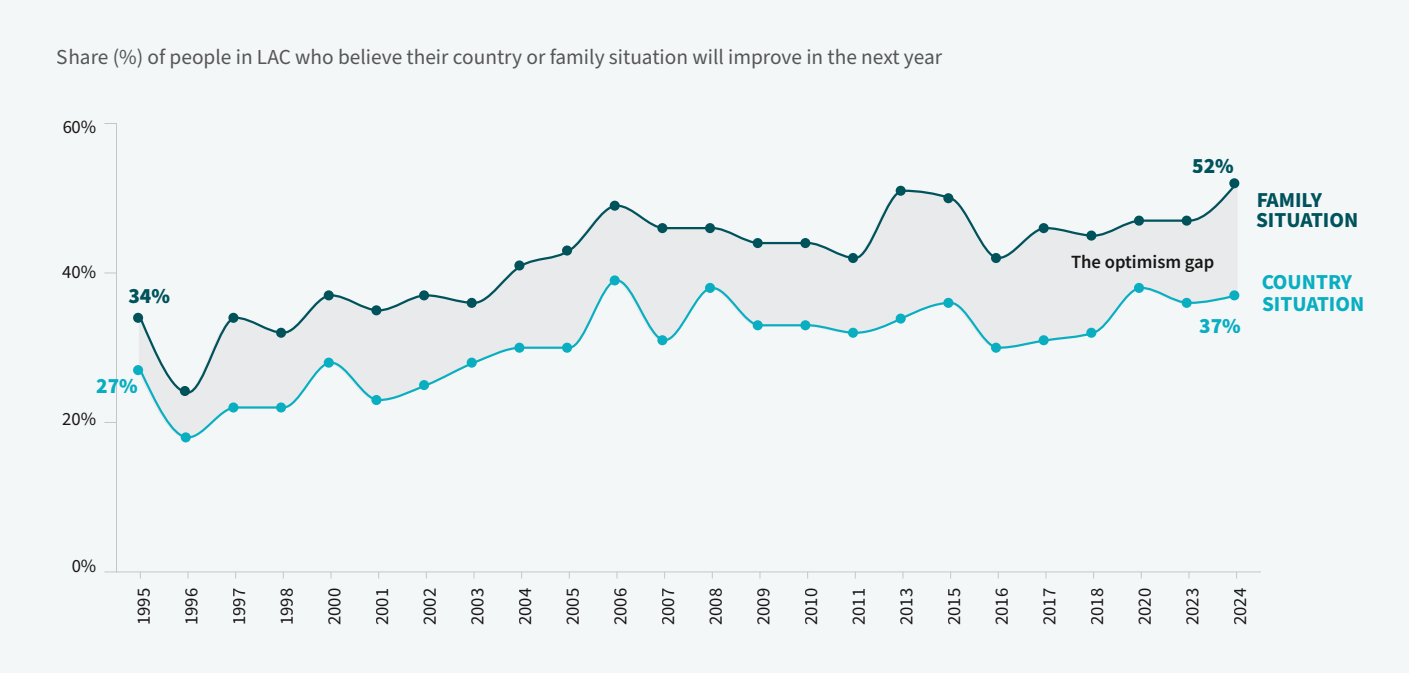
allow for improvement in well-being, and a sense that the only thing to expect is to "survive, not thrive" in daily life.

Data from perception surveys confirms this sense of stress (figure 1.25, Panel B). In 2024, similar proportions of respondents believed that their country was in decline (25 percent) compared to progressing (28 percent). While these negative perceptions seem to be declining, they remain far from levels seen before 2015. The percentage of people who believed that their country was progressing dropped from close to 39 percent in 2010 to a low of 19 percent in 2020. This steep decline coincides with the commodity price shock that pushed economic growth in the region below 1 percent. While growth somewhat recovered in the years to follow, perceptions only began to show an uptick after the pandemic. Nevertheless, nearly half of the region's population still perceives that their own country is stagnating (45 percent in 2024). Similarly, less than half of LAC's population believes that their children's lives will be better than their own, an indication of little confidence in social mobility in the region (figure 1.25, Panel A). This is particularly telling because it demonstrates a lack of optimism for the future.

Interestingly, people are more optimistic about their family's financial future than their country's economic outlook. When asked about the next year, 52 percent of respondents said they expect their personal situation to improve, compared to just 37 percent who believe the national economy will get better (figure 1.26). This "optimism gap" is not new, but it has widened over time, with more people expecting progress in their own lives even if they remain doubtful about broader economic improvements. Still, overall optimism is losing momentum. After steady growth in the 1990s and early 2000s, expectations for a better future—both personal and national—have slowed since 2015. While confidence in family finances is rebounding post-pandemic, belief in the country's economic prospects remains subdued.

When asked what they thought about economic opportunities today, fewer than 1 in 5 people (18 percent) in Latin America deemed that they were sufficient (Gallup

Figure 1.26 A growing optimism gap: People in LAC are more positive about their family's economic outlook than their country's



Notes: The chart shows the combined share of people who believe their country's or family's economic situation will be "much better" or "a little better" in the next 12 months. Regional averages are reported as provided by Latinobarómetro.

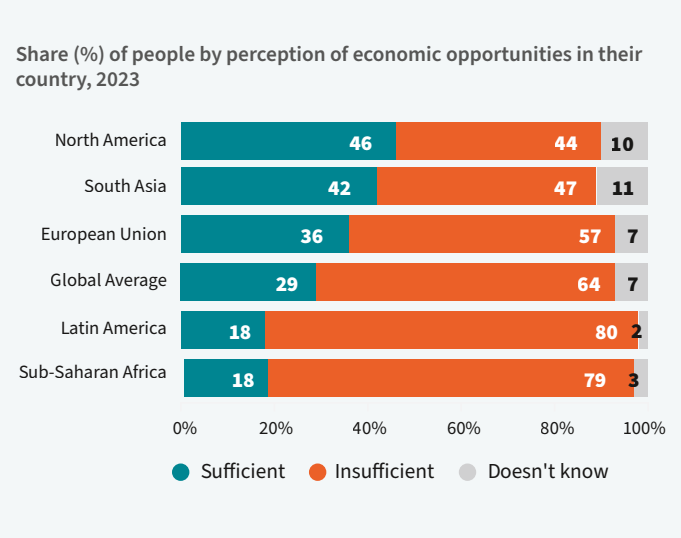
Source: Based on Latinobarómetro (1995–2024) data.

International, 2023). This is significantly below the world average of 29 percent, and it places Latin America in a tie for the last place with Sub-Saharan Africa among the regions of the world. Negative perceptions of wealth inequality have also remained consistently high over the past decades, with 76 percent of people viewing the current wealth distribution as unfair (Latinobarómetro, 2024).

This pervasive sense of uncertainty and disempowerment may contribute to cognitive tunnelling—a psychological phenomenon in which individuals under stress focus narrowly on immediate concerns, neglecting broader goals or long-term planning. Research indicates that stress can impair prefrontal cortex functions, leading to attentional narrowing and reduced cognitive flexibility. In the context of economic insecurity, this means individuals may concentrate solely on short-term

To encourage hope, it is not necessary to believe that adverse events will never occur, but it is essential to have confidence that we can withstand them and emerge stronger.

Figure 1.27 Most people in Latin America say their countries provide inadequate economic opportunities



Notes: Responses are based on the question: "How would you evaluate economic opportunities in your country today? Would you say they are sufficient or insufficient?"

Source: UNDP's calculations based on Gallup International Association Survey (2023).

Resilience allows individuals, communities and societies to navigate uncertainty while safeguarding and advancing human development.

survival needs, such as securing immediate income, at the expense of long-term investments like education or skill development. This narrowed focus can perpetuate a cycle where immediate survival takes precedence over personal growth, further entrenching feelings of stagnation and hopelessness.

1.4 Bending without breaking

The question driving this Report is, how can human development for people and the planet be advanced in a region increasingly under strain? In a new era of uncertainty that is putting pressure on development in LAC, how can these pressures be alleviated? Ultimately, how can the future of human development in LAC be recalibrated?

In a variety of ways, each of the following chapters will explore the fundamental concept of resilience and, in particular, how resilience can be fostered in human development. Stress arises when environmental demands exceed the capacity of an individual or a system to cope with those demands (Brown, 2021). Recalibrating human development requires either reducing the environmental demands on development or improving people's capacity to cope with those demands. Thus, the need to embed

resilience and to transform stress into opportunity. Resilience allows individuals, communities and societies to navigate uncertainty while safeguarding and advancing human development.

Resilience is not only about managing or enduring threats but is also a pathway to enhancing growth and freedoms. Societies and individuals that have trust in the future and have agency are more prone to take risks, invest and innovate—essential ingredients for improving long-term well-being. This trust, rooted in resilience, creates a foundation for more inclusive and sustainable progress.

The call for resilience stems not from doom or fear but from hope—a belief that progress on a shared planet is possible if we adapt to and learn from history. It shifts the narrative from one driven by crisis and fear to one that acknowledges current challenges and the non-linear nature of progress. To encourage hope, it is not necessary to believe that adverse events will never occur, but it is essential to have confidence that we can withstand them and emerge stronger.

Resilient human development is not about eliminating threats, this is impossible. Instead, it is about managing them in ways that foster human flourishing. It reimagines a world where risks are not only mitigated but transformed into opportunities for growth and empowerment. By embedding resilience into the core of development strategies, the region can move beyond the cycles of vulnerability and build a future where progress is not only preserved but continually expanded.

Notes

1. This quote, and all others included in the Report (unless otherwise specified), come from a qualitative study conducted in 10 countries across LAC in 2024. The study explored people's daily life experiences, coping mechanisms in the face of adversity, perspectives on the future, and definitions of resilience. Further details are available in Cháidez (2025), Regional Human Development Report 2025 Background Paper. A methodological note is included in Annex 1 at the end of this chapter.
2. Based on the IPCC 5th Assessment Report's glossary, an extreme weather event is an incident that is rare at a particular place and time of year. An extreme weather event happens very infrequently, occurring only in the most unusual 10 percent of cases (be as rare as or rarer than the 10th or 90th percentile of a probability density function). Its characteristics may vary from place to place in an absolute sense. When a pattern of extreme weather persists for some time, such as a season, it may be then classified as an extreme climate event, especially if it yields an average or total that is itself extreme (e.g., drought or heavy rainfall over a season). Some examples of extreme events are drought, wildfires, heavy rainstorms, flooding, hail, hurricanes, and tornadoes.
3. According to the United Nations, a cyber-attack is a malicious attempt to gain access to a computer system or network to steal, damage, or destroy data.
4. Defined in its most basic form as the ability to bounce back.
5. Risk, understood as the probability of adverse consequences occurring when a hazard (shock), exposure and vulnerability converge, differs from resilience, which is the ability to mitigate and withstand risks without permanent effects.
6. For the context of this Report threat is understood as a potential cause of harm.
7. An adverse event is any unexpected or harmful occurrence that negatively affects people, the environment, or systems. It can be natural or human-made and often disrupts normal conditions. Examples include natural disasters (hurricanes, floods), economic crises (recessions, market crashes), or health-related incidents (disease outbreaks, medication side effects). They can also arise from social conflict, political instability, violence, protests, or armed conflicts, which can disrupt communities and governance. It can also be technological disruptions, such as cyberattacks, large-scale system failures, or the unintended consequences of automation and artificial intelligence, can also create significant societal and economic challenges.
8. Fire hotspots are areas detected by satellite sensors with high infrared intensity, indicating a heat source. They differ from wildfires, because these are uncontrolled and destructive fires. While fire hotspots can indicate the presence of a wildfire, they can also represent other heat sources, such as volcanic eruptions or industrial processes. In the Amazon, many fire hotspots are linked to human activities like deforestation and agricultural practices, which can lead to uncontrolled wildfires.
9. This topic is explored further in the Interlinkages #4 section.
10. ENSO has three demarked phases—El Niño, La Niña and a neutral phase—and each has characteristic rainfall and temperature patterns. El Niño and La Niña are the oceanic components of the phenomenon, while the Southern Oscillation is the atmospheric counterpart, thus giving rise to the term El Niño Southern Oscillation (ENSO).
11. This topic is explored further in the Interlinkages #2 section.
12. This topic is explored in the Interlinkages #1 section.
13. An HDI of 0.8 or higher.
14. The Bahamas, Brazil, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Honduras, Jamaica, Nicaragua, Panama, Peru, Saint Lucia, Saint Vincent and the Grenadines, and Uruguay.
15. Grenada, Paraguay and Trinidad and Tobago.
16. Antigua and Barbuda, Argentina, Barbados, Belize, Bolivia, Cuba, Haiti, Mexico, Saint Kitts and Nevis, Suriname and Venezuela.
17. Belize, Cuba, Haiti and Venezuela.
18. Antigua and Barbuda.
19. Calculations are based on 2023 data. The growth rate reflects the gap in HDI and I-HDI between LAC and very high HDI countries.
20. For a more in-depth discussion on this, see UNDP (2021).
21. The term “lost decade” traditionally refers to the economic stagnation experienced by LAC during the 1980s, marked by a severe debt crisis, hyperinflation, low or negative GDP growth, and declining social indicators. It was coined by ECLAC Executive Secretary Norberto González in the late 1980s (ECLAC, 1986, p. 7).
22. Using the methodology from López-Calva and Ortiz-Juárez (2013).

-
23. Smooth consumption is an economic concept referring to maintaining a consistent level of spending or consumption of goods and services across time, even when facing fluctuations of income or other financial resources.
 24. A more in-depth description of the asset base approach and its link to resilience will be developed in chapter 2.
 25. An in-depth analysis of productivity in LAC can be found in the UNDP 2021 Regional Human Development Report "Trapped: High Inequality and Low Growth in Latin America and the Caribbean."
 26. Argentina, Bolivia, El Salvador, Guatemala, Haiti, Mexico, Panama, Peru, Dominican Republic, Trinidad and Tobago. More details are available in the methodological note included in Annex 1 at the end of this chapter.

Annex 1

A1. Methodological note on the qualitative study of resilience

A qualitative study by Cháidez (2025) was conducted in LAC to explore the relationship between resilience and human development. Interviews took place between May and July 2024, focusing on how personal experiences and coping mechanisms shape people's ability to adapt to economic, social, environmental, and institutional challenges. Participants shared their experiences with adversity—such as the COVID-19 pandemic—the tools they used to navigate these situations, and their outlook on the future.

UNDP country office personnel conducted the semi-structured interviews, following a guided framework while allowing flexibility for deeper discussions. A specialized consulting firm trained interviewers to ensure methodological consistency and comparability across countries.

The study covered 10 countries (Argentina, Bolivia, El Salvador, Guatemala, Haiti, Mexico, Panama, Peru, Trinidad and Tobago, and the Dominican Republic), with 18 interviews per country. The sample was gender-balanced (50 percent women, 50 percent men) and included participants from both urban and rural areas across two age groups: youth (18–25) and adults (30–50).

Participants were classified by socioeconomic status using the Index of Socioeconomic Level (NSE, by its Spanish acronym), which categorizes households based on their ability to meet basic needs (AMAI, 2024; INEGI, 2024). Originally developed for Mexico, the NSE has been adapted for several LAC countries to enable cross-country comparisons. Where official NSE classifications were unavailable, participants were categorized using similar criteria adjusted for national contexts.

The study focused on two socioeconomic groups: C- and D+. Households in the C- group have met their basic needs and maintain a good standard of living. Their primary source of income is formal or informal commerce, and heads of households typically have secondary education. D+ households face greater financial constraints, with most income spent on essentials like food, transport, and utilities. Their living conditions are more limited, and heads of households generally have secondary education or lower.

After the interviews, all data was transcribed, systematized, and analyzed to extract insights on household experiences. Cross-country results were then integrated, highlighting key findings, similarities, and differences. The quotes included in the Report come from interview transcripts, which were conducted in each country's official language and later translated into English.

References

- Ahir, Hites, Nicholas Bloom, and Davide Furceri. 2022.** "The World Uncertainty Index." National Bureau of Economic Research. <https://www.nber.org/papers/w29763>.
- Alkire, Sabina, and María Emma Santos. 2010.** "Multidimensional Poverty Index." University of Oxford. <https://ophi.org.uk/Publications/GMPI1-B1-2010>.
- Alvaredo, Facundo, Francois Bourguignon, and Francisco Ferreira. 2024.** "Seventy-Five Years of Measuring Income Inequality in Latin America." *Working Papers*. Tulane University, Department of Economics. <https://ideas.repec.org/p/tul/wpaper/2401.html>.
- AMAI (Asociación Mexicana de Agencias de Inteligencia de Mercado y Opinión). 2024.** "NSE - Niveles Socioeconómicos." <https://www.amai.org/NSE/index.php?queVeo=niveles>.
- Banerjee, Abhijit V, and Esther Dufl. 2007.** "The Economic Lives of the Poor." *Journal of Economic Perspectives* 21 (1): 141–67. <https://doi.org/10.1257/jep.21.1.141>.
- . 2011. *Poor Economics*. PublicAffairs.
- Bauman, Zygmunt. 1999.** *In Search of Politics*. Stanford University Press.
- . 2000. *Liquid Modernity*. Cambridge: Polity Press.
- Bracco, Jessica, Matías Ciaschi, Leonardo Gasparini, Mariana Marchionni, and Guido Neidhöfer. 2024.** "The Impact of COVID-19 on Education in Latin America: Long-Run Implications for Poverty and Inequality." *The Review of Income and Wealth* 71 (1). <https://doi.org/10.1111/roiw.12687>.
- Brown, Brené. 2021.** *Atlas of the Heart*. New York Random House.
- Cariolle, Joël. 2012.** "Measuring Macroeconomic Volatility Applications to Export Revenue Data, 1970–2005. 'Innovative Indicators' Series." FERDI Working Paper Series. <https://ferdi.fr/dl/df-ffDuTsM2SZQq6ftuTVVBGV5C/ferdi-i14-measuring-macroeconomic-volatility.pdf>.
- Cascaldi-Garcia, Danilo, Cisil Sarisoy, Juan-Miguel Londoño-Yarce, John H. Rogers, Bo Sun, Deepa Datta, Thiago R.T. Ferreira, et al. 2021.** "What Is Certain about Uncertainty?" *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3894581>.
- Cháidez, Azucena. 2025.** "Retratos de La Resiliencia En El Campo: Investigación Cualitativa Sobre Riesgo, Resiliencia Y Desarrollo." *Regional Human Development Report 2025 Background Paper. No. 49 UNDP LAC Working Paper Series*.
- Dela Cruz, Nina Ashley, Ann Jillian Adona, Rhea Molato-Gayares, and Albert Park. 2024.** "Learning Loss and Recovery from the COVID-19 Pandemic: A Systematic Review of Evidence." *Econstor*, March. <https://doi.org/10.22617/wps240093-2>.
- Dieppe, Alistair. 2021.** "Global Productivity: Trends, Drivers, and Policies." World Bank. <https://www.worldbank.org/en/research/publication/global-productivity>.
- Dizikes, Peter. 2010.** "Explained: Knightian Uncertainty." MIT News. <https://news.mit.edu/2010/explained-knightian-0602>.
- ECLAC (Economic Commission for Latin America and the Caribbean). 1986.** "Revista CEPAL N° 30." <https://repositorio.cepal.org/server/api/core/bitstreams/f8568fbe-cb53-405f-af14-7333390317d8/content>.
- . 2014. "Economic Growth and Real Volatility: The Case of Latin America and the Caribbean | CEPAL." <https://www.cepal.org/fr/node/25632>.
- . 2024a. "Economic Survey of Latin America and the Caribbean, 2024: Low-Growth Trap, Climate Change and Employment Trends." <https://www.cepal.org/en/publications/80596-economic-survey-latin-america-and-caribbean-2024-low-growth-trap-climate-change>.
- . 2024b. "Feminity Index of Poor Households." Gender Equality Observatory. <https://oig.cepal.org/en/indicators/feminity-index-poor-households>.
- . 2024c. "International Trade Outlook for Latin America and the Caribbean, 2024: Reconfiguration of Global Trade and Options for Regional Recovery." <https://www.cepal.org/en/publications/80768-international-trade-outlook-latin-america-and-caribbean-2024-reconfiguration>.
- . 2024d. "Portal of Inequalities in Latin America." <https://statistics.cepal.org/portal/inequalities/housing-and-basic-services.html?lang=en&indicador=4623>.
- . 2024e. "Population Prospects and Rapid Demographic Changes in the First Quarter of the Twenty-First Century In Latin America and the Caribbean." <https://www.cepal.org/es/publicaciones/81020-observatorio-demografico-america-latina-caribe-2024-perspectivas-poblacionales>.
- . 2025. "Índice de Pobreza Multidimensional Para América Latina." <https://www.cepal.org/en/node/66804>.
- El Tiempo. 2024.** "¿Colombia Está Preparada Para Un Próximo Fenómeno de El Niño Sin Apagones de Energía?," June 18, 2024. <https://www.eltiempo.com/mas-contenido/colombia-esta-preparada-para-un-proximo-fenomeno-de-el-nino-sin-apagones-de-energia-3353725>.
- EM-DAT: The Emergency Events Database. 2024.** "Global Database for Comprehensive Disaster Data." Data for 1963–2023. <https://www.emdat.be/>.
- FAO (Food and Agriculture Organization). 2020.** "SDG Indicators Data Portal." <https://www.fao.org/sustainable-development-goals-data-portal/data/>.

———. 2022. “Land Governance in Latin America and the Caribbean.” <https://openknowledge.fao.org/server/api/core/bitstreams/765d430b-6595-424d-a8df-26aa557ac65b/content>.

Feenstra, Robert C., Robert Inklaar, and Marcel P. Timmer. 2015. “The next Generation of the Penn World Table.” *American Economic Review* 105 (10): 3150–82. <https://doi.org/10.1257/aer.20130954>.

Ferreira, Francisco H.G., Julian Messina, Jamele Rigolini, Luis F. López-Calva, María Ana Lugo, and Renos Vakis. 2013. “Economic Mobility and the Rise of the Latin American Middle Class,” World Bank Publications - Books, The World Bank Group, number 11858, April.

Fuentes-Nieva, Ricardo, and Papa A. Seck. 2011. *Risk, Shocks, and Human Development: On the Brink. Journal of Human Development and Capabilities*. 1st ed. Vol. 12. Palgrave Macmillan. <https://doi.org/10.1080/19452829.2011.541800>.

Gallup International. 2023. “Not Much of a Free World. But at Least Optimistic.” <https://www.gallup-international.com/survey-results-and-news/survey-result/not-much-of-a-free-world-but-at-least-optimistic>.

García De Alba, Maite, Jesús Pacheco, and Cynthia Martínez. 2025. “Nearshoring: Anticipando Riesgos Para Aprovechar Oportunidades.” Regional Human Development Report 2025 Background Paper. No. 58 UNDP LAC Working Paper Series.

Groningen Growth Development Centre. 2023. “Penn World Table Version 10.01.” DataverseNL, V1. <https://doi.org/10.34894/QT5BCC>.

Güneri, Barbaros, and A. Yasemin Yalta. 2020. “Does Economic Complexity Reduce Output Volatility in Developing Countries?” *Bulletin of Economic Research* 73 (3): 411–31. <https://doi.org/10.1111/boer.12257>.

Han, Byung-Chul. 2024. *The Spirit of Hope*. Polity.

Hansen, Lars. 2022. “Confronting Uncertainty in Climate Policy.” *Chicago Booth Review*. <https://www.chicagobooth.edu/review/confronting-uncertainty-climate-policy>.

Hausmann, Ricardo, César Hidalgo, Sebastián Bustos, Michele Coscia, and Alexander Simoes. 2014. *The Atlas of Economic Complexity*. MIT Press.

IDB (Inter-American Development Bank). 2024. “Climate Change and Latin America and the Caribbean.” <https://www.iadb.org/en/news/climate-change-and-latin-america-and-caribbean>.

ILO (International Labour Organization). 2022. “Regional Productivity Report ‘Digital Transition, Technological Change and Productive Development Policies in LAC: Challenges and Opportunities.’” https://www.ilo.org/sites/default/files/wcmsp5/groups/public/%40americas/%40ro-lima/documents/publication/wcms_849272.pdf.

———. 2025. “Panorama Laboral 2024 de América Latina Y El Caribe.” <https://www.ilo.org/es/publications/panorama-laboral-2024-de-america-latina-y-el-caribe>.

IMF (International Monetary Fund). 2021. “World Economic Outlook, October 2021.” <https://www.imf.org/en/Publications/WEO/Issues/2021/10/12/world-economic-outlook-october-2021>.

INEGI (Instituto Nacional de Estadística y Geografía). 2024. “Conociendo Los NSE En México Y Latam.” https://www.inegi.org.mx/contenidos/inegi/ccu/2024/primer_sesion/presentaciones/niveles_socioeconomicos.pdf.

INPE (Instituto Nacional de Pesquisas Espaciais). 2025. “Situação Atual.” *Programa Queimadas*. https://terrabrasilis.dpi.inpe.br/queimadas/situacao-atual/situacao_atual/.

IPCC (Intergovernmental Panel on Climate Change). 2001. “Working Group III: Mitigation.” <https://archive.ipcc.ch/ipccreports/tar/wg3/index.php?idp=474>.

IRP (International Recovery Platform). 2023. “How a Small Caribbean Island Is Trying to Become Hurricane-Proof.” <https://recovery.preventionweb.net/news/how-small-caribbean-island-trying-become-hurricane-proof>.

Ishak, Phoebe, and Mariel Siravegna. 2024. “The Gender Wage Gap in Latin America and the Caribbean: A Deeper Dive.” World Bank. <https://blogs.worldbank.org/en/latinamerica/the-gender-wage-gap-in-latin-america-and-the-caribbean>.

Islam, S. Nazrul, and John Winkel. 2017. “Climate Change and Social Inequality.” United Nations Department of Economic and Social Affairs. https://www.un.org/esa/desa/papers/2017/wp152_2017.pdf.

Janeway, William. 2006. “Risk versus Uncertainty: Frank Knight’s ‘Brute’ Facts of Economic Life.” Social Science Research Council. <https://items.ssrc.org/privatization-of-risk-risk-versus-uncertainty-frank-knights-brute-facts-of-economic-life/>.

Keynes, J. M. 1936. “The Supply of Gold.” *The Economic Journal* 46 (183): 412. <https://doi.org/10.2307/2224879>.

Knight, Frank H. 1921. “Risk, Uncertainty and Profit.” University of Illinois at Urbana-Champaign’s Academy for Entrepreneurial Leadership Historical Research Reference in Entrepreneurship. <https://ssrn.com/abstract=1496192>.

Knuutila, Aleks, Lisa-Maria Neudert, and Philip N. Howard. 2022. “Who Is Afraid of Fake News? Modeling Risk Perceptions of Misinformation in 142 Countries.” *Harvard Kennedy School Misinformation Review* 3 (3). <https://doi.org/10.37016/mr-2020-97>.

Kruitwagen, Lucas, Geoff Darch, Aveh Madani, Amber Sharrick, Sophie Smith, Alastair Gregory, Michael Burgass, Daniel Hdidouan, Bora Ristic, and Mark Workman. 2016. “Decision Making under Risk & Uncertainty.” Grantham Institute Workshop Report. https://kruitwagen.github.io/files/DM_white_paper.pdf.

LAC Equity Lab. 2024. “Income Inequality - Income Distribution.” World Bank. <https://www.worldbank.org/en/topic/poverty/lac-equity-lab1/income-inequality/income-distribution>.

LATAM CISO, and Duke University. 2024. “Preparación Cibernética En Los Sectores Públicos de América Latina: Lecciones de La Primera Línea.” https://uploads-ssl.webflow.com/660ab0cd271a25abeb800453/662a86d54aece04d5b101d62_LATAM%20CISO%20Report%202024%20SPA.pdf.

Latinobarómetro. 2024. “Latinobarómetro 2024 Report: Resilient Democracy.” Latinobarómetro Corporation. <https://www.latinobarometro.org/lat.jsp>.

———. 2025. “Data 2008-2023.” *Corporación Latinobarómetro*. Santiago, Chile. <http://www.latinobarometro.org/lat.jsp>.

Loayza, Norman V, Romain Ranciere, and Lui Serven. 2007. “Macroeconomic Volatility and Welfare in Developing Countries: An Introduction.” World Bank. <http://documents.worldbank.org/curated/en/577091468180899931>.

López-Calva, Luis F., Guillermo Cruces, Samantha Lach, and Eduardo Ortiz-Juárez. 2014. “Clases Medias Y Vulnerabilidad a La Pobreza. Reflexiones Desde América Latina.” *El Trimestre Económico, Fondo de Cultura Económica*, vol. 0(322)pages.281-307, abril-jun.

López-Calva, Luis F., and Nora Lustig. 2010. *Declining Inequality in Latin America: A Decade of Progress?* Washington, D.C.: Brookings Institution Press.

López-Calva, Luis F., Nora Lustig, and Eduardo Ortiz-Juárez. 2013. “A Long-Term Perspective on Inequality and Human Development in Latin America.” *Journal of Human Development and Capabilities, Taylor & Francis Journals* vol. 16(3), pages 319-323, August.

López-Calva, Luis F., and Eduardo Ortiz-Juárez. 2013. “A Vulnerability Approach to the Definition of the Middle Class.” *The Journal of Economic Inequality* 12 (1): 23–47. <https://doi.org/10.1007/s10888-012-9240-5>.

OCHA (United Nations Office for the Coordination of Humanitarian Affairs). 2024. “Brazil: Rio Grande Do Sul Flood Emergency.” <https://www.unocha.org/publications/report/brazil/brazil-rio-grande-do-sul-flood-emergency-snapshot-2-27-may-2024>.

OECD (Organisation for Economic Co-operation and Development). 2016. “Informal Is Normal in Latin America: Taxes Matter.” *Development Matters*. December 19, 2016. <https://oecd-development-matters.org/2016/12/19/informal-is-normal-in-latin-america-taxes-matter/>.

———. 2023. “PISA 2022 Results (Volume I): The State of Learning and Equity in Education.” https://www.oecd.org/en/publications/pisa-2022-results-volume-i_53f23881-en/full-report.html.

———. 2024a. “Digital Public Infrastructure for Digital Governments.” https://www.oecd.org/en/publications/digital-public-infrastructure-for-digital-governments_ff525dc8-en.html.

———. 2024b. “Internet Access in Households.” <https://www.oecd.org/en/data/indicators/internet-access-in-households.html>.

Opitz-Stapleton, Sarah, Rebecca Nadin, Jan Kellet, Margherita Calderone, Adriana Quevedo, Katie Peter, and Leigh Mayhew. 2019. “Risk-Informed Development: From Crisis to Resilience.” UNDP. <https://www.undp.org/publications/risk-informed-development>.

PAHO (Pan American Health Organization). 2018. “Depression: Mental Health in the Americas.” <https://www.paho.org/en/topics/depression>.

———. 2021. “Leading Causes of Mortality and Health Loss at Regional, Subregional, and Country Levels in the Region of the Americas, 2000-2019.” <https://www.paho.org/en/enlace/leading-causes-death-and-disability>.

———. 2022. “Health Overview.” <https://hia.paho.org/en/co-vid-2022/health>.

Raleigh, Clionadh, Roudabeh Kishi, and Andrew Linke. 2023. “Political Instability Patterns Are Obscured by Conflict Dataset Scope Conditions, Sources, and Coding Choices.” *Humanities and Social Sciences Communications* 10 (1). <https://doi.org/10.1057/s41599-023-01559-4>.

Reynoso, Lucas. 2023. “El Fenómeno de ‘El Niño’ Amenaza Los Precios de La Electricidad.” *El País*, June 16, 2023. <https://elpais.com/america-colombia/2023-06-16/el-fenomeno-de-el-nino-amenaza-los-precios-de-la-electricidad.html>.

Romanello, Marina, Maria Walawender, Shih-Che Hsu, Annalyse Moskeland, Yasna Palmeiro-Silva, Daniel Scamman, Zakari Ali, et al. 2024. “The 2024 Report of the Lancet Countdown on Health and Climate Change: Facing Record-Breaking Threats from Delayed Action.” *The Lancet* 0 (0). [https://doi.org/10.1016/S0140-6736\(24\)01822-1](https://doi.org/10.1016/S0140-6736(24)01822-1).

SEDLAC (Socio-Economic Database for Latin America and the Caribbean), and World Bank. 2024. <https://www.cedlas.econ.unlp.edu.ar/wp/estadisticas/sedlac/>.

Solano, Gonzalo, and Manuel Rueda. 2024. “Ecuador Rations Electricity as Drought Persists in the Northern Andes.” *AP News*, April 16, 2024. <https://apnews.com/article/ecuador-power-rationing-drought-el-nino-6fe1c30af1ca11dbe4ff5a9896982d7d>.

Turkewitz, Julie, and José María León Cabrera. 2024. “Ecuador Optó Por La Energía Hidroeléctrica. Luego Los Ríos Se Quedaron Sin Agua.” *The New York Times*, December 30, 2024. <https://www.nytimes.com/es/2024/12/30/espanol/america-latina/ecuador-apagones-electricidad-energia-hidroelectrica.html>.

UNDESA (United Nations Department of Economic and Social Affairs). 2022. “World Population Prospects 2022: Summary of Results.” https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/wpp2022_summary_of_results.pdf.

———. 2024. “2024 Revision of World Population Prospects.” <https://population.un.org/wpp/>.

UNDP (United Nations Development Programme). 1990. “Human Development Report.” <https://hdr.undp.org/content/human-development-report-1990>.

———. 2019. “No Country for Old, Indigenous Women: The Challenge of Discrimination in Latin America and the Caribbean.” <https://www.undp.org/latin-america/blog/graph-for-thought/no-country-old-indigenous-women-challenge-discrimination-latin-america-and-caribbean>.

———. 2020. “30 Years of Human Development in LAC in 5 Graphs.” <https://www.undp.org/latin-america/blog/graph-for-thought/30-years-human-development-lac-5-graphs>.

———. 2021. “Regional Human Development Report 2021: Trapped: High Inequality and Low Growth in Latin America and the Caribbean.” <https://www.undp.org/latin-america/regional-human-development-report-2021>.

———. 2022a. “Human Development Report 2021/2022: Uncertain Times, Unsettled Lives: Shaping Our Future in a Transforming World.” https://hdr.undp.org/system/files/documents/global-report-document/hdr2021-22reportenglish_0.pdf.

———. 2022b. “The UNDP Approach to Risk-Informed Development.” https://www.undp.org/sites/g/files/zskgke326/files/2022-06/The_UNDP_Approach_to_Risk-Informed_Development.pdf.

———. 2023. “Multidimensional Poverty Index with a Focus on Women for Latin America and the Caribbean.” <https://www.undp.org/latin-america/publications/multidimensional-poverty-index-focus-women-latin-america-and-caribbean>.

———. 2024a. “Inequality-Adjusted Human Development Index.” <https://hdr.undp.org/inequality-adjusted-human-development-index#/indices/IHDI>.

———. 2024b. “Human Development Report 2023/2024.” <https://hdr.undp.org/content/human-development-report-2023-24>.

———. 2024c. “The Changing Faces of Poverty in Latin America and the Caribbean.” <https://www.undp.org/latin-america/blog/changing-faces-poverty-latin-america-and-caribbean>.

———. 2025. “Human Development Report 2025: A Matter of Choice: People and Possibilities in the Age of AI.” <https://hdr.undp.org/content/human-development-report-2025>.

UNDP (United Nations Development Programme), and ECLAC (Economic Commission for Latin America and the Caribbean). 2025. “Índice de Pobreza Multidimensional Para América Latina: Una Herramienta Adicional Para Entender Mejor La Pobreza a Nivel Regional.” <https://www.undp.org/es/latin-america/publicaciones/indice-de-pobreza-multidimensional-para-america-latina-una-herramienta-adicional-para-entender-mejor-la-pobreza-nivel>.

UNDP Chile (United Nations Development Programme). 2024. “El Desarrollo Humano de Las Comunas de Chile.” <https://www.undp.org/es/chile/publicaciones/el-desarrollo-humano-de-las-comunas-de-chile>.

UNDP Colombia (United Nations Development Programme). 2024. “National Human Development Report | Colombia at Crossroads: Navigating Regional Divides and Embracing Opportunities.” <https://indh2024.pnud.org.co/en/the-report>.

UNDP Costa Rica (United Nations Development Programme). 2023. “Atlas de Desarrollo Humano Cantonal 2022.” <https://www.undp.org/es/costa-rica/publicaciones/atlas-de-desarrollo-humano-cantonal-2022>.

UNDP Panama (United Nations Development Programme). 2024. “Informe Nacional de Desarrollo Humano Panamá 2024. Entender El Presente Para Develar El Futuro - Cuaderno I: Desigualdades Y Nuevos Desafíos.” <https://www.undp.org/sites/g/files/zskgke326/files/2024-04/undp-pa-indhc1.pdf>.

UNDRR (United Nations Office for Disaster Risk Reduction), and OCHA (Office for the Coordination of Humanitarian Affairs). 2023. “Overview of Disasters in Latin America and the Caribbean 2000-2022.” <https://www.undrr.org/publication/overview-disasters-latin-america-and-caribbean-2000-2022>.

UNICEF (United Nations International Children’s Emergency Fund). 2022. “Almost Half of Households with Children in Latin America and the Caribbean Struggle to Make Ends Meet.” <https://www.unicef.org/lac/en/press-releases/almost-half-households-with-children-in-latin-america-and-caribbean-struggle-to-make-ends-meet>.

UNODC (United Nations Office on Drugs and Crime). 2023 “UNODC Global Study on Homicide 2023: Homicide and Organized Crime in Latin America and the Caribbean.” https://www.unodc.org/documents/data-and-analysis/gsh/2023/GSH_2023_LAC_web.pdf.

Valle, Edgar. 2025. “Understanding the Challenge of Resilience and Mental Health in Latin America and the Caribbean.” *Regional Human Development Report 2025 Background Paper. No. 42 UNDP LAC Working Paper Series*.

Vergara Cobos, Estefania. 2024. “Cybersecurity Economics for Emerging Markets.” The World Bank Group. <https://openknowledge.worldbank.org/server/api/core/bitstreams/692c6149-748f-40dc-b9e6-8e09ba3e47bf/content>.

Wakeham, Joshua. 2015. *Uncertainty: History of the Concept. International Encyclopedia of the Social & Behavioral Sciences*. <https://doi.org/10.1016/b978-0-08-097086-8.03175-5>.

WEF (World Economic Forum). 2024. “Global Risks Report 2024.” <https://www.weforum.org/publications/global-risks-report-2024/>.

WFP (United Nations World Food Programme). 2024. “El Niño 2023-2024 Latin America and the Caribbean.” <https://www.wfp.org/publications/el-nino-latin-america-and-caribbean-2023-2024>.

WHO (World Health Organization). 2022a. “World Mental Health Report: Transforming Mental Health for All.” <https://www.who.int/publications/i/item/9789240049338>.

———. **2022b.** “Weekly Epidemiological Update on COVID-19.” <https://www.who.int/publications/m/item/weekly-epidemiological-update-on-covid-19---31-august-2022>.

Wimmer, Jeffrey , and Thorsten Quandt. 2006. “Living in the Risk Society.” *Journalism Studies* 7 (2): 336–47. <https://doi.org/10.1080/14616700600645461>.

WMO (World Meteorological Organization). 2019. “Hurricane Dorian Causes Devastation in Bahamas.” <https://wmo.int/media/news/hurricane-dorian-causes-devastation-bahamas>.

———. **2024.** “State of the Climate in Latin America and the Caribbean 2023.” <https://wmo.int/publication-series/state-of-climate-latin-america-and-caribbean-2023>.

World Bank. 2021. “The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19.” <https://www.worldbank.org/en/publication/globalfindex>.

———. **2023.** “Increasing Women’s Ownership and Control of Productive Assets Increasing Women’s Ownership and Control of Productive Assets 1.” <https://documents1.worldbank.org/curated/en/735801642746928142/pdf/Increasing-Women-s-Ownership-and-Control-of-Productive-Assets.pdf>.

———. **2024a.** “Poverty and Equity Global Practice Latin America and the Caribbean Team for Statistical Development.” <https://documents1.worldbank.org/curated/en/099070124163525013/pdf/P17951815642cf06e1aec4155e4d8868269.pdf>.

———. **2024b.** “Poverty and Inequality Platform.” <https://pip.worldbank.org/home>.

———. **2024c.** “Taxing Wealth for Equity and Growth.” Latin America and the Caribbean Economic Review. <https://hdl.handle.net/10986/42001>.

———. **2024d.** “Tendencias Recientes de Pobreza Y Desigualdad América Latina Y El Caribe.” <https://documents1.worldbank.org/curated/en/099101724185031291/pdf/P50609514d5e250b919807109289007e31d.pdf>.

———. **2025a.** “World Development Indicators.” <https://databank.worldbank.org/source/world-development-indicators>.

———. **2025b.** “Global Economic Prospects January 2025.” *Global Economic Prospects*. <https://openknowledge.worldbank.org/server/api/core/bitstreams/c35d262d-db18-4279-b6f9-41b25e6c78db/content>.

World Weather Attribution. 2024. “Climate Change, El Niño and Infrastructure Failures behind Massive Floods in Southern Brazil – World Weather Attribution.” <https://www.worldweatherattribution.org/climate-change-made-the-floods-in-southern-brazil-twice-as-likely/>.

Chapter 2

Resilient human development: A conceptual framework

2.1 Why do we care about uncertainty?

Paulina is a single mother who lives with her daughter, Ana Paula, on the periphery of a large city in LAC. While not strictly poor—she earns an income selling prepared foods at a market—her limited education means that formal employment is out of reach. Additionally, childhood malnutrition left her stunted and with ongoing health problems. She owns a modest home, a testament to her perseverance, but she doesn't possess a formal deed to the property since it is located in an informal settlement that lacks basic services such as sewage and Internet access.

Paulina spends her days cooking at home and then transporting her goods to the market, where she caters to shoppers. The margins are low, but if she sells enough, her income covers daily necessities, Ana Paula's education, and a small amount of savings—kept under her mattress. Cooking is a skill she honed over years as a domestic worker, a job she landed at just 17 years of age when she migrated to the capital from her small village nestled in the Andean mountains. Ana Paula is her beacon of hope. She has an aptitude for learning and an eagerness to attend school—an opportunity Paulina prioritizes, despite the financial strain. The nearest public school lacks infrastructure and sufficient teachers, so Paulina invests a significant portion of her earnings in a private school. Ana Paula's education is an investment in a future that Paulina hopes will lift them out of their precarious situation.

Paulina is proud of what she has achieved, overcoming the deprivations she was born into. However, she knows she walks a fragile tightrope upon which a small tremor—such as a blocked road, a spike in food prices, or a sudden health crisis—could unravel the delicate balance she fights to maintain each day. She dreams of a more secure life for Ana Paula.

Then, one day, an organized crime group took over the market where she worked.

Using it as a hub for their activities, the criminal group started charging an informal tax (extortion) and threatened the security of sellers, effectively closing the market to any

outside shoppers and leaving Paulina without a safe space to sell her food. Entering the market now posed a risk to her safety—one she was unwilling to take. With no income, the family started limiting their food intake, exhausted their savings, and eventually fell into debt at exorbitant interest rates due to their lack of access to formal financial systems. Paulina sold the few tools she had—her pots, pans and the cart she used to transport her food—for cash. Despite her financial struggle, she remained committed to Ana Paula's education.

The criminal group eventually left the market. But Paulina did not return. She could not—as she no longer had the assets needed to cook or transport food and no longer had a spot in the market. Instead, she resumed to her previous role as a domestic worker and hopes that her health problems will not impair her ability to perform the physically demanding labour the work requires.

Paulina will not show up in any statistic. She does not officially fall below the poverty line, and no social programmes will reach her. Yet, years of work to save enough to start her own business and build a better life were wiped out without leaving a trace.

Thanks to Paulina's endurance, Ana Paula graduated from high school—her education is the family's single greatest asset. But to get Ana Paula to that point, Paulina incurred a debt that she is still repaying, sacrificed her health, and depleted the assets that once held the promise of a better income. Ana Paula dreams of attending college. But without the means to pay tuition, she must first find a job to help her mother repay their debts. She hopes college will be an option in the future.

While the market takeover was temporary, the impact on Paulina and Ana Paula's lives was permanent.

Adverse events—some that we can foresee and plan for, others that we cannot yet imagine—will continue to affect LAC. While every effort must be done to prevent and mitigate these shocks, the question this report asks is: how can we ensure that the next crisis will not permanently shrink Paulina's life

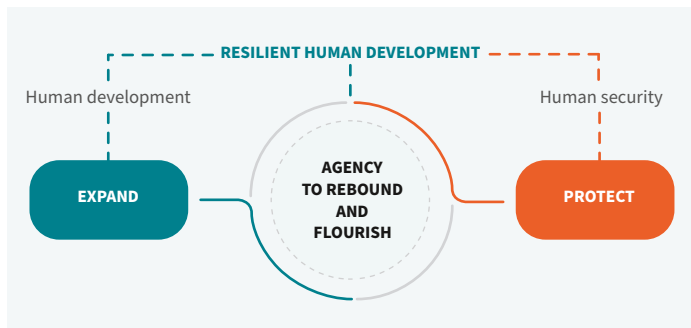
options? This Report proposes resilience as the answer.

2.2 Why human development and resilience?¹

The world and the region face a new era of uncertainty—one with more frequent, intense and compounding threats—that requires adjusting our objective of human development as people and societies. The word for that adjustment is resilience, which essentially nurtures the individual and collective abilities to create or creatively reconstruct valuable lives in response to shifting contexts.

When a broader perspective on development was introduced in 1990, it provided a crucial alternative to the traditional emphasis on economic expansion or the maximization of material well-being as the primary goal (UNDP, 1990). As this approach gained traction, it highlighted its intersections with other frameworks that consider individual well-being, security and rights. Advancing this perspective required exploring its implications for key areas of public policy including social equity, governance, environmental sustainability and mobility, as well as essential services such as health care, education and infrastructure. Rather than rejecting economic growth, it advocated for a more inclusive and equitable model, driven by investments that enhance people's opportunities and potential—valuable both for their own sake and for their role in fostering progress. This perspective has continually evolved, adapting to contemporary challenges while reaffirming its fundamental principles in changing contexts. The concept of human development has always risen to the challenge of wrestling with practical issues of the day and re-articulating its core principles as contexts shift.

Figure 2.1 Building on human development and human security



Source: Authors' elaboration.

And contexts have shifted, as was discussed in chapter 1. What these times require is a stalwart, serious, realistic and powerful commitment to advancing and protecting human capabilities and agency. This includes the ability of people and institutions to imaginatively recreate flourishing in changed contexts. The focus remains on the fundamental aim of human development—which is to expand and sustain people's valuable capabilities on a shared planet, recognizing people to be both the drivers and beneficiaries of positive change. Yet, human development must now be promulgated while explicitly recognizing the wider context of dangerous shocks and uncertainties—hence the need to build in human security. It must also explicitly recognize the need to invest in the agency and the psychological and social resilience of people and communities, so that they can regroup and collaborate when calamities strike.

Recent global Human Development Reports (HDRs) have acknowledged this evolving context. The *Human Development Report 2020: The Next Frontier: Human Development and the Anthropocene* recognized the strain on the planet and the need to transform how people live, work and cooperate to ease planetary pressures (UNDP, 2020b). The *Human Development Report 2021/2022: Uncertain Times, Unsettled Lives: Shaping our Future in a Transforming World* defined human development and then immediately discussed uncertainties: "The goal of human development is to help people lead lives they value by expanding their capabilities, which go beyond well-being achievements to include agency and freedoms. If uncertainty forms storm clouds over all aspects of human development, then it hurls lightning bolts at the idea of agency. It can disempower[...] Uncertainty can turn up the heat on a toxic brew" (UNDP, 2022b). The *Human Development Report 2023/2024: Breaking the gridlock: Reimagining cooperation in a polarized world* "starts to mould what could be called an emancipatory vision for development that shines Sen's notion of development as freedom on the grand challenge of our time: people and planet in joint crisis. This take on development centres the expansion of agency at the intersection of human development and sustainability. Its goal is the expansion of freedoms in their many forms..." (UNDP, 2024, p. 24).

Building on such analyses, the concept of resilience brings together: (i) the more expansive and sustainable concept of human development; (ii) the more protected safeguarding notion of human security; and (iii) the renewed focus on human agency that is required to re-make human development in changing times (See figure 2.1). Before

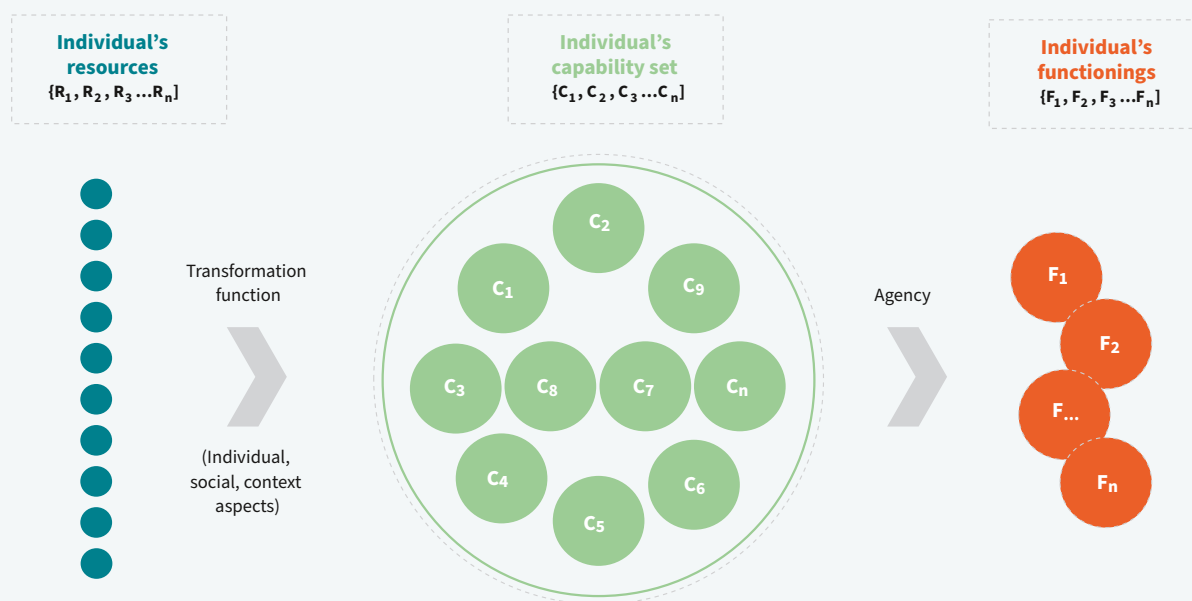
Box 2.1 The capabilities approach at a glance

The concept of “human development” emerged in 1990 through the pioneering work of Amartya Sen and Mahbub ul Haq, revolutionizing the way development was understood and measured (UNDP, 1990). Central to this perspective is the idea that development should not be judged solely by economic growth or the accumulation of wealth but by the expansion of freedoms and opportunities that allow individuals to lead lives they value (Sen, 1999). This reframing marked a significant departure from income-based metrics, emphasizing well-being, agency and human potential.

Sen’s capabilities approach lies at the core of this paradigm. “Capabilities” are defined as the real opportunities people have to achieve valued states of being or doing, while “functionings” represent the outcomes they achieve (Sen, 1999). For example, access to education is a capability, whereas attaining literacy or acquiring specific skills represent functionings. Or, a capability is having the ability to access nutritious food. This refers to the freedom or opportunity to choose and access a healthy diet if desired. A functioning is eating a balanced, nutritious meal. This represents the actual achievement or realization of consuming a healthy diet. The distinction between capabilities and functionings is crucial, as it highlights the importance of both opportunities and achievements in assessing human well-being.

Agency, a cornerstone of the capabilities approach, is equally significant. It refers to the ability of individuals to act on their values and aspirations, shaping their destinies and influencing their environments. Agency is not just about making choices but about having the means and freedom to pursue goals that matter to individuals and communities (Sen, 1999). In challenging contexts, where risks and uncertainties prevail, agency becomes a vital element of resilience and adaptive capacity.

Figure 2.2 The capabilities approach at a glance



Source: Authors' elaboration.

Access to resources, both material and social, is necessary for individuals to develop capabilities. However, the possession of resources alone does not guarantee capability expansion. Conversion factors, or transformation functions, determine how resources are transformed into valuable functionings. These factors are influenced by individual, social and environmental conditions. In LAC, economic inequality, systemic discrimination and unequal access to basic services often act as hindrances for the meaningful conversion of resources into opportunities for many.

The concept of human development has always risen to the challenge of wrestling with practical issues of the day and re-articulating its core principles as contexts shift.

defining resilience, it is necessary to recall how human security and agency extend human development concepts.

2.2.1 Building on the legacy of human security

The 1994 HDR introduced the concept of human security, emphasizing its universality and interconnected nature. It highlighted that issues such as famine, pollution, and terrorism transcend borders, and that prevention is more effective and less costly than intervention. The Report defined human security as protection from both chronic threats (e.g., hunger, disease, repression) and sudden disruptions in daily life (e.g., job loss, displacement). It framed human security in practical terms: “a child who did not die, a disease that did not spread, a job that was not cut, an ethnic tension that did not explode in violence” (UNDP, 1994, p. 21-22). The central idea was that security extends beyond survival to also encompass dignity and well-being.

A decade later, the 2003 Commission on Human Security reaffirmed the people-centred nature of human security, defining it as the protection of essential human freedoms

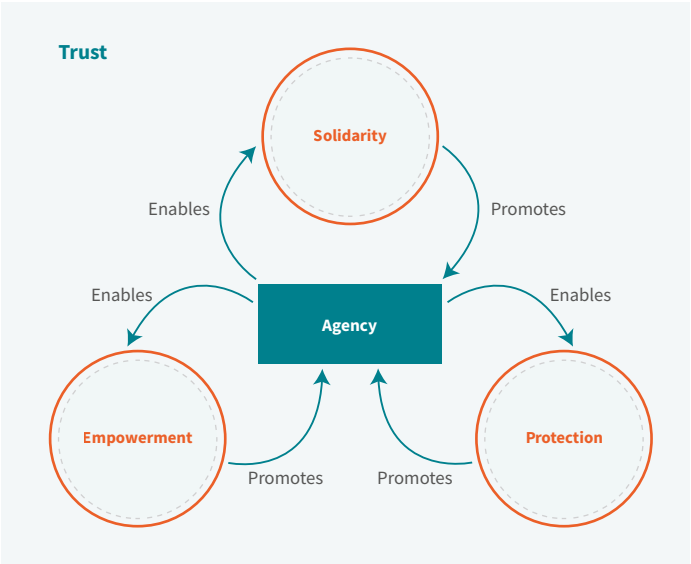
and fulfilment. The Report emphasized protection from severe and widespread threats through both institutional safeguards and individual empowerment. The 2003 Report *Human Security Now* further distinguished human security from human development. While development focuses on expanding opportunities and progress, human security complements it by addressing vulnerabilities and “downside risks”—threats to survival, dignity and stability, such as economic downturns, health crises and periods of social unrest (Ogata and Cels, 2003).

Subsequent reports refined the concept further. The 2014 HDR linked human security to resilience, stressing the need to address vulnerabilities across life stages since capabilities accumulate over time (UNDP, 2014, p. 57). The 2022 *Special Report on Human Security* by UNDP found that global perceptions of safety had deteriorated due to both traditional threats like war and emerging challenges such as digital risks and health care crises. It suggested expanding the framework to include “freedom from anxiety,” particularly in wealthier nations. Additionally, this report introduced solidarity as a key pillar alongside empowerment and protection (see figure 2.3). By the 2023/2024 HDR, human security was defined succinctly as “a multidimensional concept that pertains to people being free from fear, want and indignity” (UNDP, 2024, p. 153).

2.2.2 A renewed focus on human agency for changing times

The objective of development, Sen argues, is to expand capabilities and to support people’s agency. Capabilities are people’s real freedoms to enjoy valuable lives, to enjoy beings and doings that they value and have reason to value. Capabilities, like budget sets, convey information on the range of valuable opportunities that a person enjoys. Alongside opportunity freedoms, Sen’s capability approach views all people, including vulnerable people, as active agents. Agency is an assessment of “what a person can do in line with his or her conception of the good” (Sen, 1985, p. 206). People who enjoy high levels of agency are engaged in actions that are congruent with their values. Because of the central importance of agency “people have to be seen[...] as being actively involved—given the opportunity—in shaping their own destiny, and not just as passive recipients of the fruits of cunning development programmes” (Sen, 1999, p. 53). This requires attention not only to human development itself but also to the processes by which those outcomes are attained, in particular the extent to which people, especially disadvantaged groups, are able to engage actively and freely.

Figure 2.3 Human security for uncertain times



Source: UNDP (2022a).

It is worth noting that Sen's concept of agency is far broader than most uses in development, as well as being narrower in one important aspect. First, agency is exercised with respect to multiple goals, and people can have agency in some and while lacking it in others. Second, agency doesn't entail direct control—in many important circumstances agency is collective, democratic, contested or shared. Third, agency may focus on advancing one's own well-being, but it may also encompass other-regarding goals aimed at helping others. Fourth, Sen restricts his use of the term agency to advancing objectives that a person values and has reason to value, so he only recognizes human action to be agency when it advances constructive ends (Alkire, 2008).

Building on Sen's work, the 2020 HDR clearly added the topic of "values" to its traditional linkage to capabilities and agency, noting: "This time, the way forward is not only about expanding people's capabilities to lead lives they value—that is, expanding choices available to people." In addition, "[w]e must also carefully consider two other critical dimensions of human development: agency (that is, the ability to participate in decision-making and to make one's desired choices) and values (that is, the choices that are most desired), with special attention to our interactions with nature, to our stewardship of the planet." All three are needed if we are to countenance planetary limits: "Like a three-legged stool, capabilities, agency and values are inseparable in how we think about human development in the context of the Anthropocene. We cannot assume that expanding people's capabilities will automatically ease planetary pressures." But affecting agency and values cuts into topics that include and go beyond public policy. They involve incentives, regulations and also social norms—such as "enhancing equity, fostering innovation and instilling a sense of stewardship of nature."

2.3 Resilient human development defined¹

Building on these overlapping concepts of human development, human security and agency, this section crystallizes and defines a forward-looking concept of "Resilient Human Development."

Resilient human development aims to enable people to enjoy valuable lives in terms of capability and agency in such a way that the impact of critical pervasive shocks on their lives is prevented or mitigated and that people and communities, especially the most disadvantaged, can shape their lives and, if adversity strikes, in time rebound and flourish again.

So, like human development, resilient human development seeks to enable people lead lives they value by expanding their capabilities and agency. Going beyond this, human development is resilient when people's capabilities are safeguarded such that most shocks are prevented or mitigated, and people are able to recreate valuable lives after shocks. The ultimate unit of ethical interest is the person, and the ultimate direction of movement is towards flourishing.

Like human security, resilience recognizes and proactively seeks to prevent or minimize critical pervasive shocks that affect the "vital core" of human life. Resilience also considers additional shocks that may shrink capabilities or reverse human development—and it invests in expanding capabilities and agency, including the agency to remodel and recreate life after calamity.

In supporting agency and values, resilience requires cultivating mental and psychological health, as well as the capability to live long and healthy lives. It particularly singles out the ways that agency can shore up a dynamic balance in rough waters; it recognizes the cross-cutting personal and societal value of skills like meaningful relationships and activities, productive innovative work, recovery from trauma and tragedy, reconciliation and hope for a better future.

A simple illustration may be useful. A health system is not resilient if a sudden outbreak overloads it, causing its systems to fail, and its employees to leave, resulting in its closure. But in a resilient system, the system is ready to react; protocols are in place; supplies available, the community gathers to extend its space and beds; its employees rally and support each other; volunteers arrive and are trained and managed; an alarm sounds for external or international backup, and teams organize themselves to absorb such support when it comes. And as the surge of cases diminishes, volunteers are thanked, excellent work from all sides is acknowledged, appropriate rest and support—including psychosocial support—is provided to staff for recovery, any new facilities

Resilient human development aims to enable people to enjoy valuable lives in terms of capability and agency in such a way that the impact of critical pervasive shocks on their lives is prevented or mitigated and that people and communities, especially the most disadvantaged, can shape their lives and, if adversity strikes, in time rebound and flourish again.

are repurposed creatively, and preparations for future shocks are institutionalized so the health system stands stronger going forward.

2.3.1 What is new in resilient human development?

Definitions of resilience abound. Table 2.1 sets forth 22 definitions that give a sense of the concept and its variations. Most of the use of resilience concepts can be related to the seminal work of C.S. Holling, “Resilience and Stability of Ecological Systems”, published in 1973, which defines ecological resilience as “a measure of the persistence of systems and of their ability to absorb change and disturbance and still maintain the same relationships between populations or state variables” (Holling, 1973, p. 14). Holling’s original concept has been widely influential and applied in many different fields, including ecology, biology, social-ecological systems, disaster management, social science, psychology and engineering.

However, this does not exempt facing challenges such as operationalizing resilience measurements across different contexts or translating the concepts from natural systems to those with social components (Bahadur and Thornton, 2015). The interdisciplinary use and application of the concept across fields has led to an evolution of the concept, and to the adhesion of features according to the application. Without intending to be exhaustive, Table 2.1 presents some relevant definitions of resilience, some of them used before by UNDP and other United Nations Agencies, to have a broad overview of how resilience has been used across international development and social science.

These definitions vary significantly, but include at least one of several of the following components that we build on to for our definition of resilient human development: (i) clarify the unit (resilience of whom); (ii) clarify the aim amidst shocks (resilience of what); (iii) speak of resilience as an ability to achieve something (resilience for what); (iv) recognize the existence of potential threats of various kinds (resilience to what); (v) name the actions that are undertaken (how to build resilience); (vi) name the time-frame with respect to the calamities (before, during or after the threat, including the long-term); (vii) identify what stays the same (structure, function, identity, feedbacks); (viii) identify what changes; (ix) stress the nature of the response (timely, efficient).

Regarding the first component—the unit—a resilient human development perspective holds this view: the ultimate

unit of interest is the individual, a view that is aligned with human rights. Yet this view is importantly modified in two ways. First, advancing the intrinsically valuable outcome of human flourishing requires actions that promote resilient human development to be undertaken by other units—from households, communities and institutions to political actors, nations and international institutions. Resilience also requires human cooperation, collaboration and healthy relationships that, in the best cases, these also embody. Second, a range of personal and societal relationships themselves can hold intrinsic value. In that sense, much in the same way as occurs for human development, there is a clear ultimate unit of concern—the person and their fulfilment (including in intrinsically valued relational terms)—and a panoply of units whose actions are required to advance resilient human development.

On the aim of resilience, many definitions of resilience frame their aim in relation to elements of human development, human security and/or agency. Some observe that as regards environmental and socioecological systems, resilience is “a synonym for ‘adaptive capacity’” (Brown and Westaway, 2011, p. 323). Many definitions focus on recovering a previous status quo or aiming to maintain or transform living standards without compromising long-term prospects (Hallegatte, Rentschler and Rozenberg, 2020; DFID, 2011). Some stress not only the “capacity to persist in the face of change” but also “to continue to develop with ever changing environments,” a helpfully forward-looking and agency-engaged aspect (Folke, 2016). Some authors write of the “capacity to avoid poverty in the face of various stressors and in the wake of myriad shocks” (Barret and Conostas, 2014). Relatedly, Berkes (2007) defines it as the “flip side of vulnerability.” In some settings, then, building resilience can also prevent poverty—which is part, although not all, of resilient human development.

Resilience clearly involves external policies, but a notable subset of definitions also observe that people’s inherent personalities can be more or less inclined towards resilience. They single out cultivating psychological resilience to navigate and recover from life’s trials as an important area of policy. Foster (2006, p. 6–7) observes that resilience also regards “a set of capacities, behaviours and external resources one can develop and draw upon to deal with difficult challenges.” Bahadur and Thornton (2015) write of “bouncing back better” because people learn from disturbances and take action based on that learning. This echoes in the writings of Brown and Westaway (2011) and of Crawford, Wright, and Masten (2006), who search for processes of “positive

Table 2.1 Some definitions of resilience in international development and the social sciences

Study / Author	Definition or concept of “resilience”
1. Adger (2000)	“[S]ocial resilience is defined as the ability of communities to withstand external shocks to their social infrastructure.” (p. 361)
2. Ramalingam (2013)	“ ‘[R]esilience’ is about learning from disturbances and taking action based on that learning and then ‘bouncing back better’ so as to reduce vulnerability to the same disturbances.”
3. Béné and others (2014)	“Resilience is about the capability of individual, households or community members to adapt, to change, to anticipate, or to respond—in our case to shock and (future) uncertainty—is also recognizing that resilience is about agency and about the ability for these people to make informed decision that have an effect on their own life.” (p. 616)
4. Berkes (2007)	“[R]esilience is the flip side of vulnerability, placing the emphasis on the ability of the linked social–ecological system to deal with the hazard and providing insights on what makes a system less vulnerable.” (p. 292)
5. Carpenter and others (2001)	“Resilience is the magnitude of disturbance that can be tolerated before a socioecological system (SES) moves to a different region of state space controlled by a different set of processes.” (p. 765)
6. Crawford, Wright, and Masten (2006, p. 355)	“The study of resilience is a search for knowledge about the processes that could account for positive adaptation and development in the context of adversity and disadvantage.” (cited in Liebenberg and Ungar (2008), p. 21)
7. Cutter and others (2008)	“Resilience is the ability of a social system to respond and recover from disasters and includes those inherent conditions that allow the system to absorb impacts and cope with an event, as well as post-event, adaptive processes that facilitate the ability of the social system to reorganize, change, and learn in response to a threat.” (p. 599)
8. DFID (2011)	“Disaster Resilience is the ability of countries, communities, and households to manage change, by maintaining or transforming living standards in the face of shocks or stresses—such as earthquakes, drought or violent conflict—without compromising their long-term prospects.” (p. 6)
9. FAO and FFLA (2021)	“The ability to prevent, anticipate, mitigate, respond to or recover from disasters and crises in a timely, efficient and sustainable manner, including the protection, restoration and enhancement of livelihood systems from threats affecting agriculture, nutrition, food security and food safety.” (p. 2)
10. Hallegatte, Rentschler, and Rozenberg (2020)	“Socioeconomic resilience is defined as a country’s or population’s ability to cope with and recover from direct damages caused by natural disasters.” (p. 42)
11. IPCC (2012)	“The ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions.”
12. Mitchell and Harris (2012)	“The ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a shock or stress in a timely and efficient manner.” (p. 2)
13. Nelson, Adger, and Brown (2007)	Resilience is “the amount of change a system can undergo and still retain the same function and structure while maintaining options to develop.” (p. 396)
14. UNDP (2014)	Human resilience: “ensuring that people’s choices are robust, now and in the future, and enabling people to cope and adjust to adverse events.” (p. 2)
15. UNDP (2020a)	“Resilience is the ability of individuals, households, communities, cities, institutions, systems and societies to prevent, resist, absorb, adapt, respond and recover positively, efficiently and effectively when faced with a wide range of risks, while maintaining an acceptable level of functioning without compromising long-term prospects for sustainable development, peace and security, human rights and well-being for all.” (p. 11)

Study / Author	Definition or concept of “resilience”
16. UNDRR (2023)	Climate resilience: “the capacity of economic, social or ecological assets or systems to resist, absorb, accommodate, adapt to, transform and recover from the current and projected impacts of climate change, both direct and indirect, maintaining their basic structure and function.” (p. 12)
17. UNISDR (2004)	“The capacity of a system, community or society potentially exposed to hazards to adapt, by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organizing itself to increase this capacity for learning from past disasters for better future protection and to improve risk reduction measures.”
18. UNISDR (2009)	“The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions.” (p. 10)
19. UNOCHA (2015)	“Resilience as the capacity to absorb, to adapt and to transform in the face of shocks and stressors. For the purpose of this RCA, resilience is viewed in terms of shocks and stressors contributing to food insecurity and malnutrition outcomes.” (p. 13)
20. USAID (2022)	“Resilience is the ability of people, households, communities, countries, and systems to mitigate, adapt to, and recover from shocks and stresses in a manner that reduces chronic vulnerability and facilitates inclusive growth. Put simply, resilience is the ability to manage through adversity and change, without compromising future well-being.” (p. 8)
21. Whiteshield (2024)	“Resilience can be defined as the ability to face and recover from disruptions, regardless of their nature.” (p. 17)
22. Wilson (2013)	“Capacity of a system to absorb disturbance and reorganize while undergoing change to still retain essentially the same function, structure, identity, and feedbacks.” (p. 298)

Source: Alkire (2025).

adaptation and development in the context of adversity and disadvantage.” So, resilience encompasses an “interior” angle as well as an institutional one.

Noting the interior field may be particularly pertinent when it comes to unlocking human agency. The 2023/2024 HDR observed that persons who feel more insecure trust others less; they also tend to be on the extremes of the political spectrum (in either direction). A common proxy measurement for agency is a person’s perception of being in control of one’s life. The Report shows that LAC has a lower acute agency gap as compared to other regions, but its higher levels of perceived insecurity raise the agency gap (UNDP, 2024). Figure 2.4 illustrates that perceived human insecurity in LAC is higher than in advanced economies—and among the highest in some countries. As noted in the 2023/2024 HDR: “Human insecurity constrains agency when people fear participating in social life or using public spaces and deliberation mechanisms without shame” (UNDP, 2024, p. 153).

Resilient human development definition seeks to guarantee human security and continue advancing human

development and human agency (including its inner psychological drivers). In that sense, the focus on protection, on expanding capabilities, and on agency are unchanged; what has changed is “how” to build resilience given the new challenges.

Most definitions articulate several actions that define resilient units or systems. A classic type of definition is offered by the International Panel on Climate Change (IPCC) (2012): “The ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions.” This definition and similar definitions include actions that anticipate, absorb, accommodate or recover from shocks or calamities. Other definitions also include actions that resist, prevent, prepare for, mitigate, respond to, cope, adapt, manage, transform, maintain, withstand, reorganize, counteract, learn from and adjust to. It is clear that these actions may be ongoing or may be temporally engaged before, during and after the shock(s).

Figure 2.4 High perceptions of human insecurity in LAC



Notes: Perceived human insecurity is based on UNDP Human Development Report Office calculations, using the latest available data from World Values Survey waves 6 (2010–2014) and 7 (2017–2022). HDI corresponds to 2022 levels in most cases and to 2014 when only wave 6 data is available.

Source: UNDP's calculations based on the Human Development Report 2023/2024 and the 2022 Special Report on Human Insecurity.

It may be important to stress that our concept of resilient human development goes beyond the itemization of threats and risks by mapping a multidimensional, multilevel response to the multiple threats of our day. It goes beyond mere mitigation, because it also encompasses adaptation, change and transformation (Lv, Sarker and Firdaus, 2024). It goes beyond a mere diagnosis of vulnerability by charting strategies by which to manage recognized vulnerabilities when crises strike.

Some definitions clarify what has to stay the same, what is likely to change, and what may need to be remade in new contexts. For example, the IPCC definition above clarified that what needs to be preserved, restored or improved

are the “essential basic structures and functions” of a system. Other analysts develop definitions naming the core attributes that they believe should be preserved, restored or improved regarding individuals, people, households, communities, groups, countries, societies and civilizations. IPCC (2021) focuses on “interconnected social, economic and ecological systems” (UNDRR, 2023). Wilson (2013, p. 298) is perhaps the most ambitious, arguing that systems should “retain essentially the same function, structure, identity and feedbacks.” Resilience, as explained by the United Nations International Strategy for Disaster Reduction, not only enables risks to be navigated but also maintains “an acceptable level of functioning” (UNISDR, 2004; UNDP, 2020b).

What changes is often soft-pedalled or described in general, perhaps because the emphasis is on preventing or minimizing the traumas of destruction and loss of life as well as on the loss of procedures and institutions. As well, in tragic circumstances some things do change—despite our best efforts. Manyena (2006) observed that disaster resilience may require “modifying non-essential traits.”

The definition of resilient human development does not specify what stays the same or what changes because these are aspirational, and priorities vary across contexts. So, in a sense, these are already covered under the “aims” of human development, security and agency. But this conversation does add a needed emphasis, which is to ascertain that, when building resilience, the priorities of different communities as to which are the “core” or “essential” features of requisite systems that are to be protected with utmost care, as these will vary but are vital to identify.

While a surprising collection of definitions do not discuss the temporal element, others emphasize the need for ex-ante preparation or for quick responses. For example, Mitchell and Harris (2012, p. 2) write that the recovery should be “in a timely and efficient manner.” UNDP (2014) focused on the need to think about people’s choices “now and in the future” to ensure that the response would not curtail future human development. Constan, Frankenberger and Hoddinott (2014) instead focused on the duration of the effects from shocks, calling resilience the capacity to ensure that shocks “do not have long-lasting adverse development consequences.”

As previously noted, the 2011 Report by the Department for International Development (DFID) focused on resilience to disaster, defining this as “the ability of countries, communities, and households to manage change[...] in the face of shocks or stresses[...] without compromising their long-term prospects.” This eye for the long-term brings to mind the Brundtland Commission and Sen’s reformulation of their objective. Sen wrote, “we can see ‘sustainable development’ as development that promotes the capabilities of present people without compromising capabilities of future generations” (Sen, 2013, p. 11).

Like human security, resilient human development recognizes the need to invest both in prevention—as difficult as that is to mobilize—and preparation, in order for responses to be timely and efficient. It also definitely includes a focus on not compromising the capabilities of future generations.

From this discussion, a slightly fuller statement of resilient human development can be developed: Resilient human development aims to enable people to enjoy valuable lives in terms of capability and agency in such a way that the impact of critical pervasive shocks on their lives is prevented or mitigated, and that people and communities, especially the most disadvantaged, can shape valuable dignified lives and, if adversity strikes, rebound and flourish in time.

Resilient human development combines the forward-looking vision of sustainable human development with the soberly preventative and protective aspect of human security and invests in people’s abilities to contribute as actors and agents.

Advancing resilient human development requires timely and effective action by people, communities, institutions, organizations, systems and countries to identify potential threats, prioritize core areas to protect, and work to prevent, anticipate, respond, adapt and mitigate the impact of unfolding crises. The next step is to recover or rebuild for stronger futures without compromising the ability of future generations to advance their own resilient human development.

2.3.2 “No aguantamos más,” resilience as a cultural phenomenon in LAC²

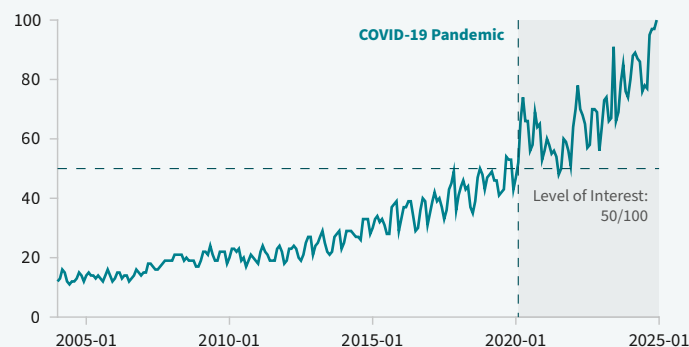
While the previous sections have focused on the need to embed resilience within our conceptualization of human development, it is important to note that resilience is a term that already carries significant meaning—and perhaps even baggage—in LAC. At its most basic, the word “resilience”, derived from the Latin *resilire*, means “to jump back” or to rebound from adversity.

According to the qualitative study *Retratos de la resiliencia en el campo* (Cháidez, 2025), people in LAC do not view resilience primarily as the ability to recover from hardship, but rather as a culturally embedded, day-to-day strategy for survival in the face of structural exclusion, economic precarity and institutional failure. It is expressed through terms like *aguantar* (enduring), *salir adelante* (pushing forward), and *no rajarse* (not giving up) and, it is perceived as a dynamic and multifaceted process shaped by personal effort, family and community ties, spirituality and a constant search for stability amid recurring crises. Two distinct yet interconnected forms of resilience emerge from the research: (i) *defensive resilience*, perhaps the most common, which involves enduring hardship without transforming the conditions that produce it; and (ii) *proactive*

Box 2.2 A historical perspective on the concept of resilience

Resilience is not a new concept, but one that has gained popularity, and perhaps ubiquity, in recent decades. A quick search online throws back books and Ted Talks on topics such as how to toughen up your mental health, your kids, your gardening, your investment portfolio, and the sustainability of the planet. The term has been used so much that in a 2015 article, the New York Times claimed the term to be “so conveniently vacant that it manages to be profound and profoundly hollow” (Sehgal, 2015).

Figure 2.5 Resilience in the spotlight



Notes: The numbers represent search interest relative to the highest value in the specified region and period. A value of 100 indicates maximum popularity for the term, while 50 indicates half the level of popularity.

Source: Google Trends Data (2004-2024).

appeared in ecosystem literature, it emerged in the psychological literature as a way to assess how well individuals adapt to traumatic events.

Resilience only entered the development discourse around the mid-2000s where it became a central, albeit somewhat ambiguous, concept. It has been articulated with reference to natural risks and disasters, socioecological systems, financial crises, unemployment and development policy. Resilience has also been ascribed to various entities, including human beings, communities, states, ecosystems, institutions and infrastructures (Ferguson and Wollersheim, 2022).

It first appeared in the world of physics to measure a material's ability to return to its original shape after being stressed. It was only a century later (circa 1970s) that the concept jumped to the social sciences applied to the study of ecological systems and their ability to return to an equilibrium, or functional state, after a disturbance. This conceptualization was later nuanced by scientist Brian Walker and science writer David Salt (2006), who observed that ecosystems might not exist in an equilibrium state to which they can return but are instead dynamic and constantly evolving in response to ecological, biological and socio-economic factors. Thus, they defined resilience as the capacity of a system to absorb disturbances while still retaining basic function and structure.³

Around the same time that the concept of resilience

resilience, which people aspire to, involving active efforts—through education, work or collective action—to improve circumstances and reduce future vulnerability.

Crucially, the study shows that resilience is often linked to adaptation. People describe it as the ability to *salir adelante*, or push forward, even in the absence of reliable institutional support. In Mexico and El Salvador, for example, participants associated resilience with emotional strength, faith and a collective sense of not giving up. However, the Report also cautions that romanticizing this form of resilience risks normalizing adversity and

deflecting responsibility away from governments and institutions. When framed solely as endurance, resilience can lack an empowering dimension—justifying suffering rather than alleviating it. As Wagnild (2019) notes, resilience can be understood as an outcome (successful adaptation), a process (evolving over time), or a trait (an inherent or learned capacity to manage stress).

This local, colloquial understanding of resilience differs from—and in some ways contrasts with—the concept of resilient human development in three fundamental ways: it is individualistic, reactive and often blind to trade-offs.

First, when resilience is framed as a moral and emotional struggle—captured in expressions like *yo aguanto* ("I hold on") or *yo salgo adelante* ("I'll push through")—the burden falls on the individual, obscuring the need for structural solutions. Resilient human development, by contrast, recognizes that resilience is embedded in systems: institutions, infrastructure, social protection and collective capacities.

Second, resilience in this context is largely reactive, focused on coping with immediate crises—be it economic hardship, violence or lack of services—rather than preventing or preparing for future ones. Resilient human development, by contrast, emphasizes preparedness, adaptability and long-term stability.

Third, resilience as *aguante* implies enduring at any cost, often leading households to prioritize short-term survival over long-term well-being. This may involve reducing food intake, delaying schooling, or selling productive assets—coping strategies that can undermine future income and perpetuate cycles of poverty.

The key distinction lies in emphasis and perspective: while development frameworks approach resilience as a strategic, planned, and systemic capacity to absorb and adapt to risk, people in LAC often experience it as a personal, urgent and exhausting response to chronic uncertainty. Bridging these two perspectives requires not only recognizing the cultural meanings of resilience but also addressing the structural deficits that force individuals and communities to be resilient in the first place.

2.4 An asset-based approach to building resilient human development in LAC⁴

Resilient human development, as defined in this Report, focuses on ensuring valuable lives characterized by capability and agency while mitigating the impact of shocks and empowering people, especially the most disadvantaged, to rebound and flourish after adversity. Operationalizing the above definition of resilient human development in a context of uncertainty requires three interconnected actions: preparing for the unknown, including preparing individuals and households to cope with adverse events; responding to adverse events when these occur; and strengthening individuals' capacity to rebuild dignified lives when adversity strikes. This is further discussed in chapter 6.

Also, as specified above, the actions that promote resilient human development need to be undertaken at various levels including household, communities and local, national and even international institutions. Resilience requires human cooperation, collaboration and healthy relationships.

Much can and needs to be done to reduce the probabilities of the manifestation of known risks, especially within a context of uncertainty such as the one facing LAC. One way to think about preparing, responding and enabling rebuilding is by providing the capacities, behaviours and external resources for individuals to draw upon to deal with difficult challenges.

2.4.1 Building resilient human development through assets

Resources can be examined through an asset-based approach (Bussolo and López-Calva, 2014). In the capabilities approach, assets represent both means and ends, serving as resources that enable households to achieve critical functionings—such as health, education and income—and that are necessary for navigating adversity. They also represent the means by which individuals can build lives they value after adverse events.

The asset-based approach argues that the capacity of households to achieve desired levels of well-being and generate income depends on the assets they possess, the use they make of them, and the returns these assets generate—which depend on the existence and functioning of markets in which assets can interact. It also accounts for the non-market income families receive, such as government transfers or remittances from family members abroad (Bussolo and López-Calva, 2014; López-Calva and Rodríguez-Castelán, 2016). If resilience reflects the capacity to sustain functionings despite risks, achieving resilience thus requires both access to assets and enabling conditions for their effective utilization.

The approach is multidimensional by construction, as it considers multiple types of assets including human capital (i.e. education and health); physical capital (i.e. infrastructure such as housing and connectivity); financial capital (i.e. savings and loans); social capital (i.e. connections with other people); and natural capital (i.e. land, soil, forests and water). It also takes into account how their effectiveness often depends on local contexts and household characteristics. For example, rural households may rely more heavily on natural and physical assets, such as land and livestock, while urban households may depend on financial and social assets, like savings and support networks. Furthermore, institutional quality, market access and sociocultural norms

Advancing resilient human development requires timely and effective action by people, communities, institutions, organizations, systems and countries to identify potential threats, prioritize core areas to protect, and work to prevent, anticipate, respond, adapt and mitigate the impact of unfolding crises.

A substantial body of empirical research demonstrates that households with larger and more diversified asset bases are better equipped to smooth consumption and maintain well-being, thereby mitigating the impacts of hazards (Dercon, 2002; Attanasio and Szekely, 1999; Barrett, Garg,

The diagram illustrates the relationship between structural issues, macroeconomic context, and growth and inequality. It is divided into three main sections:

- A new uncertainty era:** This section features a circular diagram with a central orange circle labeled "KNOWN RISKS". Surrounding this are three teal circles: "Deepening social fragmentation" (top), "Rapidly evolving technologies" (bottom-left), and "Increasingly changing climate" (bottom-right). Dashed arrows connect these outer circles to the central "KNOWN RISKS" circle. The outer circle is labeled "STRUCTURAL ISSUES" at the top and "NOVEL THREATS" at the bottom. The central circle is labeled "MORE INTENSE" and "MORE FREQUENT".
- Macroeconomic context:** This section features a circular diagram with five colored segments: "Human capital" (teal), "Financial capital" (dark teal), "Physical capital" (purple), "Social capital" (orange), and "Natural capital" (green). In the center is a white circle containing the formula:

$$\begin{aligned} &\text{Asset accumulation} \\ &\times \text{Intensity of use} \\ &\times \text{Returns} \\ &+ \text{Transfers} \\ &= \\ &\text{Household income} \\ &\text{generation capacity} \end{aligned}$$
- Growth and inequality:** This section features an icon of three stylized human figures of increasing size, representing growth and inequality.

Arrows indicate a flow from the "A new uncertainty era" section to the "Macroeconomic context" section, and from the "Macroeconomic context" section to the "Growth and inequality" section.

CHAPTER 2 - RESILIENT HUMAN DEVELOPMENT: A CONCEPTUAL FRAMEWORK

and McBride, 2016). This resilience stems from the ability to draw on alternative resources when faced with shocks such as job loss, crop failure, illness or extreme weather events. Conversely, households with limited assets often face drastic reductions in consumption and well-being when shocks strike (e.g. a health crisis requiring substantial medical expenses or an economic downturn causing job loss). The inability to cope effectively with these shocks often results in the depletion of already meagre assets, limiting freedoms and hindering long-term human development (Carter and Barrett, 2006).

2.4.2 The role of different types of assets in building resilient human development

Human assets are fundamental for the generation of income and to make informed decisions (Carter and Barrett, 2006). The concept includes cognitive ability—measured by educational attainment, socioemotional skills and physical and mental health—as interconnected dimensions that collectively influence life outcomes (Heckman and Corbin, 2016). Human assets complement one another; cognitive and socioemotional skills, as well as physical and mental health, interact synergistically to shape outcomes across the life cycle. For example, Conti and Heckman (2010) provide evidence of the causal effects of education on health and healthy behaviours. Similarly, Heckman, Pinto and Savelyev (2013) demonstrate how early childhood interventions targeting disadvantaged children significantly improved adult outcomes—including education, earnings, health and crime reduction—by enhancing non-cognitive skills.

Access to quality education and health can expand access to opportunities in the labour market, enabling individuals to secure jobs with greater stability, protection and prospects for advancement. Good health serves as a cornerstone of resilience, supporting labour productivity and household stability.

Accessible health care and robust insurance mechanisms can mitigate these risks, as highlighted by Wagstaff (2002), while preventive health care reduces long-term vulnerabilities (Smith, 1999; Bloom, Canning and Fink, 2011). Policies to reduce medical costs and improve health care access are vital for preserving household resources and fostering

Households with larger and more diversified asset bases are better equipped to smooth consumption and maintain well-being, thereby mitigating the impacts of hazards.

resilience. Evaluations of Brazil's *Bolsa Família* programme indicate sustained positive impacts on health and education outcomes among low-income families. A 2024 study found that 64 percent of children who benefited from *Bolsa Família* no longer required public assistance in adulthood, effectively breaking the cycle of poverty (Fassarella and others, 2024). However, realizing these gains in tangible economic returns depends on favourable labour-market conditions and institutional quality.

The benefits of human assets extend beyond individual households. Improved education and health outcomes at the community level foster collective resilience, enabling communities to recover more effectively from shocks. This collective adaptability strengthens societal stability, ensuring better navigation of complex challenges and uncertainties. Overall, investments in education, health and skills development not only enhance household resilience but also generate ripple effects that support broader economic and social stability.

Physical assets—such as housing, land, machinery, tools and livestock—also act as buffers during economic downturns, enabling income generation through productive activities (Attanasio and Szekely, 1999; Bussolo and López-Calva, 2014). Secure land tenure is particularly important, as it provides households with a stable income source and facilitates agricultural activities that contribute to food security and economic stability. Recent studies in Colombia and Peru demonstrate that secure land tenure significantly enhances households' resilience to economic shocks, enabling consistent income generation through agricultural activities (Guardado, 2018).

Access to productive tools and infrastructure further strengthens households' ability to adapt to shocks. For example, irrigation systems in the Andean region have helped maintain crop yields during droughts, demonstrating the role of infrastructure in reinforcing agricultural resilience (Sietz and Feola, 2016; Doughty, 2015). Similarly, households owning agricultural tools, such as ploughs, are better equipped to manage agricultural risks and improve food security (Dercon, 2004). Livestock ownership also serves as a vital asset, providing income and liquidity during crises. Evidence shows that livestock ownership mitigates the impacts of droughts and other climatic shocks, enabling households to cope more effectively with these challenges (Dercon, 2004).

Financial assets—savings, access to credit and insurance—are critical tools for mitigating economic shocks and

ensuring household stability. Savings enable households to manage consumption during periods of income disruption, providing an essential buffer against shocks. Similarly, access to credit offers households the resources necessary for recovery and investment, allowing them to restore livelihoods and mitigate long-term economic impacts. These financial resources expand household choices, enabling investments in productive activities or risk mitigation without depleting critical assets. In doing so, they directly contribute to achieving such things as food security and health care access, even during times of instability.

Insurance mechanisms further enhance resilience by reducing the financial burden of catastrophic events, enabling quicker recovery and preventing severe economic setbacks (Moser, 1998). Evidence underscores the importance of financial inclusion in resilience-building. In some contexts, mobile money services have significantly improved households' ability to manage shocks, facilitating access to savings and credit and enabling consumption-smoothing within social networks (Jack and Suri, 2014). Similarly, basic financial services have been shown to boost savings and investments among low-income households (Dupas and Robinson, 2013). However, the effectiveness of financial tools like microcredit varies by context, highlighting the need for policies tailored to specific groups (Karlan, Ratan and Zinman, 2014).

Social and natural assets are deeply interconnected in fostering resilience, particularly in rural and resource-dependent contexts. Social assets, such as community networks, act as informal safety nets, providing access to information, financial assistance and emotional support during crises (Woolcock and Narayan, 2000). Strong social networks enhance households' capacity to sustain well-being and navigate adversity by mobilizing resources and collective action. For example, trust and reciprocity within communities contribute to managing shared natural resources, such as forests and water systems, which are critical for livelihoods and resilience. Social cohesion not only supports recovery but also accelerates rebuilding efforts, as demonstrated by Aldrich (2012), particularly in post-disaster settings.

Natural assets, including land, water and forests, are vital for households reliant on agriculture or natural resource-based livelihoods. The sustainable management of these assets ensures long-term stability, while degradation exacerbates vulnerabilities to shocks (Scoones, 1998). Community-based governance exemplifies the intersection of social

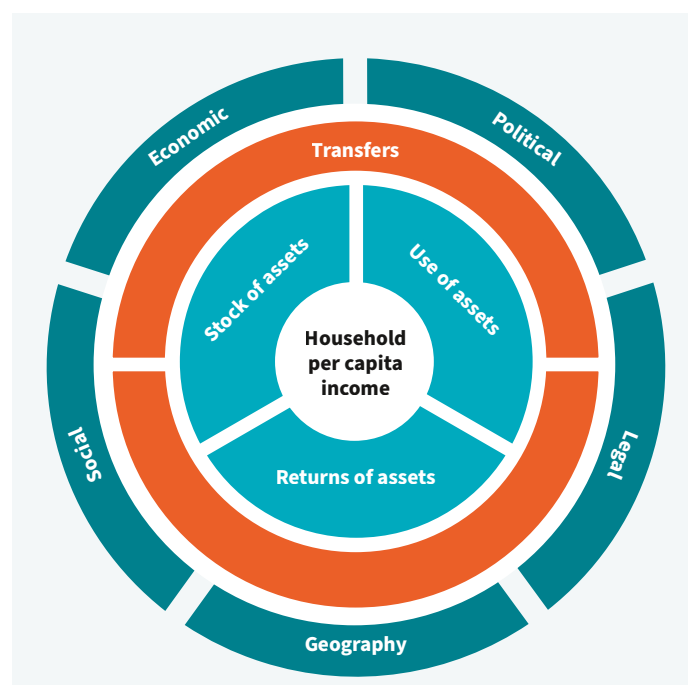
and natural assets, where social capital enables collective management of shared resources, promoting sustainability and reducing conflicts (Ostrom, 1990). For instance, trust within communities enhances resource-sharing arrangements, ensuring equitable access and resilience to environmental and economic challenges (Adger, 2003).

2.4.3 An enabling environment for asset utilization

An enabling environment removes structural barriers, fosters opportunities for adaptation, and ensures that households can convert their asset stock into meaningful outcomes such as income stability, health and education. The environment shapes the stock of assets that households hold and also shapes their ability to use these assets and the returns they generate.

The effective use of household assets is significantly influenced by the broader institutional, social and policy environment (figure 2.7). According to Sen's capabilities approach, these environments are crucial for expanding freedoms and enabling households to achieve the necessary functionings for resilience. An enabling environment removes

Figure 2.7 The interaction among household assets, enabling environments and outcomes



Source: Ecker, Martínez-Aguilar and Ortiz-Juárez (2025).

The environment shapes the stock of assets that households hold and also shapes their ability to use these assets and the returns they generate.

structural barriers, fosters adaptation opportunities, and allows households to convert their asset stocks into meaningful outcomes, such as income stability, a healthy life and meaningful education. However, factors such as weak institutions, market inefficiencies and limited access to technology can hinder individuals' ability to effectively leverage their assets.

The interplay between institutional quality, market functionality and sociocultural norms is vital for achieving inclusive and sustainable asset-based resilience. High-quality institutions characterized by effective governance, rule of law and robust regulatory frameworks are essential for enhancing economic performance and household resilience. For example, secure property rights protects ownership and empowers households to invest confidently in assets. In contrast, weak institutions, marked by corruption and inefficiency, undermine trust and deter investment, exacerbating inequality. Political stability further influences asset utilization, with stable governance fostering long-term investments and sustainable policies, while instability can lead to asset loss and reduced growth. Empirical evidence suggests that countries with strong property protection experience higher levels of investment, highlighting the significant role of institutional quality in promoting resilience.

Access to functioning markets is also critical in translating household assets into income and fostering resilience. Adequate market access allows households to sell their produce, obtain fair prices, and purchase essential goods and services. Investments in rural connectivity and infrastructure can significantly enhance livelihoods for asset-dependent households. But geographic isolation, inadequate infrastructure and other persistent barriers limit access for marginalized groups (technological usage will be further explored in chapter 3). Addressing these barriers requires the implementation of policies that improve infrastructure, promote competition and expand access to financial services. The integration of technology, particularly in information and communication, further enhances market access, increasing transparency and improving returns on household assets.

Lastly, social and economic policies play a fundamental

role in fostering asset accumulation and use, allowing households to transition from immediate survival to long-term resilience. Social protection measures, such as conditional cash transfers (CCTs), help households manage uncertainty by providing predictable income, thereby enabling investments in health and education. Successful programmes, like *Bolsa Família* in Brazil, illustrate how targeted interventions can build resilience and improve human asset investment. Comprehensive programmes such as the BRAC organization's Ultra-Poor Graduation (UPG) approach also provide some experimental evidence about the significance of assets in building resilience by combining interventions like asset transfers, technical skills training, consumption support, savings facilitation and regular coaching. This approach has been implemented in LAC, with studies highlighting its impact. In Honduras, a two-year comprehensive livelihoods programme modeled after BRAC's graduation approach targeted ultra-poor households, providing productive asset transfers, technical skills training and consumption support. Findings showed improvements in food consumption and savings, demonstrating the potential of such integrated interventions in enhancing resilience among vulnerable populations. Similarly in Peru, a graduation-based programme targeting ultra-poor rural households showed modest increases in food consumption and savings, indicating that while the approach holds promise, its effectiveness depends on contextual factors. Cultural and social norms also shape asset ownership and utilization, with exclusionary practices often limiting access for certain groups, particularly women. Addressing these norms and implementing inclusive policy frameworks are essential to enhancing resilience across all demographics, ultimately fostering a more equitable economic landscape (Banerjee and others, 2015).

2.5 A concept apt for our times—and beyond

Development thinking has always evolved in response to changing times—and it must continue to do so. Not long ago, development progress was largely equated with economic growth. UNDP's proposal to go beyond GDP and place human development—understood as the expansion of capabilities and freedoms—at the centre of the agenda was groundbreaking in 1990. Since then, while its core premise has remained intact since then, the concept has grown to incorporate emerging challenges, acknowledging the many dimensions that constrain people's freedoms. Deepening

our understanding of the relationship between capabilities, agency, inequality, values and planetary boundaries has been essential to advancing human development in an increasingly complex world.

This chapter, and the Report as a whole, puts forward a new qualifier to human development that speaks directly to the realities of our time and our region: resilience.

As development contexts shift, and as countries move along their trajectories, the pathways to progress must evolve too. What worked in 1990 may no longer yield the same results, and strategies that succeed in one setting may fall short in another. While the goal of advancing human development remains, the obstacles to achieving it change. In LAC today, resilience must be a central objective of development efforts.

This chapter introduced the conceptual foundations of resilient human development, highlighting its links to human security and agency. It presented an analytical approach to understanding how households navigate risks without compromising their future freedoms. Central to this approach

While income matters, it is not sufficient to build resilience. Households need a robust set of assets and supportive institutions to thrive and withstand shocks.

is the role of assets—human, physical, financial, social and natural—and the contexts in which they are deployed. This asset-based lens allows us to see resilience not as a static outcome, but as a dynamic capacity shaped by both household capabilities and the enabling environment. While income matters, it is not sufficient to build resilience. Households need a robust set of assets and supportive institutions to thrive and withstand shocks.

The chapters that follow apply this framework to key transformations—technological change, social fragmentation and climate risks—to explore how these forces shape household resilience and how they can be harnessed to build more resilient societies across LAC.

Notes

1. This section is based on and contains excerpts from Alkire (2025), Regional Human Development Report 2025 Background Paper.
2. “No aguantamos más” is a Spanish expression that translates to “we can’t take it anymore” in English.
3. For a complete review of the roots of the term resilience, see McAslan (2010).
4. This section is based on and contains excerpts from Ecker, Martínez-Aguilar and Ortiz-Juárez (2025), Regional Human Development Report 2025 Background Paper.

References

- Adger, W. Neil. 2000.** "Social and Ecological Resilience: Are They Related?" *Progress in Human Geography* 24 (3): 347–64. <https://doi.org/10.1191/030913200701540465>.
- . 2003. "Social Capital, Collective Action, and Adaptation to Climate Change." *Economic Geography* 79 (4): 387–404. <https://www.jstor.org/stable/30032945>.
- Aldrich, Daniel P. 2012.** *Building Resilience: Social Capital in Post-Disaster Recovery*. University of Chicago Press. Chicago, IL. <https://press.uchicago.edu/ucp/books/book/chicago/B/bo13601684.html>.
- Alkire, Sabina. 2008.** "Concepts and Measures of Agency." In *Arguments for a Better World: Essays in Honor of Amartya Sen: Volume I: Ethics, Welfare, and Measurement*, 455–74. New York: Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780199239115.003.0025>.
- . 2025. "Resilient Human Development: Advancing Human Development amidst Shocks and Crises." *Regional Human Development Report 2025 Background Paper*. No. 41 UNDP LAC Working Paper Series.
- Attanasio, Orazio, and Miguel Szekely. 2000.** "An Asset-Based Approach to the Analysis of Poverty in Latin America." *IDB-OCE Working Paper No. R-376*, April. <https://doi.org/10.2139/ssrn.223582>.
- Bahadur, Aditya V., and Hilary Thornton. 2015.** "Analysing Urban Resilience: A Reality Check for a Fledgling Canon." *International Journal of Urban Sustainable Development* 7 (2): 196–212. <https://doi.org/10.1080/19463138.2015.1060595>.
- Banerjee, A., E. Dufl, N. Goldberg, D. Karlan, R. Osei, W. Pariente, J. Shapiro, B. Thuysbaert, and C. Udry. 2015.** "A Multifaceted Program Causes Lasting Progress for the Very Poor: Evidence from Six Countries." *Science* 348 (6236): 1260799–99. <https://doi.org/10.1126/science.1260799>.
- Barrett, Christopher B., and Mark A. Conostas. 2014.** "Toward a Theory of Resilience for International Development Applications." *Proceedings of the National Academy of Sciences* 111 (40): 14625–30. <https://doi.org/10.1073/pnas.1320880111>.
- Barrett, Christopher B., Teevrat Garg, and Linden McBride. 2016.** "Well-Being Dynamics and Poverty Traps." *Annual Review of Resource Economics* 8 (1): 303–27. <https://doi.org/10.1146/annurev-resource-100815-095235>.
- Basu, Kaushik, and Luis F. López-Calva. 2004.** "Functionings and Capabilities", in Arrow, Sen, and Suzumura, *Handbook of Social Choice and Welfare*, Elsevier-North Holland.
- Basu, Kaushik, and Ravi Kanbur. 2009.** "Arguments for a Better World: Essays in Honor of Amartya Sen," March.
- Béné, Christophe, Andrew Newsham, Mark Davies, Martina Ulrichs, and Rachel Godfrey-Wood. 2014.** "Review Article: Resilience, Poverty and Development." *Journal of International Development* 26 (5): 598–623. <https://doi.org/10.1002/jid.2992>.
- Berkes, Fikret. 2007.** "Understanding Uncertainty and Reducing Vulnerability: Lessons from Resilience Thinking." *Natural Hazards* 41 (2): 283–95. <https://doi.org/10.1007/s11069-006-9036-7>.
- Bloom, David E., David Canning, and Günther Fink. 2011.** "Implications of Population Aging for Economic Growth." National Bureau of Economic Research. <https://www.nber.org/papers/w16705>.
- Brown, Katrina, and Elizabeth Westaway. 2011.** "Agency, Capacity, and Resilience to Environmental Change: Lessons from Human Development, Well-Being, and Disasters." *Annual Review of Environment and Resources* 36 (1): 321–42. <https://doi.org/10.1146/annurev-environ-052610-092905>.
- Bussolo, Maurizio, and Luis F. López-Calva. 2014.** "Shared Prosperity: Paving the Way in Europe and Central Asia." World Bank. <https://www.worldbank.org/content/dam/Worldbank/Feature%20Story/ECA/shared-prosperity-paving-the-way-in-europe-and-central-asia.pdf>.
- Carpenter, Steve, Brian Walker, J. Marty Anderies, and Nick Abel. 2001.** "From Metaphor to Measurement: Resilience of What to What?" *Ecosystems* 4 (8): 765–81. <https://doi.org/10.1007/s10021-001-0045-9>.
- Carter, Michael R., and Christopher B. Barrett. 2006.** "The Economics of Poverty Traps and Persistent Poverty: An Asset-Based Approach." *Journal of Development Studies* 42 (2): 178–99.
- Cháidez, Azucena. 2025.** "Retratos de La Resiliencia En El Campo: Investigación Cualitativa Sobre Riesgo, Resiliencia Y Desarrollo." *Regional Human Development Report 2025 Background Paper*. No. 49 UNDP LAC Working Paper Series.
- Conostas, Mark, Timothy Frankenberger, and John Hoddinott. 2014.** "Resilience Measurement Principles: Toward an Agenda for Measurement Design." Food Security Information Network, Resilience Measurement Technical Working Group. https://www.fsplatform.org/sites/default/files/paragraphs/documents/FSIN_TechnicalSeries_1.pdf.
- Conti, Gabriella, and James J. Heckman. 2010.** "Understanding the Early Origins of the Education–Health Gradient." *Perspectives on Psychological Science* 5 (5): 585–605. <https://doi.org/10.1177/1745691610383502>.
- Crawford, Emily, Margaret O. Wright, and Ann S. Masten. 2006.** "Resilience and Spirituality in Youth." *The Handbook of Spiritual Development in Childhood and Adolescence*, 355–70. <https://doi.org/10.4135/9781412976657.n25>.
- Cutter, Susan L., Lindsey Barnes, Melissa Berry, Christopher Burton, Elijah Evans, Eric Tate, and Jennifer Webb. 2008.** "A Place-Based Model for Understanding Community Resilience to Natural Disasters." *Global Environmental Change* 18 (4): 598–606. <https://doi.org/10.1016/j.gloenvcha.2008.07.013>.
- Dercon, Stefan. 2002.** "Income Risk, Coping Strategies, and Safety Nets." *The World Bank Research Observer* 17 (2): 141–66. <https://doi.org/10.2307/3986329>.

———. 2004. "Risk, Insurance, and Poverty: A Review." *Oxford University Press EBooks*, November, 9–37. <https://doi.org/10.1093/0199276838.003.0002>.

DFID (Department for International Development). 2011. "Defining Disaster Resilience: A DFID Approach Paper." <https://assets.publishing.service.gov.uk/media/5a7b47a340f0b66a2fc065c1/defining-disaster-resilience-approach-paper.pdf>.

Doughty, Caitlin A. 2015. "Building Climate Change Resilience through Local Cooperation: A Peruvian Andes Case Study." *Regional Environmental Change* 16 (8): 2187–97. <https://doi.org/10.1007/s10113-015-0882-2>.

Duchek, Stephanie. 2020. "Organizational Resilience: A Capability-Based Conceptualization." *Business Research* 13 (1): 215–46. <https://doi.org/10.1007/s40685-019-0085-7>.

Dupas, Pascaline, and Jonathan Robinson. 2013. "Why Don't the Poor Save More? Evidence from Health Savings Experiments." *American Economic Review* 103 (4): 1138–71. <https://doi.org/10.1257/aer.103.4.1138>.

Ecker, Salome, Sandra Martínez-Aguilar, and Eduardo Ortiz-Juárez. 2025. "Unequal Assets, Uneven Resilience: Mapping Poverty Quadrants and Opportunities." *Regional Human Development Report 2025 Background Paper. No. 51 UNDP LAC Working Paper Series*.

ECLAC (Economic Commission for Latin America and the Caribbean). 2021. "Resilient Institutions for a Transformative Post-Pandemic Recovery in Latin America and the Caribbean: Inputs for Discussion." <https://www.cepal.org/en/publications/47317-resilient-institutions-transformative-post-pandemic-recovery-latin-america-and>.

FAO (Food and Agriculture Organization), and FFLA (Fundación Futuro Latinoamericano). 2021. "Criterios E Indicadores Sobre Resiliencia Climática En El Desarrollo E Implementación de Programas de Desarrollo Agrícola Rural." <https://doi.org/10.4060/cb3248es>.

Fassarella, Eloah, Sergio Ferreira, Samuel Franco, Valdemar Pinho Neto, Giovanna Ribeiro, Vinicius Schuabb, and Paulo Taffner. 2024. "Social Mobility and CCT Programs: The Bolsa Família Program in Brazil." *World Development Perspectives* 35 (July): 100624–24. <https://doi.org/10.1016/j.wdp.2024.100624>.

Ferguson, Peter, and Linda Wollersheim. 2022. "From Sustainable Development to Resilience? (Dis)Continuities in Climate and Development Policy Governance Discourse." *Sustainable Development* 31 (1). <https://doi.org/10.1002/sd.2374>.

Folke, Carl. 2016. "Resilience (Republished)." *Ecology and Society* 21 (4). <https://www.jstor.org/stable/26269991>.

Foster, Kathryn. 2006. "A Case Study Approach to Understanding Regional Resilience." Institute of Urban and Regional Development. <https://www.econstor.eu/obit-stream/10419/59413/1/592535347.pdf>.

Google. 2025. "Google Trends." <https://trends.google.com/trends/>.

Guardado, Jenny. 2018. "Land Tenure, Price Shocks, and Insurgency: Evidence from Peru and Colombia." *World Development* 111 (November): 256–69. <https://doi.org/10.1016/j.worlddev.2018.07.006>.

Hallegatte, Stephane, Jun Rentschler, and Julie Rozenberg. 2020. "The Adaptation Principles: A Guide for Designing Strategies for Climate Change Adaptation and Resilience." World Bank. <https://www.preventionweb.net/publication/adaptation-principles-guide-designing-strategies-climate-change-adaptation-and>.

Heckman, James J., and Chase O. Corbin. 2016. "Capabilities and Skills." *Journal of Human Development and Capabilities* 17 (3): 342–59. <https://doi.org/10.1080/19452829.2016.1200541>.

Heckman, James, Rodrigo Pinto, and Peter Savelyev. 2013. "Understanding the Mechanisms through Which an Influential Early Childhood Program Boosted Adult Outcomes." *American Economic Review* 103 (6): 2052–86. <https://doi.org/10.1257/aer.103.6.2052>.

Holling, C. S. 1973. "Resilience and Stability of Ecological Systems." *Annual Review of Ecology and Systematics* 4 (4): 1–23. <https://www.jstor.org/stable/2096802>.

———. 2021. "Annex VII: Glossary." Backmatter. In *Climate Change 2021 – the Physical Science Basis: Working Group I Contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge University Press. Cambridge: Cambridge University Press. <https://doi.org/10.1017/9781009157896.022>.

IPCC (Intergovernmental Panel on Climate Change). 2012. "Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation: Summary for Policymakers." https://archive.ipcc.ch/pdf/special-reports/srex/SREX_FD_SPM_final.pdf.

Jha, Abhas, Todd Miner, and Zuzana Stanton-Geddes. 2013. "Building Urban Resilience Principles, Tools, and Practice." *World Bank*. <https://documents1.worldbank.org/curated/en/320741468036883799/pdf/Building-urban-resilience-principles-tools-and-practice.pdf>.

Karlan, Dean, Aishwarya Lakshmi Ratan, and Jonathan Zinman. 2014. "Savings by and for the Poor: A Research Review and Agenda." *Review of Income and Wealth* 60 (1): 36–78. <https://doi.org/10.1111/roiw.12101>.

Lebel, Louis, John M Anderies, Bruce Campbell, Carl Folke, Steve Hatfield-Dodds, Terry P Hughes, and James Wilson. 2006. "Governance and the Capacity to Manage Resilience in Regional Social Ecological Systems." *Ecology and Society* 11 (1). <https://doi.org/10.2307/26267807>.

Liebenberg, Linda, and Michael Ungar. 2008. *Resilience in Action*. University of Toronto Press. <https://doi.org/10.3138/9781442688995>.

López-Calva, Luis F., and Carlos Rodríguez-Castelán. 2016. "Pro-Growth Equity: A Policy Framework for the Twin Goals." *World Bank Policy Research Working Paper No 7897*. <https://ssrn.com/abstract=2876953>.

Luthar, Suniya S., Dante Cicchetti, and Bronwyn Becker. 2000. "The Construct of Resilience: A Critical Evaluation and Guidelines for Future Work." *Child Development* 71 (3): 543–62. <https://doi.org/10.1111/1467-8624.00164>.

Lv, Yang, Md Nazirul Islam Sarker, and R. B. Radin Firdaus. 2024. "Disaster Resilience in Climate-Vulnerable Community Context: Conceptual Analysis." *Ecological Indicators* 158 (January): 111527. <https://doi.org/10.1016/j.ecolind.2023.111527>.

Manyena, Siambabala Bernard. 2006. "The Concept of Resilience Revisited." *Disasters* 30 (4): 434–50. <https://doi.org/10.1111/j.0361-3666.2006.00331.x>.

Masten, Ann S. 2001. "Ordinary Magic: Resilience Processes in Development." *American Psychologist* 56 (3): 227–38. <https://doi.org/10.1037//0003-066x.56.3.227>.

Mayunga, Joseph. 2007. "Understanding and Applying the Concept of Community Disaster Resilience: A Capital-Based Approach." *Summer Academy for Social Vulnerability and Resilience Building*.

McAslan, Alastair. 2010. "The Concept of Resilience: Understanding Its Origins, Meaning and Utility." Australia: Torrens Resilience Institute.

Mitchell, Tom, and Harris Katie. 2012. "Resilience: A Risk Management Approach." Overseas Development Institute. <https://odi.org/en/publications/resilience-a-risk-management-approach/>.

Moser, Caroline O.N. 1998. "The Asset Vulnerability Framework: Reassessing Urban Poverty Reduction Strategies." *World Development* 26 (1): 1–19. [https://doi.org/10.1016/s0305-750x\(97\)10015-8](https://doi.org/10.1016/s0305-750x(97)10015-8).

Nelson, Donald R., W. Neil Adger, and Katrina Brown. 2007. "Adaptation to Environmental Change: Contributions of a Resilience Framework." *Annual Review of Environment and Resources* 32 (1): 395–419. <https://doi.org/10.1146/annurev-enr.32.051807.090348>.

Ogata, Sadako, and Johan Cels. 2003. "Human Security — Protecting and Empowering the People." *Global Governance* 9 (3): 273–82. <https://www.jstor.org/stable/27800482>.

Ostrom, Elinor. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge University Press. Cambridge. <https://www.cambridge.org/core/books/governing-the-commons/7AB7AE11BADA84409C34815CC288CD79>.

Ramalingam, Ben. 2013. "Aid on the Edge of Chaos." Oxford University Press.

Scoones, Ian. 1998. "Sustainable Rural Livelihoods: A Framework for Analysis." Institute of Development Studies. <https://www.ids.ac.uk/publications/sustainable-rural-livelihoods-a-framework-for-analysis/>.

Sehgal, Parul. 2015. "The Profound Emptiness of 'Resilience.'" *The New York Times*, December 1, 2015, sec. Magazine. <https://www.nytimes.com/2015/12/06/magazine/the-profound-emptiness-of-resilience.html>.

Sen, Amartya. 1985. "Commodities and Capabilities." North-Holland. <https://scholar.harvard.edu/sen/publications/commodities-and-capabilities>.

———. 1999. *Development as Freedom*. Oxford: Oxford University Press.

———. 2013. "The Ends and Means of Sustainability." *Journal of Human Development and Capabilities* 14 (February). <https://doi.org/10.1080/19452829.2012.747492>.

Sietz, Diana, and Giuseppe Feola. 2016. "Resilience in the Rural Andes: Critical Dynamics, Constraints and Emerging Opportunities." *Regional Environmental Change* 16 (8): 2163–69. <https://doi.org/10.1007/s10113-016-1053-9>.

Smith, James P. 1999. "Healthy Bodies and Thick Wallets: The Dual Relation between Health and Economic Status." *Journal of Economic Perspectives* 13 (2): 145–66. <https://doi.org/10.1257/jep.13.2.145>.

Standard Chartered, KPMG, and UNDRR (United Nations Office for Disaster Risk Reduction). 2024. "Guide for Adaptation and Resilience Finance." <https://www.undrr.org/media/95342/download?startDownload=20250415>.

UN-Habitat (United Nations Human Settlements Programme). n.d. "Resilience and Risk Reduction." <https://unhabitat.org/topic/resilience-and-risk-reduction>.

UNDP (United Nations Development Programme). 1990. "Human Development Report 1990." <https://hdr.undp.org/content/human-development-report-1990>.

———. 1994. "Human Development Report 1994." <https://hdr.undp.org/content/human-development-report-1994>.

———. 2003. "Human Security Now." <https://digitallibrary.un.org/record/503749?ln=es&v=pdf>.

———. 2011. "Towards Human Resilience: Sustaining MDG Progress in an Age of Economic Uncertainty." https://www.undp.org/sites/g/files/zskgke326/files/publications/Towards_Sustaining-MDG_Web1005.pdf.

———. 2014. "Human Development Report 2014." <https://hdr.undp.org/content/human-development-report-2014>.

———. 2020a. "UN Common Guidance on Helping Build Resilient Societies." <https://unsdg.un.org/sites/default/files/2021-09/UN-Resilience-Guidance-Final-Sept.pdf>.

———. 2020b. "Human Development Report 2020." <https://hdr.undp.org/content/human-development-report-2020>.

———. 2022a. "2022 Special Report on Human Security." <https://hdr.undp.org/content/2022-special-report-human-security>.

———. 2022b. "Human Development Report 2021-22." <https://hdr.undp.org/content/human-development-report-2021-22>.

———. 2024. "Human Development Report 2023-24." <https://hdr.undp.org/content/human-development-report-2023-24>.

UNDRR (United Nations Office for Disaster Risk Reduction). 2023. "Designing a Climate Resilience Classification Framework to Facilitate Investment in Climate Resilience through Capital Markets." <https://www.undrr.org/publication/designing-climate-resilience-classification-framework-facilitate-investment-climate>.

UNICEF (United Nations Children’s Fund), WFP (World Food Programme), ST4N (Solutions and Technologies for Nutrition), and MNF (Micronutrient Forum). 2024. “Global Resilience Report: Safeguarding the Nutrition of Vulnerable Children, Women, Families and Communities in the Context of Polycrisis.” Micronutrient Forum. <https://www.unicef.org/media/156496/file/Global%20Resilience%20Report%202024.pdf>.

UNISDR (United Nations Office for Disaster Risk Reduction). 2004. “Terminology: Basic Terms of Disaster Risk Reduction.” https://www.preventionweb.net/files/7817_7819isdrterminology11.pdf.

———. 2009. “UNISDR Terminology on Disaster Risk Reduction.” https://www.undp.org/sites/g/files/zskgke326/files/migration/ge/GE_isdr_terminology_2009_eng.pdf.

———. 2011. “Global Assessment Report on Disaster Risk Reduction (2011).” <https://www.undrr.org/publication/global-assessment-report-disaster-risk-reduction-2011>.

UNOCHA (United Nations Office for the Coordination of Humanitarian Affairs). 2015. “Resilience Context Analysis: Resilience to Shocks That Impact Food Security and Nutrition in South Sudan, November 2015.” <https://www.unocha.org/publications/report/south-sudan/resilience-context-analysis-resilience-shocks-impact-food-security-and-nutrition>.

USAID (U.S. Agency for International Development). 2022. “Resilience Policy Revision 2022.” <https://policycommons.net/artifacts/17944515/2022-resilience-policy-revision-1/18840429/>.

Wachs, Theodore D. 2012. “Poverty, Child Risk, and Resilience in Developing Countries.” *Palgrave Macmillan UK EBooks*, January, 148–65. https://doi.org/10.1057/9780230362796_10.

Wagstaff, Adam. 2002. “Poverty and Health Sector Inequalities.” *Bulletin of the World Health Organization* 80 (2): 97. <https://pmc.ncbi.nlm.nih.gov/articles/PMC2567730/>.

Walker, Brian, and David Salt. 2006. *Resilience Thinking: Sustaining Ecosystems and People in a Changing World*. Washington, D.C.: Island Press.

Whiteshield. 2024. “Global Labour Resilience Index 2024.” Whiteshield Partners. https://whiteshield.ai/wp-content/uploads/2024/01/ws_glri_2024.pdf.

Wilson, Geoff A. 2013. “Community Resilience, Policy Corridors and the Policy Challenge.” *Land Use Policy* 31 (March): 298–310. <https://doi.org/10.1016/j.landusepol.2012.07.011>.

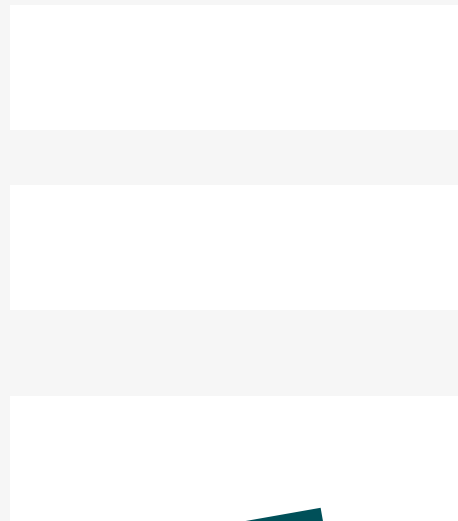
Woolcock, Michael, and Deepa Narayan. 2000. “Social Capital: Implications for Development Theory, Research, and Policy.” World Bank. <http://documents.worldbank.org/curated/en/961231468336675195>.



Part II

THE STRESSORS





Chapter 3

Rapidly evolving technologies: Potential waiting to be unleashed

3.1 A revolution like no other

“Technology will influence us, affect us, and change us. It will shift each person’s perspective and have a significant impact, especially on the job market, where it will replace people. As a result, it will bring about profound changes” - Bolivia (male, 27 years old)

“I feel that we are a generation caught in between, like a hinge, between a technological era and an analogue era, so to speak—analogue and digital. There is significant development in technology and the digital realm, but there isn’t enough time or capacity to fully assimilate this growth” - Argentina (male, 31 years old)

The technological transformation is advancing in LAC, but unevenly. Connectivity is expanding, AI tools are emerging, and new platforms are changing how people work, learn and interact. Yet progress remains fragmented. Persistent inequalities, limited infrastructure and widespread informality continue to shape who benefits and who is left behind. While the region is participating in the global digital shift, it is doing so from a position of constraint—the promise of technology remains real, but far from fully realized.

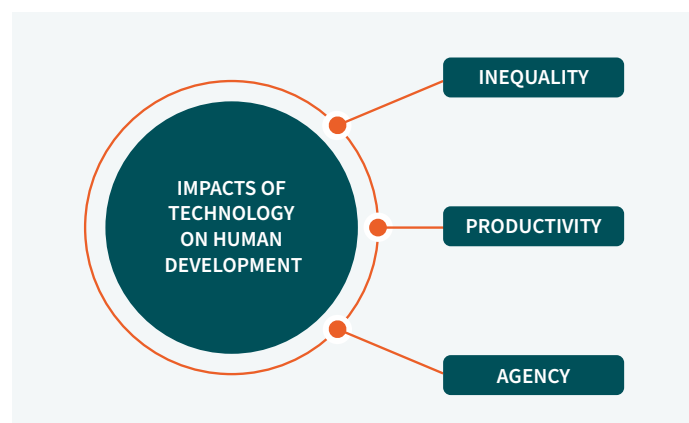
These dynamics unfold within a broader global context. The current wave of technological change, driven by AI, is unfolding with unprecedented speed and far-reaching effects. It is transforming governance, markets and social interactions faster than societies can anticipate, regulate or absorb it. In doing so, it generates both pressures and opportunities. It risks intensifying exclusion and generating new vulnerabilities, while it offers powerful tools to expand opportunities, strengthen capabilities and build resilience. Understanding the dual nature of this transformation is central to assessing its implications for human development.

So far, LAC’s technological transformation has been characterized by significant progress, especially in expanding

basic digital infrastructure; highly uneven adoption, often reinforcing existing inequalities; an accelerated pace of AI deployment revealing signs of innovation and adaptation; and significant structural barriers that risk leaving LAC behind in terms of translating digital advancements into broader human development gains. In this context, the chapter examines how rapidly evolving technologies are interacting with human development across three interrelated domains: inequality, productivity and agency.

These patterns are already reshaping development outcomes. In education, digital platforms help close skills gaps, expand access to learning and build new competencies. In health, AI-powered diagnostics and telemedicine solutions can improve service delivery and disease prevention. In labour markets, task automation has the potential to increase productivity and allow workers to focus on higher-value tasks. But when it displaces workers without adequate protection, it can limit economic freedom. The expansion of the gig economy¹ has introduced new employment opportunities, but often without the security

Figure 3.1 Potential impacts of technologies on human development



Source: Authors' elaboration.

So far, LAC’s technological transformation has been characterized by significant progress, especially in expanding basic digital infrastructure; highly uneven adoption, often reinforcing existing inequalities; an accelerated pace of AI deployment revealing signs of innovation and adaptation; and significant structural barriers that risk leaving LAC behind in terms of translating digital advancements into broader human development gains.

and benefits of formal work, reinforcing informality. In a region where access to technology remains uneven, emerging technologies risk reproducing and deepening existing inequalities.

Beyond inequality and productivity, AI and digital platforms also impact agency. Technologies are reshaping how individuals access information, form opinions and participate in public life. Social media platforms have expanded channels for engagement but are also increasingly linked to social fragmentation and growing mental health concerns, particularly among adolescents. Over 70 percent of adolescents in LAC are active social media users, often for four to five hours a day (Valle, 2025). In parallel, the rapid spread of misinformation can distort public discourse, erode institutional trust and restrict people’s ability to make informed decisions. These challenges are especially critical in contexts where digital literacy is limited, exacerbating polarization and weakening democratic processes. Mental health and misinformation are further explored in the Interlinkages at the end of Part II.

Despite these concerns, the potential of new technologies to strengthen human development remains significant, particularly for LAC. Digital tools can support households in building and protecting assets, from education and income to access to services and digital connectivity. Internet access and mobile devices can facilitate financial inclusion, access to public services and new sources of income through remote work or online entrepreneurship. These transformations enhance not only economic participation, but also resilience in the face of shocks and uncertainty.

AI systems and digital platforms are also changing how institutions operate, creating new opportunities for decision-making, accountability and service delivery. They call for more adaptive, forward-looking governance capable of aligning innovation with inclusive development. While

the pressures of rapidly evolving technologies may strain existing systems, they also present an opportunity for LAC to shape positive change. If channelled properly, technological advancements offer significant opportunities for advancing resilient human development in the region.

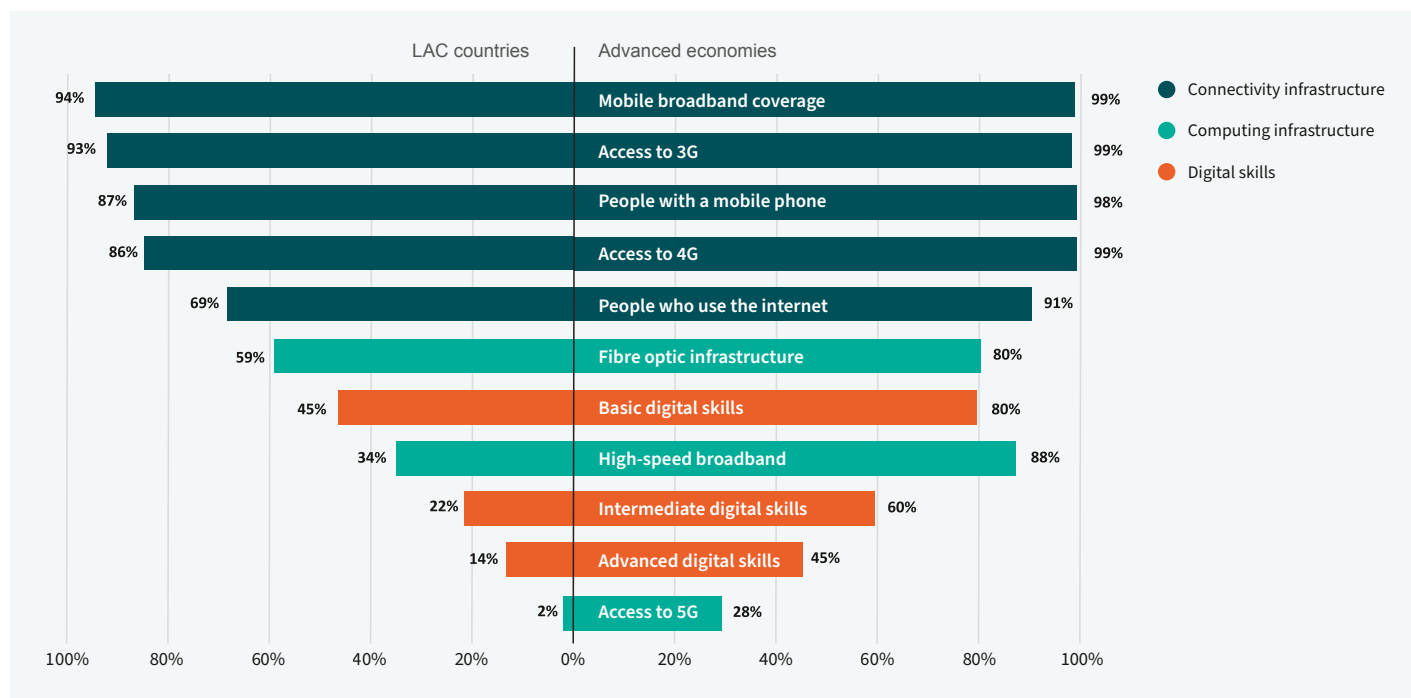
This chapter is divided into six sections. It begins by examining how the rapid pace of technological progress can deepen inequalities and create new vulnerabilities. It then analyses the impact of the gig economy on LAC’s labour markets, followed by an exploration of productivity challenges, including the risk of the region falling behind in the next technological wave. Next, it discusses how technological advances may reinforce historical patterns of resource extraction. The chapter also addresses the promise and emerging risks of governments integrating algorithms into their processes. Finally, it concludes with some recommendations to ensure that technological advancements serve as catalysts for resilient human development across the region.

3.2 Mind the gap: bridging the digital divide in LAC

Despite notable progress, digital transformation in LAC remains both uneven and incomplete, reflecting a region struggling to close persistent gaps in access, infrastructure, and skills. Although digitalization offers the promise of inclusive participation in education, employment and essential services, this potential is undercut by limited access to affordable services and devices, high-quality broadband and the digital skills needed for meaningful engagement. In LAC, coverage has expanded, but this alone has not ensured effective use. Many individuals, particularly in rural and marginalized urban areas, still face barriers that prevent them from leveraging digital tools to improve their quality of life.

Figure 3.2 illustrates that, on average, regional connectivity has improved; however, significant gaps remain in infrastructure and digital skills, particularly as technological systems grow increasingly complex. At the same time, the digital divide between LAC and more advanced economies, such as OECD countries, is pronounced across three critical dimensions: connectivity infrastructure; computing infrastructure; and digital skills. These categories encompass different layers of digital inclusion. Connectivity infrastructure—such as availability of broadband, mobile networks (3G and 4G) and Internet

Figure 3.2 In LAC, digital coverage has expanded, but this alone has not ensured meaningful use



Notes: Percentage of population.

Source: Authors' elaboration using data from the International Telecommunication Union (ITU) and UNDP (2025b).

services—are prerequisites for active participation in the digital economy. Computing infrastructure, encompassing technologies such as fibre-optic networks, underpins high-speed data transmission and enables the adoption of emerging technologies, including AI. Digital skills, from basic user competencies to advanced expertise, are essential for ensuring inclusive participation in the digital economy.

3.2.1 Connectivity infrastructure has progressed but is still unequal, particularly within countries

In terms of connectivity, LAC has made significant progress, but remains behind more advanced economies. Mobile broadband coverage reaches 94 percent of the population while 93 percent has access to 3G networks. Yet, advanced economies maintain near-universal access in both areas, with 99 percent coverage. Similarly, while 87 percent of the LAC population owns a cellular phone, this figure is surpassed by the 98 percent in advanced economies. Mobile network coverage is widespread but not yet universal. While 93 percent of LAC's population is covered by 3G networks and 86 percent by 4G, these figures remain slightly below the coverage in OECD countries, where both 3G and 4G exceed 98 percent (ITU, 2024).

In LAC, coverage has expanded, but this alone has not ensured effective use. Many individuals, particularly in rural and marginalized urban areas, still face barriers that prevent them from leveraging digital tools to improve their quality of life.

Although Internet coverage is available across LAC, this does not mean it is effectively usable throughout the entire territory. Mobile networks do not guarantee affordable data or stable service. In rural and peri-urban areas, for instance, signals may be weak or unreliable, with overcrowded networks further limiting quality.

The digital divide with advanced economies becomes significantly more pronounced when examining the proportion of people who use the Internet;² only 69 percent of people in LAC use the Internet, compared with 91 percent in OECD economies, highlighting barriers to effective digital participation, including high costs associated with mobile data subscriptions. In 2021, broadband costs consumed 5.4 percent of the average per capita income in LAC compared with 1.3 percent in OECD countries (UNDP, 2025b).

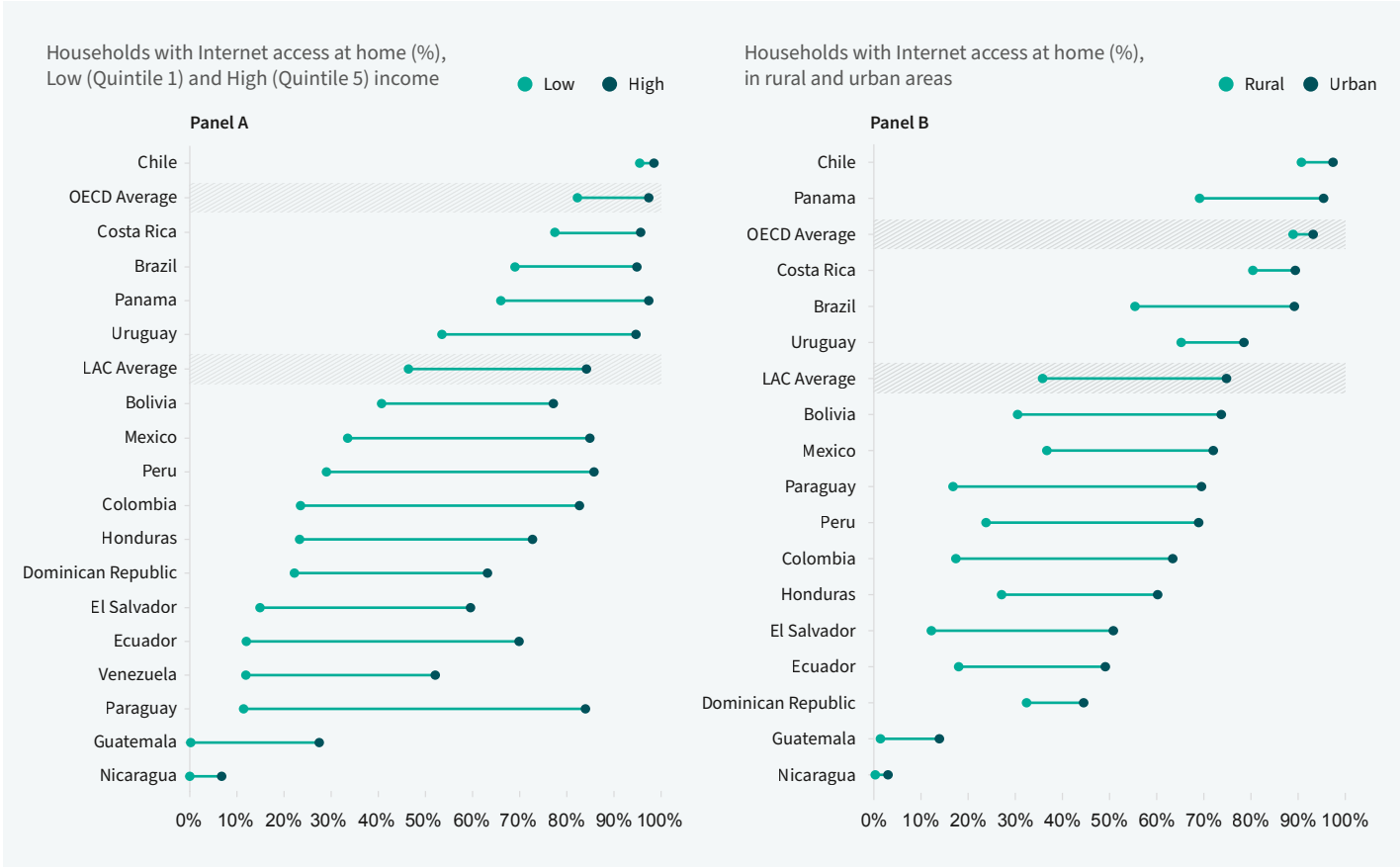
Divides within the region are also stark. While Internet usage exceeds 90 percent in Chile and The Bahamas, it falls below 45 percent in Honduras and Nicaragua (ITU, 2024). Disparities in computer ownership rates are even sharper, ranging from 65–68 percent in Argentina and Uruguay to a 11 percent in Haiti, severely restricting opportunities for remote work, learning and other digital activities.

In LAC, the heterogeneity in access to Internet services also extends across socio-economic and demographic dimensions. On average, only 46.4 percent of households in the lowest income quintile and 35.8 percent of rural households have internet access, compared with 84.6 percent of those in the highest income quintile and 74.8 percent of urban ones (figure 3.3) (UNDP, 2024b).

Additional digital barriers exist in the Caribbean, where only 4 in 10 households (37 percent) have access to a computer. This disparity was evident during the COVID-19 pandemic when remote education proved challenging, exacerbating learning losses. In Jamaica, more than one-third (34 percent) of students lacked the necessary technology for virtual learning, resulting in a 1.3-year learning gap for 1 in 5 children. Similarly, digital exclusion hindered the implementation of telemedicine, disproportionately affecting rural communities and vulnerable groups. Many lacked not only the required technology but also the digital literacy to access tele-health services (Watson, 2025).

Closing the connectivity gap goes beyond expanding basic infrastructure. The distinction between access and appropriation lies at the heart of digital inclusion. For

Figure 3.3 Internet access in LAC demonstrates significant heterogeneity, both between and within countries



Notes: The ECLAC and OECD define households with Internet access as those with an Internet connection at home, whether through fibre optic, coaxial cable, Cooper pair, or terrestrial or satellite antennas. In all cases, access through mobile devices is excluded. The regional average is a population-weighted average calculated by ECLAC. Data reported for each country is the most recent available: Bolivia, Colombia and Honduras (2021); Brazil (2019); Ecuador (2017); Guatemala, Nicaragua and Venezuela (2014); and all other countries (2022). OECD countries average is reported for 2023.

Source: UNDP's calculations based on the ECLAC's CEPALSTAT data (2023a), and OECD's Going Digital Toolkit data (2024b).

example, equipping a school with computers and Wi-Fi does not ensure that students will effectively use digital tools to support their learning. While access refers to the physical availability of infrastructure and tools, appropriation involves the meaningful use of technology to enhance capabilities. Appropriation also enables asset utilization and, over time, asset accumulation, both of which are critical for building resilience and reducing structural inequalities. Thus, effective appropriation requires more than connectivity: it depends on a combination of tools, digital skills and an enabling environment. This includes access to affordable devices and data plans, high-quality and reliable Internet service, and relevant content in local languages. Without this, digital tools remain underutilized and their potential unrealized.

3.2.2 Insufficient computing infrastructure limits asset utilization

The digital gap deepens when analysing advanced physical assets, such as computing infrastructure. Without an enabling environment that provides critical infrastructure, households are limited in their ability to maximize the use of their assets.

In LAC, fibre-optic infrastructure covers an average of 59 percent of countries, significantly behind the 80 percent coverage among advanced economies. Despite this, only 27 percent of households in the region are connected to fibre-based broadband, highlighting a substantial gap between infrastructure availability and usage (UNDP, 2025b). While fibre-optic networks have expanded in LAC and are essential for both 5G and future Wi-Fi technologies, much of their capacity remains underutilized. Access to high-speed broadband is even more limited, with only 34 percent of LAC populations benefiting from it compared with 88 percent in advanced economies. These gaps in computing infrastructure underscore challenges in ensuring equitable access to reliable and fast Internet.

The roll out of 5G technology, with its potential for low latency and rapid data transmission, is expected to drive the next wave of digital transformation in LAC. By enabling applications such as AI and automation, 5G could have profound effects on productivity and structural transformation in key industries. Current deployment rates in the region remain limited, with only six countries relying on 5G as of 2024: Argentina, Brazil, Chile, Mexico, Uruguay and Suriname. Together, they represent only 2 percent of total connections in LAC. While 5G is projected to reach 11 percent of total connections by 2025, it will nonetheless

The distinction between access and appropriation lies at the heart of digital inclusion.

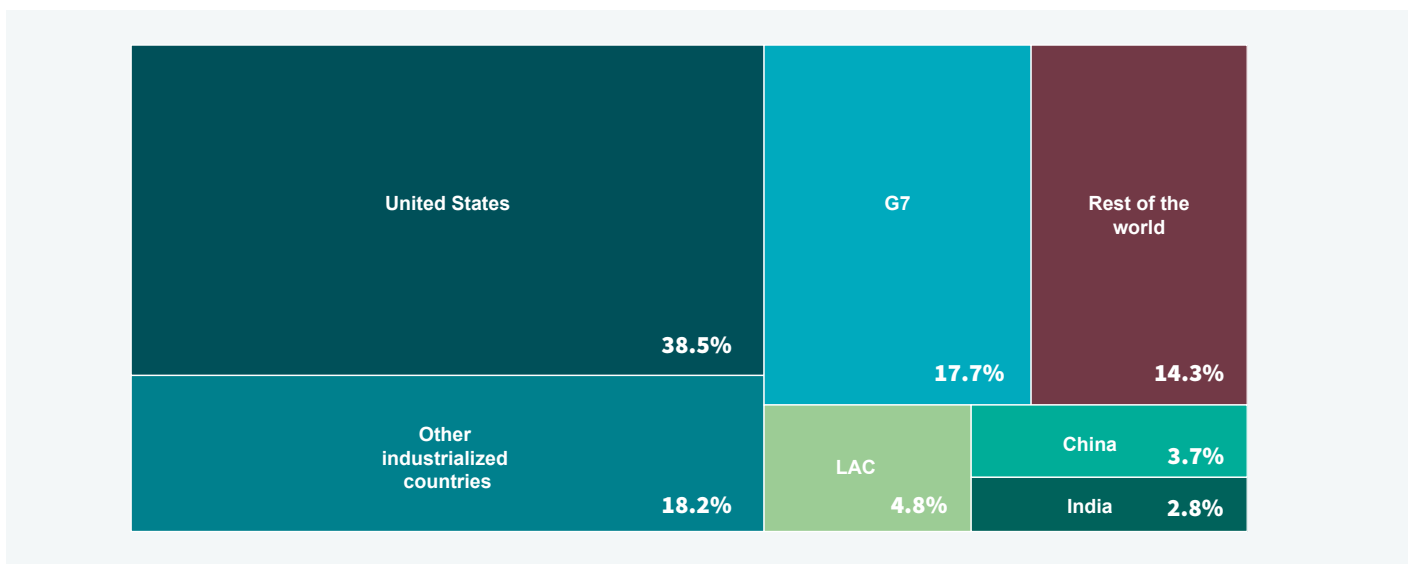
remain far below the advanced economies, especially when compared with North America and China (UNDP, 2025b; Watson, 2025).

Submarine cables and satellites are important assets for connectivity in the region. The vast size of countries and diverse topography, including the Andes and the Amazon rainforest, make terrestrial network construction costly and complex. However, the region's extensive coastline offers favourable conditions for submarine cable deployment, encouraging investment in this infrastructure. As of June 2024, more than 600 submarine cables were active or planned worldwide, covering nearly 1.4 million kilometres. Among these, 69 cables connect LAC both internally and externally (UNDP, 2025b).

Lastly, data centers are essential physical infrastructure for hosting sophisticated servers and network equipment, supporting the growing demand for cloud computing, AI and 5G. They enable the storage, management, and processing of large volumes of digital data, ensuring secure and efficient access. At the global level, the United States leads with 38.5 percent of the world's data centers, followed by G7 countries, which collectively account for 17.7 percent (figure 3.4). Currently, the region hosts over 480 data centers, accounting for less than 5 percent of the global total. In LAC, Brazil leads efforts to expand data center infrastructure, hosting more than one-third of the region's data centers, followed by Chile and Mexico, each with around 13 percent (UNDP, 2025c). The discussion around data centers is explored in more detail later in this chapter (section 3.5.3).

Although access to advanced connectivity and computing tools has expanded, the uneven deployment of this infrastructure continues to limit the productive use of these assets. Gaps not only hinder innovation but also restrict broader participation in the digital economy, reinforcing existing inequalities. Although talent, creativity and demand for advanced digital services are abundant in the region, their potential remains underutilized in the absence of an enabling infrastructure. The expansion of computing infrastructure, such as high-speed networks and data centers, provides the necessary foundation for ensuring that technological advances lead to meaningful and inclusive gains in human development.

Figure 3.4 Data centers in LAC account for only 5 percent of global total



Notes: Share of total data centers worldwide. G7 countries include the United Kingdom, Japan, Italy, Germany, France and Canada. “Other industrialized countries” refers to OECD countries not in the G7 or LAC countries.

Source: UNDP’s calculations based on Data Center Map (April 2025).

3.2.3 The region faces a deficit in complex and digital skills

Skills development is a key driver of resilience, equipping individuals with the ability to generate income, navigate economic shocks, and adapt to evolving labour markets. But in LAC, long-standing challenges in education systems have limited the number of children acquiring proficiency in complex, high-demand skills. According to the PISA test, compared with developed countries, LAC scores low in reading and writing skills as well as in critical educational competencies, especially math and science. Gender disparities persist, with boys outperforming girls in these fields (OECD, 2023b). Learning gaps are particularly severe among the poorest students, with 50.8 percent of children under 10 years old lacking basic reading skills. These disparities emerge early; while 83 percent of children from 3 to 4 years of age show adequate development, 57 percent of those whose development lags behind peers come from low-income households. Only 27 percent of children in this age group possess basic early literacy and numeracy skills, with a significant gap between urban (30 percent) and rural areas (19 percent) (García Jaramillo, 2020).

Similarly, adult skill development lags behind the averages of OECD countries. Data from the Programme for the

International Assessment of Adult Competencies (PIAAC) show that Chile, Ecuador, Mexico and Peru, the only LAC countries in the analysis, rank below OECD countries in literacy, numeracy and problem-solving skills. Alarming, a significant portion of the adult population lacks even the foundational skills needed to participate in these assessments, highlighting the region’s historically low educational attainment and limited technological access. A significant share of adults in LAC countries lack experience with computers or fail basic tests on the use of information technology; specifically, 43.6 percent in Peru, 39.3 percent in Mexico, 32.9 percent in Ecuador, and 25.2 percent in Chile, compared with the OECD average of 16.3 percent (OECD, 2023a).

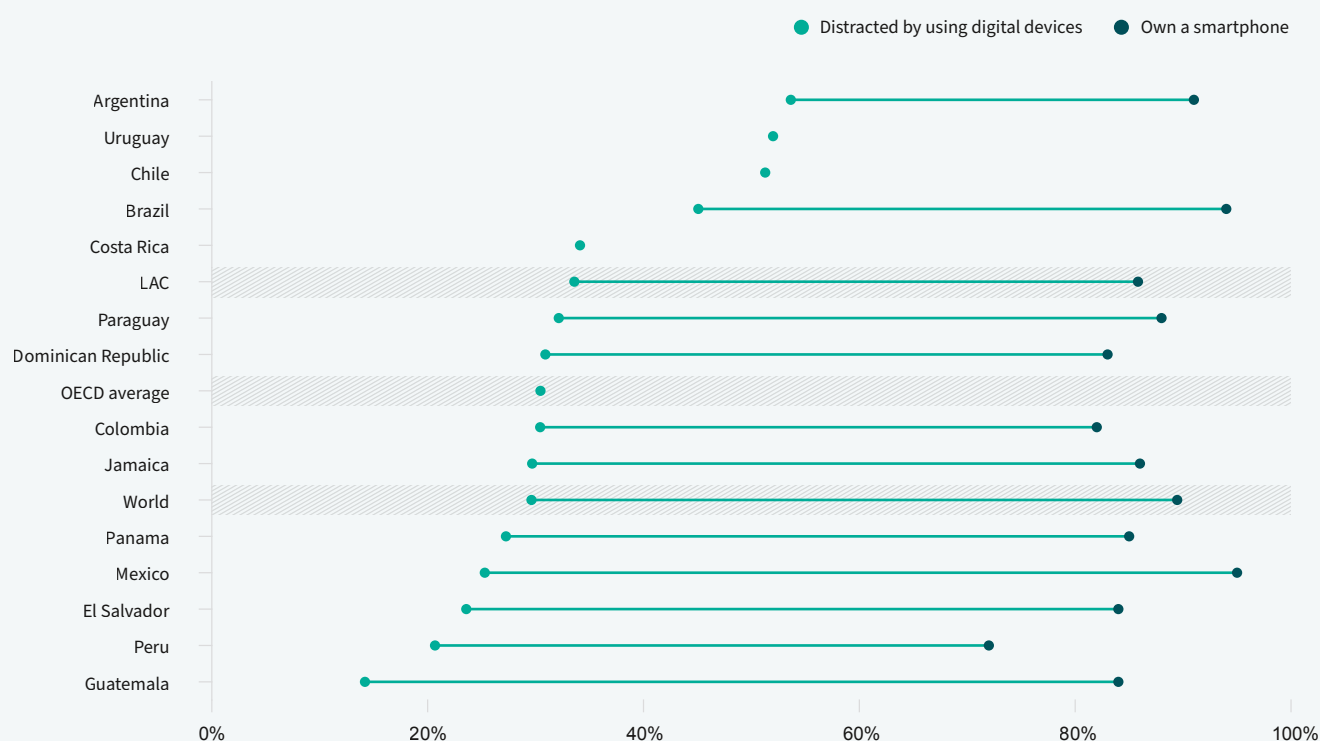
As shown earlier in figure 3.2, only 45 percent of the population in LAC possesses basic digital skills,³ compared with 80 percent in advanced economies. The gap is even wider for intermediate and advanced digital skills, with only 22 percent and 14 percent of the LAC population possessing these competencies, respectively, compared with 55 percent and 45 percent in advanced economies like South Korea (ITU, 2024; ECLAC, 2025). This disparity highlights the region’s challenge in preparing its workforce for more complex digital tasks and participation in the global digital economy.

Box 3.1 Mixed but generally positive findings on the impact of smartphone bans in school

Recent research suggests that banning smartphones in schools can lead to modest improvements in academic performance, particularly among girls. Although smartphones support school-related tasks, they also present distractions and can facilitate negative social interactions, affecting individual performance and overall classroom dynamics (figure 3.5). In Norway, female students from lower-income households showed notable academic and attendance improvements with smartphone bans (Böttger and Zierer, 2024). In Spain, schools with smartphone bans reported higher PISA scores in math and science (Beneito and Vicente-Chirivella, 2022). In England, phone bans improved exam performance for lower-achieving students, potentially reducing educational inequalities (Beland and Murphy, 2016). Beyond academics, smartphone bans contribute to a more focused and calmer school environment, reducing bullying and supporting positive learning conditions for students and teachers (Böttger and Zierer, 2024). In LAC, despite rising smartphone ownership and usage, some countries have started implementing smartphones bans. For instance, in Chile, a draft law introduced in 2024 was approved restricting cell phone use in schools, banning it outright at the preschool and primary levels while regulating its use by older students (Cámara de Diputados, 2024).

Figure 3.5 In LAC, one in three students gets distracted by digital devices during math class

Share (%) of students **distracted by using digital devices** and those who **own a smartphone** (2022)



Notes: PISA surveys 15-year-old students. Distraction in math class refers to the percentage of students reporting distraction in every or most math lessons due to digital device use.

Source: UNDP's calculations based on PISA 2022 results (OECD, 2023b) and World Bank data.

Box 3.2 The digital age divide: Older generations may fall behind in an increasingly digital world

The digital divide in LAC countries disproportionately affects adults 60 years of age and over, highlighting significant generational disparities in digital access and participation. Internet usage is more than seven times higher among people between 15 and 29 years of age than among older adults in El Salvador and Honduras; similarly, it is eight times higher among the younger cohort in Mexico, and nearly nine times higher in Ecuador. While older adults are more likely to access the Internet from home, their usage remains limited, often depending on whether they have access to a computer (Sunkel and others, 2019).

Some of the barriers exacerbating this exclusion include limited economic resources and fear or apprehension of technology. Older adults' online activities predominantly focus on communication and entertainment, while there is a notable reluctance to engage in financial transactions, such as digital banking or online shopping (Sunkel and others, 2019). This hesitancy is driven mostly by security concerns and a distrust of digital platforms (Mawela and others, 2020). Additionally, in-person banking and shopping in LAC often serve as valuable social opportunities, particularly for those facing mobility or communication challenges (Sunkel and others, 2019).

Emerging technologies, such as generative AI, amplify these challenges by increasing the sophistication of scams, further deterring older adults from embracing digital tools (The Economist, 2024). The resulting exclusion risks deepening social and economic inequalities. Given rising life expectancies in LAC, continuous education and targeted digital skills programmes are essential to bridge this divide, ensuring older generations remain active participants in an increasingly digital world.

3.3 Gig jobs: expanded opportunities or precarious prosperity?

3.3.1 The rise of digital jobs in LAC⁴

Digital platforms have emerged as potential sources of jobs in LAC. However, in a context characterized by high informality they can give rise to new forms of informal labour arrangements, posing challenges for social protection systems and the governance of digital platforms. At the same time, gig jobs offer flexible work opportunities that supplement incomes and strengthen resilience during economic shocks.

The gig economy in LAC has experienced an accelerated adoption, particularly in the wake of the COVID-19 pandemic, which increased the need for flexible work arrangements amid significant economic disruptions. For example, in 2019, LAC lagged behind global peers in digital freelancing, with app downloads for freelancing and microwork reaching only 85 per 100,000 inhabitants compared with 560 per 100,000 inhabitants in the United States (IDB, 2020).

However, location-based platform adoption (such as delivery and ride-hailing) saw significantly higher adoption in the region. LAC registered 29 downloads per 100 inhabitants, outpacing the United States (18) and Europe (7).

By 2024, the region accounted for 5 percent of the global online gig workforce⁵—on par with the United States—despite representing 9 percent of the global population (compared to 4.2 percent for the United States). India contributed 27 percent of the gig workforce while accounting for 17 percent of the global population (ILO and Oxford University, 2024).

From 2016 to 2023, global demand for online gig work grew by 50 percent. Yet LAC's share remained modest at just 1.7 percent (ILO and Oxford University, 2024).

A closer look at gig workers in LAC reveals that approximately one-third hold a tertiary education degree, half have completed secondary education, and 16 percent possess only primary education or less. This reflects the diversity of the gig economy workforce, though it tends to skew towards more educated individuals, highlighting its role as an employment alternative for workers across a range of educational backgrounds. Notably in LAC, the low-skilled gig workforce has grown four times faster than the high-skilled gig workforce since 2014 (Viollaz, 2025).

Gig firms, operate by leveraging digital platforms to access a broad and diverse pool of labour, often across national borders. Their business model relies on the ability to rapidly match supply with fluctuating demand, scaling their workforce up or down with minimal friction. Most

Box 3.3 What is the gig economy?

A gig job is a short-term job where workers are paid for completing specific tasks, often facilitated by digital platforms. These platforms connect workers with individuals or firms seeking services by employing algorithms to match tasks with workers, mediate interactions and set rules for task completion. Gig work is usually temporary and part-time, with many workers engaging in fewer than 10 hours of work per week in non-high-income countries.

Digital gig jobs are divided into two categories: online and location-based. Online gig jobs are performed remotely and delivered via the Internet, with tasks ranging from simple data entry to more complex roles such as software development and graphic design. Within online gig jobs, two categories emerge: online freelancing which involves larger, more complex projects that require intermediate to advanced skills, and microwork, which breaks tasks into smaller units requiring basic skills, such as image tagging and text transcription. Location-based gig jobs involve physical tasks performed at a client's location, such as driving for ride-sharing services like Uber or providing home services. These jobs typically require fewer skills and involve minimal use of digital tools beyond connecting with the platform and the client.

Gig workers are typically not classified as employees of the digital platforms they use as intermediaries. They are often paid on a per-task basis, with earnings and hours based on demand for services. They generally lack the protections offered by national labour laws. Additionally, workers often are required to provide the physical assets needed to complete the tasks they are hired for, for example cars, or computers, which depreciate with each task.

Source: Viollaz (2025).

engagements are short-term, typically lasting no more than a month, allowing firms to address specific tasks or project-based needs without committing to long-term employment contracts. This model is particularly attractive when specialized skills are required that are not readily available within the firm. Digital platforms also enable firms to exert greater control over labour costs, often adjusting compensation dynamically based on demand, location or task complexity.

3.3.2 Balancing incentives and benefits of gig jobs⁶

For workers, one of the main benefits of the gig economy is its potential for income-generation. Digital labour platforms provide workers with an alternative way to generate income. While 74 percent of workers use gig work as a secondary income source, nearly one-quarter rely on it as their primary source of earnings. For example, 75 percent of Uber drivers in Brazil, Chile, Colombia and Mexico report joining the platform to earn extra income, and 60 percent of Costa Rican transport gig workers cite extra income as their main motivation (Viollaz, 2025). During economic shocks, such as the COVID-19 pandemic, gig work can act as a form of informal unemployment insurance.

Flexibility is another significant incentive. Workers can choose their hours and the type of work they engage in, which is particularly appealing to those balancing multiple jobs or other responsibilities. Flexibility is a critical motivator for women, young workers and those with limited access to the traditional labour market, allowing them to navigate unpaid work or educational commitments. However, gig work often demands long hours, with about 20 percent of online gig workers in LAC working over 40 hours per week, and half of them holding an additional paid job. These long hours can strain work-life balance, especially for women who often handle more household responsibilities.

Digital platforms also offer lower entry barriers compared with traditional labour markets, particularly benefiting young workers and migrants who have assets and skills. Gig platforms provide valuable entry points into the labour market for young workers, especially those balancing education with employment. In LAC, young people participate in online gig platforms at higher rates than they participate in the traditional labour force (Datta and Chen, 2023). For migrant workers, gig platforms offer a path to employment, especially for those facing barriers like irregular migration status or limited local job opportunities. In Chile and Argentina, migrants comprise a significant share of platform workers, particularly in delivery services (Madariaga and others, 2019). Migrants often face higher entry barriers for driving jobs, such as a visa requirement in order to get a drivers license, which pushes many towards delivery platforms with lower entry requirements.

While gig work provides opportunities for women's labour-market participation, women account for 38 percent of online gig workers in LAC, indicating lower participation in gig work compared to traditional labour markets. Their involvement in location-based platforms, such as ride-sharing services, is particularly low due to safety concerns and limited flexibility.

A central challenge in the expansion of the gig economy in LAC is the precarious nature of gig jobs, which lack the security and benefits traditionally associated with formal employment.

Moreover, women face higher rates of harassment and discrimination on these platforms (Viollaz, 2025).

Gig jobs also enable the inclusion of low-skilled workers, particularly through online microwork platforms that require only basic skills. These include platforms that connect individuals with short-term tasks in sectors like construction, plumbing, delivery, or cleaning, where the need for digital literacy skills is limited. However, there is also notable participation of highly educated workers in sectors such as delivery services. For instance, 40 percent of delivery platform workers in Argentina hold college degrees, signalling a skills mismatch and underemployment. The deskilling effect of gig work, where even highly educated individuals perform simple tasks, may limit career advancement and diminish the region’s labour-force potential (Viollaz, 2025).

Despite the perceived benefits of job flexibility and income potential, many gig workers face low and unstable earnings. Evidence shows that most platforms in LAC do not provide earnings above the minimum wage. This is compounded by challenges from job competition, insufficient work

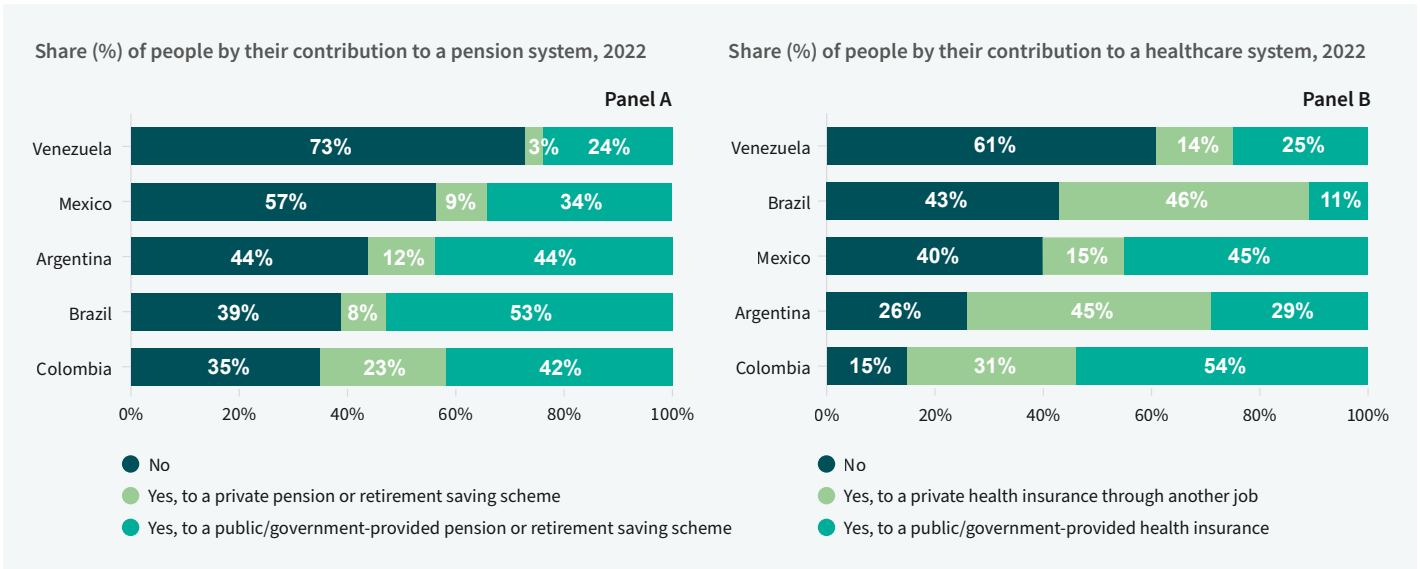
opportunities (as the supply of gig workers grows faster than the demand for their services), and the need for workers to engage with multiple platforms to secure enough income. Workers also often provide their own assets, such as vehicles, smartphones or computers, which depreciate with each task. However, resource constraints, such as the cost of specialized equipment, limit workers’ ability to diversify their platform engagement (Viollaz, 2025).

Gig workers also spend up to one-third of their working hours on unpaid activities, such as waiting for tasks or preparing proposals, which further reduces their overall earnings. Additionally, platform monopsony puts pressure on workers to accept unfair conditions to maintain the high ratings needed to be considered for additional jobs. Disconnections from platforms, often without notice, pose another challenge, reducing job security and access to income. In the Dominican Republic, nearly half of gig workers reported being disconnected from platforms without notice, while others cited a lack of transparency in platform policies (Viollaz, 2025).

3.3.3 Additional barriers to labour rights and social protection⁷

A central challenge in the expansion of the gig economy in LAC is the precarious nature of gig jobs, which lack the security and benefits traditionally associated with formal

Figure 3.6 Social security for gig workers remains incomplete



Source: Datta and Chen (2023) for online gig workers on the Workana platform.

employment. Gig workers, typically classified as independent contractors rather than employees, are excluded from employer-linked social security mechanisms, including unemployment benefits, health insurance and parental leave, pensions, and minimum wage protections. This

exclusion deepens socioeconomic disparities in a region already marked by high levels of informality and inequality.

As shown in figure 3.6, evidence from Datta and Chen (2023), based on data from online gig workers on the

Box 3.4 Spotlight on Guatemala: Gig economy beyond the regional averages

Evidence from an analysis of workers and platform companies in Guatemala by Ahuat and Hernández (2025) shows that the gig economy offers flexible and appealing job opportunities for Guatemalans, particularly in urban areas. However, barriers to entry persist. These include low levels of formal education, limited digital infrastructure in rural areas, and the small number of people who speak English, which remains a key requirement for accessing specialized, higher-paying digital platforms.

The most commonly used platforms in Guatemala include those for e-commerce (Facebook Market, Instagram, Mercado Libre, and WhatsApp), delivery services (Pedidos Ya), transportation (Uber, Yango), accommodation (Airbnb), and freelance work (Workana, Upwork). According to the study, 48 percent of respondents work through e-commerce platforms, 30 percent in delivery services, 13 percent in transport, 8 percent in freelance work, and 1 percent in hospitality-related services. While exact figures are difficult to determine, gig workers in Guatemala are estimated to represent between 1 and 2 percent of the total employed population, not including those engaged in e-commerce through social media. This is broadly consistent with ILO (2025) estimates based on official surveys containing platform work questions: Brazil (1.7 percent), Chile (0.5 percent), the Philippines (4 percent), and Singapore (3.6 percent).

Workers with primary education are often limited to elementary tasks, while those with secondary or higher education tend to secure more specialized and better-paid roles, often on international platforms. Limited English proficiency further restricts access to global, skill-based platforms like Upwork or Freelancer. This language barrier prevents many Guatemalans from participating in specialized gig work.

Even with these challenges, many women and young people in Guatemala use platforms to generate income when access to traditional employment is limited due to caregiving responsibilities, lack of experience, or inflexible schedules. One platform worker shared, “After my baby was born, I realized I could manage my time better working through platforms.” Despite more women entering gig work, many still face limitations. For instance, some report feeling unsafe using location-based platforms, which further restricts their access to opportunities.

Gig platforms have also been a lifeline for workers facing financial obstacles. In Guatemala, some employers consider an applicant’s debt levels when hiring, leaving many excluded. A platform worker shared: “I depended on platforms to pay off my debts because I couldn’t find a formal job in a Guatemalan company.” For many, these platforms provide income without the barriers of conventional hiring practices. As another worker noted, “It’s good because it really gives an option to people who, for some reason, can’t get a job.”

According to the study, 83 percent of gig workers do not have a formal contract, and 68 percent are concerned about lacking access to social protection. More than half report earning above the minimum wage, yet many remain economically vulnerable. Mobile phones are the main tool for gig work, used by 53 percent of workers, especially in transport, delivery, and e-commerce tasks. While 76 percent of platform operations are concentrated in Guatemala City, activity is starting to grow in other urban areas. However, in rural regions, where internet connectivity and digital infrastructure are still lacking, platform presence remains limited.

Businesses interviewed for the study noted that delivery workers earn, on average, 35 to 40 percent more than the minimum wage when working 40 hours a week. Companies also reported adapting to Guatemala’s context by anonymizing phone numbers and establishing secure delivery zones to reduce risks in a country with infrastructure challenges and safety concerns.

Source: Ahuat and Hernández (2025).

Workana platform in the region, shows that the share of these workers contributing to pension systems ranges from 27 percent in Venezuela to 65 percent in Colombia (panel A), while contributions to health systems range from 39 percent to 85 percent in the same countries (panel B), both mostly self-financed without employer support. These differences reflect not only variations in coverage but also divergent national regulations regarding the obligations and incentives for independent or informal workers to contribute to social security.

A primary barrier to social protection for gig workers is their ambiguous employment classification, which excludes them from employer-linked benefits. While some developed countries have begun addressing gig worker status through legal and policy measures, LAC is still in the process of developing such frameworks. Efforts are emerging in countries like Argentina, Mexico and Chile to address this issue. However, these initiatives remain limited in scope.

Another significant challenge is the absence of comprehensive social security systems for self-employed or informal workers in LAC. Countries like Colombia and Peru have introduced subsidies to support low-income self-employed workers' contributions to social security, but coverage remains limited and fragmented. Mexico's social security reform for gig workers, which extends basic health and unemployment insurance to independent contractors, represents a promising model for the region (Viollaz, 2025). In 2022, Chile introduced a law allowing workers to choose their employment relationship with platforms, offering basic guarantees like social security and work-hour limits. However, initial evaluations show persistent informality in the sector (Leyton and others, 2022).

Additionally, the nature of gig work limits workers' ability to organize and advocate for improved conditions. Collective bargaining is largely absent from this type of employment, and while some gig workers have initiated strikes or unionization efforts, such actions remain uncommon and face significant barriers (Viollaz, 2025).

A related issue is the sale or rental of accounts by irregular workers who lack formal access to platforms. This concern is particularly prevalent among migrant workers who may not have legal documentation. While legislation might protect account holders, it leaves actual operators unprotected, unable to negotiate or claim insurance. This situation creates an asymmetrical power dynamic and even greater precariousness for those using fake accounts (Gutiérrez,

2024). Ultimately, these conditions undermine workers' agency by limiting their ability to make choices, negotiate with platforms, or influence their terms of work.

One approach to address these challenges involves simplifying tax regimes for self-employed workers to encourage contributions to social security systems. Argentina, Brazil, Chile and Uruguay have implemented such measures. Unfortunately, these regimes often provide fewer benefits than those available to wage employees, and the volatile nature of gig work complicates sustained contributions.

Formalizing gig work could improve tax collection, ensuring that platform transactions are taxed and contribute to public funds for social programmes. Partnerships with the private sector might offer complementary solutions, but government intervention remains crucial in establishing a universal minimum level of protection. A comprehensive, multilevel strategy is necessary to balance labour market flexibility with worker security, ensuring that gig workers in LAC can access the protections they need in an evolving digital economy.

3.4 Will LAC remain on the sidelines?

LAC stand at a crossroads as technology transforms societies and global connections. While technological advancements, such as AI and automation, are driving growth and innovation worldwide, LAC risks being left behind.

The technological revolution presents both an opportunity and a challenge; it could either exacerbate the region's vulnerabilities or serve as a catalyst for resilience and human development. But structural barriers, such as low productivity, high inequality and persistent informality, along with historical patterns of underinvestment in technology place the region at significant risk of missing this pivotal moment.

3.4.1 LAC has historically lagged in the adoption of new technologies

LAC has struggled to convert past technological advances into meaningful productivity gains. Understanding the potential impact of emerging technologies on the region's economy, requires a closer look at the structural factors that have historically delayed the region's technological adoption. Patterns of delayed adoption are not merely incidental; they are rooted in structural barriers that continue to shape the region's developmental trajectory.

As discussed in chapter 1, LAC faces a deep-rooted productivity challenge that has constraint economic progress for decades. Prior to the onset of the third industrial revolution, which heralded the beginning of the era of the Internet, the region had relatively higher productivity levels than countries like Singapore or South Korea (figure 3.7). Yet, while these countries harnessed technological change to drive productivity transformations, LAC's productivity remained largely stagnant. It only increased slightly from 25 percent to 27.8 percent relative to the United States over the past 50 years, falling further behind advanced and rapidly growing economies.

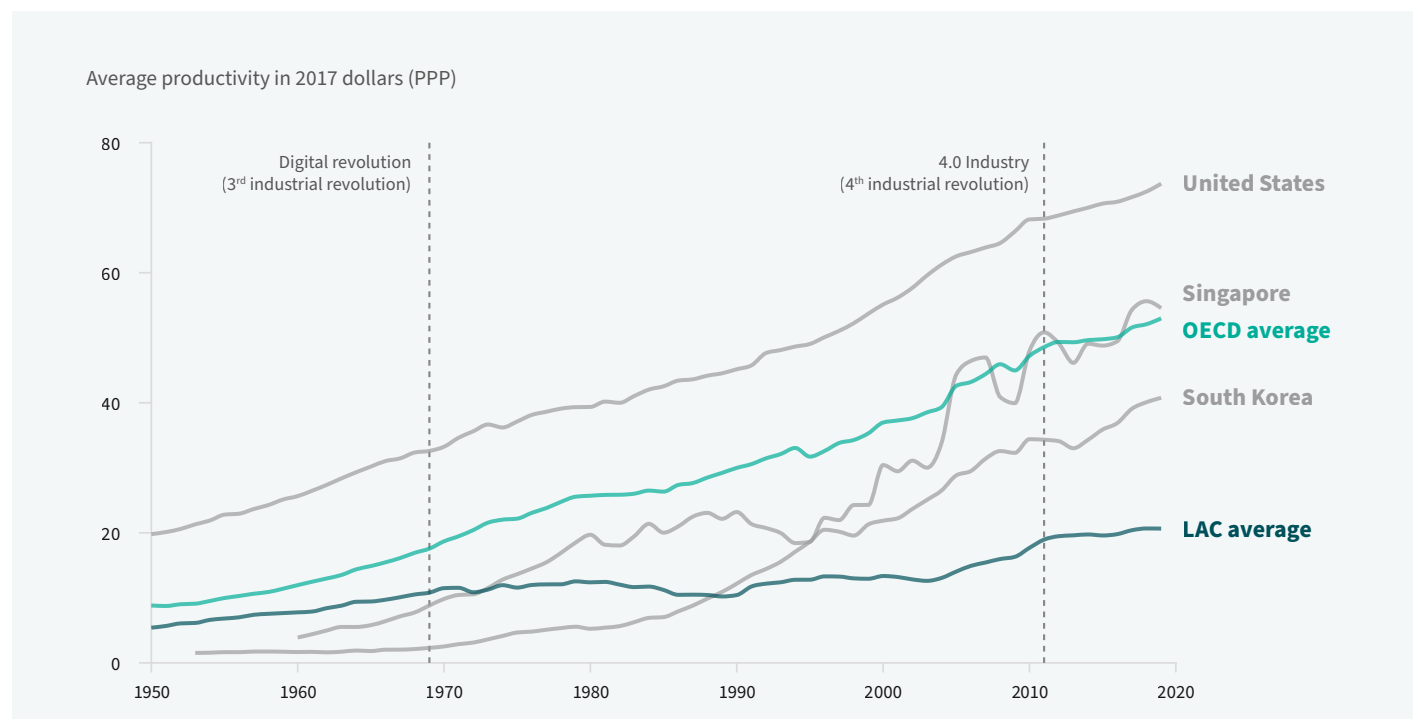
Advanced countries that successfully embraced the third industrial revolution did so by investing substantially in education, adopting policies promoting export-led growth, maintaining a stable macroeconomic environment, and providing high levels of investment in research and development (R&D) (UNDP, 2024c). In LAC, structural weaknesses have compounded low productivity—most notably, high informality, a productive fabric dominated by small, low-productivity firms, and limited economic diversification. These conditions undermine the region's

This technological revolution presents both an opportunity and a challenge; it could either exacerbate the region's vulnerabilities or serve as a catalyst for resilience and advance human development.

capacity to adopt advanced technologies, curbing firms' ability to scale operations, invest in innovation, or compete in global markets (Bosch and others, 2019).

An economy's ability to benefit from technology depends on several factors: its overall competitiveness, the scale of investment from both government and private sectors, and the availability of a skilled workforce. LAC's economic model has remained concentrated in the extraction and export of raw materials (e.g., agriculture, mining, hydrocarbons) without sufficiently advancing toward value addition or technological upgrading. This narrow specialization has limited the region's ability to build competitive advantages in technology-intensive sectors and deepened the urgency of diversifying its productive base (ECLAC, 2022).

Figure 3.7 LAC's productivity has stagnated in comparison to rapidly growing economies



Notes: Productivity is measured as the output (GDP) per hour worked in 2017 dollars, adjusted for inflation and differences in the living cost between countries (PPP).
Source: UNDP's calculations based on Feenstra and others (2015), Penn World Table (2021), and Our World in data (2021).

Another barrier to technological advancement in LAC is the region's persistently low levels of investment in R&D, which averages just 0.62 percent of GDP. This is significantly lower than the OECD average of 2.9 percent, the United States's level of 3.5 percent, and South Korea's 4 percent (OECD, 2024c). This gap limits the region's ability to drive innovation and compete in a technology-driven global economy.

Persistent gaps in education and training systems for certain fields, particularly in science, technology, engineering and mathematics (STEM) along with digital literacy, have also limited the region's capacity to fully benefit from technological innovations. Experts have emphasized that accelerating technological adoption requires more than simply integrating new equipment and offering technical training. Effective adoption demands a comprehensive approach, including addressing organizational culture, user engagement and systemic barriers that impede successful integration (Tushman and others, 2010).

LAC's failure to capitalize on successive technological revolutions has entrenched structural inequalities and widened the productivity gap with advanced economies (Rodrik, 2016). This raises concerns about whether firms and workers can adapt to rapidly evolving labour markets and the technological transformations shaping the global economy, especially as AI adoption and accelerated integration into production processes continue to advance.

3.4.2 Productivity of what?

So far, adoption of AI into productive systems in advanced economies has been driven mainly by the availability of advanced technological infrastructure, large investments in research, and supportive government policies. In contrast, AI adoption in LAC has been slower and less intensive due to the structural challenges already mentioned, such as limited investment, a large informal sector, low adoption rates among small businesses, and limited economic diversification (Bakker and others, 2024). However, the discussion of AI and productivity in the region cannot be framed in the same way as in industrialized economies.

LAC's structural barriers reshape the very meaning of "productivity gains." In the context of AI, the question is not simply *how much more* LAC countries can produce, whether through more efficient use of inputs and the enhancement of capabilities, but rather *what kind of productivity* they are generating, and for *whom*. In a region where over half

the workforce is informal, where most firms are micro or unipersonal, and where access to digital tools remains highly unequal, the path to productivity gains is fragmented, uneven and deeply context-specific.

In industrialized economies, productivity gains from AI are most visible in manufacturing, automated assembly lines, predictive maintenance and robotics. But in LAC, such applications are limited by the region's relatively small and declining manufacturing base. Even in manufacturing-heavy countries like Argentina, Brazil and Uruguay, LAC remains largely a consumer of imported advanced technologies with most firms relying on outdated methods and only a few large, dynamic exporters driving the transition. This reflects a broader capability gap, where the capacity to develop, absorb, deploy and diffuse advanced technologies remains limited (UNIDO, 2022; ILO, 2022).

Instead, AI in LAC is being adopted in the service sector, which in 2023 accounted for 65.3 percent of the region's GDP and is expected to employ 7 out of 10 young people, making it a critical sector for the region's economy (ECLAC, 2025). AI is being integrated in retail, food services, health care, education, logistics, and microfinance, sectors where gains are incremental (rather than transformative), task-specific, and often invisible in traditional productivity statistics (Bakker and others, 2024). This creates a landscape where the adoption of AI does not revolve around cutting-edge innovations, but rather around enhancing everyday service delivery, often in low-tech, low-capacity settings. However, enhancements will depend on the availability of affordable and accessible technology, a condition that, as mentioned earlier in the chapter, remains uneven and cannot be assumed across the region.

In what ways is AI actually being adopted in LAC? Broadly speaking, four types of actors can be identified in the productivity context of the region: (i) microentrepreneurs; (ii) small- and medium-sized enterprises (SMEs) in digital transition; (iii) large firms and strategic sectors; and (iv) high-growth startups.

Microentrepreneurs include independent workers, street vendors, home-based service providers, and small family-owned businesses. Micro-entrepreneurs represent roughly 90 percent of total firms in the region. Many of these are in the informal sector. Informal workers accounted for 55.7 percent of the workforce in LAC (OECD and others, 2024). The access to AI of microentrepreneurs tends to be limited and typically occurs through user-friendly, general-purpose

tools such as voice assistants, social media automation apps, or generative content platforms.

For instance consider a small home-based bakery that uses a basic AI chatbot integrated into social media platforms to manage daily orders, reply to customer inquiries, and schedule deliveries. These tools enable faster client responses, minimize errors, and track frequent buyers, enhancing the efficiency of the bakery without requiring advanced technical skills or substantial investment. While not optimizing a complex supply chain or managing a logistics fleet, the adoption of this tool allows the bakery to reduce mistakes, improve time management, and serve a larger customer base. Yet this “microproductivity” is also fragile, dependent on informal knowledge, low-cost tools, and limited digital infrastructure.

SMEs in digital transition comprises those that have begun to adopt more structured digital tools, such as basic data analytics, AI-enhanced customer management systems, or inventory automation software. While this group grew significantly during the COVID-19 pandemic, estimates suggest that 70 percent of SMEs in the region still lack online presence, highlighting the challenges this segment faces in integrating into the digital economy (ECLAC, 2024a). SMEs represent 25 percent of GDP and around 60 percent of employment in LAC (OECD and others, 2024). These firms may not be fully digitized, but they are on their way. They represent an area of opportunity: with the right support in terms of financing, skills and infrastructure, their use of AI could scale and generate measurable gains in productivity and competitiveness. Unlike microentrepreneurs, they have more defined workflows, higher digital literacy and greater incentives to integrate AI into core operations.

For SMEs, AI holds significant potential to improve operational efficiency, reduce labour costs and drive innovation. For customer service, AI can enhance service quality, provide virtual customer service assistants, increase efficiency and strengthen competitive advantage. SMEs in the region that have adopted AI report an average productivity increase of 40 percent, according to a recent survey of SMEs in LAC (Microsoft, 2023). While productivity gains for this group are significant in the aggregate, the impact on the region's productivity might be limited in the short term.

At the upper end of the spectrum, are large firms and actors in strategic sectors like fintech and agritech. Although they account for less than 1 percent of all firms in LAC, they represent roughly 40 percent of formal employment and 75

In the context of AI, the question is not simply *how much more* LAC countries can produce, whether through more efficient use of inputs and the enhancement of capabilities, but rather *what kind of productivity* they are generating, and for *whom*.

percent of GDP. These companies have the capacity to deploy more advance AI systems that can streamline operations, reduce costs or personalize services. For instance, large financial institutions may apply AI to automate credit risk assessments or fraud detection. Their resource base and data access allow them to extract significant productivity gains from AI adoption, though often within already formal and digitized environments.

In a category separate from the adopters are the firms that create and market AI solutions. These include high-growth startups and specialized companies developing AI products and services. In LAC, there are over 2,000 AI companies, with Brazil leading in the number of AI-focused enterprises (Crunchbase, 2025). Unlike traditional large firms that implement AI for internal use, these actors view AI as their core business offering. They rely on pre-trained models and cloud-based infrastructure, customizing tools for sectors like agriculture (e.g., crop monitoring), health care (e.g., assist in diagnostics where specialist coverage is low), or logistics (e.g., route optimization in congested cities). While still a small segment of the overall business ecosystem, these startups are expanding the availability of AI across the region.

Likewise, unicorns—privately held startup companies valued at over US\$1 billion—have expanded their presence across sectors such as fintech, real estate, e-commerce and technology. The region hosts 32 unicorns, with Brazil leading by accounting for half of them. Examples include *Kavak* (Mexico), with a market valuation of US\$8.7 billion; *Rappi* (Colombia), valued at US\$5.25 billion; and *QuintoAndar* (Brazil), at US\$5.1 billion (ECLAC, 2024b). While the progress is accelerating, most AI startups and unicorns remain concentrated in urban tech hubs, and many operate in partnership with larger firms or foreign investors.

Most discussions on AI and productivity focus on high-level growth indicators or sectoral competitiveness, overlooking the dispersed and fragmented nature of actual productivity gains. Thus far, trends indicate that the impact of AI in LAC has not necessarily resulted in significant productivity gains but, it has reduced repetitive tasks, enhanced services,

supported livelihoods, and widened access to opportunities. However, the structural features of LAC's productive fabric leave a vast array of microenterprises on the margins, excluded from AI-enabled opportunities due to persistent barriers related to cost, skills and infrastructure.

One of the barriers to AI adoption in firms is the shortage of specialized talent. Firms also face high implementation costs, limited understanding of AI's potential, and internal resistance to change. These obstacles slow down the integration of AI into corporate strategies and operations (ECLAC, 2025). Challenges are particularly pronounced among microentrepreneurs, informal sector actors, and SMEs, where they also struggle with limited financial resources and gaps in digital infrastructure (Gmyrek and others, 2024).

Unlike digital technologies like e-commerce, which provided affordable options from the beginning, AI involves substantial initial costs and uncertain long-term savings. AI implementation requires specialized hardware, software and employee training, which can strain budgets and reduce productivity during the adjustment period. This financial burden, along with uncertain returns, presents a considerable risk for smaller firms. Moreover, data security and privacy concerns complicate AI adoption for SMEs (UNDP, 2025b). These barriers disproportionately impact smaller firms, particularly those in rural and underserved areas, perpetuating a digital divide that mirrors broader socioeconomic inequalities (Gmyrek and others, 2024).

3.4.3 Progress made, potential ahead

LAC has experienced a significant expansion of its digital economy, a trend accelerated by the COVID-19 pandemic. Traditional sectors such as commerce, financial services and passenger transport now coexist with their digital counterparts, including e-commerce platforms, fintech services, and ride-sharing applications like Uber and Cabify. This diversification has not only modernized domestic markets but also created opportunities for LAC countries to expand their export baskets towards goods and services linked to digital transformation. Although some of these new exports leverage traditional natural resource platforms—such as agriculture or extractive industries, which are themselves undergoing digital transformations—the potential of digitalization extends well beyond resource-based economies (ILO, 2022).

This transformation has also opened new avenues for economic inclusion, particularly through the rapid growth

of digital financial services. As discussed in chapter 1, the number of digital banks and mobile money accounts in the region has increased significantly in recent years. Nearly half of digital banking services target underbanked individuals and small or medium-sized businesses, while 21 percent focus on low-income households. During the pandemic, many people opened bank or mobile accounts for the first time to receive government transfers, remittances, or make online purchases. (IDB, 2023; UNDP, 2025b). Still, access to an account does not guarantee meaningful financial inclusion. In 2021, only 18 percent of adults in LAC saved through financial institutions and 30 percent borrowed from them, figures that remain well below those of advanced economies. Formal savings and credit allow households to cope with unexpected shocks, support investments in education or entrepreneurship, and plan ahead for long-term stability. (UNDP, 2025b).

LAC accounts for 23 percent of global fintech firms, with digital payments and digital banking emerging as the largest subsectors. The region has 300 million users of digital payments and 30 million users of digital banks. Digital payments are mainly used for online commerce and mobile transactions, while digital remittances, especially in the Caribbean and Central America, are growing through e-money platforms and existing infrastructures. AI adoption is also reshaping the financial sector through regulatory technology, or “regtech,” solutions that enhance compliance, strengthen risk management and generate business insights. Some examples include Brazil's *OriginalMy* and *Idwall* (fraud and identity verification); Chile's *Ceptinel* (fraud prevention and compliance); and Colombia's *Pronus* (risk management across various sectors) (IDB, 2023; Bakker and others, 2023).

The “insurtech” sector in LAC, which applies technology within the insurance industry, has also expanded rapidly, with over 500 companies operating by 2024. These startups compete with traditional insurers while modernizing services through customized policies and mobile-friendly platforms. Some examples include Mexico's *Welbe*, that helps companies meet occupational health regulations, while also providing health insurance plans for employees, and *Sostengo*, founded in El Salvador and active in Honduras, that delivers mobile-first car insurance and additional services like tyre changes and car washes (Morales Cerda, 2025).

Mining represents a sector where digitalization and AI offer significant opportunities to revitalize productivity. These technologies also support a transition towards more socially and environmentally responsible practices. Data analytics

can help discover complex mineral deposits with greater accuracy and at lower exploration costs. Autonomous mining equipment and automated mineral processing enhance operational efficiency, reduce accidents and ease physical burdens on workers. Virtual replicas of mining operations optimize production, while advanced personal protective equipment continues to improve worker safety (ILO, 2022). Although digitalization in the sector remains relatively low, important advances are already beginning to emerge. For example, major mining companies in Chile such as the National Copper Corporation (Codelco) are using AI to monitor fleets of autonomous trucks (UNCTAD, 2025).

Another critical sector ready for AI-driven transformation in LAC is “agritech”, which is the application of technology to agriculture. The agriculture sector is particularly important, accounting for around 20 percent of total exports and 14.2 percent of employment in LAC, although in several countries, its contribution to both exports and jobs is significantly higher (ILO, 2022). Emerging technologies in plant biotechnology, driven by AI, are addressing food insecurity and environmental degradation. In a region where climate change threatens key crops like coffee, sugarcane, potatoes and maize, AI-enhanced precision in genetic editing can offer solutions by improving crop resilience, enhancing nutritional content and developing traits such as disease resistance (UNDP, 2025b). In Brazil, *Agrotools* advances agriculture through geotechnology and data intelligence by using an AI-powered algorithm that generates farm coordinates and enables real-time crop monitoring. This data streamlines loan applications, saving time and improving accuracy. Argentina’s *Agrobit* partnered with Microsoft in 2019 to develop AI solutions that provide farmers with data-driven insights to optimize resources, reduce costs and enhance productivity and sustainability. Other examples, all developed by local startups, include *Fertimon* in Brazil, *Ceres* in Chile, and *RuralAI* in Mexico (Galdon-Clavell, 2025). These innovations are not only important but could become central to broader strategies for addressing socioeconomic impacts of climate change, particularly in vulnerable areas like the tropical Andes (UNDP, 2025b).

3.4.4 A (in)complete unknown: The impact of AI in labour markets in LAC

“I have noticed that many people, for example, those who have been unable to update their skills in this area (digitalization), continue to face challenges in keeping up with advancements in technology. Many individuals who previously worked in administrative roles can no longer do so because everything now operates through computers or smartphones” – Bolivia (male, 33 years old)

In LAC, automation remains in its early stages. However, the region faces a disadvantageous position in adopting AI and automation effectively, as many workers lack the necessary skills for this transition.

AI and automation have begun to challenge traditional employment structures significantly. Unlike previous waves of technological change that primarily replaced routine, physical tasks, AI can now perform complex analytical and cognitive functions. This shift threatens roles across all skill levels, particularly highly skilled roles previously considered secure but now at risk of displacement. This scenario places low-skilled workers at a dual disadvantage, as they risk losing their jobs to automation while also struggling to compete with highly skilled workers who benefit from AI-driven innovation (Acemoglu and Restrepo, 2018).

Women face higher displacement risks due to their concentration on jobs that require routine tasks, even when performing highly skilled roles (Brussevich and others, 2019; Bustelo and others, 2020). Vulnerability varies by education, age and job type, disproportionately affecting less-educated, older and low-skilled women. Interestingly, in institutional contexts with greater gender equality, women tend to experience lower automation risks than men (Filippi and others, 2023).

In LAC, automation remains in its early stages. However, the region faces a disadvantageous position in adopting AI and automation effectively, as many workers lack the necessary skills for this transition. At the same time, AI-driven productivity gains could potentially elevate income levels across all worker categories (Cazzaniga and others, 2024).

Given the dynamic nature of AI and the limited evidence available, even its short-term impacts are likely to evolve. Preliminary evidence from Gmyrek and others (2024) for the region shows that from 26 to 38 percent of jobs in LAC are exposed to generative AI (GenAI), with significant variations across countries. This exposure can be categorized in three ways: (i) automation, where tasks are fully replaced by AI; (ii) augmentation, where AI complements and enhances human work; and (iii) the “big unknown,” representing jobs whose future trajectory remains uncertain as AI continues to evolve. As shown in figure 3.8, the share of jobs at risk of full automation is relatively small, ranging from 2 to 5 percent across countries. Meanwhile, 8 to 14 percent of jobs exhibit augmentation potential, with GenAI offering opportunities

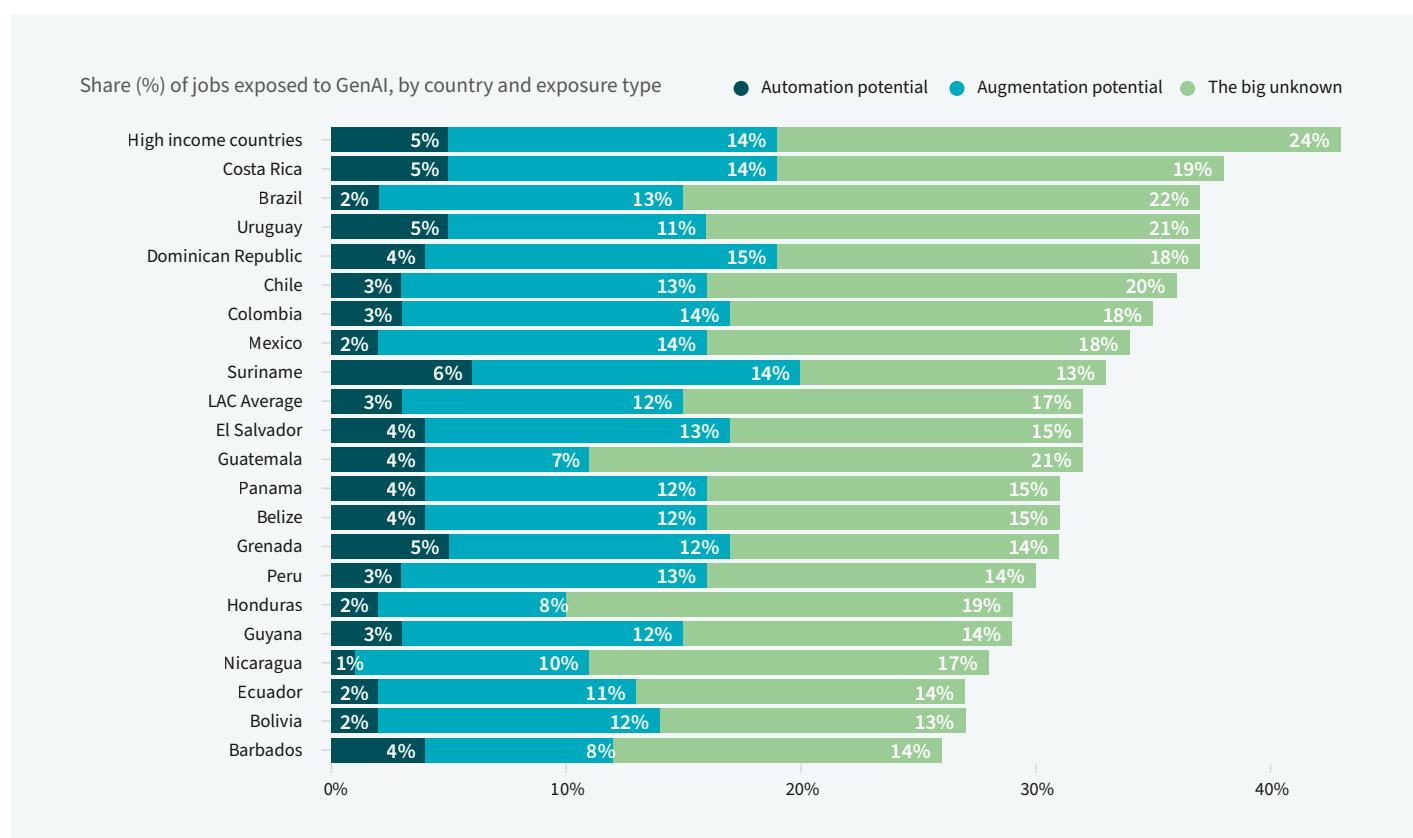
for increased efficiency and productivity. The largest proportion of jobs falls into the “big unknown” category, corresponding to 13–22 percent, where technological advancements could either lead to automation or task augmentation, depending on policy responses and business adaptation (Gmyrek and others, 2024).

Those more likely to engage with GenAI tend to be in urban areas, possess higher levels of education, and hold formal-sector jobs. Younger workers, particularly in finance, insurance and public administration, face higher exposure to automation risks, where algorithmic decision-making can substitute administrative and analytical tasks. Women are disproportionately affected, with their jobs being twice as likely to be automated compared to men. This gender gap is particularly pronounced in banking, finance, insurance and public administration. Meanwhile, augmentation potential is highest in education, health care and personal services, where AI can complement human expertise. Notably, over

50 percent of teaching professionals could experience AI-driven augmentation, improving educational outcomes through adaptive learning technologies and digital content creation (Gmyrek and others, 2024).

Further evidence shows that the impact of AI on jobs will depend on whether it primarily replaces human labour or enhances it. In some cases, automation has displaced jobs that involve repetitive manual tasks, such as telephone operations and certain agricultural roles. Conversely, in fields like medicine, AI has augmented rather than replaced professionals, enabling more accurate diagnostics and innovative treatments while preserving the demand for human expertise. Jobs most vulnerable to AI-driven displacement are those in which technology can execute the majority of tasks with minimal human intervention, such as call centers. In countries such as Brazil, Chile, Colombia, Mexico and Peru, approximately 25 percent of jobs fall into this category. By contrast, professions where

Figure 3.8 AI’s potential to improve productivity in LAC remains mostly unfulfilled



Notes: “The Big Unknown” refers to jobs for which it is unclear which is higher: the risk of automation or the potential for augmentation.

Source: World Bank (2025), based on Gmyrek, Winkler and Garganta (2024).

AI enhances productivity without replacing human workers, such as those who benefit from AI-assisted administrative tasks, represent about 20 percent of jobs in those countries (Bakker and others, 2024).

As AI reshapes labour markets, human capital development, particularly skills training, becomes crucial to enable workers to adapt to technological advancements and access better economic opportunities. Given this new digital landscape, expanding access to technical education in areas such as coding, data analytics and machine learning becomes even more pressing to help workers transition into higher-value roles.

3.5 A new extractive economy in the digital age?

3.5.1 Missed opportunities in data and digital services

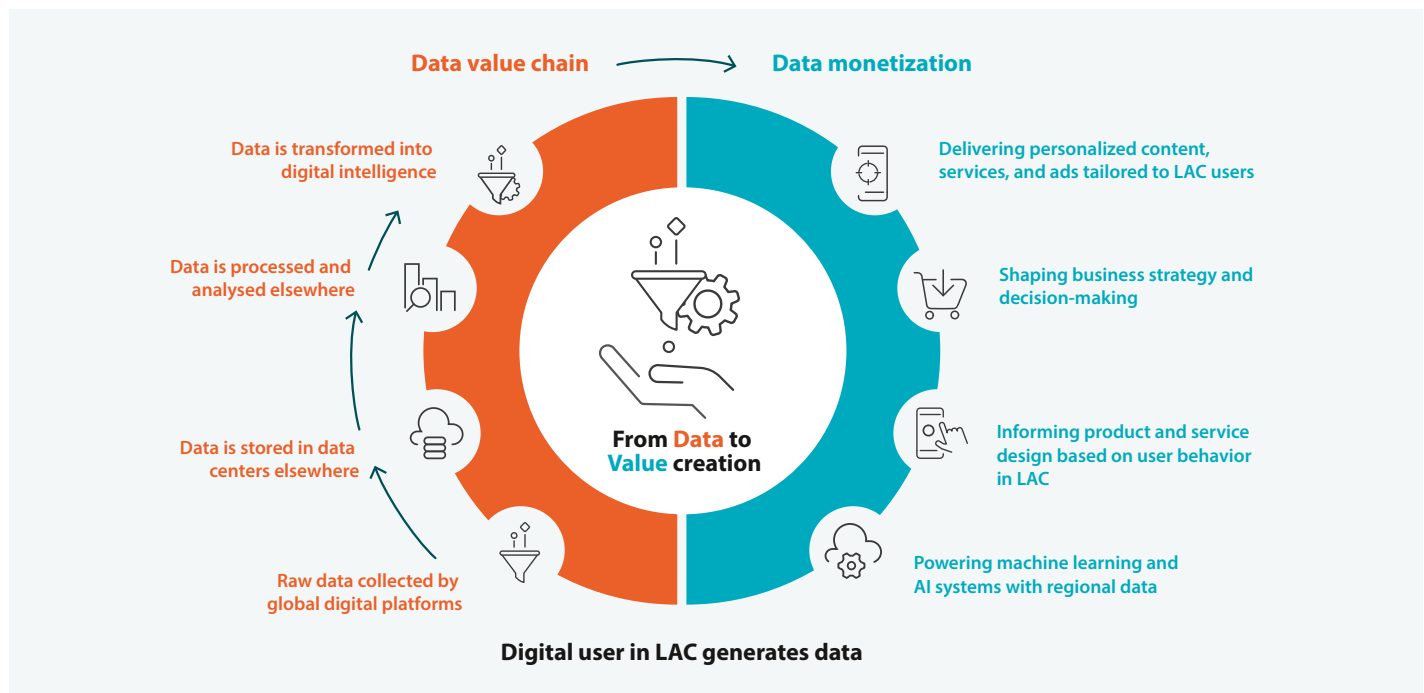
LAC is increasingly participating in the global digital economy by contributing user data, skilled labour and operational services to key areas such as AI, e-commerce and customer support. However, the region captures only a small portion of the economic value generated by these

contributions. As digital services expand and data become a valuable input in today's economy, much of the value created in the digital economy continues to be concentrated outside the region.

The expansion of digital platforms has transformed the way value is created and captured in the global economy. These platforms facilitate interactions between producers and consumers generating economic activity at scale. Yet, the core source of their value lies not in the transactions themselves, but in the data generated through each interaction.

Platform users—whether individuals, consumers, or businesses—produce data through activities like online shopping, location sharing, and social media interactions. Once collected, these data are processed, analysed, and transformed and monetized, much like oil or other strategic resources. The real engine of value lies in the ability to transform raw data into “digital intelligence” through increasingly sophisticated and cost-efficient technologies (figure 3.9). Despite its intangible nature, this intelligence informs decision-making, feeds AI systems, and powers the personalized services and targeted advertising that now define much of the online experience (UNCTAD, 2019; 2021).

Figure 3.9 Data value creation in the digital economy



Source: Adapted from UNCTAD (2019).

These platforms facilitate interactions between producers and consumers generating economic activity at scale. Yet, the core source of their value lies not in the transactions themselves, but in the data generated through each interaction.

An important distinction in the digital economy is between value creation, value addition, and value capture. While many actors contribute to creating and adding value, those who control the later stages of the data value chain—primarily the platform owners—are best positioned to capture it. In contrast, the original data producers, whether individuals

or communities, are often excluded from any share in this process (UNCTAD, 2019). In LAC, this is reflected in the gap between growing participation in the digital economy and limited local value capture, as most of the benefits are captured elsewhere.

Similarly, the region has seen the rapid expansion of digital services, particularly in business process outsourcing (BPO) and IT support. These are services where companies in LAC provide operational and technical assistance to foreign businesses. This includes call centers, technical support, data entry, cloud management, and other remote digital functions. Workers in LAC handle large volumes of data—ranging from customer interactions to software and systems

Box 3.5 The concentration of power of global tech giants challenges LAC's digital sovereignty

Over the last decade, large technology firms located in the Global North have significantly expanded their presence in global markets. Today, the leading providers of advanced and emerging technologies rank among the world's largest corporations by market capitalization. Apple, Nvidia and Microsoft each boast valuations exceeding US\$3 trillion, comparable to the entire GDP of the African continent or that of the United Kingdom. Close behind are Alphabet (Google) and Amazon, each valued at over US\$2 trillion, surpassing the GDP of Canada. Amazon controls approximately one-third of the global cloud services market through *Amazon Web Services*, powering a substantial portion of the Internet infrastructure. Notably, five of the top global companies are headquartered in the United States (UNCTAD, 2025).

These digital platforms connect users, including consumers, suppliers, and advertisers, and monetize the data exchanged. Their dominance is reinforced by network effects, global reach and vast data collection. Users have limited insight into how platforms operate or how their data is used to train algorithms, creating significant information asymmetries, and allowing tech giants to set operational standards and rules, shaping the digital economy to their advantage, often without public oversight or regional participation, especially in developing regions (ECLAC, 2022).

In LAC, limited regional participation in shaping the rules of engagement means that countries are often passive adopters of technologies and digital norms rather than active co-creators. As a result, local priorities, cultural contexts and development objectives are often overlooked in digital governance frameworks. Additionally, most of the region's data is stored abroad, under foreign jurisdiction, which can undermine both national sovereignty and citizen privacy. These arrangements can leave countries exposed to service disruptions, regulatory overreach or unfavourable commercial practices (Cloud Carib, 2025). This highlights the need to strengthen digital sovereignty and invest in regionally grounded digital infrastructure. Addressing the current fragmentation of the region's digital ecosystem, through greater coordination among countries and the promotion of open access to AI, can help foster inclusive and equitable technological progress (Khanal and others, 2024).

Mercado Libre and Rappi are LAC's closest equivalents to tech giants, regional powerhouses that shape digital markets and consumer behaviour. Mercado Libre has established itself as the largest e-commerce platform in Latin America, with its retail business expected to surpass US\$50 billion in sales in 2024. Rappi, one of the region's leading delivery platforms, reported over US\$850 million in revenue in 2023. Like global tech companies, both invest in logistics, cloud infrastructure, and financial services to control key parts of their value chains. However, they operate with smaller capital and lower R&D budgets than global tech companies. Additionally, their influence remains largely regional, and they lack the global scale, capital, and political leverage of their global counterparts. Still, their rapid growth, integration across services, and impact on regional economies position them as key players in shaping LAC's digital future, with the potential to emerge as global players (Scialabba, 2025; Peñarredonda, 2023).

management—but the economic value of that data is largely captured by companies abroad that own the platforms, clients, and infrastructure. In most cases, LAC workers and firms are paid only for the labor, not for the intellectual contributions or the strategic value of the data they help generate or process.

In LAC, BPO employs approximately 340,000 workers, with Colombia emerging as a major hub, hosting over one-third of *Teleperformance's*⁸ 120,000 regional employees, followed by Costa Rica, Brazil, Mexico and El Salvador (Frederick, 2024). Jamaica, the leading BPO destination in the Caribbean, has experienced remarkable growth, with industry revenues nearly doubling from US\$400 million in 2016 to US\$780 million in 2021, and employment surging during that same period from 17,000 to 44,000. Overall, the Caribbean BPO market is expected to grow 7 percent annually, reaching US\$0.90 billion by 2028 (Watson, 2025).

Although many countries in the region have become prominent providers of customer service and software development for global firms, these services remain concentrated in low-value segments, such as call centres, basic IT support and routine coding tasks. These roles typically offer limited prospects for skill upgrading or career advancement. Higher-value roles, such as machine learning, data science, or advanced software engineering, remain largely concentrated in developed economies (Gudynas, 2015). This limits the potential for digital services to contribute meaningfully to long-term productivity gains or inclusive development.

In 2022, U.S.-based firms provided US\$46 billion in digital services to the region, with 90 percent of that revenue returning to company headquarters (Frederick, 2024). While global revenues from digitally enabled services exceed hundreds of billions of dollars, LAC accounts for just 2 percent of those (Frederick, 2024). This leaves the region confined to operational roles in services developed elsewhere, offering few opportunities for value retention, knowledge transfer or deeper regional integration.

One reason for this imbalance is the limited presence of high-value digital infrastructure in the region, such as data centers, proprietary platforms, and advanced analytics systems, which are critical for processing data, developing innovation, and serving as the spaces where digital value is both created and captured. Another factor is the presence of regulatory gaps. In many countries, the absence of comprehensive data protection frameworks has

allowed foreign corporations to collect and monetize data with minimal oversight (ECLAC, 2025). However, several governments are beginning to respond. Policy tools such as data localization requirements, digital services taxes and incentives for public-private partnerships are emerging to retain more economic value, strengthen transparency, build local innovation and retain more value within national borders. Brazil, for instance, has advanced measures to promote domestic data storage and support domestic tech ecosystems (Acemoglu and Johnson, 2023).

Realizing the region's potential will require more than isolated national initiatives. Cross-border collaboration, shared regulatory standards and open access to emerging technologies like AI could help LAC move from occupying a mostly transactional role in global digital flows to a more strategic one, anchoring value creation in the region and linking it to broader development goals.

3.5.2 Critical minerals: Same old story or an opportunity to do things differently?

The growth of AI-driven technologies, including autonomous vehicles, smart grids, precision agriculture and advanced robotics, is generating unprecedented global demand for critical minerals essential to their development. These technologies require semiconductors and energy storage systems, intensifying the need for lithium and cobalt for batteries, as well as copper for electrical infrastructure. Additionally, the global transition to renewable energy, often supported by AI technologies, increases the demand for minerals used for producing solar panels, wind turbines and energy storage systems.

By mid-century, it is estimated that 3 billion tons of critical minerals will be required for green energy technologies. Lithium demand is expected to rise substantially due to its critical role in the green transition, particularly in rechargeable batteries for electric vehicles and solar energy systems, with supply predicted to fall short by 2030. Similarly, copper, essential for 5G networks, Internet of Things (IoT) devices⁹ and electric vehicle charging infrastructure, may see its demand double by 2035 (IEA, 2023).

As LAC holds vast reserves of these critical minerals, the region is strategically positioned to capitalize on the growing demand and leverage its natural wealth as a catalyst for resilient human development. Over half of the world's lithium reserves are in Argentina, Bolivia and Chile, the so-called "Lithium Triangle". Additionally, the region supplies

The growth of AI-driven technologies, including autonomous vehicles, smart grids, precision agriculture and advanced robotics, is generating unprecedented global demand for critical minerals essential to their development.

around 35 percent of global copper reserves, particularly Chile, Peru and Mexico, with additional reserves in Brazil, Panama, Colombia, Ecuador and the Dominican Republic. Brazil further boasts the third-largest, rare-earth element reserves worldwide, after China and Vietnam, and holds significant graphite and nickel reserves, alongside Colombia and Cuba (IEA, 2023).

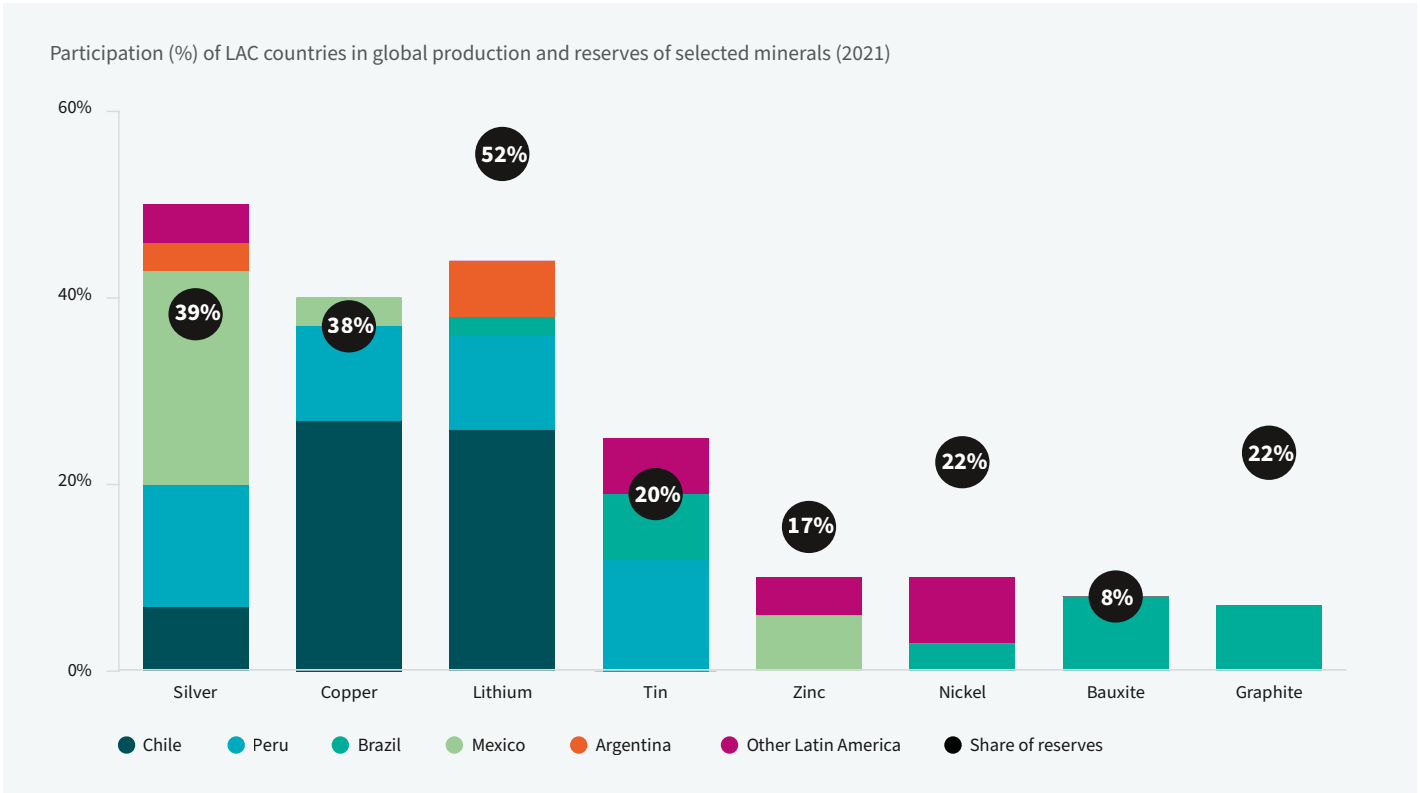
Following a similar extraction model to other commodities, much of the region’s critical minerals are currently exported in their raw form. For instance, in Chile, which accounts for 27 percent of global copper output, copper concentrate accounts for more than half of the country’s copper export value, while refined copper represents only 33 percent

(World Bank, 2024b). As a result, countries in LAC lose opportunities to capture economic value associated with local processing and manufacturing.

The mining sector represents 23 percent of Latin American exports and a significant share of national and local tax revenues. However, the region’s participation remains heavily concentrated in the extraction phase of the mineral value chains. Processing, refinement and manufacturing activities, where most value is added, are still dominated by countries including China, South Korea and Japan. For example, while Chile and Australia lead in lithium extraction, China plays a dominant role in lithium processing and battery production (ECLAC, 2023b). Challenges linked to unsustainable resource extraction are further explored in chapter 5.

Recent shifts in global geopolitics, including trade tensions, are reshaping the markets for critical minerals. AI presents an opportunity to break the pattern of low value added in exports. Renewed strategies could create opportunities

Figure 3.10 The region holds over half the world's lithium reserves and over 35 percent of its copper, both critical resources for AI



Source: IEA (2023).

for LAC to move up the critical mineral value chain, attract sustainable investment and negotiate better terms of trade.

Additionally, by integrating AI into mining operations, LAC can improve the precision and sustainability of mineral extraction, reduce environmental impacts and enhance safety. Such technological integration could foster inclusive development models that prioritize community engagement and local economic benefits, enabling LAC to play a pivotal role in the global AI-driven technological transition (UNDP, 2025b). Interlinkage #3 explores in depth the potential of biodiversity in LAC, focusing on sustainability and the role of AI.

3.5.3 Data centers are stressing water and energy consumption

Data centers, or “factories of AI,” as Cohen (2024) describes them, require vast amounts of energy, water and data to train and deploy machine learning models at scale, which power AI systems used across sectors. The rapid expansion of data centers, driven by rising demand for AI, 5G networks, cloud computing and digital services, amplifies pressures on natural assets, such as water resources, energy grids and ecosystems, raising concerns about sustainability.

Globally, demand for data centers is projected to grow between 19% and 22% every year through 2030, with the United States, Germany and the United Kingdom dominating the market. While LAC accounts for only 4.8 percent of global data centers, its market value is expected to nearly double from US\$5 billion to US\$6 billion in 2023 to US\$10 billion by 2029, highlighting the region’s growing potential as a hub for data storage and processing services (UNDP, 2025c).

The region’s growing data center market offers an opportunity to boost AI adoption, expand computational capacity, and build an autonomous digital ecosystem with stronger data privacy safeguards. Additionally, strengthening digital infrastructure can support governments as they increasingly digitize services and foster the development of local tech startups (UNDP, 2025c). However, a main concern associated with this expansion is the environmental footprint of data centers—particularly, the intensive energy use and water consumption required for this type of AI infrastructure.

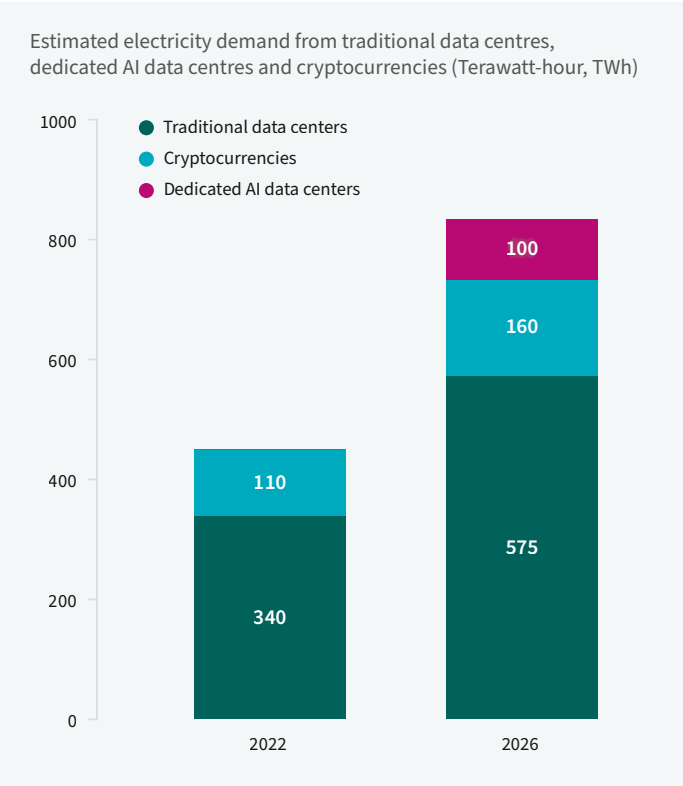
In terms of water consumption, it is estimated that by 2027, global AI-related water withdrawals could reach 6.6 billion

cubic metres yearly, equivalent to half of the United Kingdom’s total annual water usage. Additionally, semiconductor manufacturing, integral to AI systems, requires vast amounts of water, with 40 percent of semiconductor facilities expected to operate in regions facing high water stress by the next decade (Lepawsky, 2024). Water consumption for server cooling has also escalated.

As explored in chapter 5, water insecurity in LAC already affects millions. In some countries, potable water shortages are being exacerbated by data center operations in drought-prone regions, fuelling growing public concern and polarization around the trade-offs between digital infrastructure and environmental sustainability. Thus, the growing demands of AI infrastructure could exacerbate inequalities and further limit access to essential resources, particularly for marginalized communities, such as low-income and rural populations.

At the same time, AI use and infrastructure contributes to surging greenhouse gas (GHG) emissions and electricity

Figure 3.11 Estimated global electricity consumption from data centers for 2026 will double, compared with 2022



Source: IEA (2024).

The development of eco-friendly data centers could enhance the region's strategic positioning, as these advancements align with LAC's competitive advantages, including its access to renewable energy and critical minerals.

consumption. Operational GHG emissions from major AI companies have increased by 62 percent since 2020, reaching 47 million metric tons in 2023, a figure equivalent to half of Peru's total emissions. Electricity consumption has increased even more rapidly, soaring by 78 percent over the same period to surpass 100 terawatt-hours (TWh) in 2023, equivalent to the combined annual electricity usage of Colombia and the Dominican Republic. Figure 3.11 shows that by 2026, electricity demand is projected to rise across all sectors compared to 2022: traditional data centers from 340 to 575 TWh, cryptocurrencies by 45% (from 110 to 160 TWh), while dedicated AI data centers, which were not reported in 2022, are projected to add 100 TWh, representing a substantial new source of demand. Although projections indicate a notable increase by the end of the decade, AI data centers are expected to contribute less than 10 percent to global electricity demand growth, much lower than the growth driven by electric vehicles and space cooling (IEA, 2024).

Addressing the environmental impacts of data centers is fundamental to ensure that technological progress does not come at the expense of equitable resource access and environmental sustainability. For instance, sustainable data center technologies, such as liquid cooling systems, can reduce emissions by 45 percent, lower spatial requirements by 50 percent, and double the lifespan of the equipment, effectively addressing the high heat and energy demands posed by next-generation computing technologies (UNDP, 2025b). At the same time, renewable energy sources—such as wind, solar and geothermal—have become central to efforts to create energy-efficient data centers.

The development of eco-friendly data centers could enhance the region's strategic positioning, as these advancements align with LAC's competitive advantages, including its access to renewable energy and critical minerals. Policies such as Chile's recently launched *National Data Centers Plan 2024–2030* exemplify a balanced approach, combining incentives, environmental accountability and capacity-building measures to attract investment and expand the sector.

3.6 AI-doption, in need of safeguards

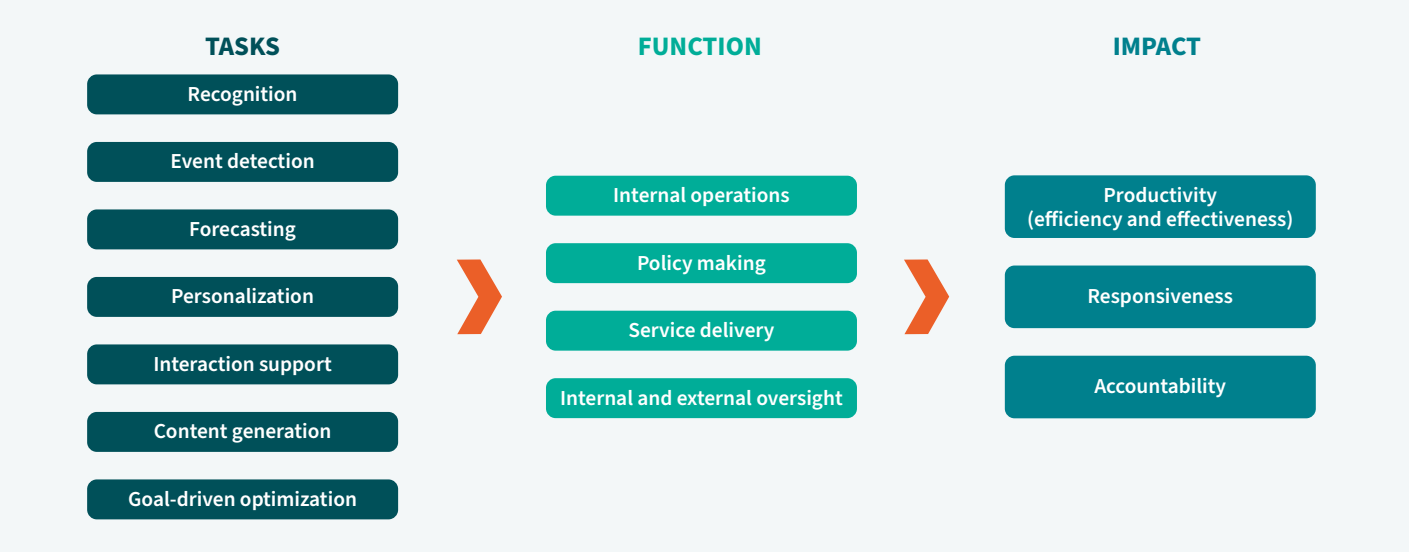
Governments in LAC are leveraging AI to streamline processes, optimize resources, improve decision-making, and enhance service delivery and accessibility. This can be a game changer, for the way citizens interact with the state. There are, however, emerging risks associated with the mainstreaming of AI, as using it may lead to embedding biases in decision-making systems and exposing critical infrastructure and sensitive data to cyberattacks; ethics, fairness and security must all be considered when using AI.

3.6.1 Governments in LAC use AI to support public service delivery and decision-making

Governments across the region increasingly have been adopting digital technology to enhance public service delivery—improving efficiency and access to public services. The digitalization of essential public services—such as issuing certificates, paying taxes and applying for aid programmes—has made service delivery 74 percent faster and 95 percent cheaper for public institutions compared with in-person methods, significantly enhancing efficiency, transparency and accessibility (Roseth and others, 2023). Digital platforms could also enhance inclusivity by reaching previously underserved populations, including those in rural and remote areas, through mobile and online services (OECD, 2024d). This shift has enhanced the way governments interact with citizens, fostering greater trust and accountability.

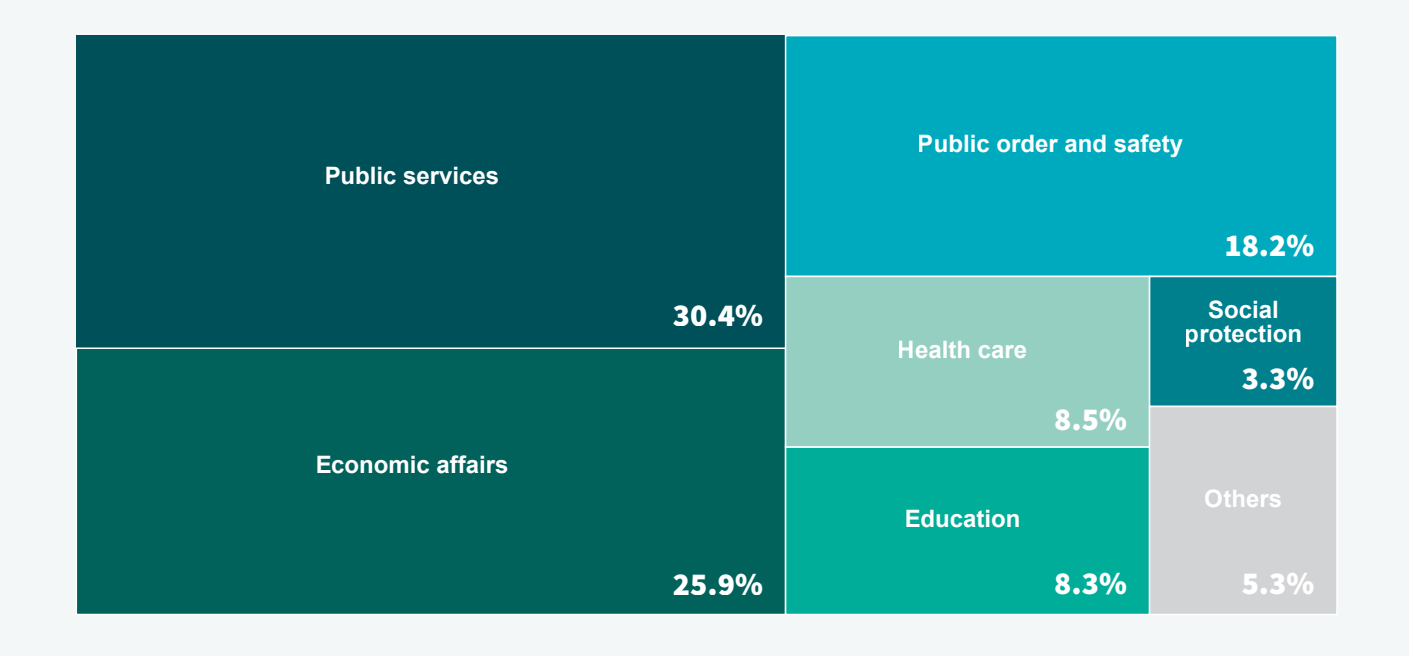
Building on this foundation, AI has the potential to transform digital governance by offering new ways to enhance internal operations, service delivery, oversight and policy outcomes, while fostering transparency and efficiency (OECD and UNESCO, 2024). Automating repetitive tasks like data entry, payroll processing and information verification reduces administrative burdens and allows public servants to focus on strategic priorities (Anshari and others, 2025). These systems also excel at summarizing and analysing vast data sets, aiding areas such as legal affairs, administrative processes and complex data processing. Other tasks that in which AI can contribute to more efficient decision-making and service provision include recognition (such as facial, speech or text recognition), forecasting (including predictive analytics for planning or resource allocation) and interaction support (such as chatbots or virtual assistants). Ultimately, leveraging AI in the public sector can enhance productivity, responsiveness and accountability (figure 3.12).

Figure 3.12 Leveraging AI in the public sector



Source: OECD and UNESCO (2024), based on the “AI System Tasks” of the OECD Framework for the Classification of AI Systems (OECD, 2022; 2024b).

Figure 3.13 Governments in LAC are increasingly integrating AI into public administration



Notes: Examples of AI tools in public services include chatbots and solutions for service delivery. Economic affairs includes AI tools for infrastructure, logistics, and service delivery. Public safety includes applications for surveillance and crime prevention. Health care features algorithms that support disease prevention and diagnosis. Education includes AI systems that detect absenteeism and manage admissions. Social protection includes algorithms used to target beneficiaries and determine coverage. The “Other” category includes AI systems applied in environmental protection, housing and related services, defense, and recreational, cultural and sports activities.

Source: UNDP’s calculations based on data from AI Systems in the Public Sector of Latin America and the Caribbean, Universidad de los Andes (April 2025 update).

The repository of AI systems in LAC's public sector, developed by the University of Los Andes in Colombia, highlights promising and accelerated advancements, as governments across the region are increasingly adopting AI tools. Over the past decade, 24 countries in the region have already deployed more than 600 AI systems. Colombia leads with 220 public AI systems (36.7 percent), followed by Brazil (15.7 percent) and Mexico (13.2 percent). Together, these three countries account for nearly two-thirds of all public sector AI systems in the region, reflecting broader trends of their leadership in regional AI adoption. Countries such as Belize, Costa Rica, the Dominican Republic and El Salvador, are also making meaningful progress, signalling a more widespread regional uptake of AI in governance and public services (Universidad de los Andes, 2025).

Figure 3.13 illustrates the main areas of AI application in the public sector across the region. The leading category, public services (30.4 percent), includes both AI solutions—new tools developed using AI—and AI appropriation, where existing services integrate AI capabilities to enhance functionality. For instance, Argentina deploys AI-powered sensors to prevent traffic accidents, El Salvador, *Sívar Seguro* uses facial and plate recognition to issue real-time sanctions for infractions such as littering or animal abuse, and Guyana's *Jessie*, an AI chatbot deployed on WhatsApp, connects with the diaspora to identify skills and interests.

Economic affairs account for 25.9 percent of AI applications, often focused on infrastructure and logistics. Belize, for example, uses AI to digitize and track its national postal service, improving delivery and transparency. In Peru, *Pavimenta2* leverages machine learning to detect road defects and improve highway inventory assessments, a case of AI-enabled infrastructure planning supported by international cooperation. Public order and safety (18.2 percent) applications, tends to emphasize surveillance and crime prevention. For example, the Ministry of National Security in Trinidad and Tobago has deployed a nationwide facial recognition-enabled CCTV system.

These advancements have direct implications for human development outcomes, as they enhance the efficiency and accessibility of essential services. For instance, AI-driven innovations in health care can improve early diagnosis and treatment, reducing mortality and disease burdens. In Costa Rica, predictive analytics help anticipate the incidence of type 2 diabetes. In Peru, a multilingual robotic assistant called *Ropi* supports children in hospitals. Honduras' early warning system identifies students at risk of dropping out

of school, while Chile applies machine learning to anticipate and respond to medical leave complaints.

Governments can also benefit from data-driven insights for more effective decision-making. These innovations are being integrated into social programmes, improving beneficiary targeting, resource allocation and inclusion. For instance, Colombia's System of Identification of Social Program Beneficiaries (SISBÉN) employs an algorithm that processes data from both public and private sources to assess individuals' eligibility for various social programmes, including cash transfers, health services and education subsidies. Similarly, Costa Rica's National System of Information and Single Registry of State Beneficiaries (SINIRUBE) uses AI to identify and analyse anomalies in social data using probabilistic and predictive modelling, ensuring social assistance reaches those in need while preventing duplication. Paraguay's *ParaEmpleo* platform has replaced manual processes with an AI-powered employment intermediation system that matches job seekers to employers using advanced tools based on skills, location and experience.

Public safety also has benefited from AI, particularly biometric technologies like facial and pattern recognition. São Paulo, Brazil, has installed half of a planned 40,000 cameras to centralize surveillance data and enhance coordination across emergency response, traffic management, public transport, and police operations. Mexico City's video surveillance network monitors public spaces and aids law enforcement, while Colombia's National Police employ recognition systems to identify suspects, reducing crime in key areas. In a different setting, Chile employs predictive risk models to help social workers flag cases in which the potential for child abuse is high (Galdon-Clavell, 2025).

While AI tools offer immense potential to transform the public sector, governments have to navigate emerging risks, such as structural bias, inequality, and threats to privacy and cybersecurity, to ensure transparency, accountability and equitable access. Balancing the benefits of emerging technologies with ethical considerations will be key to realizing their promise in public service delivery.

3.6.2 But beware of the risks¹⁰

AI can be broadly categorized into three types: predictive AI, which analyses historical data to predict future outcomes (used in sectors like banking, health care and weather); generative AI (GenAI), which creates new content based on existing data patterns (such as ChatGPT);

and identification AI, which uses biometrics for identity verification or trait identification. While predictive AI has received the most scrutiny, both generative and identification AI pose specific risks, including privacy concerns, manipulation and bias (Galdon-Clavell, 2025).

The Massachusetts Institute of Technology (MIT) has launched a significant effort to understand the various risks of AI through its AI Risk Repository, which maps and categorizes these risks comprehensively, detailing a comprehensive living database of over 1,600 risks drawn from 65 frameworks and grouped into seven key domains (figure 3.14). The MIT taxonomy classifies risks associated with AI development and use into the following domains: (i) discrimination and toxicity; (ii) privacy and security; (iii) misinformation; (iv) malicious actors and misuse; (v) human-computer interaction; (vi) socioeconomic and environmental impacts; and (vii) safety, failures and limitations of AI systems (Slattery and others, 2024).

This repository highlights how these risks vary in impact and characteristics based on the AI system's development phase (pre- or post-deployment). They can be intentional or unintentional, arising from human actions, technical attributes of AI, or both. Understanding these distinctions is crucial for effective risk management (Slattery and others, 2024).

For example, in the domain of misinformation, the description for the subdomain 1.3 *Unequal performance across groups* states: "The accuracy and effectiveness of AI decisions and actions often depend on group membership, where biases in AI system design and training data lead to unequal outcomes, reduced benefits, increased effort, and alienation of users" (Slattery and others, 2024).

Although the repository is comprehensive, most of the work on risks to date has centred on predictive AI. Thus, it is important to highlight other risks that are unique to or more prominent in GenAI. This includes hallucination in models like ChatGPT, that leads to plausible but often inaccurate outputs, confusing correlation with causation and enabling misinformation. Moreover, manipulation through deepfakes allows for disinformation, fraud and harassment, fabricating scenarios to influence public opinion or commit identity theft. AI in biometric identification also has specific risks including privacy and ethical concerns, surveillance and profiling (Galdon-Clavell, 2025).

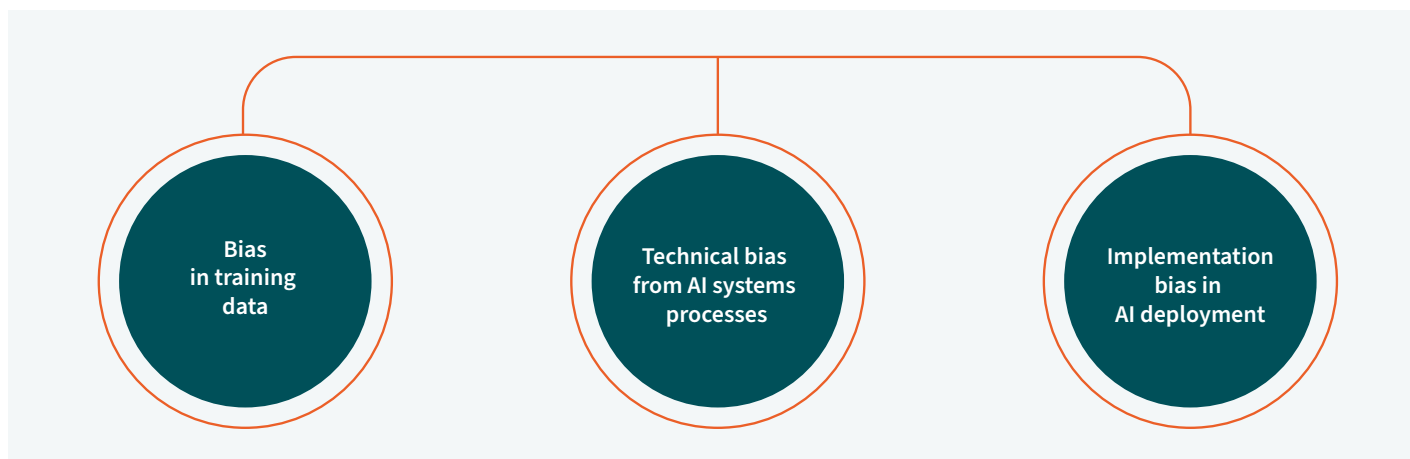
While AI tools offer immense potential to transform the public sector, governments have to navigate emerging risks, such as structural bias, inequality, and threats to privacy and cybersecurity.

Figure 3.14 MIT's domain taxonomy of AI risks

1	Discrimination & toxicity
1.1	Unfair discrimination and misrepresentation
1.2	Exposure to toxic content
1.3	Unequal performance across groups
2	Privacy & security
2.1	Compromise of privacy by obtaining, leaking or correctly inferring sensitive information
2.2	AI system security vulnerabilities and attacks
3	Misinformation
3.1	False or misleading information
3.2	Pollution of information ecosystem and loss of consensus reality
4	Malicious actors & misuse
4.1	Disinformation, surveillance, and influence at scale
4.2	Cyberattacks, weapon development or use, and mass harm
4.3	Fraud, scams, and targeted manipulation
5	Human-computer interaction
5.1	Overreliance and unsafe use
5.2	Loss of human agency and autonomy
6	Socioeconomic & environmental harms
6.1	Power centralization and unfair distribution of benefits
6.2	Increased inequality and decline in employment quality
6.3	Economic and cultural devaluation of human effort
6.4	Competitive dynamics
6.5	Governance failure
6.6	Environmental harm
7	AI system safety, failures & limitations
7.1	AI pursuing its own goals in conflict with human goals or values
7.2	AI possessing dangerous capabilities
7.3	Lack of capability or robustness
7.4	Lack of transparency or interpretability
7.5	AI welfare and rights

Source: Slattery and others (2024).

Figure 3.15 Three states of the AI life cycle where bias can arise



Source: Authors' elaboration based on Galdon-Clavell (2025).

3.6.3 A closer look at the bias embedded in AI systems and what it could mean for LAC¹¹

LAC's unique cultural identity, linguistic diversity and social dynamics underscore the need for AI systems that align with local contexts. AI technologies often reflect the biases of their training data, which is predominantly shaped by Western, Anglo-centric and patriarchal perspectives. As a result, AI systems inherit and perpetuate societal biases, disproportionately affecting women and marginalized groups, such as Indigenous peoples and Afro-descendants, thereby potentially reinforcing systemic inequalities. AI systems are not neutral; their design choices significantly influence the diversity and inclusivity of outcomes, often replicating existing social patterns and biases.

Thus, the rapid integration of AI systems into decision-making processes across various sectors poses a potential risk of exacerbating existing social disparities in the region. All AI systems, from automated decision-making tools to social media recommender engines and large language models, struggle with minority patterns, or "outliers"; these often amplify real-world biases and fail to address the data quality issues that lead to discriminatory and inefficient outcomes. AI systems must be monitored throughout their

AI systems are not neutral; their design choices significantly influence the diversity and inclusivity of outcomes, often replicating existing social patterns and biases.

life cycle to ensure that minority patterns are accurately represented and that biases are identified and corrected. As figure 3.15 shows, bias in AI systems can be traced to three key stages: training, technical processes and implementation. Each of these requires targeted mitigation strategies to prevent unfair outcomes.

First, bias in training data occurs when AI models are trained on data sets that reflect societal prejudices. Historical data, for instance, may embed stereotypes or inequalities that are then replicated by AI systems. Sampling bias—where certain groups are underrepresented—and labelling bias—where human annotators apply subjective labels—also contribute to biased training data.

Second, technical bias arises from the inherent processes of AI systems, such as overfitting on skewed data or aggregation bias, where data from diverse groups are combined without accounting for differences. Measurement bias can also occur when training data differs from real-world inputs. Addressing this requires monitoring outliers and ensuring that minority patterns are accurately represented.

Third, implementation bias emerges during the deployment of AI systems, particularly in high-stakes areas like health care or hiring. This includes automation bias (favouring AI suggestions over contradictory information) and deployment bias (where budgetary or organizational factors impact final decisions). Accessibility bias may also prevent certain groups from using AI systems effectively due to factors such as disability or lack of AI literacy.

Bias in AI is particularly concerning as AI systems are increasingly employed in critical areas such as credit and insurance decisions, public services provision and aid allocation, health care monitoring and public safety. The reliance on AI to optimize decision-making processes often fails to consider the diverse patterns of minority groups, leading to biased or inefficient outcomes in high-stakes contexts, such as medical diagnostics or facial recognition, where the costs of errors can be severe. In LAC, some concerns arise in the deployment of social protection systems that, for instance, can inadvertently exclude marginalized groups due to biased data collection or human-defined parameters. Similarly, surveillance technologies in public areas raise critical questions about privacy and potential discrimination.

The exclusion of Indigenous and regional languages from AI training data compounds these challenges in the region. Despite the use of these languages, their underrepresentation in AI models leads to suboptimal performance and cultural erasure, thereby limiting access to AI-driven services for millions of people. Even when AI systems function in Spanish, their design, rooted in dominant languages like English or Chinese, creates inefficiencies and reinforces linguistic inequality. This forces local communities to bear with existing AI models, which intensifies disparities in digital access and AI adoption.

LAC's historical underrepresentation in global technological decision-making further limits its ability to influence the design and governance of AI. This highlights the need for region-specific strategies to ensure that AI development supports local growth, rather than reinforcing dependency on external stakeholders. Addressing these systemic challenges include developing culturally inclusive AI models that reflect the region's diversity, integrating local languages into AI systems and fostering digital sovereignty through locally driven innovation. A tailored approach to AI governance, grounded in the principles of inclusion and sustainability, can ensure that the region benefits from AI advancements while preserving its cultural, social and environmental assets.

A significant step towards technological sovereignty is the development of *Latam GPT*, a large language model (LLM) to be launched in September 2025. Led by Chile's National Center for Artificial Intelligence (CENIA) it was collaboratively created by more than 30 institutions and over 60 AI experts across the region. Unlike models built with data from the Global North, *Latam GPT* is being developed with regionally sourced data systems to reflect the cultural, historical and linguistic realities of the region. Chile will host the model's infrastructure, powered by a new supercomputer, an unprecedented investment in regional AI capacity. *Latam GPT* is designed to be public,

Box 3.6 Harnessing AI to preserve Indigenous languages and empower communities

AI offers transformative opportunities for preserving Indigenous cultural heritage and empowering communities across LAC. According to the World Atlas of Languages, over 550 Indigenous languages are spoken in the region, and many face a risk of extinction as intergenerational transmission diminishes (UNESCO, 2024). AI-driven tools, such as natural language processing models, can play a crucial role in revitalizing endangered languages, which disproportionately include Indigenous languages.

AI can document, translate and teach endangered languages, preserving oral traditions, creating digital dictionaries and developing language-learning applications. For instance, AI algorithms trained on Indigenous texts and recordings can generate teaching resources tailored to younger generations. Projects like the *Indigenous Languages Digital Archive* in North America have showcased how AI can facilitate the digitization of vast linguistic records, making them accessible to scholars and communities alike (Myaamia Center, 2021). Scaling these efforts in LAC, however, remains a challenge due to the region's linguistic diversity and varying levels of digital infrastructure.

While AI holds immense potential, its integration into Indigenous contexts must prioritize ethical considerations. AI initiatives should adhere to frameworks like the Nagoya Protocol, which emphasizes access and benefit-sharing for traditional knowledge and genetic resources (Convention on Biological Diversity, 2011). Indigenous communities must retain ownership of the data they generate and be actively involved in co-designing AI systems to ensure cultural sensitivity and equitable outcomes. By embedding principles of transparency and fairness, AI can foster trust and genuine collaboration. Ultimately, investing in AI for Indigenous languages not only preserves cultural heritage but also strengthens the resilience and inclusion of communities.

open and inclusive, facilitating a wide range of applications in education, public policy and the preservation of non-hegemonic languages (Gobierno de Chile, 2025).

A Brazilian AI company called WideLabs launched *Amazônia* AI, a locally developed LLM designed to reflect the country's linguistic and cultural nuances, offering a more localized and accurate experience for Portuguese-speaking users. Focused on the corporate market, WideLabs also introduced *Amazônia 360*, the country's first sovereign AI platform, as a service. This platform enables public and private organizations to maintain full control over their data, providing customizable AI solutions that support data management and enhance decision-making across various business sectors (BNamericas, 2025).

The gendered impact of bias in algorithms

LAC faces entrenched gender inequalities, including pay gaps, informal employment, gender-based violence and underrepresentation in STEM fields. For instance, women in LAC are overrepresented in administrative and human resources roles, sectors highly susceptible to automation. This technological shift exacerbates economic precarity as women in the region already represent 54.3 percent of workers in informal employment, which rises to 61.8 percent in Central America. Additionally, women perform nearly three times more unpaid care work than men, equivalent to 21 percent of GDP (UNDP, 2024d). In health care, AI tools risk reinforcing biases that disproportionately harm women, especially Indigenous and Afro-descendant groups, as they may fail to detect risks or accurately diagnose conditions in women from these vulnerable groups. In finance, where only 67.6 percent of women have

Box 3.7 The political toll of digital gender violence

Political violence against women in LAC is rising, fuelled by gender inequality, political polarization and the growing use of digital platforms to spread harassment, disinformation and other forms of online abuse. Women in public office or political roles face discrimination and violence in diverse forms and intensities. Particularly alarming is the non-consensual dissemination of private images and the increasing use of deepfakes, AI-generated media that create false and sexually explicit content intended to humiliate and silence women. Such acts are part of a broader spectrum of technology-facilitated gender-based violence, including cyber harassment and doxing (the malicious publication of personal information) (IDEA Internacional, 2024).

Deepfakes, in particular, are an increasing concern as they have been used to harass and defame women, and have evolved to serve malicious purposes, including extortion, the illegal sale of explicit content, political manipulation and harassment. Deepfakes have become a gendered form of digital violence, revealing that 98 percent of deepfakes were sexual in nature, with 99 percent of victims being women, including women in politics, journalism and activists (Huffington Post, 2024). The weaponization of deepfakes for revenge or reputational harm is particularly damaging, as victims face significant challenges in disproving the authenticity of such content. This form of digital violence extends its repercussions beyond the online sphere, severely impacting victims' mental health, social standing and professional lives, often resulting in long-term trauma (Hidalgo, 2023).

These practices also serve to discourage women from participating in politics. UN Women conducted a study in 15 countries across the region and found that 80 percent of women who experienced online violence reduced their participation in social media, 40 percent self-censored, 33 percent changed jobs, and 25 percent lost or were not renewed in their positions. Additionally, 80 percent feared for their physical safety or lives, underscoring the profound consequences of digital political violence (Beck and others, 2022).

Gender-based political digital violence not only targets women but also disproportionately affects LGBTQI+ individuals, particularly those who experience multiple and intersecting forms of discrimination. Trans and non-binary people are especially vulnerable, as their visibility in digital spaces often exposes them to targeted harassment rooted in transphobia, homophobia, racism and other systemic biases. Online abuse—particularly through online harassment, cyberstalking, image-based exploitation and deepfakes—is increasingly used to intimidate, silence and discredit LGBTQI+ voices, particularly those engaged in political and public discourse. This intersectional violence not only inflicts psychological harm but also reinforces broader patterns of marginalization, deterring participation in civic life (UNFPA, 2024).

bank accounts versus 77 percent of men, AI-driven credit scoring may worsen disparities by undervaluing women's non-traditional income sources.

Gender bias in AI systems emerges as a pressing issue with significant implications for social equity and technological progress. As mentioned before, these biases often originate from historical inequalities embedded in the data used to train AI models, as well as from the lack of diversity in the composition of the teams designing and deploying these systems. Therefore, AI systems inherently reflect and potentially perpetuate these societal biases, exacerbating existing inequalities rather than addressing them. When left unchecked, gender bias in AI can reinforce harmful stereotypes and perpetuate systemic discrimination, impacting areas such as hiring practices, health care, access to financial services, and even everyday interactions with technology.

The underrepresentation of women in AI development further exacerbates these challenges. Although 4 out of 10 of STEM graduates in LAC are women, only 26 percent work in STEM professions, and fewer than 30 percent of patents include female inventors (UNDP, 2024a). This limited presence in AI governance leads to gender-blind algorithms that fail to account for women's specific needs.

In practice, gender biases are prevalent in various AI models, affecting multiple domains. For instance, Amazon's AI recruitment tool was discontinued after it was found to favour male candidates. In health care, algorithms have demonstrated bias in pain management, with women receiving less appropriate pain relief compared with men due to ingrained biases in the medical data used for training. Similarly, facial recognition technology has exhibited higher error rates for women, especially women of colour. In finance, AI-driven credit scoring systems have shown biases against women, resulting in fewer loan approvals. Additionally, smart digital assistants, like Siri and Alexa, often embody gender stereotypes by being designed with female voices, which reinforces traditional gender roles (Galdon-Clavell, 2025).

In LAC, several initiatives are making significant progress in addressing gender issues and leveraging AI to protect women in legal contexts, particularly in justice and gender-based violence prevention. In Argentina, AI is used in the justice sector to anonymize court data related to gender violence, enhancing transparency and enabling research. In Mexico, AI automates and digitalizes police reports for women victims of violence, reducing re-victimization and

streamlining support processes across institutions (Galdon-Clavell, 2025). In Jamaica, the *WE-Talk Project* utilizes AI to analyse online discussions about gender-based violence by examining search data, social media posts and other online content to understand public perceptions and develop targeted interventions that challenge harmful gender stereotypes (Oxfam, 2024).

Additionally, AI-powered chatbots have been developed to aid women in distress. In Mexico, a chatbot called "Violetta" that was created during the pandemic helps women identify emotions and recognize violence, empowering them to seek help. A chatbot known as "Sara" that was used in Central America and the Dominican Republic provides guidance to prevent violence. In Chile, the chatbot "Sof+IA" assists women in identifying and reporting violence, while also offering digital self-care tips and resources to combat isolation (Galdon-Clavell, 2025).

3.6.4 Cybersecurity in LAC: bridging the divide between reaction and preparedness

As AI systems become increasingly integrated into public services and critical infrastructure, strengthening cybersecurity is key to safeguarding human development gains. Cyberattacks on AI systems, particularly open data portals and transparency tools, can result in data breaches that expose sensitive personal information and jeopardize privacy (ITU, 2021). Mitigating this growing threat is necessary not only to protecting technological progress but also to ensuring that AI-driven transformation remains inclusive, secure and resilient against future challenges.

LAC has the world's fastest-growing rate of disclosed cyber incidents, averaging a 25 percent annual increase between 2014 and 2023 (Vergara, 2024). The region has experienced a surge in both the frequency and sophistication of cyberattacks targeting public institutions and businesses, with cascading effects on citizens, including disrupted access to essential services, identity theft and financial losses.

In Brazil, cyberattacks reached record levels in 2024, with nearly 14,000 incidents reported, half involving data breaches (Gabinete de Segurança Institucional, 2024). Costa Rica's social security system suffered a ransomware attack in 2022 that disrupted cash transfers and prompted the country to declare a state of emergency. That same year, Colombia experienced a significant health care data breach, exposing sensitive medical records and delaying critical services in hospitals. In 2023, a cyberattack disrupted 20 major Colombian government

websites—with repercussions extending to Chile, Argentina and Panama—due to shared infrastructure (Digi Americas Alliance and Duke University, 2024; La Silla Vacía, 2023). In the Caribbean, a data breach at Trinidad and Tobago's largest telecommunications provider compromised the personal data of more than 30,000 customers. Similarly, a breach of Jamaica's COVID-19 immigration portal in 2021 exposed the personal data of thousands of travellers (Watson, 2025).

Cyber incidents, including cybercrime, IT disruptions and ransomware, are now ranked by risk experts as the top threat to businesses of all sizes (Allianz, 2024). The attacks not only reach public entities but manage to spread to the private sector and business operations. Their rapid spread can impact a wide range of sectors, with e-commerce being particularly vulnerable. The prevalent use of mobile devices in the region has only amplified these vulnerabilities. In 2021, 69 percent of businesses reported experiencing a security incident. The countries with the highest percentage of ransomware detections were Ecuador (8 percent of surveyed businesses); Costa Rica (7.2 percent); Colombia (5.7 percent); Guatemala (5.2 percent); and El Salvador (5.1 percent) (ESET Latinoamérica, 2023).

In LAC, another concern is the significant rise in identity fraud. In the fintech sector during 2024, identity fraud rates increased by 151 percent in Mexico and Uruguay, 379 percent in Brazil, 84 percent in Colombia, and 31 percent in Peru. In the cryptocurrency sector, identity fraud rose by 136 percent in Argentina, 160 percent in Colombia, and 156 percent in Peru. As cybercriminals adopt advanced tools like GenAI, identity fraud is becoming more frequent and harder to detect, with AI used to impersonate identities and bypass security systems, highlighting the growing vulnerability of digital platforms (Latam Electronic Security Review, 2024).

Despite increased efforts in specialized IT and cybersecurity training, LAC faces a critical shortage of qualified professionals, with a gap of 600,000 experts (UNDP, 2025b). The issue is further exacerbated by outdated infrastructure, as 75 percent of countries lack critical infrastructure protection plans. The deployment of 5G communications also introduces new security challenges. The 5G networks, with high speed and low latency, increase vulnerabilities to sophisticated attacks, demanding advanced measures to secure data and prevent unauthorized access.

The financial cost of cyberattacks in LAC is projected to surpass US\$90 million annually by 2025, with approximately 18.5 million attacks expected each year (Digi Americas

Alliance and Duke University, 2024), highlighting the urgency for improved cybersecurity readiness across the region. However, fragmented cybersecurity efforts also limit effective responses. While countries like Brazil, Colombia, Chile, Argentina and Uruguay have made strides with advanced policies and investments, legal fragmentation and the absence of a unified operational agenda continue to impede effective regional coordination.

The consequences of weak cybersecurity frameworks are increasingly evident in LAC, where many organizations remain reactive and in the early stages of developing robust cybersecurity frameworks. The ITU's Global Cybersecurity Index shows that LAC is lagging globally, with many countries scoring below 2 on a scale from 0 to 12, with 0 marking the least robust cybersecurity framework. Brazil leads the region due to strong policies, while countries like Dominica and Honduras fall behind due to weak technical and organizational measures (figure 3.16).

Addressing LAC's cybersecurity challenges requires a coordinated, proactive approach that prioritizes strategic investment, human capacity-building and collaboration across sectors. First, strengthening data protection frameworks is key to safeguarding personal information. Second, LAC countries need to adopt a comprehensive strategy focused on securing digital infrastructure and building human capacity. A critical gap exists in cybersecurity training and awareness among public sector employees, which exposes government systems to increased risk as cyberattacks grow more sophisticated. Continuous training and investment in cybersecurity infrastructure and technology are essential. Governments should prioritize the adoption of advanced tools, such as cloud-based solutions, which have proven effective in enhancing resilience.

3.6.5 If left unregulated, the risks of AI can be exacerbated

The emergence of new technologies is often marked by regulatory frameworks that react to, rather than anticipate, emerging risks, leading to a significant gap between technological innovation and oversight. This regulatory lag poses challenges for ensuring that AI development aligns with safeguards against potential harms. A critical aspect of addressing this issue is the inclusion of voices from the Global South, frequently underrepresented in international discussions on technology governance (UNDP, 2025b).

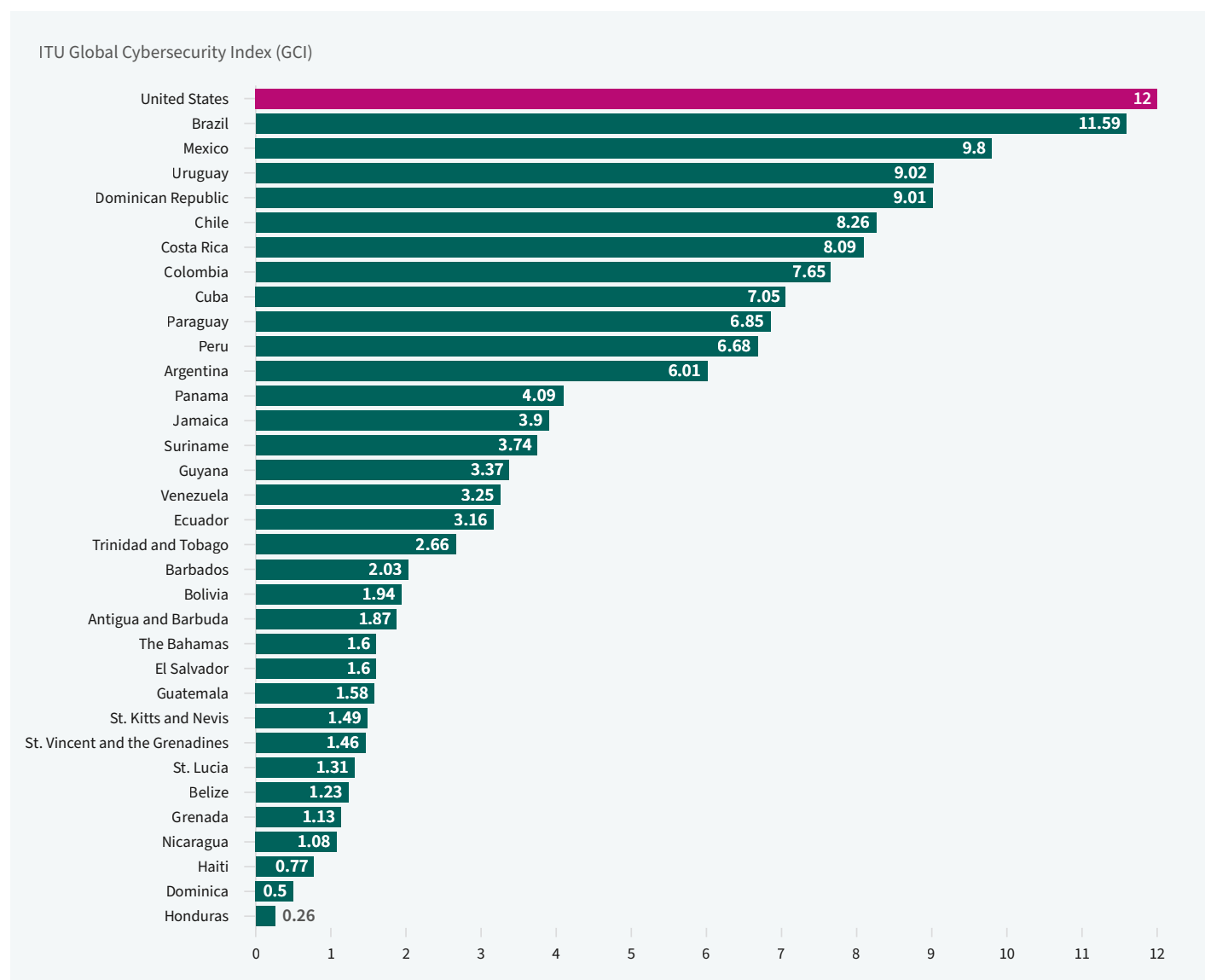
One of the earliest regional efforts was the 2018 Montevideo Declaration on Artificial Intelligence and Human Rights.

Building on this, the 2023 Santiago Declaration, adopted during the Ministerial and High-Authorities Summit of LAC, brought together 20 countries to establish a framework for equitable and inclusive AI development. The Declaration stressed the importance of aligning AI technologies with human rights, data protection, accountability and good governance, while also acknowledging the absence of developing countries in international AI policy discussions. It called for increased dialogue, research and national, regional and global cooperation to ensure more inclusive representation in AI development.

The consequences of weak cybersecurity frameworks are increasingly evident in LAC, where many organizations remain reactive and in the early stages of developing robust cybersecurity frameworks.

At the national level, AI regulations are for the most part in early stages of development, with several LAC countries formulating their own national AI strategies. Countries including Brazil, Chile, Colombia, Costa Rica, Peru, Mexico and Uruguay are leading the way in defining national

Figure 3.16 LAC lags in cybersecurity frameworks



Source: World Bank's GovTech Maturity Index (2022).

guidelines for AI development. These strategies, while diverse, share a focus on promoting local innovation while addressing key governance concerns.

Some LAC countries have taken steps to regulate AI and integrate ethical considerations into their development strategies, with a focus on reducing threats related to human rights, privacy, fairness, bias, discrimination, transparency, explainability and security. These efforts draw on global standards and advanced regulations. Argentina and Mexico reference UNESCO's AI Ethics Recommendation, Chile and Brazil adopt elements from the European Union's digital package, and Argentina aligns with OECD AI Principles. Brazil cites the Montreal Declaration for a Responsible Development of AI, while Mexico's proposal reflects UN Guiding Principles on Business and Human Rights. A recurring theme across these national strategies is the emphasis on ensuring cross-sectoral collaboration and engaging relevant national stakeholders in the AI ecosystem. This multi-stakeholder approach is seen as critical to fostering inclusive AI governance (Galdon-Clavell, 2025).

3.7 From pressure to opportunity: emerging technologies as catalysts for resilience

The promise of technological advances has historically captivated societies, blending optimism with apprehension. These advances, however, have often exacerbated inequalities and created tensions by disproportionately benefiting certain groups (Acemoglu and Johnson, 2023). This chapter has explored how rapidly evolving technologies led by AI differ not only in their unprecedented speed, but also in their wide-ranging impacts and disruptive potential across various dimensions of inequality, productivity and individual agency. These advances simultaneously heighten societal and economic pressures while also presenting opportunities to build resilience—provided that proactive strategies are adopted.

LAC stands at a critical juncture, where the region's ability to harness the AI transformation will depend on investments in three key enablers: human capital, infrastructure and data governance.

Human capital: building advanced digital skills

Investing in human capital is fundamental for fostering resilience and enabling individuals to navigate an AI-driven future. Advancements in technology increasingly shape the

accumulation and effective use of human capital. However, accumulating human capital as an asset also requires its productive use, suggesting a potentially virtuous (or vicious) cycle. The intensity with which human capital is used, particularly people's ability to work productively, may be significantly influenced by the spread of AI and digital technologies. For instance, the development of skills, particularly in digital and technological fields, enhances employability and income stability, ensuring that workers can adapt to evolving labour-market demands.

Beyond economic benefits, digital literacy enhances individuals' capabilities by expanding access to information, facilitating participation in decision-making, and fostering engagement with opportunities that improve quality of life. Digital competencies extend to broader human development outcomes. For instance, digital literacy enables individuals to access online health resources, utilization of banking services, engage in lifelong learning, and participate in digital governance initiatives that enhance transparency and accountability (OECD, 2024d).

Despite advancements in digital literacy and basic digital skills development, LAC continues to lag globally in technological appropriation, AI adoption, and advanced digital skills, including AI-related skills and programming. According to the 2023 Latin American Artificial Intelligence Index, 2.16 percent of the LAC population possesses the necessary technological skills for AI-related fields compared with the global average of 3.59 percent (CENIA, 2023). This illustrates the region's challenges in developing AI talent and the need for AI-focused educational programmes to close these gaps.

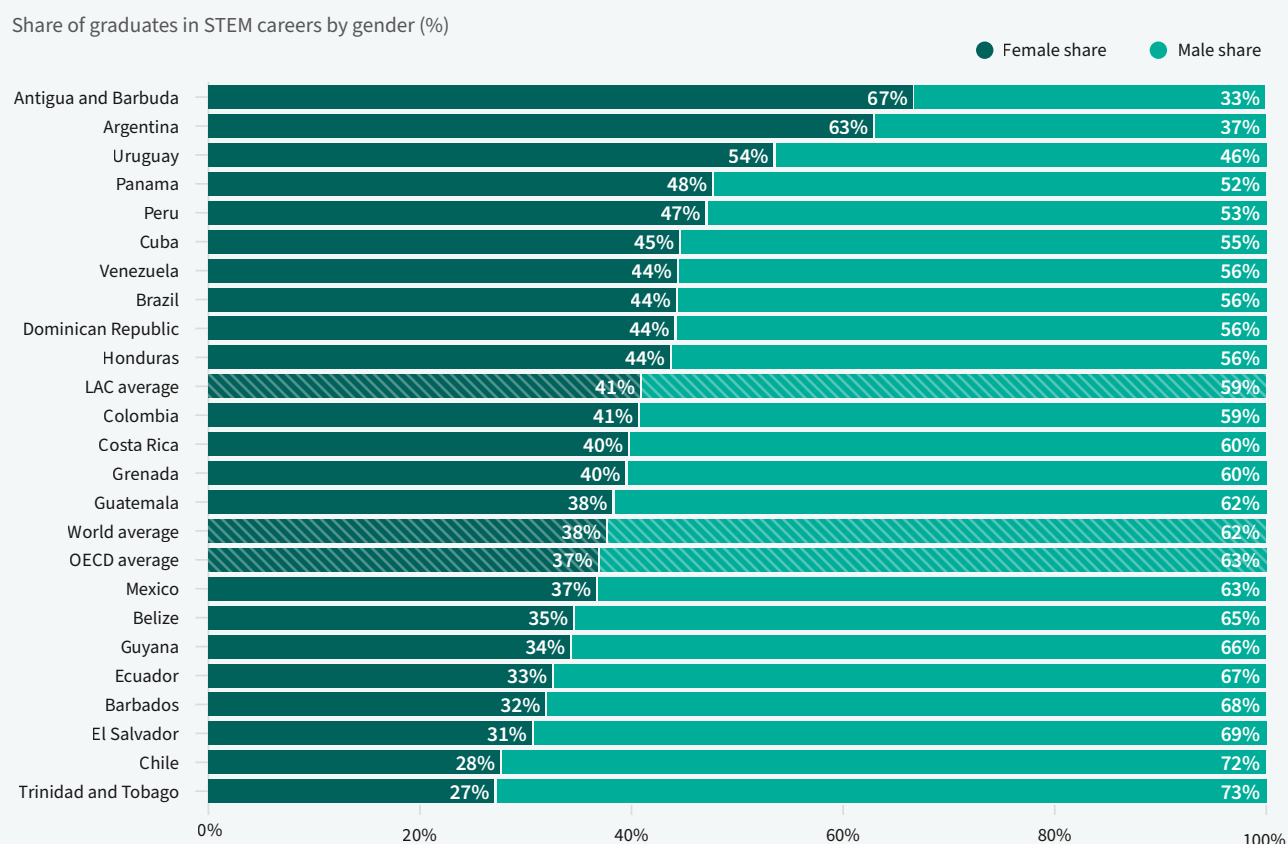
Addressing these deficits requires a robust focus on STEM education. STEM careers are not only among the fastest-growing globally but also strengthen resilience by fostering innovation and increasing employability. Early investments in STEM education, coupled with advanced training in digital capacities for AI deployment such as computer programming, data analytics and machine learning, could enhance productivity by up to 14 percent while reducing unemployment (Gmyrek and others, 2024). In the region, these initiatives can empower individuals to participate meaningfully in the digital economy and adapt to evolving labour-market demands. Moreover, integrating STEM with humanities, social sciences and ethics can foster a more holistic approach to technological development.

Targeted investments in human capital, including technical education, will enable workers to transition from low-

Box 3.8 Increasing women's participation in STEM field

As shown in figure 3.17, 41 percent of STEM graduates across LAC are women, higher than the global and OECD averages (38 percent and 37 percent, respectively). Despite this progress, fewer women are employed in STEM fields, raising questions about the barriers female graduates face to entering science and technology professions.

Figure 3.17 In LAC, 4 of 10 graduates in STEM are women, varying widely across countries



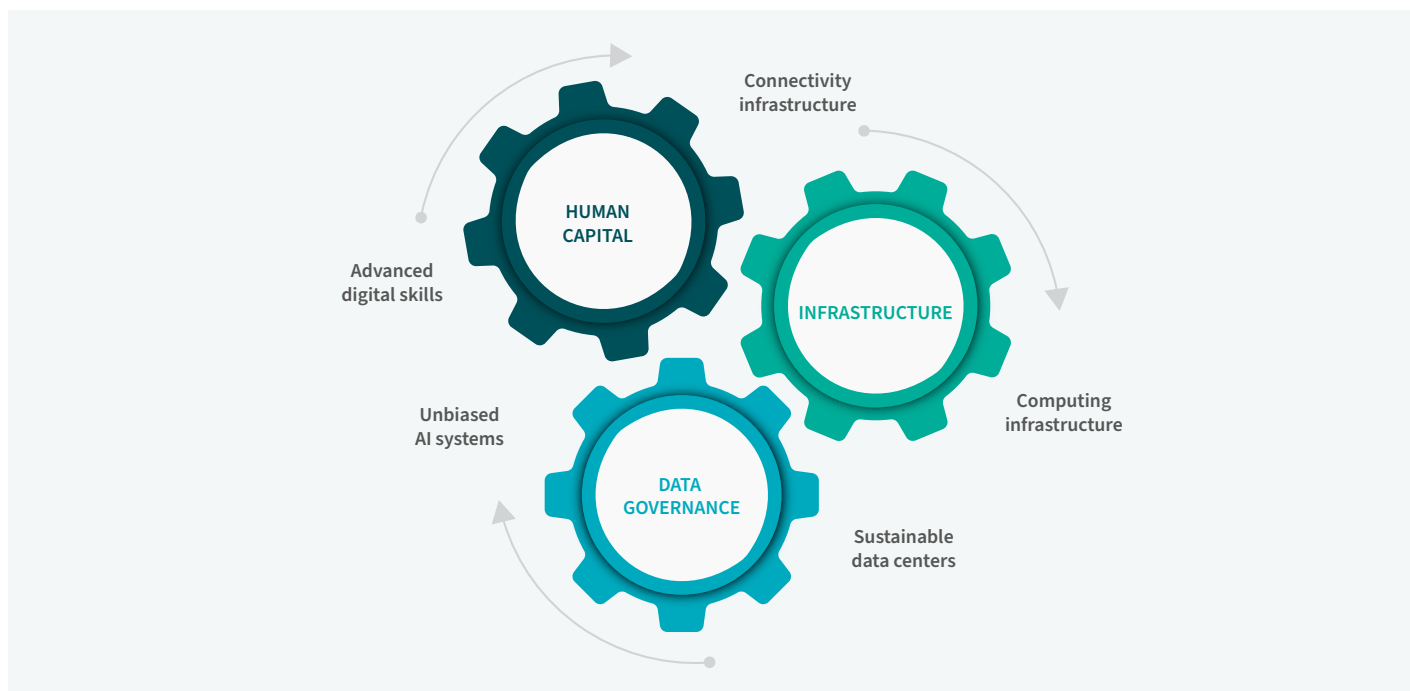
Notes: The shares represent the average participation of men and women in STEM-related graduate fields, encompassing Engineering, Manufacturing, Construction, Natural Sciences, Mathematics, Statistics, Science, and Technology. The regional average is calculated as a simple average of values from countries in LAC. The averages for OECD countries and the World are computed similarly.

Source: World Bank's Gender Data Portal, based on data collected by the UNESCO Institute for Statistics.

Although women graduate from tertiary education at higher rates than men and are overrepresented in fields like education (77 percent) and health (73 percent), achieving gender parity in STEM education and addressing employment obstacles in the region remain critical challenges. Beyond STEM education, a significant gender gap persists in STEM employment outcomes in the region. In the ICT sector, only 3 out of 10 employees are women, with variations across countries. For example, women hold 42 percent of ICT jobs in Guyana but only 22 percent in Argentina. This mirrors a global trend in which women hold just 28 percent of positions in science and engineering and are more often employed in health and care sectors. Factors contributing to the lower rates of STEM employment among women include foundational skill disparities, a lack of female role models, and cultural gender norms that discourage girls' interest in STEM fields. After graduation, women face further challenges, such as caregiving responsibilities, gender stereotypes and male-dominated work environments. These issues can lead to discrimination and harassment, limiting female representation in STEM careers. Policies must be designed through an inclusive lens that prioritizes broad engagement across sectors, with a strong focus on workforce development and technological upskilling.

Source: UNDP (2024a).

Figure 3.18 Enablers for rapidly evolving technologies



Source: Authors' elaboration.

LAC stands at a critical juncture, where the region's ability to harness the AI transformation will depend on investments in three key enablers: human capital, infrastructure and data governance.

wage roles to positions requiring more complex skills and greater autonomy and innovation. The benefits of investing in human assets extend beyond individual households to communities and economies. Improved educational outcomes and greater skills development contribute to collective resilience, enabling societies to recover more effectively from shocks. Ultimately, sustained investments in human capital development generate ripple effects that support broader economic and social stability (Ecker and others, 2025).

Digital infrastructure: Bridging the gap

Strengthening investment in physical assets, such as digital infrastructure, fosters inclusion and ensures that people can fully participate in an increasingly digital economy. Online connectivity serves as a foundation for leveraging other assets, such as human capital, by facilitating access to education, employment and digital services. The rise of the gig economy has increased reliance on household physical

assets, making personal equipment, such as computers and mobile devices, critical for income generation. However, individuals with limited access to devices or Internet connectivity risk falling further behind, diminishing their ability to accumulate human capital and secure future economic opportunities.

Although basic connectivity in LAC has improved in recent years, substantial disparities persist within countries, particularly between urban and rural areas and across socioeconomic groups. Limited access to high-speed broadband and digital devices continues to marginalize rural communities, constraining their access to education, employment and essential services. Investments in high-speed networks, such as fibre optics and 5G, along with policies to lower service costs, are initial steps in addressing these disparities. Increasing telecom competition and lowering import tariffs can reduce costs and increase affordability, while targeted subsidies for Internet access and devices can support marginalized communities and vulnerable populations.

Equally important are public-private partnerships and government policies that prioritize sustainable infrastructure development in underserved areas. These efforts must

include affordable access initiatives and digital skills training programmes, ensuring that no one is excluded from participating in the digital economy. Some examples in the region include Brazil's "Internet for All" programme, which has expanded broadband infrastructure to rural and underserved areas, addressing a critical barrier to digital inclusion. These efforts ensure that individuals not only gain access to the digital world but are also equipped to use it effectively to enhance their capabilities and achieve personal and societal goals.

Digital Public Infrastructure (DPI) is another priority investment that supports bridging the digital divide and improving service delivery in LAC. As traditional public services transition to online platforms, DPI serves as the backbone for interoperability among government systems, integrating physical digital infrastructure, such as connectivity and storage, with the applications built on them. DPI establishes foundational systems, including digital identification documents, interoperable databases and data-sharing platforms, enabling seamless and secure access to essential services. During the COVID-19 pandemic, countries with robust DPI reached over three times as many beneficiaries with social protection measures compared with countries without such infrastructure, demonstrating its critical role in fostering inclusive development (Clark and others, 2025). Thus, prioritizing DPI can enable more inclusive, efficient and resilient public services delivery

across the region. A more in-depth discussion of DPI can be found in chapter 6.

Data governance: the backbone of AI

The expansion of sustainable digital infrastructure should be accompanied by investments in data governance frameworks that emphasize inclusivity, security, and fairness, along with improvements in responsible data practices—ensuring data is collected, managed, and used to reduce biases and support transparent decision-making. AI models trained on responsible data are more likely to produce equitable outcomes in areas like health care and education, guiding evidence-based policies and fostering accountability. By maintaining control over data and its analysis, LAC countries can develop AI solutions that align with local priorities, cultural contexts and development goals, strengthening regional resilience and adaptability. However, since AI systems currently rely on historical data, existing disparities in data accessibility and accuracy can reinforce biases and inequalities.

The impact of bias in AI is particularly pronounced for marginalized groups who already face systemic barriers to asset accumulation (Ecker and others, 2025). Exclusionary social norms limit access to critical resources, perpetuating cycles of vulnerability. When AI models are built on biased data, they further disadvantage these populations by embedding and amplifying discriminatory patterns. Without proactive

Box 3.9 The near future of AI infrastructure

As AI models continue to rapidly evolve, the emergence of DeepSeek in December 2024 marks a significant shift in how these models are developed and deployed, challenging the dominance of a billion-dollar industry and intensifying discussions about the future of AI infrastructure investments. DeepSeek's low-cost AI model has disrupted the status quo, proving that cutting-edge AI can be developed more efficiently at a fraction of the traditional cost. Its launch signals a shift towards AI models that are open by default and less resource-intensive, further democratizing AI by reducing dependence on costly hardware bottlenecks. If this trend continues, it could fundamentally reshape the AI supply chain, weakening the dominance of a few key hardware manufacturers. This shift may also drive changes in investment priorities, pushing AI firms towards alternative architectures and energy-efficient computing solutions.

What does this mean for LAC? If regional policymakers, research institutions and the private sector align their strategies to leverage this transformation, LAC could bypass the structural barriers to AI adoption, including high infrastructure costs and reliance on foreign technology providers. As AI development and deployment become more cost-effective, the focus may shift from simply increasing computational power to optimizing AI models for efficiency and relevance. This presents an emerging opportunity to build AI systems tailored to regional priorities—such as AI applications for biodiversity conservation (see the Interlinkage #3 on AI and Biodiversity as an example). With these advancements, companies, startups, and even individuals in LAC could gain greater access to sophisticated AI development, unlocking new possibilities for innovation across multiple sectors.

interventions, AI-driven decisions in employment, financial services and public resource distribution risk deepening social inequalities rather than promoting fairness and inclusion.

A fundamental element in mitigating the risk of biased AI systems is the use of diverse and representative training data sets. Implementing techniques such as fairness-aware algorithms, adversarial debiasing and robust bias detection tools can help ensure equitable outcomes. Governments and regulators should take proactive measures, including mandating gender and bias audits for AI systems and ensuring transparency through public reporting of demographic data and model outcomes. With thoughtful design and responsible deployment, AI can transition from reinforcing bias to becoming a powerful tool for detecting and mitigating it, fostering a more accountable and equitable society (Galdon-Clavell, 2025).

Towards resilient digital ecosystems

To fully harness the transformative potential of rapidly evolving technologies, LAC requires a holistic approach that integrates human capital, infrastructure and data governance within a cohesive digital development ecosystem. Such an ecosystem connects public and private actors, institutions, academia and civil society, while fostering collaboration at both national and regional levels.

Multilateral cooperation and regional partnerships are fundamental to accelerate AI adoption and development

while addressing common challenges. By fostering collaboration among governments and the private sector—particularly small- and medium-sized companies, and civil society—LAC can generate a more inclusive and participatory approach to technological advancement.

Effective governance will be critical to implementing these strategies. Many LAC countries lack specific AI agendas, or existing strategies remain fragmented and insufficiently holistic. Strengthening institutional capacities is therefore crucial. This entails not only reinforcing existing frameworks but also creating new mechanisms to address the regional challenges posed by AI.

The technological revolution offers an opportunity for LAC to redefine its development trajectory and to advance human development. By investing in human capital, infrastructure and data governance, the region can build an inclusive and resilient digital ecosystem that drives innovation and fosters equitable growth. Realizing this vision will require coordinated efforts across multiple stakeholders and a commitment to regional collaboration. With strategic planning and sustained investment, LAC can not only mitigate the pressures of rapid technological change but also transform these pressures into catalysts for resilient human development.

Notes

1. The gig economy refers to a labor market characterized by short-term, task-based jobs where workers are typically paid per task or project, often coordinated through digital platforms.
2. The ITU defines Internet usage as having accessed the Internet at least once within the past three months.
3. According to the ITU, digital skills are categorized as basic, intermediate or advanced. Basic skills require proficiency in device operations, account set-up and Internet navigation. Intermediate skills encompass essential workplace tasks such as digital editing, graphic design and data analysis. Advanced skills are mandatory for Information and Communications Technology (ICT) professionals and include programming, cybersecurity, AI and big data, which are crucial for the development of technologies.
4. This section is based on Viollaz (2025), Regional Human Development Report 2025 Background Paper.
5. Estimates from the Online Labour Index (OLI), compiled by Oxford University and the International Labour Organization (ILO), provide data on the global supply of online gig workers, based on the location of workers active on major online labour platforms.
6. This section is based on Viollaz (2025), Regional Human Development Report 2025 Background Paper.
7. This section is based on Viollaz (2025), Regional Human Development Report 2025 Background Paper.
8. *Teleperformance* is a global BPO company with a strong presence in the region, offering services such as customer support, technical assistance, financial services, and content moderation.
9. The Internet of Things refers to a network of interconnected devices that collect data, analyze large data streams, and interact with each other and with users via cloud computing, embedded software, sensors, and human-machine interfaces (UNDP, 2025b)
10. This section is based on Galdon-Clavell (2025), Regional Human Development Report 2025 Background Paper.
11. This section is based on Galdon-Clavell (2025), Regional Human Development Report 2025 Background Paper.

References

- Acemoglu, Daron. 2024.** "The Simple Macroeconomics of AI." *National Bureau of Economic Research*, May. <https://doi.org/10.3386/w32487>.
- Acemoglu, Daron, and Pascual Restrepo. 2022.** "Tasks, Automation, and the Rise in U.S. Wage Inequality." *Econometrica* 90 (5): 1973–2016. <https://doi.org/10.3982/ecta19815>.
- Acemoglu, Daron, and Simon Johnson. 2023.** "Power and Progress: Our Thousand-Year Struggle Over Technology and Prosperity." New York: PublicAffairs.
- Ahuat, Elías Miguel and Juan Roberto Hernández. 2025.** "Riesgos Emergentes: Empleo en plataformas digitales. Perspectivas sobre la informalidad y nuevas formas de informalidad ante el auge de la economía digital y el trabajo por plataformas, Caso Guatemala". *Regional Human Development Report 2025 Background Paper. No. 54 UNDP LAC Working Paper Series*.
- Allianz Commercial. 2024.** "Allianz Risk Barometer 2024". Munich: Allianz Group.
- Anshari, Muhammad, Mahani Hamdan, Norainie Ahmad, and Emil Ali. 2025.** "Public service delivery, artificial intelligence and the sustainable development goals: trends, evidence and complexities." *Journal of Science and Technology Policy Management* 16, no. 1 : 163-181
- Annarelli, Alessandro, Fabio Nonino, and Giulia Palombi. 2020.** "Understanding the Management of Cyber Resilient Systems." *Computers & Industrial Engineering* 149 (November): 106829. <https://doi.org/10.1016/j.cie.2020.106829>.
- Bakker, Bas B., Beatriz Garcia-Nunes, Weicheng Lian, Yang Liu, Camila Perez Marulanda, Adam Siddiq, Mariusz Sumlinski, Dmitry Vasilyev, and Yuanchen Yang. 2023.** "The Rise and Impact of Fintech in Latin America". *Fintech Note* 2023/003. Washington, DC: International Monetary Fund. <https://www.elibrary.imf.org/view/journals/063/2023/003/article-A001-en.xml>
- Bakker, Bas B., Sophia Chen, Dmitry Vasilyev, Olga Beshpalova, Moya Chin, Daria Kolpakova, Archit Singhal, and Yuanchen Yang. 2024.** "What Can Artificial Intelligence Do for Stagnant Productivity in Latin America and the Caribbean?", IMF Working Papers
- Beck, Ingrid, Florencia Alcaraz, and Paula Rodríguez. 2022.** "Violencia de Género en Línea hacia Mujeres con Voz Pública: Impacto en la Libertad de Expresión". *Resumen Ejecutivo*. Ciudad de Panamá: ONU Mujeres y Alianza Regional por la Libre Expresión e Información.
- Beland, Louis-Philippe, and Richard Murphy. 2016.** "Ill Communication: Technology, Distraction & Student Performance." *Labour Economics* 41: 61–76. <https://www.sciencedirect.com/science/article/abs/pii/S0927537116300136?via%3Dihub>.
- Beneito, Pablo, and Vicente-Chirivella, Oscar. 2022.** "Banning Mobile Phones in Schools: Evidence from Regional-Level Policies in Spain." *Applied Economic Analysis* 30 (88): 1-22. <https://www.emerald.com/insight/content/doi/10.1108/aea-05-2021-0112/full/pdf>.
- BNamericas. 2025.** "WideLabs launches Amazônia 360, Brazil's first sovereign AI platform." 13 de marzo. <https://www.bnamericas.com/en/news/widelabs-launches-amazonia-360-brazils-first-sovereign-ai-platform>.
- Bosch, Mariano, Daniel Lederman, and William F. Maloney. 2019.** "Productivity and the Misallocation of Resources in Latin America." *World Bank Policy Research Working Paper No. 8707*, 2019. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/617631560206318385/productivity-and-the-misallocation-of-resources-in-latin-america>.
- Böttger, Tobias, and Klaus Zierer. 2024.** "To Ban or Not to Ban? A Rapid Review on the Impact of Smartphone Bans in Schools on Social Well-Being and Academic Performance." *Education Sciences* 14 (8): 906. <https://doi.org/10.3390/educsci14080906>
- Brussevich, M., Dabla-Norris, E., and Khalid, S. 2019.** "Is Technology Widening the Gender Gap? Automation and the Future of Female Employment". IMF Working Papers.
- Bustelo, Monserrat, Pablo Egaña del Sol, Laura Ripani, Nicolás Soler, and Mariana Viollaz. 2020.** "Automation in Latin America: Are Women at Higher Risk of Losing Their Jobs?" <https://doi.org/10.18235/0002566>
- Cámara de Diputados de Chile. 2024.** "Cámara aprueba regular el uso de celulares en establecimientos educacionales." <https://www.camara.cl/cms/camara-aprueba-regular-el-uso-de-celulares-en-establecimientos-educacionales/>.
- Cazzaniga, Mauro, Florence Jaumotte, Longji Li, Giovanni Melina, Augustus J. Panton, Carlo Pizzinelli, Emma Rockall y Marina M. Tavares. 2024.** "Gen-AI: Artificial Intelligence and the Future of Work". <https://www.imf.org/en/Publications/Staff-Discussion-Notes/Issues/2024/01/14/Gen-AI-Artificial-Intelligence-and-the-Future-of-Work-542379>
- CENIA (Centro Nacional de Inteligencia Artificial). 2023.** "Latin American Artificial Intelligence Index 2023". Santiago, Chile: CENIA, 2023. <https://2023.indicelatam.cl/home-en/>
- Center for Cybersecurity Policy and Law. 2024.** "Informe LATAM CISO 2024: Preparación Cibernética en los Sectores Públicos de América Latina: Lecciones de la Primera Línea". Belisario Contreras, Alexis Steffaro, Inés Jordan-Zoob, eds. Duke University.
- Cháidez, Azucena. 2025.** "Retratos de La Resiliencia En El Campo: Investigación Cualitativa Sobre Riesgo, Resiliencia Y Desarrollo." *Regional Human Development Report 2025 Background Paper. No. 49 UNDP LAC Working Paper Series*.

Clark, Julia, Georgina Marin, Oya Pinar Ardic Alper, and Guillermo Galicia Rabadan. 2025. "Digital Public Infrastructure and Development: A World Bank Group Approach". Digital Transformation White Paper, Volume 1. Washington, DC: World Bank. <https://openknowledge.worldbank.org/entities/publication/ccca2963e-27bf-4dbb-aa5a-24a0ffc92ed9>

Cloud Carib. 2025. "The Case for Digital Sovereignty in the Caribbean: A CARICOM Strategic Imperative." Cloud Carib Blog. <https://info.cloudcarib.com/blog/the-case-for-digital-sovereignty>

Cohen, Jared. 2024. "The Next AI Debate Is About Geopolitics." Foreign Policy. <https://foreignpolicy.com/2024/10/28/ai-geopolitics-data-center-buildout-infrastructure/>

Convention on Biological Diversity. 2011. "Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization to the Convention on Biological Diversity." Montreal: Secretariat of the Convention on Biological Diversity. <https://www.cbd.int/abs/doc/protocol/nagoya-protocol-en.pdf>

Crunchbase. 2025. <https://www.crunchbase.com>.

Data Center Map. 2025. "Data Center Map: Colocation, Cloud and Connectivity". <https://www.datacentermap.com/>

Datta, N. and Ruo Chen. 2023. "Working without Borders: The Promise and Peril of Online Gig Work". World Bank, Washington, D.C.

Digi Americas Alliance and Duke University. 2024. "Cyber Readiness in Latin American Public Sectors: Lessons from the Frontline." <https://www.centerforsecuritypolicy.org/insights-and-research/new-report-highlights-need-for-investment-to-reduce-systemic-risks-of-ransomware-in-latin-america>

Ecker, Salome, Sandra Martínez-Aguilar, and Eduardo Ortiz-Juárez. 2025. "Unequal Assets, Uneven Resilience: Mapping Poverty Quadrants and Opportunities." *Regional Human Development Report 2025 Background Paper. No. 51 UNDP LAC Working Paper Series.*

ECLAC (Economic Commission for Latin America and the Caribbean). 2022. "A Digital Path for Sustainable Development in Latin America and the Caribbean." <https://www.cepal.org/en/publications/48461-digital-path-sustainable-development-latin-america-and-caribbean>.

———. **2023a.** "CEPALSTAT Bases de Datos Y Publicaciones Estadísticas." <https://statistics.cepal.org/portal/cepalstat/dashboard.html?theme=1&lang=es>.

———. **2023b.** "El Sector Minero En América Latina Y El Caribe: Tendencias Y Perspectivas. Presentación En La XIII Conferencia Anual de Ministerios de Minería de Las Américas (CAMMA)." *Economic Commission for Latin America and the Caribbean.*

———. **2024a.** "Economía de Internet: Crecimiento Con Poca Presencia de Pymes I Observatorio de Desarrollo Digital." Cepal. <https://desarrollodigital.cepal.org/es/datos-y-hechos/economia-de-internet-crecimiento-con-poca-presencia-de-pymes>.

———. **2024b.** "Empresas Unicornio. 2024." <https://desarrollodigital.cepal.org/es/datos-y-hechos/empresas-unicornio>.

———. **2025.** "Overcoming Development Traps in Latin America and the Caribbean in the Digital Age: The Transformative Potential of Digital Technologies and Artificial Intelligence." <https://www.cepal.org/en/publications/81383-overcoming-development-traps-latin-america-and-caribbean-digital-age>.

ECLAC (Economic Commission for Latin America and the Caribbean), and ILO (International Labour Organization).

2024. "Employment Situation in Latin America and the Caribbean. Labour Market Inclusion of Young People and Redistribution of Care Work: Challenges and Opportunities." <https://www.cepal.org/en/publications/68805-employment-situation-latin-america-and-caribbean-labour-market-inclusion-young>.

ECLAC (Economic Commission for Latin America and the Caribbean), and UNESCO (United Nations Educational, Scientific and Cultural Organization). 2024

"G7 Toolkit for Artificial Intelligence in the Public Sector." https://www.oecd.org/content/dam/oecd/en/publications/reports/2024/10/g7-toolkit-for-artificial-intelligence-in-the-public-sector_f93fb9fb/421c1244-en.pdf.

ESET Latinoamérica. 2023. "ESET Security Report Latinoamérica 2023." <https://web-assets.esetstatic.com/wls/es/articulos/reportes/eset-security-report-latam2023.pdf>.

Filippi, Emilia, Mariasole Bannò, and Sandro Trento. 2023.

"Automation Technologies and the Risk of Substitution of Women: Can Gender Equality in the Institutional Context Reduce the Risk?" *Technological Forecasting and Social Change* 191: 122528. <https://doi.org/10.1016/j.techfore.2023.122528>.

Frederick, Stacey. 2024. "LAC Participation in the Digitally Enabled Business Process-Related Services Ecosystem." <https://scioteca.caf.com/handle/123456789/2232>.

Gabinete de Segurança Institucional. 2024. "Estatísticas Resultantes Do Trabalho de Detecção, Triagem, Análise E Resposta a Incidentes Cibernéticos." CTIR Gov - Centro de Prevenção, Tratamento E Resposta a Incidentes Cibernéticos de Governo. <https://www.gov.br/ctir/pt-br/assuntos/ctir-gov-em-numeros/visao-geral-cap>.

Galdon-Clavell, Gemma. 2025. "Gender Bias in AI: Risks and Opportunities for Latin America and the Caribbean." *Regional Human Development Report 2025 Background Paper. No. 45 UNDP LAC Working Paper Series*

García Jaramillo, Sandra. 2020. "COVID-19 and primary and secondary education: The impact of the crisis and public policy implications for Latin America and the Caribbean." *VICross-sectional visions* 167 (2020): 233.

Gmyrek, Paweł, Hernan Winkler, and Santiago Garganta. 2024. "Buffer or Bottleneck? Employment Exposure to Generative AI and the Digital Divide in Latin America." *ILO*. <https://doi.org/10.54394/TFZY7681>.

Gobierno de Chile. 2024. "Latam GPT: Learn about the Latin American AI model developed in Chile." <https://www.gob.cl/en/news/latam-gpt-learn-about-the-latin-american-ai-model-developed-in-chile>.

GSMA. 2024. "The State of 5G 2024: Introducing the GSMA Intelligence 5G Connectivity Index". February 2024, <https://www.gsmainelligence.com/research/the-state-of-5g-in-2024>.

Gudynas, Eduardo. 2015. "Extractivismos: Ecología, economía y política de un modo de entender el desarrollo y la naturaleza." Cochabamba: CEDIB/CLAES.

Gutiérrez, Francisca. 2024. "Precariedad Consentida: Las Contradicciones del Trabajo en las Plataformas Digitales." Tercera Dosis. <https://terceradosis.cl/2024/10/04/precariadad-consentida-las-contradicciones-del-trabajo-en-las-plataformas-digitales>.

GWJ (GlobalWebIndex). 2024. "The 2024 Social Media Trends Report." <https://www.gwi.com/reports/social>.

Hidalgo, Nidia. 2023. "Deepfakes: Gender-Based Violence in the Era of Artificial Intelligence." <https://blogs.iadb.org/igualdad/en/deepfakes-gender-based-violence-in-the-era-of-artificial-intelligence/>.

Huffingto ost. 2024. "Deepfakes: El Porno Digital Falso que Usa la IA para Atacar a Mujeres Políticas, Activistas y Periodistas." *HuffPost España*, February 29, 2024.

IDB (Inter-American Development Bank). 2019. "Panorama Del Estado de Salud En América Latina Y El Caribe."

———. 2020. "The future of work in Latin America and the Caribbean: How can technology facilitate job recovery after COVID-19?" Inter-American Development Bank, Washington, D.C.

———. 2022. "Fintech in Latin America and the Caribbean: A Consolidated Ecosystem for Recovery." *Washington, DC*. <https://doi.org/10.18235/000420>.

———. 2023. "The Gig Economy and Financial Inclusion of Women in Latin America."

IDEA Internacional. 2024. "Violencia política de género en la esfera digital en América Latina." <https://www.idea.int/sites/default/files/2024-12/violencia-politica-de-genero-en-esfera-digital-america-latina.pdf>.

IEA (International Energy Agency). 2023. "Latin America Energy Outlook 2023." París. <https://www.iea.org/reports/latin-america-energy-outlook-2023>.

———. 2024. "Electricity 2024." International Energy Agency. <https://www.iea.org/reports/electricity-2024>.

ILO (International Labour Organization). 2022. "Digital Transition, Technological Change and Productive Development Policies in LAC: Challenges and Opportunities." *Lima: ILO Regional Office for Latin America and the Caribbean*. https://www.ilo.org/sites/default/files/wcmsp5/groups/public/%40americas/%40oro-lima/documents/publication/wcms_849272.pdf.

———. 2025. "Realizing Decent Work in the Platform Economy." *Geneva: International Labour Office*. <https://www.ilo.org/sites/default/files/2025-02/ILC113-V%282%29-%5BWORKQ-241129-001%5D-Web-EN.pdf>.

ILO (International Labour Organization) and University of Oxford (2024). Online Labour Index. <http://onlinelabourobservatory.org>.

ITU (International Telecommunication Union). 2024 "Data Explorer." ITU DataHub. <https://datahub.itu.int/data/>.

Kearney. 2022. The Internet Value Chain 2022: A Perspective on the Internet Value Chain and the Dynamics Driving It. <https://www.kenney.com/communications-media-technology/article/-/insights/the-internet-value-chain-2022-a-perspective-on-the-internet-value-chain-and-the-dynamics-driving-it>.

Khanal, Shaleen, Hongzhou Zhang, and Araz Taeihagh. 2024. "Building an AI Ecosystem in a Small Nation: Lessons from Singapore's Journey to the Forefront of AI." *Humanities and Social Sciences Communications* 11, Article number: 866 (2024). <https://www.nature.com/articles/s41599-024-03289-7>.

La Silla Vacía. 2024. "Gobierno Demandará a Empresa Que Recibió Ciberataque a Entidades del Estado."

Latam Electronic Security Review. 2024. "A Marked Increase in Deepfakes Is Reported throughout Latin America." <https://www.ventasdeseguridad.com/en/news/latest-news/431-enterprises/24355-a-marked-increase-in-deepfakes-is-reported-throughout-latin-america.html>.

Lebdoui, Amir, Angel Melguizo, and Victor Muñoz. 2025. "From a Resource-Intensive to a Symbiotic Tech." *Regional Human Development Report 2025 Background Paper. No. 43 UNDP LAC Working Paper Series*.

Lepawsky, Josh. 2024. "Climate change induced water stress and future semiconductor supply chain risk." *Iscience* 27, no. 2 (2024).

Leyton García, J., and Azócar Simonet, R. 2022. “Análisis Crítico de la Regulación del Trabajo en Plataformas en Chile, Introducida al Código del Trabajo por la Ley Nro. 21.431.” *Revista Jurídica del Trabajo* 3 (7): 162–195. <http://revistajuridicadeltrabajo.com/index.php/rjt/article/view/126>.

Madariaga, J., Buenadicha, C., Molina, E. and Ernst, Ch. 2019. “Platform Economy and Employment: What Is It Like to Work for an App in Argentina.” CIPPEC, IDB, and ILO, Buenos Aires.

Microsoft. 2023. “La IA y las PyMEs: un análisis de su adopción e impacto.” *Microsoft News Latinoamérica*. <https://news.microsoft.com/source/latam/noticias-de-microsoft/la-ia-y-las-pymes-un-analisis-de-su-adopcion-e-impacto/>.

Morales Cerda, Matías. 2025. “Sharing Risks beyond Social Insurance in LAC.” *Regional Human Development Report 2025 Background Paper. No. 48 UNDP LAC Working Paper Series*.

Msweli, N. T., and T. Mawela. 2020. “Enablers and Barriers for Mobile Commerce and Banking Services Among the Elderly in Developing Countries: A Systematic Review.” In *Responsible Design, Implementation and Use of Information and Communication Technology*, edited by Marié Hattingh, Machdel Matthee, Hossana Smuts, Ioannis Pappas, Yogesh K. Dwivedi, and Matti Mäntymäki, 346–358. *Lecture Notes in Computer Science*, vol. 12067. Cham: Springer, 2020.

Myaamia Center. 2021. “Indigenous Languages Digital Archive” (ILDA). Miami University. <https://mc.miamioh.edu/nbol/ilda-prospective>

OECD (Organisation for Economic Co-operation and Development). 2022. “Framework for the Classification of AI Systems.” *Paris*: <https://www.oecd.org/going-digital/ai/classification/>.

———. **2023a.** “Skills in Latin America: Insights from the Survey of Adult Skills (PIAAC).” <https://doi.org/10.1787/5ab893f0-en>.

———. **2023b.** “PISA 2022 Results (Volume I).” *Programme for International Student Assessment*. Paris: OECD Publishing. <https://doi.org/10.1787/53f23881-en>.

———. **2024a.** “Framework for the Classification of AI Systems: 2024 Update.” *Paris: Organisation for Economic Co-Operation and Development*. <https://www.oecd.org/digital/ai/classification/>.

———. **2024b.** “Going Digital Toolkit.” <https://goingdigital.oecd.org>.

———. **2024c.** “Main Science and Technology Indicators.” OECD. <https://www.oecd.org/en/data/datasets/main-science-and-technology-indicators.html>.

———. **2024d.** “OECD Digital Economy Outlook 2024 (Volume 1).” https://www.oecd.org/en/publications/2024/05/oecd-digital-economy-outlook-2024-volume-1_d30a04c9.html.

OECD (Organisation for Economic Co-operation and Development), CAF (Development Bank of Latin America and the Caribbean), and SELA (Latin American Economic System). 2024. “SME Policy Index: Latin America and the Caribbean 2024: Towards an Inclusive, Resilient, and Sustainable Recovery, SME Policy Index.” *OECD Publishing, Paris*, July. <https://doi.org/10.1787/ba028c1d-en>.

OECD (Organisation for Economic Co-operation and Development), and UNESCO (United Nations Educational, Scientific and Cultural Organization). 2024. “G7 Toolkit for Artificial Intelligence in the Public Sector.” https://www.oecd.org/content/dam/oecd/en/publications/reports/2024/10/g7-toolkit-for-artificial-intelligence-in-the-public-sector_f93fb9fb/421c1244-en.pdf.

Oxfam Canada. 2024. “How Artificial Intelligence Enriches Data to Reduce Gender-Based Violence in Jamaica.” <https://www.oxfam.ca/story/how-artificial-intelligence-enriches-data-to-reduce-gender-based-violence-in-jamaica>.

Peñarredonda, José Luis. 2023. “Rappi: The App Trying to Do Everything for Everyone in Latin America.” *Rest of World*, May 18, 2023. <https://restofworld.org/2023/rappi-everything-app-latin-america/>.

Pérez-Mendoza, Edgar, Carlos Ariel Calderón-Bernal, and Jorge Maldonado. 2023. “Artificial Intelligence in Public Sector in Latin America: Mapping Its Uses and Implementation Challenges.” *Journal of Science and Technology Policy Management*.

Rodrik, Dani. 2016. “Premature Deindustrialization.” *Journal of Economic Growth* 21, no. 1 (2016): 1–33. <https://doi.org/10.1007/s10887-015-9122-3>.

Scialabba, Eliana. 2025. “MercadoLibre: The Giant Redefining Consumption in Latin America.” *Seeking Alpha*, April 3, 2025. <https://seekingalpha.com/article/4772732-mercadolibre-giant-redefining-consumption-latin-america>.

Slattery, P., Saeri, A.K., Grundy, E.A., Graham, J., Noetel, M., Uuk, R., Dao, J., Pour, S., Casper, S. and Thompson, N., 2024. “The AI risk repository: A comprehensive meta-review, database, and taxonomy of risks from artificial intelligence”. *arXiv preprint arXiv:2408.12622*.

Sunkel, G., and Ullmann, H. 2019. “Older Adults in the Digital Age in Latin America: Bridging the Digital Divide”. *ECLAC Review* N° 127.

Sunkel, Guillermo, and Daniela Trucco. 2012. “Las tecnologías digitales frente a los desafíos de una educación inclusiva en América Latina: algunos casos de buenas prácticas”. Santiago de Chile: Comisión Económica para América Latina y el Caribe (CEPAL). <https://repositorio.cepal.org/handle/11362/21658>.

Svampa, Maristella. 2019. “Neo-extractivism in Latin America: Socio-environmental Conflicts, the Territorial Turn, and New Political Narratives”. Cambridge: Cambridge University Press. <https://doi.org/10.1017/9781108752589>

The Economist. 2024. “Suck up to Your Fake CEO.”

Tushman, M., W. K. Smith, R. C. Wood, G. Westerman, and C. O'Reilly. 2010. “Organizational Designs and Innovation Streams.” *Industrial and Corporate Change* 19 (5): 1331–66. <https://doi.org/10.1093/icc/dtq040>.

UNCTAD (United Nations Conference on Trade and Development). 2019. “Digital Economy Report 2019: Value Creation and Capture—Implications for Developing Countries.” Geneva: UNCTAD. https://unctad.org/system/files/official-document/der2019_en.pdf.

———. 2021. “Digital Economy Report 2021: Cross-Border Data Flows and Development – for Whom the Data Flow.” https://unctad.org/system/files/official-document/der2021_en.pdf.

———. 2025. “Technology and Innovation Report: Inclusive Artificial Intelligence for Development.” https://unctad.org/system/files/official-document/tir2025_en.pdf.

UNDESA (United Nations Department of Economic and Social Affairs). 2024 “UN E-Government Survey 2024: The Future of Digital Government”. <https://publicadministration.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2024>.

UNDP (United Nations Development Programme). 2021. “Trapped: High Inequality and Low Growth in Latin America and the Caribbean.” Regional Human Development Report 2021.

———. 2024a. “Coded Bias: The Underrepresentation of Women in STEM in Latin America and the Caribbean.” <https://www.undp.org/latin-america/blog/coded-bias-underrepresentation-women-stem-latin-america-and-caribbean>.

———. 2024b. “Missed Connections: An Incomplete Digital Revolution in Latin America and the Caribbean.” <https://www.undp.org/latin-america/blog/missed-connections-incomplete-digital-revolution-latin-america-and-caribbean-0>.

———. 2024c. “Riding the Digital Wave: Will Latin America and the Caribbean Take Its Shot at Reshaping Productivity?” <https://www.undp.org/latin-america/blog/riding-digital-wave-will-latin-america-and-caribbean-take-its-shot-reshaping-productivity>.

———. 2024d. “The Missing Piece: Valuing Women’s Unrecognized Contribution to the Economy.” <https://www.undp.org/latin-america/blog/missing-piece-valuing-womens-unrecognized-contribution-economy>.

———. 2025a. “(Still) under the Mattress: LAC’s Incomplete Bancarization.” <https://www.undp.org/latin-america/blog/still-under-mattress-lacs-incomplete-bancarization>.

———. 2025b. “Atlas of Artificial Intelligence for Latin America and the Caribbean.” <https://www.undp.org/latin-america/publications/atlas-artificial-intelligence-latin-america-and-caribbean>.

———. 2025c. “Data in the Clouds, Centers on the Ground: The Role of Data Centers in LAC’s Digital Future.” <https://www.undp.org/latin-america/blog/data-clouds-centers-ground-role-data-centers-lacs-digital-future>.

———. 2025d. “Human Development Report 2025: A Matter of Choice: People and Possibilities in the Age of AI.” <https://hdr.undp.org/content/human-development-report-2025>.

UNESCO (United Nations Educational, Scientific and Cultural Organization). 2025. “World Atlas of Languages”. Paris. <https://en.wal.unesco.org>.

UNFPA (United Nations Population Fund). 2024. “An Infographic Guide to Technology-Facilitated Gender-Based Violence (TFGBV)”. New York. <https://www.unfpa.org/sites/default/files/pub-pdf/An%20Infographic%20Guide%20to%20An%20Infographic%20Guide%20to%20TFGBV.pdf>.

UNIDO (United Nations Industrial Development Organisation). 2022. “Industrialization in Latin America and the Caribbean: Challenges and opportunities” <https://iap.unido.org/articles/industrialization-latin-america-and-caribbean-challenges-and-opportunities>.

Universidad de los Andes. 2025. “Laboratorio de Sistemas de Algoritmos Públicos. Sistemas de IA En América Latina Y El Caribe.” April 30, 2025. <https://sistemaspublicos.tech/sistemasde-ia-en-america-latina>.

Valle, Edgar. 2025. “Understanding the Challenge of Resilience and Mental Health in Latin America and the Caribbean.” *Regional Human Development Report 2025 Background Paper. No. 42 UNDP LAC Working Paper Series*.

Vergara Cobos, Estefania. 2024. “Cybersecurity Economics for Emerging Markets”. Washington, DC: World Bank. <http://hdl.handle.net/10986/42130>.

Viollaz, Mariana. 2025. “Diversification of Employment in Latin America and the Caribbean: Gig Employment and Implications for Economic Resilience.” *Regional Human Development Report 2025 Background Paper. No. 44 UNDP LAC Working Paper Series*.

Watson, Carol. 2025. "Resilient Human Development in Latin America and the Caribbean." *Regional Human Development Report 2025 Background Paper. No. 52 UNDP LAC Working Paper Series.*

World Bank. 2021. "The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19." *World Bank.* <https://globalfindex.worldbank.org/>.

———. **2022.** "GovTech Maturity Index, 2022 Update: Trends in Public Sector Digital Transformation." <https://hdl.handle.net/10986/38499>.

———. **2024a.** "Gender Data Portal." Washington, DC: World Bank. 2024. <https://genderdata.worldbank.org/>.

———. **2024b.** "LAC in a Greening World: Critical Minerals." Washington, DC: World Bank, 2024. <https://documents1.worldbank.org/curated/en/099060225142522338/pdf/P179222-7920ddfa-2135-4318-804f-124898e1f266.pdf>.

———. **2025.** "Latin America and the Caribbean Economic Review." <http://hdl.handle.net/10986/42889>.



Chapter 4

Deepening social fragmentation: Broken aspirations in disconnected societies

4.1 LAC societies are increasingly fragmented¹

The fragmentation of social relations in LAC exerts significant pressure on the region's human development trajectory. This chapter identifies three main pathways through which this occurs: by limiting the accumulation and effective use of assets; by narrowing aspirations due to social distance; and by constraining open deliberative processes (public reasoning), which undermines political participation.

While the region has long grappled with conflicts over power, resources, and the role of the State, today's climate of heightened risks and uncertainty threatens to deepen divisions and further weaken the social fabric. Emerging evidence suggests that specific forms and degrees of social fragmentation are already hindering development progress—a trend explored later in this chapter. In some instances, such fragmentation may significantly curtail practical freedoms that individuals are able to exercise.

Even the perception of rising social unrest can have real social consequences—regardless of whether unrest is objectively increasing. However, evidence points not only to a growth in conflict but also important shifts in its nature and dynamics, which this chapter examines in detail. The rise in conflict and unrest reflects deeper fractures in social relations and exposes weaknesses in institutional mechanisms designed to manage them.

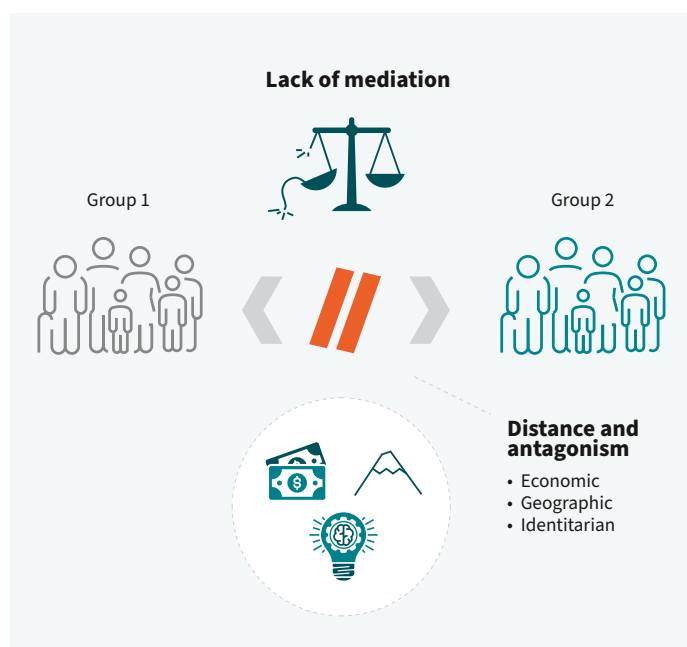
While the concept of social fragmentation is widely used in academic literature, it lacks a universally agreed upon definition.² It is often described as the inverse of social cohesion.³ In this chapter, social fragmentation is defined as a process in which the interactions among social groups are marked by growing distance in terms of limited meaningful engagement, growing antagonisms,⁴ and the absence of

effective mediation mechanisms, such as formal institutions, to resolve disputes (Rodríguez-Solorzano, 2025).⁵

While social cohesion emphasizes solidarity, shared values and connectedness, social fragmentation points to disintegration, division and a lack of common purpose (figure 4.1).

The relationship between social groups and the State is a key factor in shaping social fragmentation. In principle, institutions are created to mediate disputes and prevent conflict escalation. However, when groups perceive the

Figure 4.1 Social fragmentation: distance, antagonism and lack of effective mediation



Source: Rodríguez-Solórzano (2025).

In this chapter, social fragmentation is defined as a process in which the interactions among social groups are marked by limited meaningful engagement, growing antagonisms, and the absence of effective mediation mechanisms, such as formal institutions, to resolve disputes.

political elite as a distinct social entity—one that embodies the institutions themselves—fragmentation can take a different form. Instead of clashing primarily with each other, social groups may direct their discontent towards the political elite, the government, and state institutions. This widespread rejection can temporarily overshadow, or even obscure, the underlying tensions among the groups themselves. This dynamic is particularly relevant in the case of LAC, as explored in section 4.3.3.

Social fragmentation in LAC unfolds across three interrelated dimensions, each reinforcing each other and deepening social divides:

1. **Economic fragmentation:** Persistent inequality in income and wealth fuel alienation and erode social cohesion. These divides diminish shared experiences and collective trust, weakening solidarity and amplifying dissatisfaction.
2. **Spatial fragmentation:** Physical segregation—often along racial, class or ethnic lines—creates isolated enclaves with limited interaction between groups. This geographic separation breeds mistrust and perpetuates disadvantages by restricting access to services, infrastructure, and economic opportunities.
3. **Cultural and identitarian fragmentation:** The erosion of shared values and collective identity results in parallel societies, where groups coexist with little mutual understanding and dialogue. Social media amplifies these divisions, fostering echo chambers that reinforce prejudice and deepen social separation.

Fragmentation is not a fixed condition. It is shaped by constantly evolving interactions and relationships among individuals and social groups, shaping and reshaping the distribution of political power and prospects for achieving development goals. Understanding fragmentation in LAC requires examining its origins and recognizing its dynamic process—one that can trigger a range of possible future scenarios.⁶

Fragmentation can also be a catalyst for transformation—a reorganization of power dynamics with unpredictable outcomes. In this light, growing fragmentation should be understood as part of a broader process of social change. In a region where the demand for change is strong, this may appear to offer some opportunities. Nevertheless, it is essential to evaluate whether these shifts can bring the region closer to, or further from, a path of meaningful and resilient development.

This chapter defines and traces the evolution of social fragmentation in LAC, examining its connection to human development. It asks whether fragmentation is deepening or merely changing in form and considers its potential to drive a transformation that addresses the region's entrenched structural challenges. Through the lens of social fragmentation, the chapter also analyses related pressures in the region, such as ineffective governance, organized crime, and emerging trends in human mobility.

The discussion is organized around four key questions, each addressed in dedicated sections:

1. Why is social fragmentation a threat to human development?
2. Why is LAC experiencing heightened fragmentation now?
3. How does fragmentation affect human development outcomes and processes in the region?
4. What can be done to address it?

4.2 Social fragmentation, a threat to human development

Understanding why social fragmentation threatens human development requires recognizing a key tension: while conflict is inherent to the development process (Hirschman, 1995), certain forms and degrees of fragmentation can become counterproductive when pursuing specific development goals. Development is not a smooth or linear path. Instead, it is one that often disrupts existing social, economic, and political equilibria. When societies modernize, shifts in power, resource ownership and social norms create inevitable friction, as different groups negotiate competing interests, values, and positions.

Hirschman distinguished between two types of conflicts: those who leave behind a “positive residue” by fostering

greater integration and cohesion (for example, the many achievements of the feminist movement),⁷ and those that fracture society, weakening its structures and diminishing its capacity for resilience (Hirschman, 1995, p. 231-248).

There are at least three interrelated ways in which social fragmentation threatens human development:

1. By undermining the accumulation and productive use of assets;
2. By stifling the formation of aspirations; and
3. By obstructing public reasoning.

4.2.1 Social fragmentation undermines the accumulation and productive use of assets

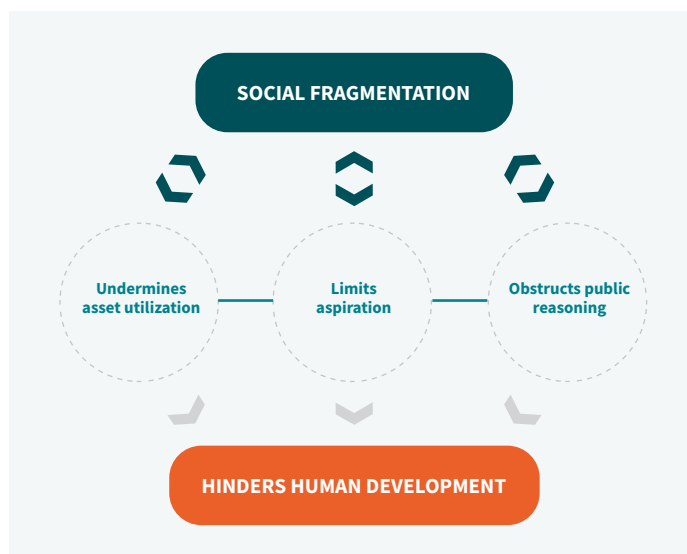
Within the capabilities approach, as discussed in chapter 2, assets function as both means and ends. They provide households with the resources needed to carry out essential activities and navigate through adversity. Resilient human development—the ability to maintain these functions despite risks and shocks—relies not only on access to assets, but also on the conditions that allow their effective use.

Among the five core types of assets—human, physical, financial, natural, and social capital—social capital plays a unique and particularly important role in poverty reduction, income generation and resilience. Composed of social networks, trust and norms of cooperation,⁸ social capital facilitates both economic activities and collective action. While it can be measured as an asset in its own right, its value lies largely in its ability to enhance the use of other assets. For example, even individuals with strong educational qualifications often depend on social connections and trust to convert their skills into income—by finding a job, launching a business, or accessing markets.

In the context of poor households, interpersonal trust plays a vital role in shaping how individuals plan and invest in their future. It is well established in both economic and cognitive research that poverty can lead to a discounting of future rewards in lieu of present gains.⁹ However, as noted by Jachimowicz and others (2017), low-income communities with strong social cohesion have incentives to avoid short-sighted behaviours and to invest in endeavours that entail delayed gratification.

While the future is uncertain for everyone, the poor systematically face a higher risk of adverse outcomes. These include a greater likelihood of premature death (due to less

Figure 4.2 Social fragmentation can hinder human development



Source: Rodríguez-Solórzano (2025).

Fragmentation is not a fixed condition. It is shaped by constantly evolving interactions and relationships among individuals and social groups, shaping and reshaping the distribution of political power and prospects for achieving development goals.

access to health care and more exposure to health risks), labour income loss (especially due to informal arrangements), eviction, and exposure to violence—reflecting the multidimensional nature of poverty (Fernández, López-Calva and Rodríguez-Solorzano, 2024). But with strong community ties, people can “take the risk” of investing in higher education or opening a business, knowing that their community will back them up if anything goes wrong. These studies suggest that myopic decisions are not totally intrinsic to the experience of poverty but are mediated by trust, or lack thereof, working like an informal safety net.

Social fragmentation, by definition, disrupts these crucial networks, isolating individuals and communities into disconnected enclaves. This erosion of trust weakens social capital, making it more difficult for people to collaborate, access opportunities, or fully utilize their financial, human, natural, and physical assets. By fostering trust, cooperation and collective action, social capital serves as a mechanism that activates and connects different forms of assets, enabling more inclusive, efficient and resilient development.

Understanding why social fragmentation threatens human development requires recognizing a key tension: while conflict is inherent to the development process (Hirschman, 1995), certain forms and degrees of fragmentation can become counterproductive when pursuing specific development goals.

4.2.2 Social distance can limit aspirations

Social distance among groups impacts the formation of aspirations. People's functionings, their actual achievements or realizations, are shaped by their ability to set goals that matter to them (aspirations) and the capacity to act to achieve them (agency). These, however, are importantly shaped by the societies in which individuals live, their relative position within those societies, and the distance between the groups they belong to. Aspirations drive

decisions, enabling individuals or households to transition from their current situation to one they prefer, either for themselves or for their children.¹⁰

To turn the capacity to aspire into a concrete capability that can be exercised for development purposes, it must operate as both an ethical compass and psychological horizon grounded in credible hopes (Appadurai, 2004). The belief that one's hopes are achievable is what distinguishes "wishful thinking" from "thoughtful wishing." Aspirations do not form in isolation. They are shaped socially, in relation to the experiences of other individuals within "the cognitive neighbourhood of that person" or "from the lives, achievements, or ideals of those who exist in her aspirations window" (Ray, 2006). People draw on the lives, achievements, and ideals of those around them—not only those they admire, but also those whose paths they see as realistically attainable based on shared backgrounds or circumstances.

Box 4.1 Corridos tumbados: reflections on the aspiration gaps among youth in LAC

Corridos tumbados began as a disruptive musical genre and countercultural movement—marked by its bold themes, distinctive aesthetics and fusion of rhythms.¹¹ Rooted in the traditional Mexican corrido, the genre blends urban sounds such as trap and hip-hop to creative and innovative musical style that challenges conventional norms. But it has evolved into a massive regional trend and a global phenomenon. Through its lyrics, the *corridos tumbados* question established social and legal norms, offering an aspirational outlet for many young people in LAC—especially those connected to Mexican cultural spheres—who see few viable paths to upward mobility.

A regional and global breakthrough

The genre has rapidly evolved from an underground movement to a regional trend and a global sensation. *Peso Pluma*, one of the genre's leading figures, set a Guinness World Record¹² as the most-watched Latin artist on YouTube, with over 8.5 billion views. His hit "Ella Baila Sola" not only dominated international charts but also surpassed one billion streams on Spotify¹³—becoming the first song in the Mexican regional genre to break the top 10 of the Billboard Hot 100. The song peaked at number four, the highest position ever achieved by a Mexican artist.

According to Billboard, over 35 Mexican regional tracks entered the Hot 100 in 2023, including high-profile collaborations such as "Un x100To" by Grupo Frontera and Bad Bunny and "Harley Quinn" by Fuerza Regida and Marshmello.¹⁴ The success continued in 2024 with the release of the album "Éxodo" by Peso Pluma, the album garnered 29.8 million global streams on Spotify within all of its tracks in its first 24 hours. Many of these songs also went viral on social media platforms like TikTok and Instagram, amplifying the reach of *corridos tumbados* and cementing their place in global popular culture.

A mirror of identity and aspirations

The lyrics of *corridos tumbados* tackle controversial and often taboo topics—ranging from violence, drug culture, love, loss and the pursuit of luxury. The raw, colloquial tone sets them apart from more traditional genres and resonates with young people navigating precarious realities. This genre first gained momentum among Latino communities in the US, serving as a cultural bridge to their heritage while reflecting their contemporary struggles. These communities, that often face exclusion and invisibility, share dynamics that are also deeply rooted in LAC societies.

In this context, *corridos tumbados* offer a rebellious and liberating platform for self-expression and belonging, helping youth grapple with economic and identity-based fragmentation. At its core, the genre presents an aspirational narrative: people like them—who share their backgrounds and struggles—can “make it.” Yet, the vision of success is often framed through the lens of extreme wealth and ostentation, perceived as out of reach through conventional pathways such as education or formal employment. The music reflects a sense of urgency and a desire for immediate gratification, challenging social norms in the process.

This should not be taken to mean that all listeners of *corridos tumbados* adopt the aspirations suggested in the music literally. Rather, their genre’s popularity reflects deeper symbolic currents—revealing why this music resonates so strongly with today’s youth.

“Disfrutamos esté bien o mal
De esta vida no me vo’a quejar

...
Siento que ando volado ya, carnal
Y aquí nunca nos vamos a quejar
¿Para qué vamos a voltear pa’atras?
Ni pedo yo le vo’a atorar”¹⁵

“We enjoy it, whether it’s right or wrong
I won’t complain about this life

...
I feel like I’m high, bro
And here, we’ll never complain
Why look back?
No regrets, I’ll keep pushing forward.”

A polarizing cultural force

The rise of *corridos tumbados* has sparked significant debate and controversy, within and beyond the music community. Critics argue the genre dangerously glorifies violence and crime, echoing concerns raised about popular organized crime-themed TV shows. Supporters, however, view it as a legitimate and organic form of cultural expression—one that emerges directly from specific communities and authentically portrays a fragmented social reality. This polarization of opinions is characteristic of countercultural movements throughout history.

What is undeniable is that *corridos tumbados* offer a revealing lens into the aspiration gaps facing LAC youth today. They are not just a musical trend—they are a reflection of social, cultural and economic tensions playing out in the region.

Source: Elaborated by Ponce and Rodríguez-Solorzano (2025).

An aspiration gap reflects the distance between an individual’s current reality and the life they envision for themselves. Closing this gap requires investing in the present to secure better outcomes in the future. However, when aspirations feel too far away from current circumstances, the motivation to invest can diminish. In some cases, certain life paths aren’t even within the realm of imagination. For many young people in LAC, the prevailing culture in their communities can create a kind of tunnel vision—limiting their aspirations to what feels immediately possible or familiar. The more continuous a society is, the more attainable the aspiration to move upward becomes, and the more reasonable the effort required to achieve that aspiration. Aspirations are, therefore, an important determinant of poverty traps and the persistence of inequality (UNDP, 2010).

When aspirations are “broken,” meaning they are consistently thwarted or become unattainable, several profound negative consequences can arise. These include a loss of faith in the possibility of a better future, social and political discontent, incentives for illegal activities, and even mental health issues.

Social fragmentation, by definition, disrupts these crucial networks, isolating individuals and communities into disconnected enclaves. This erosion of trust weakens social capital, making it more difficult for people to collaborate, access opportunities, or fully utilize their financial, human, natural, and physical assets.

Aspirations drive decisions, enabling individuals or households to transition from their current situation to one they prefer, either for themselves or for their children.

4.2.3 Social fragmentation obstructs public reasoning

To better understand the relationship between political decision-making and human development, Amartya Sen (2009) introduced the concept of *public reasoning*. At its core, public reasoning is a participatory and inclusive process through which individuals deliberate and debate over social and political issues. For this process to be effective, several key elements must be present:

1. Reasoned exchange: “The process of public reasoning[...] involves reasoned exchange of positions, with criticisms and counter-criticisms, leading to reasoned reassessments of one’s own initial judgments” (Sen, 2009). This exercise highlights the dynamic and iterative nature of public reasoning.
2. Openness to change: “Public reasoning is not just about exchanging views, but also about scrutinizing the grounds for one’s own judgments and being open to the possibility of reasoned reassessment” (Sen, 2009). This underscores the importance of self-reflection and the potential for changing one’s own visions within the process.
3. Broadening understanding: “The value of public reasoning lies not only in reaching agreement (which may often be elusive), but also in broadening our understanding, identifying neglected concerns, and improving the quality of our reasoning” (Sen, 2009). This shifts the focus from mere consensus-building to broader benefits of the reasoning process itself. In other words, exchanges can lead to more and better ideas.

Public reasoning is not just a theoretical ideal but a practical tool for achieving human development. The 2021–2022 HDR offers a framework that links public reasoning to human development as the means by which people strive for change (UNDP, 2022). Through open and inclusive dialogue, societies can better understand their collective needs and aspirations, identify and address injustices, and work towards a more just and equitable future.

This perspective highlights a key distinction: capabilities are not only about improving well-being, but also about enhancing agency (UNDP, 2022).

Social fragmentation—expressed through social distance and political antagonism—can marginalize certain groups, excluding them from participatory processes. This exclusion weakens their agency and denies them a voice in shaping the direction their societies take.

When policies disproportionately benefit some while sidelining others, frustration grows—especially among those denied the power to influence decisions that affect their lives. The dissatisfaction with the social contract can become particularly dangerous when political adversaries are seen as existential threats (Schedler, 2023). In such conditions, discontent among groups deepens, and the ability of democratic institutions to mediate and resolve political conflicts deteriorates rapidly (McCoy, 2024).

The dynamic interplay of underutilized assets, limited aspirations, and the obstruction of public reasoning places significant pressure on human development. The erosion of the social fabric and the collapse of shared goals can manifest in different forms and intensities. Understanding these nuances is crucial to accurately situate them within the context of LAC.

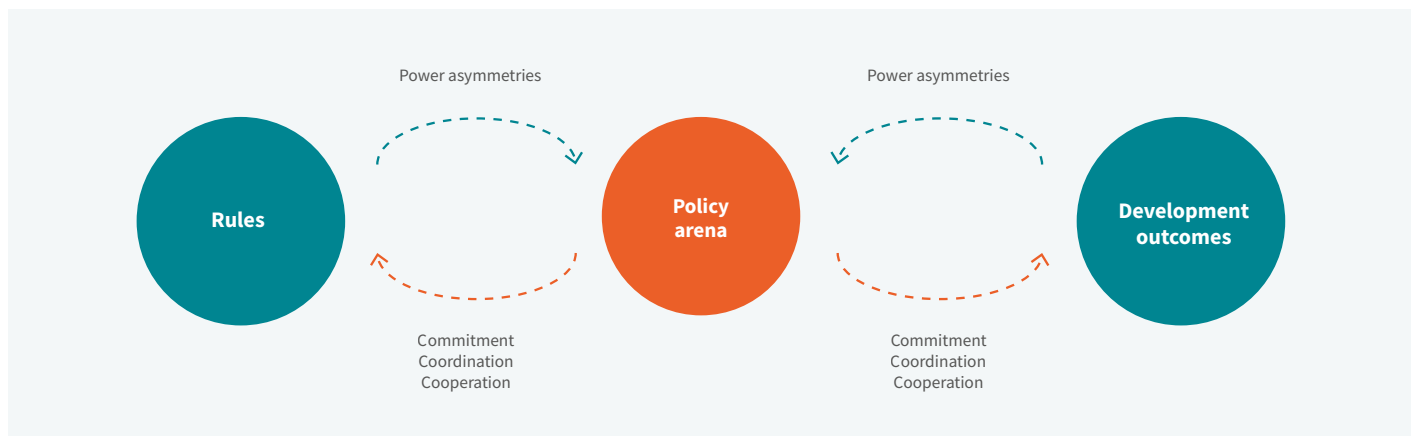
4.3 A fragmented social structure meets an uncertain and volatile context in LAC

4.3.1 A legacy of fragmented societies: inequality and weak States

LAC has historically experienced higher levels of fragmentation than other regions. This stems from three interwoven factors: the ongoing struggle to challenge and redefine deeply rooted hierarchical and exclusionary social norms that are a legacy of colonialism; more recent patterns of wealth and power concentration that reinforce inequality; and limited ability of States to build the institutional capacity needed to broaden and sustain development achievements.

In LAC, one of the most powerful structural forces shaping society is entrenched inequality—which Thomas Piketty refers to as an “inequality regime” (Piketty, 2020). This regime encompasses both political systems and property rights frameworks, forming what the *World Development Report 2017* describes as a “vicious cycle: how inequality begets inequality.” This dynamic reflects a self-reinforcing infinity loop (figure 4.3), in which power asymmetries and economic inequality (an outcome of development) mutually

Figure 4.3 Governance can determine development outcomes



Source: World Bank (2017).

reinforce one another through the policy arena, creating a durable structure (of formal and informal rules) that perpetuates inequality over time.

In LAC, this infinity loop of inequality has deep roots in colonialism, where elites consolidated power by controlling land and resources and used political structures to entrench their position. These power asymmetries became embedded into social norms and institutional frameworks that have proven resistant to change. Today inequality persists in various forms—such as unequal access to quality education, employment opportunities and political representation—shaped by socio-economic status, race, gender and geography.

As outlined in chapter 1, the region has experienced significant political shifts over time, yet wealth remains concentrated in the hands of a small group. Policies aimed at economic redistribution, such as progressive tax reform, often face strong resistance. As a result, the feedback loop of inequality continues across generations, undermining inclusive development.

Another key structural factor contributing to social fragmentation in the region is the persistent weakness of States (Mazzuca, 2021). While closely linked to the inequality regime, this weakness has distinct historical origins. As Mazzuca argues, States in LAC are afflicted with a “birth defect” of structural weakness, rooted in the difference between the formation of a State and the process of State-building. He argues that LAC States were successful in the former but failed in the latter.

Social fragmentation—expressed through social distance and political antagonism—can marginalize certain groups, excluding them from participatory processes. This exclusion weakens their agency and denies them a voice in shaping the direction their societies take.

In LAC, State formation was primarily driven by economic interests, unlike in Europe, where it was shaped by war.¹⁶ As a result, States in LAC developed with weak central authorities. Power was often shared or negotiated with local strongmen rather than consolidated at the national level. At the same time, governments prioritized extracting natural resources for export over building strong institutions. This focus on short-term economic gains, along with limited control over their territories, prevented the development of effective State capacity. It also fostered patrimonial systems of governance, where power was concentrated in the hands of a few elites (Mazzuca, 2021; Acemoglu and Robinson, 2012).

State-building, by contrast, requires the creation of strong institutions, a capable and professional bureaucracy, and the ability to deliver public goods and services across the entire territory. In LAC, however, weak foundational structures and a historical focus on short-term economic extraction undermined the development of these core State capacities. As a result, the region has long struggled with a limited rule of law, corruption, and entrenched inequality—conditions that continue to hinder effective State-building and development today.

Figure 4.4 For some LAC countries, fiscal policy increases povert



Source: Lustig, Martínez-Pabón and Pessino (2025).

For example, governments in LAC today continue to face significant challenges in tax collection, which severely constraints their capacity to finance essential public services and reduce inequality. On average, tax revenue in LAC represents around 22 percent of GDP—well the OECD average of 34 percent (Rodríguez-Solorzano and Fernández, 2023). Although fiscal systems in the region generally have an equalizing effect, their impact is very modest and varies significantly across countries. The picture is more concerning when it comes to poverty reduction. In 9 of the 18 countries analysed below, fiscal policy actually increases poverty—meaning that more individuals fall below the poverty line due to taxes and transfers than those who are lifted out of poverty. This dynamic is illustrated in figure 4.4.

Another significant dimension of State-building in LAC refers to the concept of “State discontinuity” (O'Donnell, 2010), which refers to the inability of State institutions to operate with consistent capacity and effectiveness across all regions and populations. This uneven presence of the State results in geographic pockets of exclusion, limiting the opportunities for individuals in certain territories to fully participate in the country's economic, social and political life (Ceriani, López-Calva, and Restrepo-Oyola, 2025).

Inspired by Ceriani, López-Calva, and Restrepo-Oyola (2025) methodology, De los Rios (2025) developed State Density and State Discontinuity Indices specifically for 7 LAC countries. The State Density Index (SDI) measures the presence of the state in subnational territories, assessing the capacity of governments to provide essential public goods and services such as education, health, infrastructure, and security. In this context, “density” refers to the intensity and coverage of state action in different geographical areas, ensuring that public services effectively reach the population. The State Discontinuity Index measures inequalities in the provision of these services between different territories. In other words, while the SDI focuses on the quantity and quality of services provided, the Discontinuity Index focuses on the equity of their distribution.

Looking at the State Density Index we see wide heterogeneity across the region, with places like Argentina (0.75) and Mexico (0.76) in the upper range, indicating a relatively solid and balanced provision of public services in most of the domains evaluated.

They are followed by Chile (0.66) and Peru (0.67), whose values indicate significant coverage, although with specific weaknesses in basic infrastructure and security. Brazil (0.57), the Dominican Republic (0.60), and Colombia (0.58) are below the regional average, reflecting some deficits in at least two of the five critical dimensions (health, education, security, basic services and connectivity).

The Discontinuity Index confirms this heterogeneity. Argentina has the lowest value (0.021), corresponding to an almost homogeneous territorial pattern. Mexico (0.052), Peru (0.063), and the Dominican Republic (0.050) show moderate discontinuities, implying manageable subnational divergences. Chile (0.072) and Brazil (0.096) show medium-high discontinuities, associated with geographical extension and the concentration of public supply in urban centers. Colombia has the highest discontinuity (0.164), indicating a pronounced difference between regions with high state density and others (De los Rios, 2025).

LAC countries share several common features in their State formation histories, including extractive models, entrenched social hierarchies, and a longstanding weakness in the provision of public goods. The Caribbean colonial legacies, however, diverge in important ways. The Caribbean experienced a more diverse colonial presence, including French, British and Dutch rule, resulting in greater cultural and linguistic diversity. Moreover, most Caribbean nations gained independence much later than their Latin American counterparts.

Historically, Caribbean economies have been more reliant on plantation agriculture—particularly sugar and tobacco—which made them more vulnerable to external shocks and shifts in global commodity markets. Politically, many Caribbean countries adopted Westminster-style parliamentary systems, which have mitigated some of the governance challenges associated with strong presidentialism prevalent in much of Latin America.

4.3.2 The new uncertainty complex: fear and limited expectations about the future in LAC

In recent years, multiple indicators suggest a growing trend of social fragmentation across LAC. These include declining levels of social and institutional trust, rising violent crimes, increasing intentions to migrate—particularly among vulnerable populations—a surge in protests, and escalating political violence. These trends reflect not only the region's historical legacy of fragmentation but also its collision with a new era where systemic risks are the new normal (UNDP, 2022).

The structures of inequality and low State capacity influence the types of emotions and attitudes people display towards each other and towards the State—for example, their expectations about the future or mistrust of the political elite. In addition, concern is growing about living in a region where risks and shocks are more frequent, severe, and compounding. Experiencing climatic events, armed conflict, pandemics or economic crises can take a profound emotional toll, often resulting in increased levels of stress, anxiety and depression that will, in turn, influence how people relate to one another.

Fear begets fear: learning, contagion and mental health

Central to the long-lasting psychological responses to risks and shocks is the process of fear learning and fear generalization, a mechanism through which individuals learn to associate most kinds of stimulus, even neutral ones, with an adverse event (Dymond and others, 2015). This process is key to the development and maintenance of anxiety disorders. For example, victims of violent crimes commonly become suspicious and afraid of everyone around them. Uncertainty also plays a significant role in shaping emotional responses. When people face unknowns, they often engage in “mental simulation”, a cognitive process during which they imagine possible outcomes, often negative, in an attempt to prepare for what might happen. This tendency to anticipate worst-case scenarios can lead to persistent negative affective States, especially when uncertainty tolerance is low (Anderson and others, 2019).

Emotions can spread within communities, creating collective emotional states. Emotional contagion refers to the phenomenon of adopting the emotional state of others, often automatically and subconsciously (Singer and Tusche, 2014). This means that emotions such as fear, anger, or hope can spread through social interactions, especially in tightly knit communities or during times of crisis. As these emotions spread, they shape public opinion, group dynamics and even voting behaviours. During times of crisis, affective contagion can amplify collective anxiety, making it harder for societies to maintain stability and resilience. Examples range from collective fear, anxiety and misinformation in almost every LAC country during the COVID-19 pandemic (Mejía and others, 2023), to the experience of the Truth Commission in Colombia that marked a transformative journey from individual catharsis to collective emotional reckoning, reshaping how the nation confronts its violent past (Ruiz and others, 2022).

The structures of inequality and low State capacity influence the types of emotions and attitudes people display towards each other and towards the State—for example, their expectations about the future or mistrust of the political elite.

Scholarly literature has provided strong evidence for the bidirectional relationship between mental health and social cohesion. Strong social connections are essential for good mental health, while individuals with good mental health contribute to a more cohesive and supportive society.¹⁷

LAC has seen an increase in mental health problems classified as anxiety and depression disorders.¹⁸ Recent data suggests that mental health problems, in general, are reaching epidemic levels, posing a threat to general well-being. As discussed in Interlinkage #1, in LAC, 1 in 4 people will suffer some mental health disorder at a given point in their lives (PAHO, 2018).

Data from WHO confirms that depression and anxiety-related disorders have grown considerably in LAC, with some countries reporting increments of more than 30 percent compared to 2013 (WHO, 2022). A report from the Pan American Health Organization (PAHO) also confirmed that almost 35 percent of people in the region have experienced anxiety at some point in their lives, while 25 percent have dealt with depression. According to this report, these numbers have a higher prevalence in urban areas facing high levels of violence and poverty (PAHO, 2023). There are mayor gender differences as shown in Interlinkage #1.

LAC residents recognize climate change and crime as major threats: a toll on expectations for the future

As the immediate and long-term effects of climate change have become more visible in LAC, as further discussed in chapter 5, psychological distress related to environmental degradation and climate risks has intensified. A growing anxiety is reflected in public opinion polls and signals a deep-rooted concern for the future. Such perceptions influence not only individual behaviour and decisions, but also expectations for future generations (Ojala and others, 2021; UNDP and Oxford University, 2024).

Overall, LAC reports higher levels of concern about climate change than countries like the United States and Canada. Anticipation of worsening natural disasters, rising temperatures and other environmental crises contribute to growing feelings of helplessness and stress. For instance,

nearly 60 percent of people in LAC believe it is somewhat or very likely that they or an immediate family member could be seriously injured or killed by an extreme weather event in the next 25 years (Latinobarómetro, 2025). These concerns, and their broader implications, are explored further in chapter 5.

Similar anxieties are evident regarding violent crime, defined as serious injury or death. According to Latinobarómetro about 60 percent of the population reports fearing they could become a victim of violent crime—either “all the time” or “some of the time” (Latinobarómetro, 2025). This persistent fear, which often exists independently of actual crime rates, imposes a significant psychological toll.

Fear of crime is not evenly distributed across the region. It varies widely between countries and fluctuates over time, with previously safe areas becoming perceived as zones of emerging risk. This volatility reinforces a sense of unpredictability, undermining people’s sense of security and stability.

As discussed in chapter 1, the perception of societal progress in LAC has stagnated or declined since 2009. By 2020, 77 percent of the population believed their country was either stalled or moving backward. This growing pessimism reflects a broader erosion of confidence in the future. According to a 2022 Gallup International poll that included five Latin American countries, 52 percent of respondents did not think that their children’s lives would be better than their own (Gallup International, 2023).

“My hope for the future is to have a safe and stable place for my children, where they can study and have a better future than mine” - Haiti (male, 32 years old)

The expectation of material progress—especially the belief that one’s children will enjoy a better quality of life—has been a cornerstone of Western civilization for two centuries (Przeworski, 2019). The erosion of the expectation that future generations may not experience improved financial or social conditions creates a sense of existential insecurity, undermining hope and social stability. This situation can have profound cultural and political consequences, such as democratic backsliding (Przeworski, 2019).¹⁹

4.3.3 Social interaction: trust is changing throughout LAC

The context in which social interactions take place has changed. Within a legacy of structural fragmentation, risks and uncertainty tend to exacerbate feelings of fear, anxiety and discouragement, often fostering a sense of pessimism

about the future. Looking at the shifts in social interactions through the lens of trust helps to explain them. Trust emerges as a fundamental facilitator of social interaction, serving as a measure of the strength and quality of social relationships. Trust allows individuals to engage in cooperative actions, share resources and support one another, which are cornerstones of resilience during times of adversity.

In LAC, while trust in “most people” has declined, people continue to rely heavily on close-knit communities—primarily family, friends and neighbours.²⁰ From 1996, when Latinobarómetro first began measuring trust, to approximately 2009, levels of trust in “most people” remained relatively stable. Since then, however, a slow but clear decline has set in. By 2020, trust in “most people” reached its lowest point.

This decline in trust reflects a complex interplay of social dynamics. Trusting “most people” means extending confidence beyond one’s immediate circle, to individuals from diverse social classes, ethnic and racial backgrounds, and identities. It depends on a shared sense of norms, mutual respect, and reciprocity across society. A drop in this kind of generalized

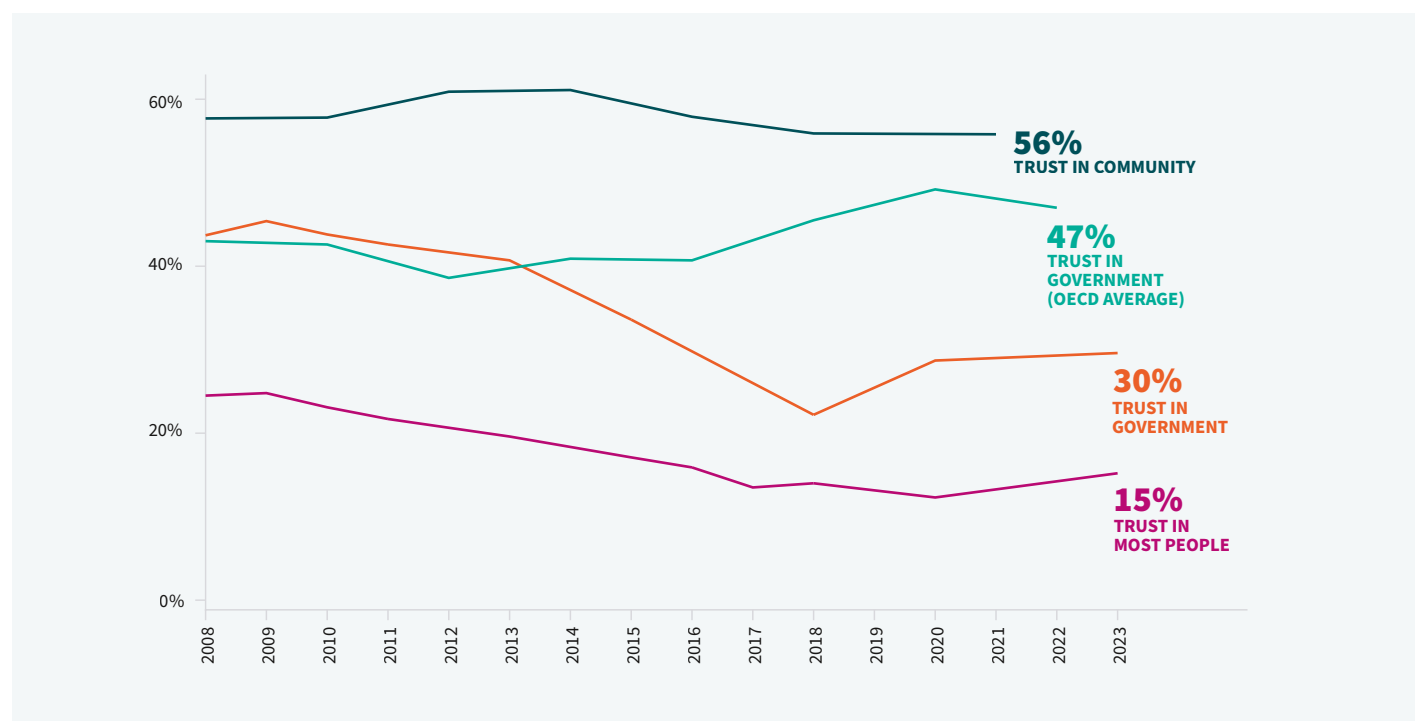
trust signals deepening societal fragmentation and an erosion of broader social bonds. It reflects an underlying fear that others, especially those perceived as different or outside of one’s immediate community, may not behave reliably, may break commitments, or may take advantage of others.

In contrast, trust within close-knit communities, such as family, friends and neighbours, tends to be more resilient. These relationships are built on shared experiences, cultural similarities, and economic proximity, providing a sense of stability and predictability, especially during periods of heightened risks and uncertainty. Yet, overreliance on these close-knit circles can deepen social fragmentation. When trust is confined to a narrow group, it weakens the broader social cohesion required for collective resilience.

“Family is the central pillar when everything gets difficult” - Bolivia (female, 21 years old).

“Family helps achieve difficult goals, especially in times of crisis” - Panama (female, 22 years old).

Figure 4.5 People find shelter in their communities as trust in most people and in governments fal



Notes: All the computed averages are simple averages.

Source: The data for “Trust in most people” and “Trust in government” was taken from Latinobarómetro 2008-2023; the source for “Trust in community” is LAPOP Americas Barometer 2008-2021. The OECD average was taken from OECD (2024) “Trust in government (indicator)”.

In societies where groups are clustered in “nodes” with limited interaction and significant distance between them, the efforts required to drive social change increase significantly, often discouraging action. This fragmentation can dampen aspirations, particularly among those furthest behind, reinforcing existing deprivations. Aspirations are not only material, but symbolic, shaping how individuals perceive their options and make decisions.

While trust within close-knit communities can offer critical support for its members, low-income communities often lack the resources to support their members. As Esteban and Ray (1994) and Appadurai (2004) argue, this scarcity of resources can lead to a low-level equilibrium—a self-reinforcing cycle in which poverty persists and becomes increasingly difficult to escape (Fernández, López-Calva and Rodríguez-Solorzano, 2024).

In context where trust in “most people” is low, citizens tend to turn to the government to act as a neutral and reliable arbiter, ensuring rights are protected and disputes are resolved fairly.

From 2009 to 2018, trust in governments across the region declined sharply, extending beyond the government itself to political parties, institutions and the broader concept of “the establishment.” This widespread erosion of trust points to a deeper crisis in the social contract—where institutions once seen as pillars of stability and fairness are increasingly viewed with skepticism and even outright distrust.

“The thing is that politics is associated with partisanship, and for me, that’s already a problem from the start. When it comes to party politics, and I saw it the other day while listening to speeches in Congress, no one was really discussing the actual idea behind the law. It was barely mentioned. Instead, the conversation was all about the previous government, the current one, what ‘we’ did, what ‘you’ did, it was all just partisan rhetoric” - Argentina (male, 33 years old).

The erosion of institutional trust has triggered significant shifts in social attitudes and behaviours across LAC. As confidence in formal systems declines, people increasingly

Box 4.2 Low trust and specific exclusions in the English-speaking Caribbean

Traditional social cohesion data in LAC rarely reflects the unique dynamics of the English-speaking Caribbean. To address this, the Social Cohesion and Reconciliation Index (SCORE) by UNDP was introduced, providing statistically representative data from seven countries: The Bahamas, Belize, Dominica, Jamaica, Saint Lucia, Saint Vincent and the Grenadines, and Trinidad and Tobago.

Acceptance with low trust, especially across political lines

The region’s diverse population spans multiple cultures, religions and ethnicities, further subdivided by socio-economic, linguistic and political differences. While this diversity enriches social life, it also poses challenges for fostering trust and tolerance, key defenses against fragmentation and polarization. Each Caribbean country reflects this complexity to varying degrees, functioning as its own demographic and cultural mosaic.

To measure “intergroup harmony,” the survey assessed “social proximity,” “positive feelings,” and “intergroup trust.” The results showed a high overall harmony score of 7.9 (on a scale of 1 to 10), suggesting strong intergroup bonds that contribute to social resilience. Social proximity was particularly high (9.0), indicating broad acceptance of people from different groups as colleagues or family members. Positive feelings were also strong (8.5), with most respondents expressing warm attitudes toward those from different backgrounds.

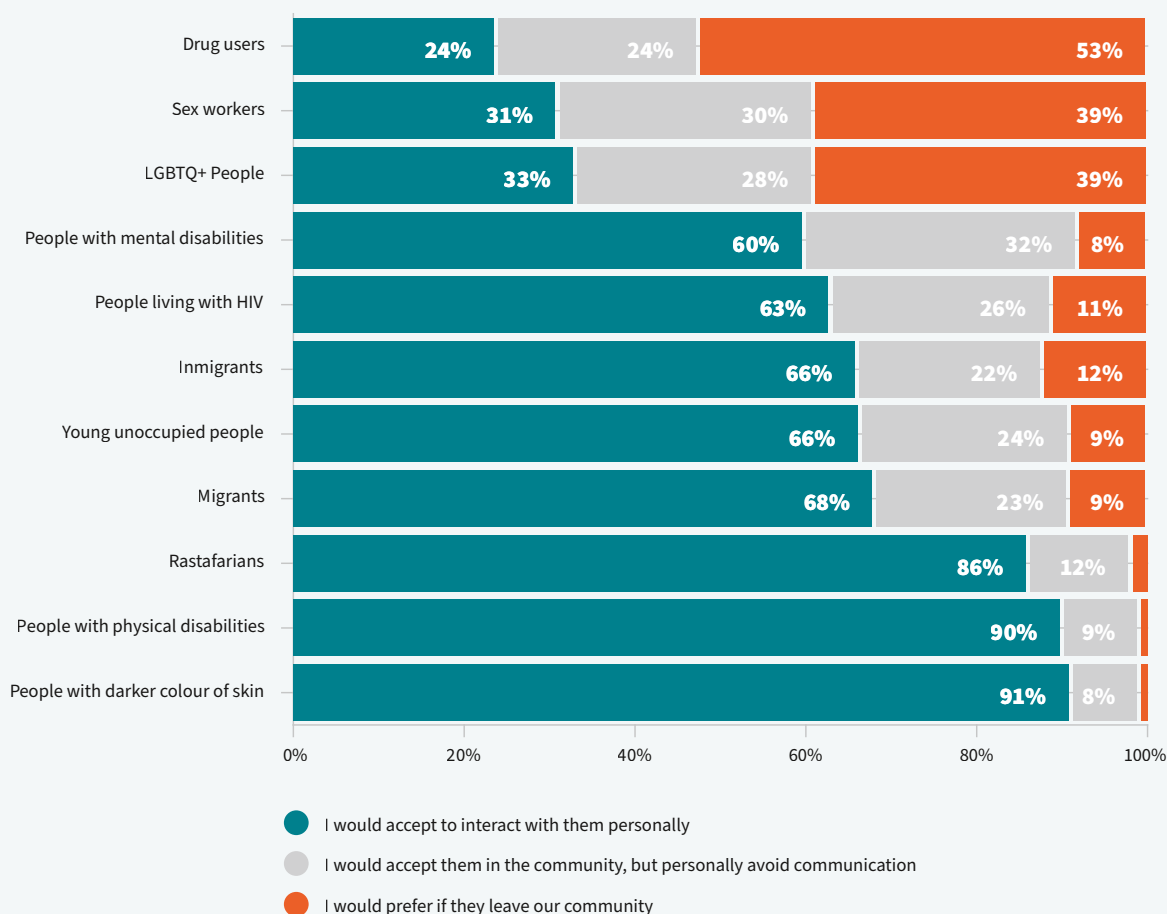
Among the three indicators, intergroup trust scores were the lowest (6.3). This implies that the nature of the intergroup tensions in the Caribbean is not due to festering negativity, hostility or rejection of other groups, but rather that there simply is a lower level of trust to outgroups and across social divisions. This is an important nuance to note, as it suggests development work that provides opportunities for groups to connect and learn about each other at the community level can increase intergroup trust specifically and social cohesion more generally.

For the dimensions of positive feelings and trust, people tend to manifest stronger antagonism when it has to do with political orientations (several dimensions were tested). This might indicate that if intergroup harmony is a priority, the focus should be placed on political cleavages rather than social, ethnic, or religious ones.

Low tolerance to specific groups

The level of social tolerance for members of certain groups is both uneven and problematic across the region. These groups include those whose members face economic, social or identity-based discrimination—such as people with disabilities, people living with HIV, immigrants, Rastafarians, and those who identify as lesbian, gay, bisexual, transgender, and queer (or questioning), plus other sexual and gender identities (LGBTQ+), among others. Of those groups, respondents expressed greater openness to accept people with darker skin or physical disabilities as well as Rastafarians. By contrast, less likely to be accepted are those who identify as LGBTQ+, sex workers and drug users; only 1 in 3 people in the subregion would be willing to interact personally with someone who identifies as LGBTQ+, with 38 percent of the full sample responding that they would prefer that those who identify as LGBTQ+ leave their community. It was also observed across the sample that one-third of respondents would avoid communication with unoccupied youths or prefer they leave the community completely, which suggests a stigmatization of local youth that reflects a breakdown at the community level.

Figure 4.6 Barriers to inclusion: low social tolerance for certain population groups



Notes: Data includes results for The Bahamas, Belize, Dominica, Jamaica, Saint Lucia, Saint Vincent and the Grenadines, and Trinidad and Tobago.

Source: Based on the Social Cohesion and Reconciliation Index (SCORE) for Caribbean countries (Guest, Martínez, Machlouzarides and Uretic, 2024).

The SCORE asked respondents if they felt that progress was being made towards the inclusion of specific groups, where 0 corresponded to a total worsening of the situation, 10 to strong improvements, and 5 to no change. The score for the full sample of 4.3 indicates that across the region, the consensus is that the inclusion of certain groups is slightly worsening, and thus it remains an issue that urgently needs to be addressed.

turn to informal networks for conflict resolution, protection and support. This shift often gives rise to alternative mechanisms for securing justice or meeting basic needs—some of which can operate through informal arrangements or involve illicit practices. For example, in communities with low trust in law enforcement, residents may turn to community-driven or extrajudicial measures to address crime or rely on local power structures instead of the formal legal system. There are many examples in the region of self-defence or community policing forces, usually in rural areas: *Coordinadora Regional de Autoridades Comunitarias-Policía Comunitaria* (CRAC-PC) in Mexico; *Rondas Campesinas* in Peru; *Autodefensas* in Mexico; *Guardia Indígena* in Colombia; *Musukpa Security Brigades* in Venezuela; and *Federation of Neighborhood Councils* (FEJUVE) in Bolivia. At the other end of the income spectrum, wealthy neighbourhoods and individuals increasingly rely on private security forces.

4.3.4 Polarization is increasingly driving political action

Data from the Armed Conflict Location and Event Data shows a 45 percent increase in demonstrations in LAC between 2018 and 2021. This surge in protests—ranging from peaceful marches to violent unrest—has been dubbed by some analysts as the “Latin American Spring,”²¹ suggesting a peak in public dissatisfaction with governments throughout the region (ACLEDA, 2024).

While protests declined in 2023 and 2024, this trend may be attributed to a rise in political legitimacy, which will be discussed later in this chapter. Despite these changes, one pattern remains consistent: the persistent use of violence as a means of conflict resolution. That is, despite shifts in overall government legitimacy, violence against civilians remains high and relatively stable.

One factor that sets LAC apart from the rest of world is the prevalence of political violence targeting women. Between 2019 and 2022, incidents of this type of violence rose by nearly 40 percent. By 2023, the region accounted for almost 20 percent of all global cases, underscoring its disproportionate share of gender-based political violence.

Exiting parties, turning to the streets and looking at personalist leadership

Despite widespread distrust in the political establishment, people across LAC continue to place strong faith in elections, and political engagement remains high. This apparent paradox—low trust in traditional institutions paired with

high voter turnout—has created fertile ground for political outsiders who tap into public frustration. As shown in figure 4.8, the identification with political parties declined significantly (from 34 to 25 percent) between 2010 and 2023, while allegiance with individual leaders grew.²² This shift reflects a broader trend toward more direct, personalized forms of political engagement, signaling a demand for alternatives to traditional political parties.

These newcomers, often positioning themselves as alternatives to entrenched elites, have resonated with a public that is increasingly disillusioned with the status quo. As a result, anti-establishment narratives have gained significant momentum, leading to notable electoral victories across the region. Figure 4.9 illustrates this trend: the average age (years since the party was established) of the winning political parties has declined sharply in the past decade, going from nearly 45 years during the 2012–2015 electoral cycle, to 35 years in 2016–2019, and just 15 years in 2020–2022. This shift reflects the growing appeal of newer political movements and the electorate’s desire for change.

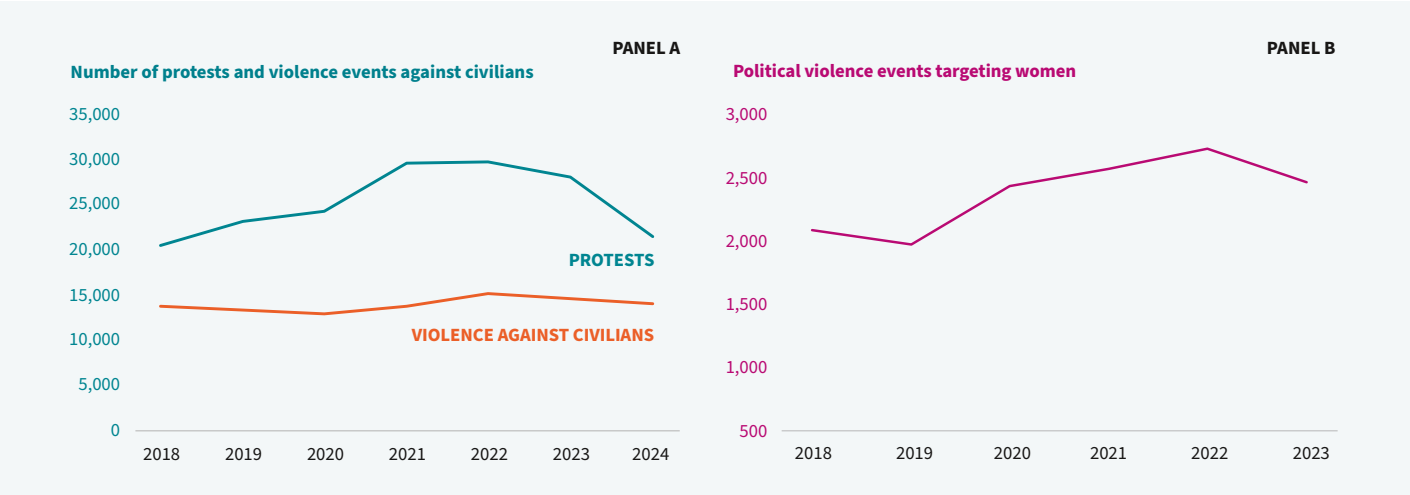
From general dissatisfaction to explicit polarization

As new political forces gain ground, the region’s political landscape is becoming increasingly polarized. The divide between those who feel “represented” by current governments and those who feel “excluded” has grown more pronounced, signaling a shift from generalized dissatisfaction with the political establishment to explicit political confrontation among factions. While this trend of polarization is not unique to LAC, the region has seen the sharpest increase in polarization globally. Beginning around 2015, polarization in LAC accelerated rapidly, surpassing the global average by 2017, and marking a significant turning point in the region’s political dynamics.

Although trust in governments in LAC remains lower than in OECD countries—and even below the region’s own levels in 2009—a 9 percentage point increase in trust between 2018 and 2023 adds complexity to the broader narrative of social fragmentation. From 2018 to 2023, trust in governments across the region rose by 9 percentage points.²³ This rise in trust occurred alongside LAC becoming the most politically polarized region in the world, according to the V-Dem methodology.²⁴

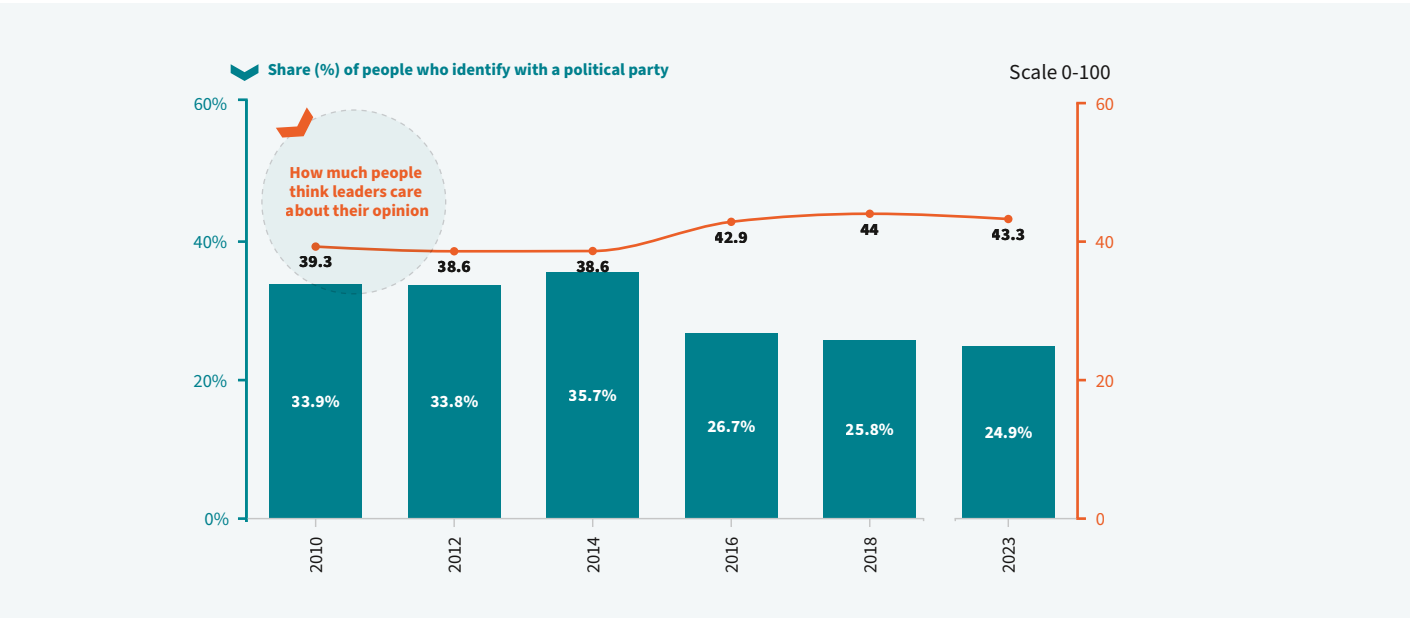
During this period, political platforms—often centered around strong, charismatic leaders—gained traction by embracing anti-establishment or ideologically extreme positions. While

Figure 4.7 Political violence is pervasive in the region



Source: ACLED (2024).

Figure 4.8 Turning towards personalist leadership and away from political parties



Notes: The variable 'Identifies with a political party' is measured by LAPOP through Yes/No questions, reflecting the share of respondents who answered 'Yes.' The variable 'Leaders are interested in what people think' is measured on a seven-point scale from 'Strongly disagree' (1) to 'Strongly agree' (7). Such displayed regional averages are recoded to a 0-100 scale and should not be interpreted as percentages.

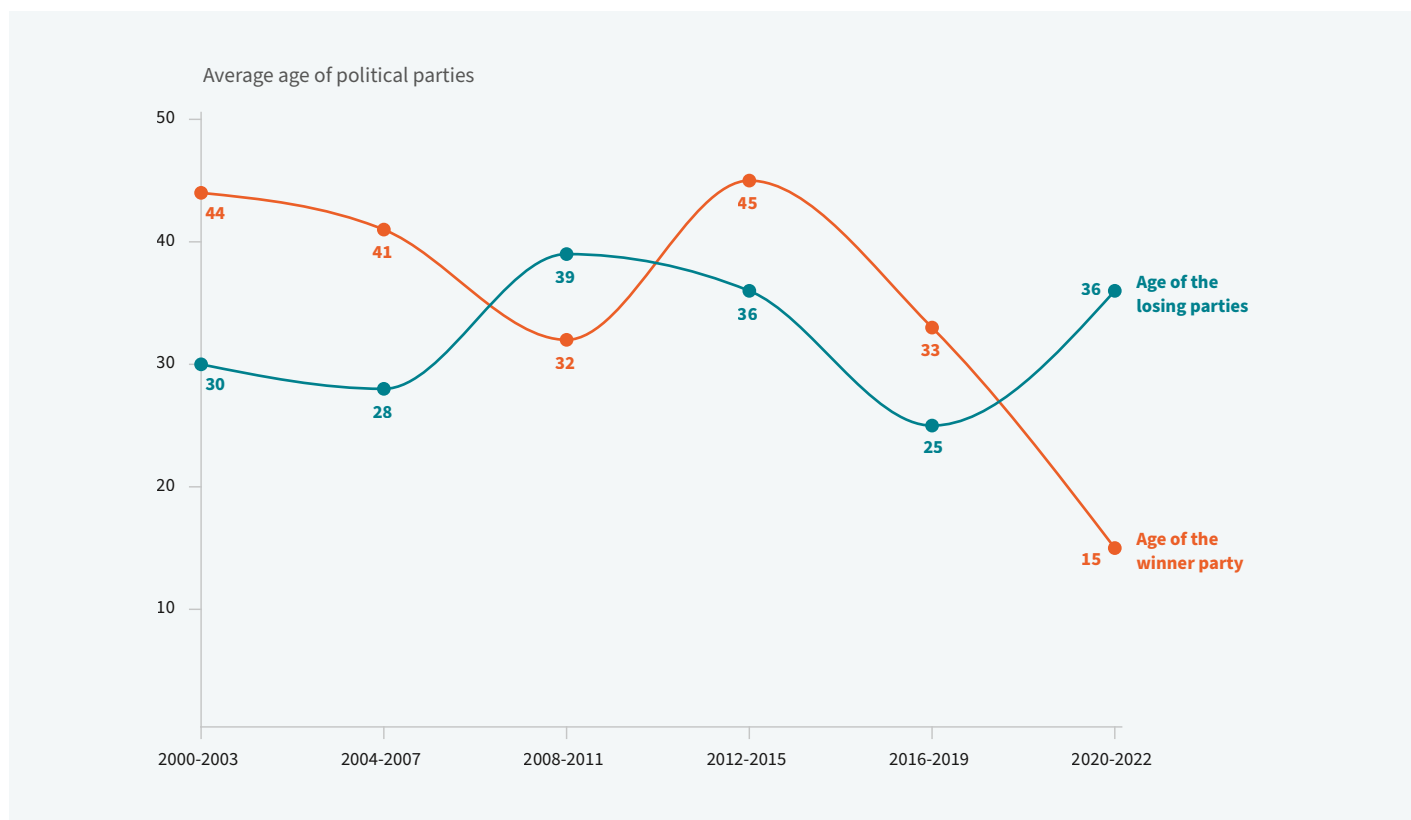
Source: LAPOP, Americas Barometer 2010-2023. Vanderbilt University.

these movements successfully mobilized broader segments of the electorate, they also deepened divisions by alienating those outside their base. This marks a shift from the earlier wave of widespread dissatisfaction with the entire political establishment, which peaked in 2018 with historically low trust in governments across the region. This evolving political

landscape highlights how deepening political divides are reshaping political representation in LAC.

The last sustained rise in trust in government in LAC occurred between 2002 and 2009, a period heavily shaped by the commodities boom, which significantly improved

Figure 4.9 The rise of the new: declining average age of winning presidential parties



Source: UNDP's calculations based on LAPOP (2000-2022), Vanderbilt University.

social conditions for many, as noted in chapter 1 of this report. In contrast, the recent rebound in trust (since 2018) has taken place amid sluggish economic growth, making the increase even more striking.

Historically, social fragmentation in LAC has run along multiple fault lines, creating cleavages that pit groups against one another. While polarization in many parts of the world is often rooted in identity-based divisions,²⁵ in LAC fragmentation is primarily driven by deep and persistent inequalities (McCoy, 2024). These economic divides intersect with other identity-based factors—particularly gender, race, and ethnicity—intensifying social exclusion (De La Mata and others, 2022).

LAC consistently ranks among the highest in the world in terms of income and wealth inequality, levels that are particularly stark given the region's stage of development and have remained largely unchanged for decades (De La Mata and others, 2022). One of the defining characteristics

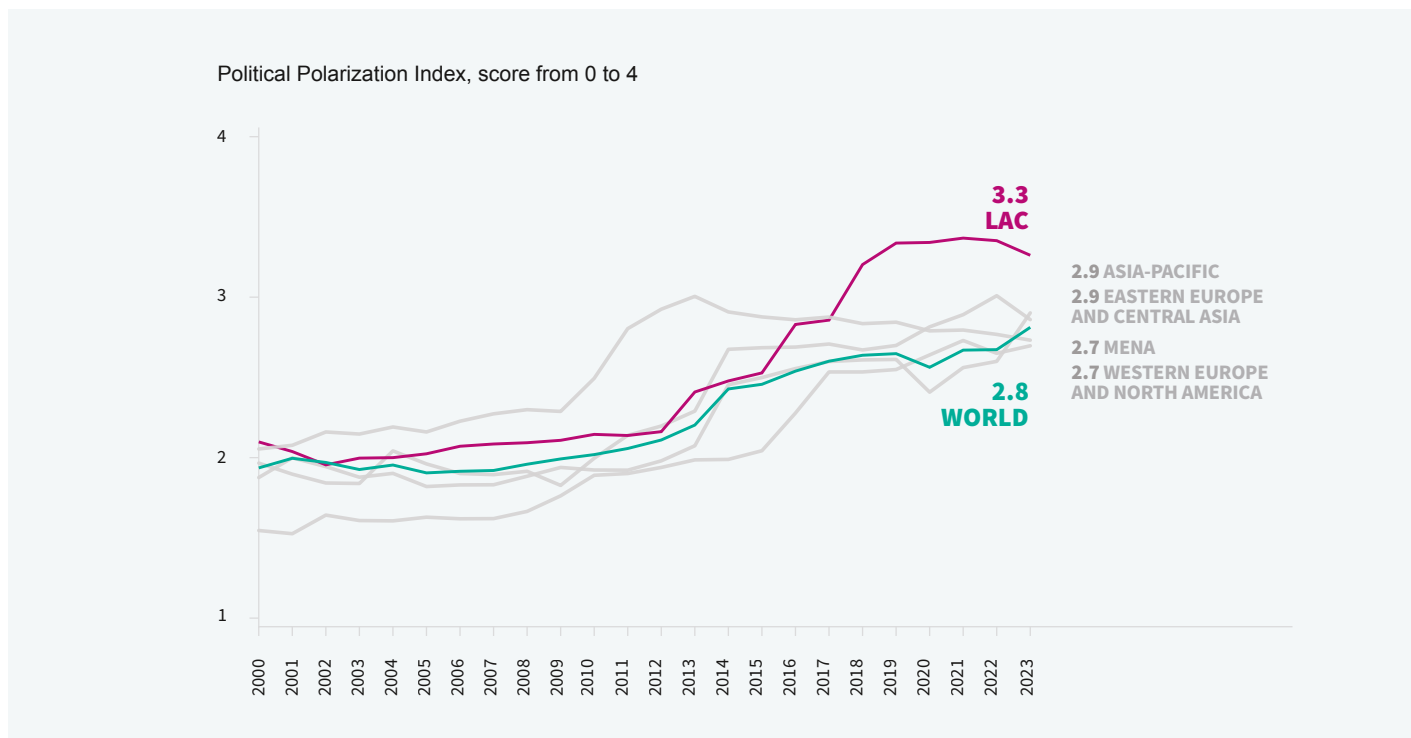
of inequality in LAC is its strong constraint of social mobility, perpetuating entrenched patterns of intergenerational disadvantages. This lack of social mobility is one of the main concerns expressed in anti-establishment social protests and votes (McCoy, 2024).

“We used to think that studying was the best way to ensure well-being, but now we’re realizing it’s not everything” - Argentina (female, 46 years old)

“Political polarization, I think, has always existed in our country, but it has always concentrated power in the hands of a few, while leaving the vast majority in a state of total inequality, right?” - Peru (female, 70 years)

Once the conditions for polarization are in place, the growing digitalization of the public discourse has profoundly reshaped how political debates unfold, often intensifying polarization in critical ways. Social media platforms create echo chambers that reinforce existing beliefs while filtering

Figure 4.10 LAC, a region polarized like no other



Notes: The indicator employs a five-point scale, where 0 represents that supporters of opposing political camps generally interact in a friendly manner, and 4 signifies extreme polarization where opposing political camps generally interact in a hostile manner.

Source: Varieties of Democracy (V-Dem) Project. Values in labels represent data for 2023.

out opposing views. They facilitate the rapid spread of disinformation and misinformation, amplify extremist narratives, and increasingly serve as platforms of political violence, especially against women in public leadership roles. These dynamics are explored in more detail in Interlinkage #2.

In this evolving context, emerging political parties built around a strong political leader often diverge from centrist positions, embracing more radical or ideologically extreme stances that reflect the distinct grievances and histories of their countries. While these movements are, in part, a response (or an adaptation within the system) to widespread dissatisfaction, they also raise important questions about their long-term viability and impact. The effectiveness of these “outsider” governments in addressing entrenched challenges—such as inequality and State weakness—remains uncertain.

Although many of these leaders and parties claim to represent the voices of the excluded, their ability to implement meaningful reforms will be a critical test of

their leadership. Success will require more than rhetoric—it will depend on political will, institutional strength, and the capacity to navigate complex social, economic and climatic landscapes.

4.4 Social fragmentation impacts human development through ineffective governance, organized crime and migration

Social fragmentation has direct and far-reaching consequences for human development outcomes and processes. Each new shock intensifies preexisting inequalities in LAC, particularly in the context of weak State capacity. In such an environment, emotions like fear, resentment, and pessimism often intensify, becoming powerful forces that shape social relations and political interaction.

This Report identifies three specific pressure points where the effects of social fragmentation most acutely undermine

human development in the region: persistent governance failures, the expansion of organized crime and shifting patterns of human mobility.

4.4.1 Governance failures

Heightened insecurity and anxiety—rooted in persistent inequality and weak State capacity—can undermine governance effectiveness through three key mechanisms: short-sighted governance, closed governance and opting out of the social contract (Rodríguez-Solorzano, 2025). Governance refers to the process through which State and nonstate actors interact to design and implement policies, operating within a given set of formal and informal rules that both reflect and are shaped by power dynamics (World Bank, 2017). Effective governance, in this context, is defined by its ability to advance development goals and respond to the needs of society in a fair, inclusive, and sustainable manner.

Short-sighted governance

In LAC, the demand for immediate and visible government results has intensified, reshaping both the political landscape and influencing the types of policies that are prioritized. This urgency often favours political figures who promise rapid, tangible results, leading governments to prioritize short-term fixes that deliver quick wins or popularity boosts, over long-term investments in areas such as education, productivity, infrastructure, research and development, and environmental protection. These long-term strategies are frequently neglected due to the upfront costs and delayed returns.

Just as community trust enables individuals to invest in future-oriented endeavors (Jachimowicz and others, 2017), trust in governments is essential for enabling societies to support policies that incur short-term costs in return for long-term benefits. Climate policy in a paradigmatic example: mitigation efforts require present sacrifices—such as the reduction of carbon emissions—for the sake of future environmental stability (Keefer and Scartascini, 2022).

A similar short-term bias is present in citizen security strategies. Governments often respond to crime through punitive measures, such as deploying the military for internal security, that offer temporary control, while delaying comprehensive, multisectoral approaches that address root causes. Similarly, emergency cash transfers can provide immediate relief to households during crises but are rarely linked to broader policies that integrate individuals into the productive economy.²⁶ Without this connection, such

measures risks reinforcing cycles of dependency rather than promoting pathways for social mobility.

This dynamic creates a feedback loop between short-term social demands and campaign promises. Politicians, responding to the electorate's immediate needs, tend to prioritize short-term gains over sustainable development strategies, creating a pattern that can weaken progress towards long-term goals.

Balancing the need for immediate action with the importance of long-term investments will be crucial for ensuring that short-term policies do not come at the expense of future inclusive growth. A comprehensive approach, integrating immediate results with long-term development strategies, is necessary to prevent the erosion of institutional trust and ensure the sustainability of development gains.

Closed governance

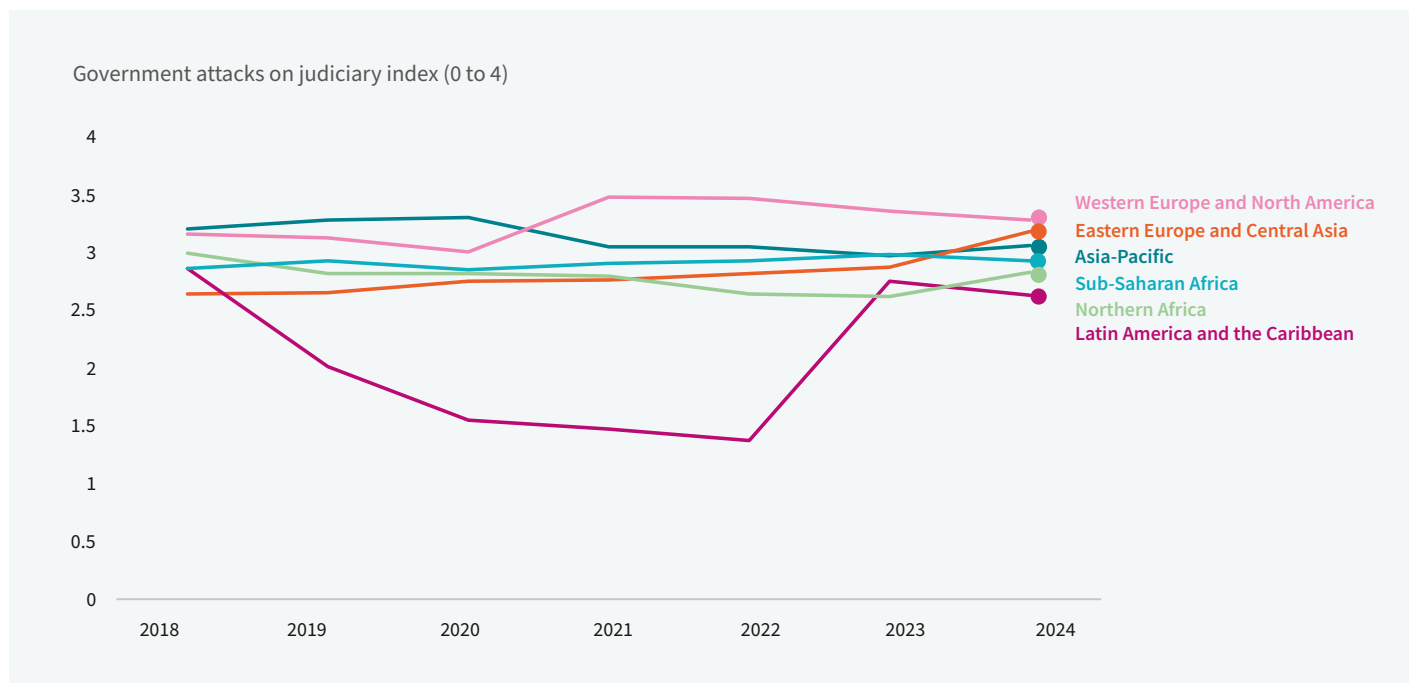
In environments marked by pervasive insecurity, fear emerges as a potent force shaping social behaviour. It deepens social divides that spill into the political arena. As it intensifies, political groups become increasingly unwilling to compromise or engage in dialogue with opposing factions. This fosters an atmosphere of heightened antagonism and paves the way for political standoffs.²⁷

Two potential scenarios tend to emerge under these conditions: either one group gains enough power to govern unilaterally, or political gridlock paralyses the decision-making process. In the first case, the ruling group may focus solely on advancing the interest of its own base, while sidelining or ignoring the concerns of other segments of society. When marginalized groups perceive institutional mechanisms for conflict resolution as inaccessible, biased or unfair, their frustrations often escalate into visible actions such as protests, strikes, or, in some cases, violent demonstrations. These expressions of dissent can sometimes be met with repression, further escalating tensions.

This dynamic is especially acute in countries where political institutions are perceived as corrupt or deeply partial. In such environments, trust in peaceful, institutional avenues for resolving conflict deteriorates, reinforcing a vicious cycle of confrontation, instability, and democratic erosion.

“Democracy is that all of us, the people who make up a country or a community, have a voice to make known the problems that we face to the authorities that are governing us at that moment” - Panama (female, 43 years old)

Figure 4.11 Independent judiciary is under pressure



Notes: The figure shows the Varieties of Democracy (V-Dem) indicator “Government attacks on the judiciary,” based on responses to the question: “How often did the government attack the judiciary’s integrity in public?” Values closer to 0 indicate more frequent attacks, while values closer to 4 indicate fewer. All aggregates are population-weighted and reported as published by V-Dem.

Source: V-Dem (2025).

In some countries, the large legislative majorities achieved in the past two decades have enabled the concentration of power in the executive. This centralization—often in the hands of a single leader—has deepened societal divides, leaving excluded groups increasingly alienated from decision-making. A key sign of this power concentration is the deliberate erosion of institutional checks and balances, such as judicial independence, by democratically elected leaders. According to data from V-Dem, Latin America has the lowest scores globally on the indicator measuring government attacks on the judiciary,²⁸ and saw this indicator decline sharply from 2018 to 2022 (lower scores represent more attacks on judiciary).

The second scenario—political gridlock—can lead to government paralysis, where the demands of no social groups are effectively addressed. When citizens repeatedly witness the legislature blocking reforms proposed by the executive, frustration can grow. Over time, this can erode public support for institutional checks and balances, as people become more inclined to bypass them in pursuit of more swift and decisive action. In such contexts, there is often growing support for granting extraordinary powers

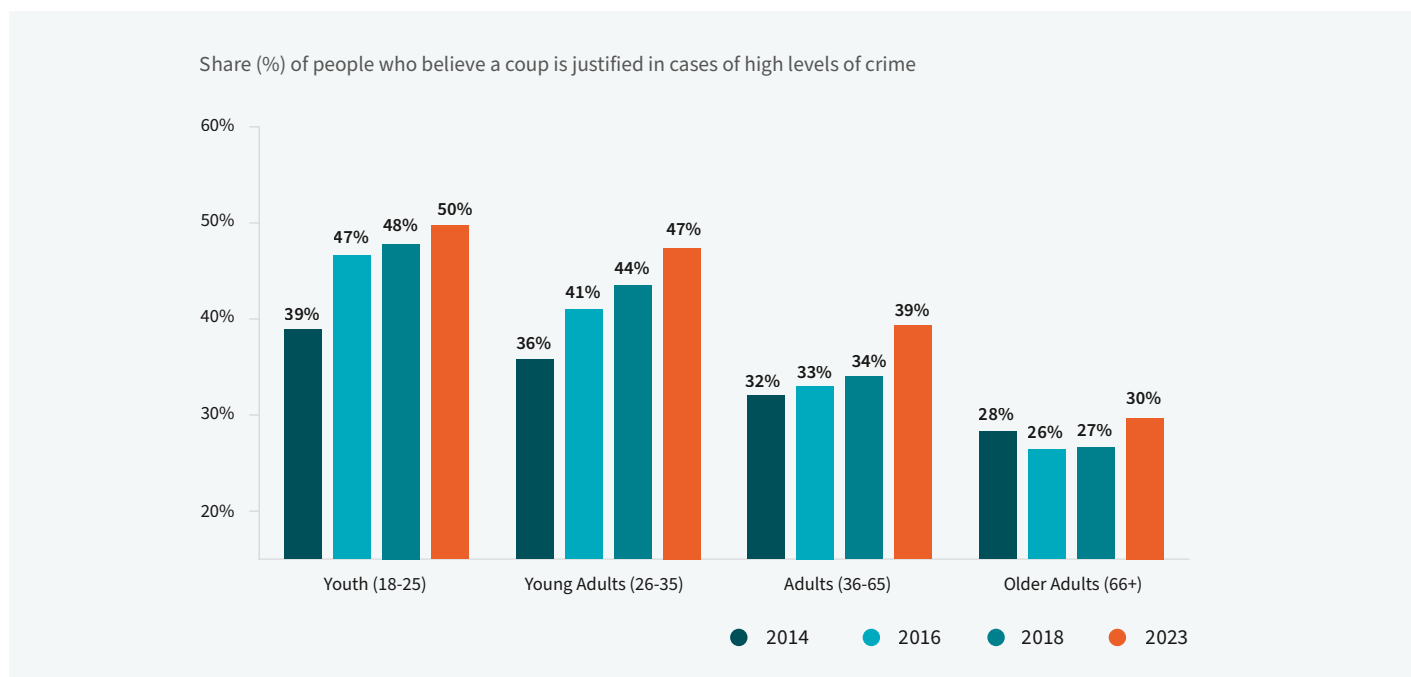
to the executive, even at the expense of democratic norms.

One of the clearest triggers for this shift is the perception of intractable crime, which frequently fuels public demand for radical solutions to government ineffectiveness (figure 4.12). This willingness to trade democratic safeguards for quick results reflects a deeper disillusionment with institutional gridlock and a mounting desire for immediate responses to urgent social problems (Forteza, Mussio and Pereyra, 2024).

Opting out of the social contract

The growing tendency of citizens to opt out of public services poses a serious threat to the sustainability of the welfare State (ECLAC, 2014) and the broader social contract in LAC (Ferreira and others, 2013; López-Calva and others, 2014). This trend is especially pronounced in areas marked by high levels of insecurity, corruption, and institutional distrust. In response, many individuals increasingly turn to private alternatives for essential services like education, health care and security—often disengaging from their responsibilities as citizens, such as tax compliance.

Figure 4.12 Youth are more willing to justify a coup to confront high levels of crime



Notes: Share of people who answered "Yes" to the question: "Would a military coup be justified when there is a lot of crime?" The "Adults (36-65)" group represents the simple average of scores from the 36-45, 46-55, and 56-65 age groups.

Source: LAPOP, Americas Barometer 2014-2023. Vanderbilt University.

Box 4.3 A proposed index to measure political incorporation in Latin America: limited influence in public affair

According to Pérez-Betancur, Piñero-Rodríguez, and Rossenbaltt (2025), political incorporation in Latin America has two key dimensions: political rights (formal inclusion) and political aggregation (substantive inclusion). While many countries uphold freedom of association, citizens' real ability to influence decisions remains constrained by political segmentation. Additionally, parties often struggle to represent and channel the demands of marginalized groups, especially in highly unequal societies.

In an effort to assess the concept of political incorporation, the authors developed an index ranging from 0 to 1 that combines both dimensions. However, the results should be interpreted with caution, as they represent an approximation based on analyses of expert survey data like V-Dem indices.

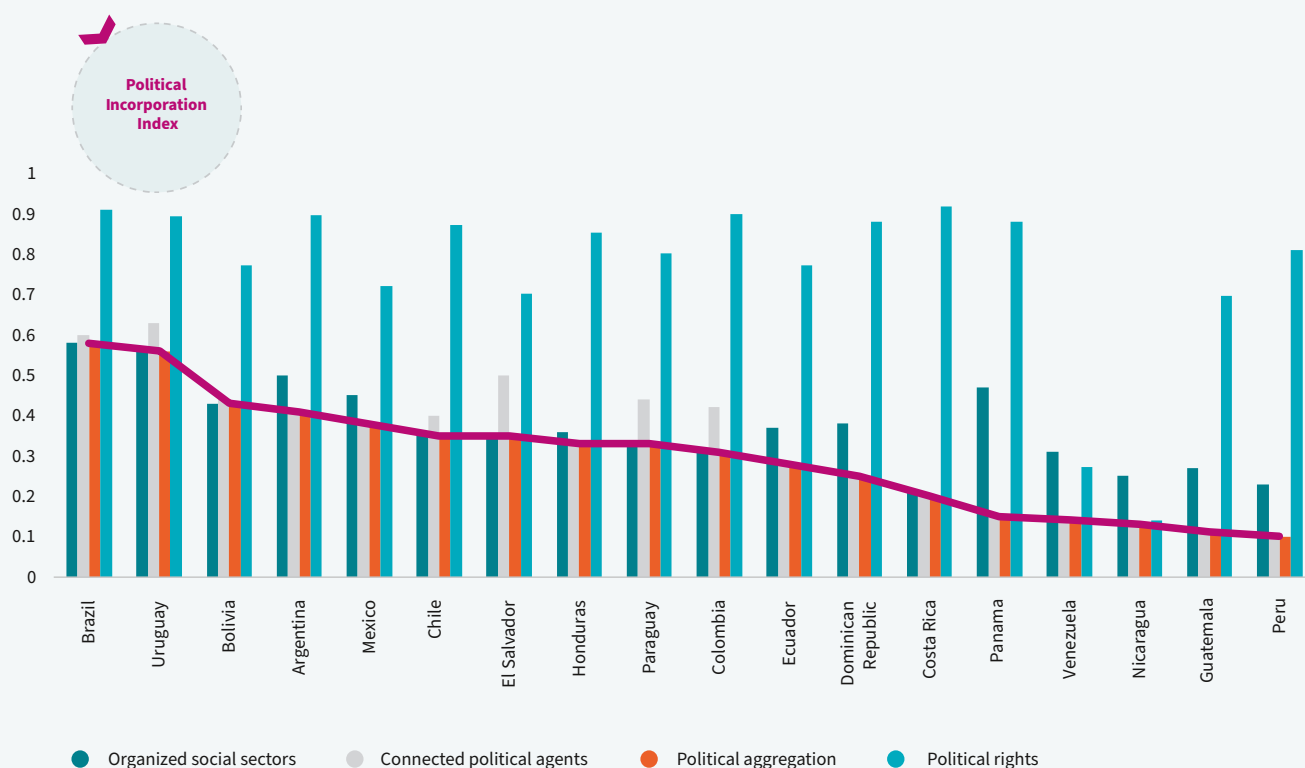
The study identifies three types of diminished incorporation:

1. Rootless incorporation – Parties have formal ties to social organizations but lack the capacity to organize their demands.
2. Disconnected incorporation – Social actors are organized, but parties fail to engage with them.
3. Absence of incorporation – Neither social organizations nor political connections exist.

These distinctions help explain the varying levels of democratic legitimacy and social inclusion across the region.

The Political Incorporation Index reveals that Latin America struggles with low levels of political incorporation, marked by a weak social sector organization and limited connections between political agents and these groups. While freedom of association is generally protected, effective political aggregation remains weak, demonstrating that legal rights alone do not ensure meaningful political participation. This disconnection between formal institutions, for example, political parties, and social organizations limits the ability of broad social sectors to influence decision-making.

Figure 4.13 Political Incorporation index



Source: Pérez-Betancur, Piñeiro-Rodríguez, and Rosenblatt (2025).

Despite the overall low levels of incorporation, countries vary in their ability, according to this assessment, to integrate popular demands. Uruguay and Brazil show high levels of incorporation, with strong social sector organization and political engagement. The comparison between Chile and Uruguay—two nations with similar democratic and economic records but differing political trajectories—illustrates how these differences directly impact political incorporation. While Uruguay has shown stable levels of legitimacy in its political institutions, Chile has been experiencing cycles of growing social unrest and violence for over a decade, challenging the political order. Especially since the early 2000s, established parties have gradually become disconnected from society. With its nuances it can be said that Uruguay maintains an institutionalised party system, with political organisations rooted in society and relatively high levels of party identification.

Overall, the index highlights a crisis of legitimacy in Latin America, fueled by political deinstitutionalization and fragmentation. While some countries have advanced in political inclusion by strengthening ties between social movements and parties, many still struggle with weak institutionalization and party disconnection, threatening democratic resilience.

Source: Pérez-Betancur, Piñeiro-Rodríguez, and Rossenbaltt (2025).

One notable area of concern is public education. Data shows that the share of school-aged children enrolled in private schools in LAC is rising (UNESCO, 2022).²⁹ This trend is particularly troubling given that the share of school-aged children enrolled in private schooling is already high in the region by global standards (Arcidiácono and others, 2014). For example, by 2023, 20 percent of elementary school children were enrolled in private institutions, compared to 13 percent in high-income countries (UNESCO, 2025). Furthermore, socio-economic segregation between private and public schools appears to be more pronounced in LAC than in other regions, raising concerns about the long-term sustainability of the social contract (Fernández, Olivieri and Sánchez, 2023).

According to an analysis by De la O, Rossel and Manzi (2023), the upper class and a substantial share of the middle class opted out of public education in LAC. While opting out of public healthcare remains more concentrated among upper-class households (measured using private health insurance as a proxy), the shift away from public schools by the middle class is particularly concerning. Greater social distance often translates into diminished empathy and solidarity between groups. This dynamic may help explain the findings in their data: individuals who rely on private services not only express a preference for reduced public spending on those services but also favour governments that downplay the redistribution of income and opportunities. Moreover, they tend to support policies that place less emphasis on guaranteeing human welfare, further deepening divisions and undermining social cohesion (de la O, Rossel and Manzi, 2023).

A parallel trend is visible in the security sector. Rising crime rates and ineffective law enforcement have fueled growing demand for both formal and informal private security across the region. In 2024, the security market in Latin America reached an estimated value of US\$8.93 billion and it is projected to grow at a compound annual rate of 3.8 percent from 2025 to 2034, reaching US\$12.49 billion by 2034, according to the Latin America Security Market 2023–2028 (Informe de Expertos, 2023). LAC now has the highest ratio of private security guards to police officers in the world. In Brazil, private security personnel outnumber police by a ratio of 4 to 1. In Guatemala, the ratio is 5 to 1, and in Honduras, it is nearly 7 to 1 (Kinosian and Bosworth, 2018).

This privatization of safety means that access to reliable protection is increasingly limited to those who can afford it, while the majority must rely on overstretched public

forces—or as previously noted, turn to community policing and self-defense mechanisms.

One of the clearest indicators of “opting out” of the social contract is tax evasion. This is often rooted in low trust in the State’s ability to allocate resources effectively or equitably. When citizens believe their tax contributions are misused—whether diverted through corruption or used to benefit select groups—compliance with tax obligations declines (Torgler, 2007). An estimated 6.1 percent of the region’s GDP was lost to tax non-compliance in 2018 (Rodríguez-Solorzano and Fernández, 2023).

Taxation is central to a government’s ability to function, directly shaping the quality of State-led and reach of public services. Beyond that, tax policy plays a key role in reinforcing or reducing inequality. In LAC, countries with higher levels of pre-fiscal inequality tend to allocate fewer resources to redistribution and achieve smaller redistributive effects. This pattern suggests that elites in the region may exert influence to constrain the State’s redistributive role (Lustig, Martínez-Pabón and Pessino, 2025).

Public attitudes towards tax compliance are also shifting. Latinobarómetro surveys show a steady increase in the belief that tax evasion is justifiable, growing from 9 percent in 2011 to 24 percent in 2023. This threefold increase reflects and erosion of the social norms that support tax compliance and a deeper disengagement from the social contract (Latinobarómetro, 2025).

4.4.2 Fragmented societies: a fertile ground for a dynamic organized crime³⁰

“A lot of the crime that is going on is basically organized crime, gang related stuff, white collar crime. Crime doesn’t start by the small man. Crime is based on a lot of corruption” - Trinidad and Tobago (male, 24 years old)

Social fragmentation has a profound impact on crime—and the relationship is mutually reinforcing. Widening social distance and antagonism contribute to raising criminality, while crime, in turn, further erodes social cohesion. Studies show a strong correlation between high levels of social trust and lower crime rates. In high-trust environments, informal social controls are stronger: neighbours look out for one another, address issues collectively, and cooperate with law enforcement to aid in crime prevention and resolution.³¹ In contrast, for societies characterized by a large social

distance—whether economic, cultural or geographic—empathy tends to diminish, weakening the sense of shared identity and collective responsibility. Fragmented societies are a fertile ground for criminality to thrive, particularly in areas with limited State presence. Enforcement capacity and justice administration have very different outcomes across territories; in some, they are simply absent.

The region faces a complex criminal landscape that severely undermines the effective enjoyment of freedoms. While multiple forms of violence affect the region, this section focuses specifically on those linked to organized crime, for two key reasons: the lethal and multidimensional violence these groups generate, and their significant influence on governance systems.

Despite accounting for just 9 percent of the global population, LAC is responsible for nearly one-third of global homicides. Approximately 50 percent of these homicides are directly linked to criminal organizations and gangs. The situation is particularly dire in the Caribbean, where violence and organized crime exert vast influence (UNODC, 2023).

In regions where other crimes are underreported, homicide rates serve as a proxy indicator of violence. Although threats,

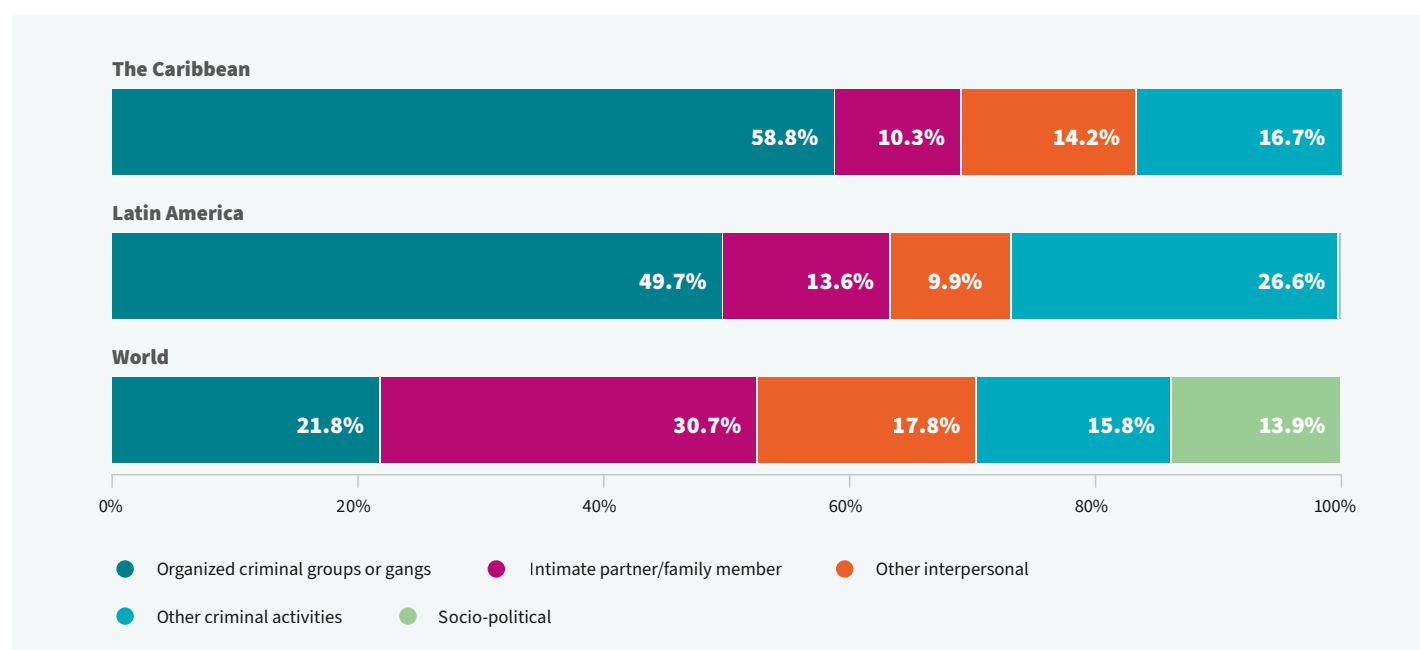
assaults, kidnappings and robberies are widespread, they often go unreported in official statistics (Dammert, Croci and Frey, 2024). Threats frequently escalate to extortion, one of LAC's most pervasive criminal enterprises, where fear is weaponized to control communities and businesses (Cruz, 1999).

Violence and crime undermine human development on multiple levels. Most fundamentally, they violate basic personal rights, including the right to life, personal integrity and human dignity, as discussed in chapter 2 under the umbrella of “human security.” The 2013-2014 *Regional Human Development Report* focused entirely on citizen security, underscoring its critical importance in the region. Beyond harming individuals, violence and crime also weaken community and social cohesion, disrupting trust and stability. It also has a severe impact on governance, eroding institutions, and the rule of law (UNDP, 2013).

Criminal governance: a harmful equilibrium

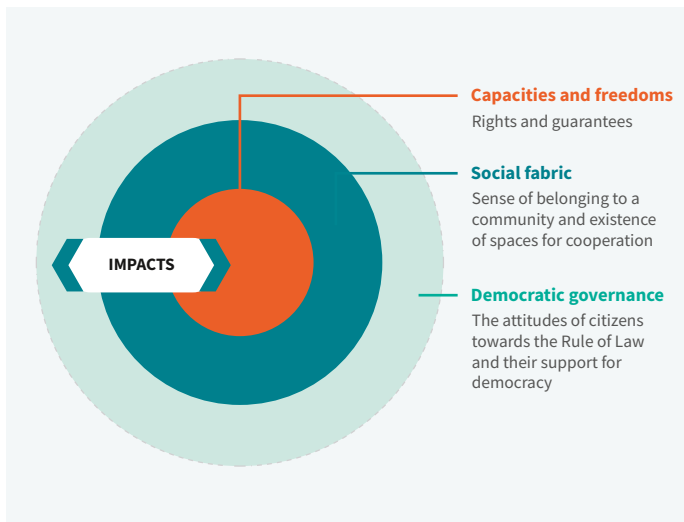
Criminal governance arrangements are common in the region, posing one of the biggest obstacles to achieving development outcomes. These arrangements refer to the control and regulation of social, political and economic interactions within specific communities and territories by

Figure 4.14 Half of LAC's homicides are directly linked to criminal organizations



Source: UNDP's calculations based on UNODC, "Global Study on Homicide 2023" and "Intentional Homicide Statistics" data.

Figure 4.15 Violence and crime impact human development at multiple levels



Source: UNDP (2013).

criminal actions (Trejo and Ley, 2020). Rather replacing the State, criminal governance often offers an alternative order that co-exists with it—functioning alongside, rather than competing with the State (Sampó, 2021).

In many cases, criminal actors operate with the tacit or explicit consent of political elites, particularly at the local level (Blattman and others, 2024). This collaboration creates a complex ecosystem in which criminals, politicians and community members each derive certain benefits: citizens may experience a certain degree of stability or protection, politicians gain a semblance of social order that supports governance and political ambitions, and criminal groups ensure the conditions needed to sustain their illicit operations. This represents a form of fragile equilibrium.

Unlike rebel governance, which typically seeks to replace or overthrow a government, criminal governance does not aim to take over formal State functions or assert territorial control to challenge State authority directly (McColl, 1969). Criminal organizations are not interested in demonstrating their ability to govern a country, nor do they aspire to overthrow a government. Instead, their primary aim is to operate within existing structures to maximize profits from illegal activities. By remaining integrated within the formal State framework, they can continue to exploit systems that permit, or at times, facilitate, illicit activities.

Criminal governance thrives in contexts where State authority is weak or unevenly applied. Criminal groups collaborate with a range of State actors, including politicians, bureaucrats and security officials, to advance mutually beneficial goals. This interdependence highlights that criminal governance is not monolithic; rather, it varies significantly depending on the organization and goals of the criminal groups and the nature of their interactions with State actors (Arias, 2017). For instance, a highly organized criminal group with a clear hierarchy and robust resources can exert greater influence and control, governing broader aspects of social, political and economic life than a loosely affiliated network of illicit actors might.

In some cases, this interaction produces what Ferreira and Richmond (2021) describe as a hybrid regime, where non-State violent actors collaborate with select State actors, further blurring the lines between legitimate governance and criminal influence. In these environments, some residents face pervasive violence, coercion and forced recruitment as common occurrences. Compliance with the rules set by criminal groups becomes essential for survival, with the implicit threat of severe consequences, including death, for those who dissent.

Illegal markets divert resources from productive uses, deepening inequality, and fostering parallel economies. This cycle entrenches instability, normalizes violence, and disrupts education as youth are drawn into criminal networks. Health also deteriorates due to addiction, mental health issues, and environmental degradation from illicit activities like illegal mining and deforestation. The resulting stagnation in human development leaves communities focused on survival rather than progress.

For example, violence against women and girls (VAWG) by organized crime is not just a means to gain power or economic benefits—it is also a tool of control and intimidation. Organized crime intensifies women's vulnerabilities through forced displacement, migration, and other destabilizing processes. Women's involvement in organized crime is often incidental, collaborative and not in a position of leadership, often occurring under conditions of exploitation. This dynamic reinforces the link between organized crime and sexual exploitation while also exposing women to heightened risks, including disproportionate arrests and harsher punishments (Spotlight Initiative Regional Programme for Latin America, 2021).

The changing landscape of illicit markets: from drug dominance to diversification

Criminal governance arrangements have allowed criminal organizations to diversify their activities. Drug trafficking is still the most lucrative market, but it is losing dominance over other illicit markets. The UNODC's 2024 report highlights record global cocaine production of 2,700 tons in 2022, up 20 percent from the previous year. This surge has driven down retail prices in South America and increased violence in transit countries as seen in recent years (UNODC, 2024b).

Drug trafficking remains more entrenched today than a decade ago, with growing production and global demand presenting significant challenges for governance, security and public health across LAC. The “war on drugs” has dominated the region’s policy landscape, with anti-crimes initiatives often equated with anti-drug strategies. Policies aimed at dismantling production hubs, particularly in Colombia, Peru and Bolivia, have had uneven long-term impact, while transit and consumer countries struggle to contain trafficking within their borders. In Bolivia’s case, these efforts unfold within a complex socio-political and economic context, where structural constraints and a unique approach to coca leaf regulation shape the country’s response.

Marijuana legalization efforts have not curbed the illicit market due to limited legal access for most consumers, and this keeps incentivizing international smuggling. Meanwhile,

officials in LAC fear North America’s fentanyl crisis will spread to their countries. Despite decades of anti-drug policies, both supply and demand for drugs continues to grow.

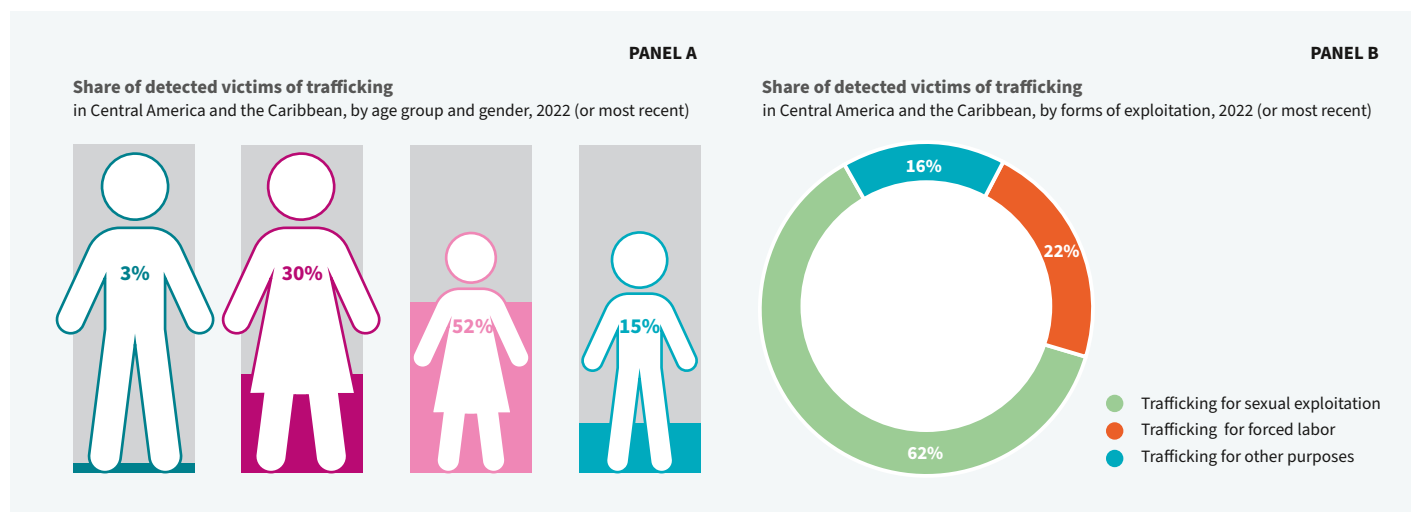
Human smuggling and human trafficking—distinct but overlapping phenomena—has grown significantly. Smuggling involves voluntary border crossings, while trafficking exploits individuals through coercion and deception for forced labour, sexual exploitation, or organ harvesting. Trafficking is the region’s second-largest illegal market, with victims generating sustained profits through repeated exploitation. Women and girls face heightened risks, often trapped in cycles of abuse (figure 4.16).

Limited data on human trafficking hinders policy responses and targeted interventions, highlighting the urgent need for more comprehensive studies to better understand and combat trafficking networks (UNODC, 2024a).

Illegal mining and logging are among the most lucrative illicit activities in the region, driven by global demand for precious metals and timber. These activities devastate the environment, causing deforestation and accelerating water contamination and biodiversity loss, particularly in the Amazon.

Illegal mining has become the fastest growing criminal economy wherever mineral deposits to present. Gold is sometimes referred to as the “new cocaine”—more profitable, easier to launder, and far less risky (Kurylo, 2024).

Figure 4.16 In Central America and the Caribbean, trafficking mostly targets girls for sexual exploitati



Notes: Calculations are based on data on the gender and age of victims detected in 12 countries in Central America and the Caribbean.

Source: Based on UNODC (2024a).

According to the World Drug Report 2019, the value of illegal gold exports exceeded that of cocaine in Colombia and Peru, two of the largest cocaine producers (UNODC, 2019). Gold trafficking in LAC has never been more profitable. Prices of this precious metal surged over 40 percent in 2024 to reach a record high of over US\$3,000 per ounce in March 2025 (Schmidt, 2025).

Criminal organizations now control vast illegal mining operations in Colombia, Peru, Brazil, and Venezuela, using the profits to finance a range of other illicit activities. Indigenous communities are often the most affected, facing displacement and violence, as their lands are often targeted. The human toll is staggering: in 2022, LAC accounted for 88 percent of global environmental defender fatalities (Global Witness, 2023).

Extortion has become one of the most pervasive and deeply entrenched criminal activities across the region, impacting businesses, residents and public services (Dammert, 2021; Moncada, 2021). Transnational criminal organizations operating in the region increasingly rely on extortion as a core revenue stream and as a mechanism to assert territorial influence over local communities, often in contexts where State presence is weak or fragmented.

The extortive power of criminal organizations has, in many instances, become overwhelming and difficult to contain (International Crisis Group, 2023). In cities across Latin America, local media frequently report on extortion rings targeting not only businesses and merchants, but also schools, hospitals and public transportation systems. In extreme cases, residents must pay for their own safety, whether it is moving through their neighbourhoods, attending school or securing their children's well-being. This widespread crime undermines trust, destabilizes economies, and weakens community cohesion, perpetuating a climate of fear and insecurity.

Other illegal markets, such as oil and fuel theft, pose significant challenges, particularly in national border regions where organized groups siphon oil, causing substantial financial losses and environmental damage. Similarly, contraband operations, which involve smuggling everyday goods like cigarettes and apparel, not only weaken local businesses but also reinforce criminal networks. Arms trafficking fuels violence and territorial disputes, with firearms often originating from the United States or being diverted from local factories. As discussed in chapter 3, the rise of cybercrime, driven by rapid digitalization and weak

cybersecurity, has enabled both new cyber-dependent crimes and the adaptation of traditional crimes to digital platforms. Lastly, money-laundering remains a crucial tool for criminal organizations to legitimize their operations, with the Caribbean facing challenges due to its geographic location and economic ties.

Criminal organizations are changing their operative structures

Criminal organizations operate with a high degree of sophistication, displaying a rational, profit-driven orientation that balances calculated risks with profit-maximizing goals. These groups engage in rigorous planning to evade law enforcement and outmanoeuvre rival factions. They also invest heavily in securing loyalty within communities through a blend of incentives and coercion. In many cases, criminal groups integrate themselves into local economies by providing “services” such as loans, security or employment, often in legal enterprises, thereby embedding themselves into the social fabric.

Criminal organizations in some regions wield significant power, controlling territories and developing global networks. However, most illegal markets in LAC are run by fragmented, smaller groups that form flexible, temporary alliances to adapt to shifting demand and enforcement pressures.

This “networked” model complicates regulation, as loosely affiliated groups collaborate across borders to sustain operations. While research on organized crime has grown, it often fails to keep pace with the rapid evolution of these groups. A deeper understanding of their diverse and adaptive structures is essential to craft effective policy responses.

Criminal organizations in LAC exhibit diverse structures, spanning local, regional, national and transnational levels. They include mafias, cartels, transnational criminal organizations, gangs, mega-gangs and familial clans. These networks of organizations go way beyond the stereotypical narco-warlord. The popular image of the big “boss” who centralizes criminal activities has been surpassed in practice. Organizations continue to function even when they are decapitated.

Mafias dominate territories through extortion and racketeering, controlling both legitimate and illicit markets. They leverage political and social connections to operate with minimal resistance and engage in transnational activities like human trafficking (Sergi, 2023). Cartels have shifted from vertically integrated structures, exemplified

by Medellín and Cali (Colombia), to decentralized models. Modern cartels like *Cartel Jalisco Nueva Generación* (CJNG) and the *Cartel de Sinaloa* (both from Mexico) maintain territorial dominance while expanding into activities such as illicit mining, human trafficking and smuggling.

The diversification of activities and evolving operational structures and the level of embeddedness of criminal organizations in society have significantly altered how the State can—and must—respond. A traditional focus on drug trafficking and high-profile traffickers has often obscured other forms of illicit activity. Yet, while drug trafficking remains a major concern, other illegal markets and predatory crimes are proving equally disruptive to economies, governance, and social cohesion. Criminal organizations often operate across multiple illicit markets. Predatory crimes like extortion, kidnapping, and human trafficking often have a more direct and devastating impact on local communities than drug trafficking. These crimes undermine public safety, hinder economic development, and erode the social fabric of communities.

No place in LAC is safe

Illegal economies have infiltrated urban, peri-urban and rural areas, embedding themselves deeply in local communities. However, national crime statistics often fail to capture

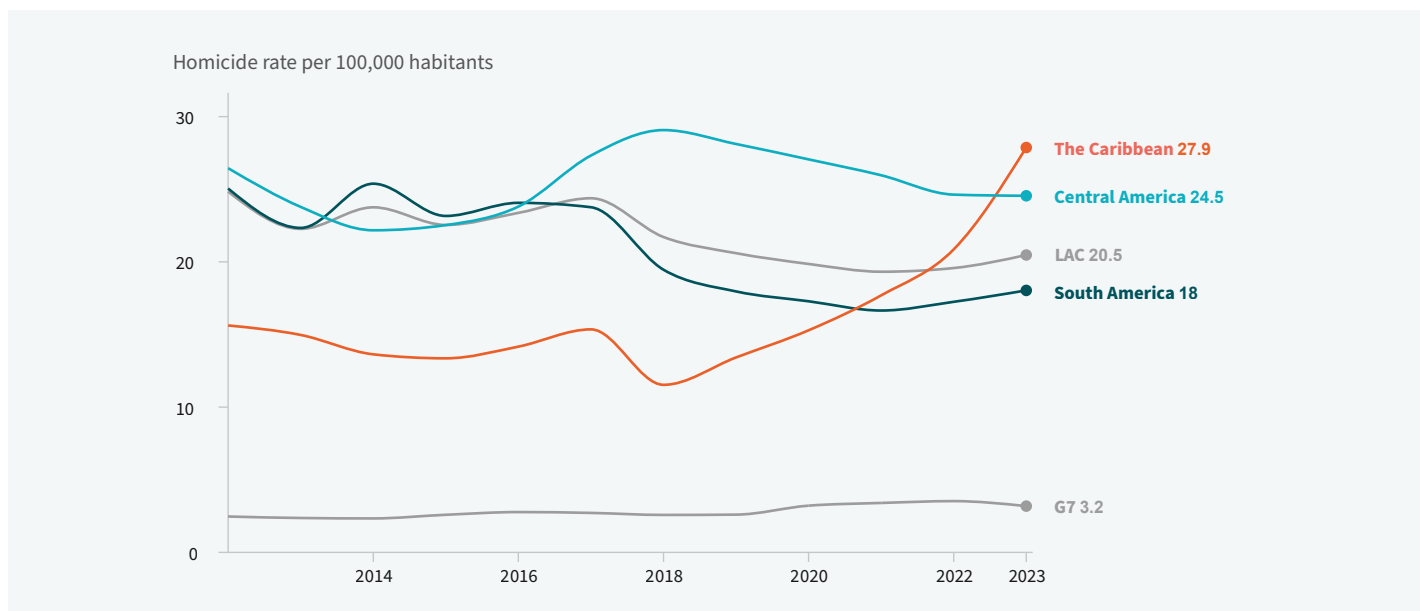
their true impact, making neighbourhood-level data essential for understanding the localized effects of illegal economies. Organized crime has also expanded into previously insulated regions, challenging law enforcement and governance. Meanwhile, former smuggling transit zones have transformed into permanent criminal hubs, further cementing illegal activities in these areas. While high homicide rates often signal a criminal presence, many illicit markets operate through subtler mechanisms, such as extortion, corruption, and social control over communities.

Even countries once considered among the region's safest, such as Uruguay, Chile and Costa Rica, have seen a sharp rise in homicide rates linked to organized crime. This trend underscores a region-wide surge in violence, affecting even historically low-risk nations. The growing complexity of these criminal networks demands targeted and adaptive strategies to protect governance, public safety and economic stability across LAC.

4.4.3 Human mobility is becoming increasingly risky³²

Migration trends in LAC are presenting growing challenges for human development—affecting individuals, communities, and States. Human mobility can be viewed as an expression of agency, whereby individuals seek to improve their social

Figure 4.17 Lethal violence in LAC has shifted from Central America to South America and the Caribbean



Notes: All regional averages are population weighted.

Source: UNDP's calculations based on UNODC, "Global Study on Homicide 2023" and "Intentional Homicide Statistics" data.

and economic conditions by offering their labour where it is most needed. A portion of the income earned is often sent back as remittances, providing significant support to families and communities in their countries of origin. Moving to other countries, despite the risks it might entail, often translates into an improvement in well-being, at least in the medium- to long-term. Forcibly displaced people can find safe havens and opportunities to start a new life in their host countries.

While this dynamic remains an important feature in LAC, emerging trends raise growing concerns. Escalating economic, social, political, and environmental shocks have created a web of push factors that have driven migration both within and beyond the region. These pressures are increasingly blurring the distinction between voluntary migration and forced displacement. A substantial share of migration in LAC now exists at this intersection, reflecting not only a response to hardship but also the breakdown of basic protections under the social contract and the need to exit it.

This shift has far reaching implications. Migration driven by compulsion—rather than choice—represents a loss of agency and exposes individuals to severe risks throughout their journey.

The impacts are not limited to those on the move. Communities left behind often experience deepening social and economic vulnerability, while transit and destination areas face added pressure on cohesion, services, and public trust. In this context, human mobility—once a pathway to empowerment—is increasingly shaped by fragility and insecurity, reinforcing patterns of social fragmentation across the region.

At the time of writing this report, recent changes in the U.S. immigration policies are already reshaping migration dynamics drastically. In February 2025, the number of undocumented migrants crossing the U.S. southern border plummeted to the lowest level seen in decades, according to US Customs and Border Protection data (U.S. Customs and Border Protection, 2025). This might signal a shift in migration patterns, where intra-regional mobility is gaining greater prominence.

People on the move face extreme risks

Migrants in transit—particularly children and women—face heightened risks of being victimized by human traffickers or being victims to gender based violence. Upon arrival at destination countries, migrants and forcibly

displaced persons are exposed to racism, xenophobia and discrimination, including gender-based discrimination, which all represent barriers to their integration as well as serious obstacles to social cohesion.

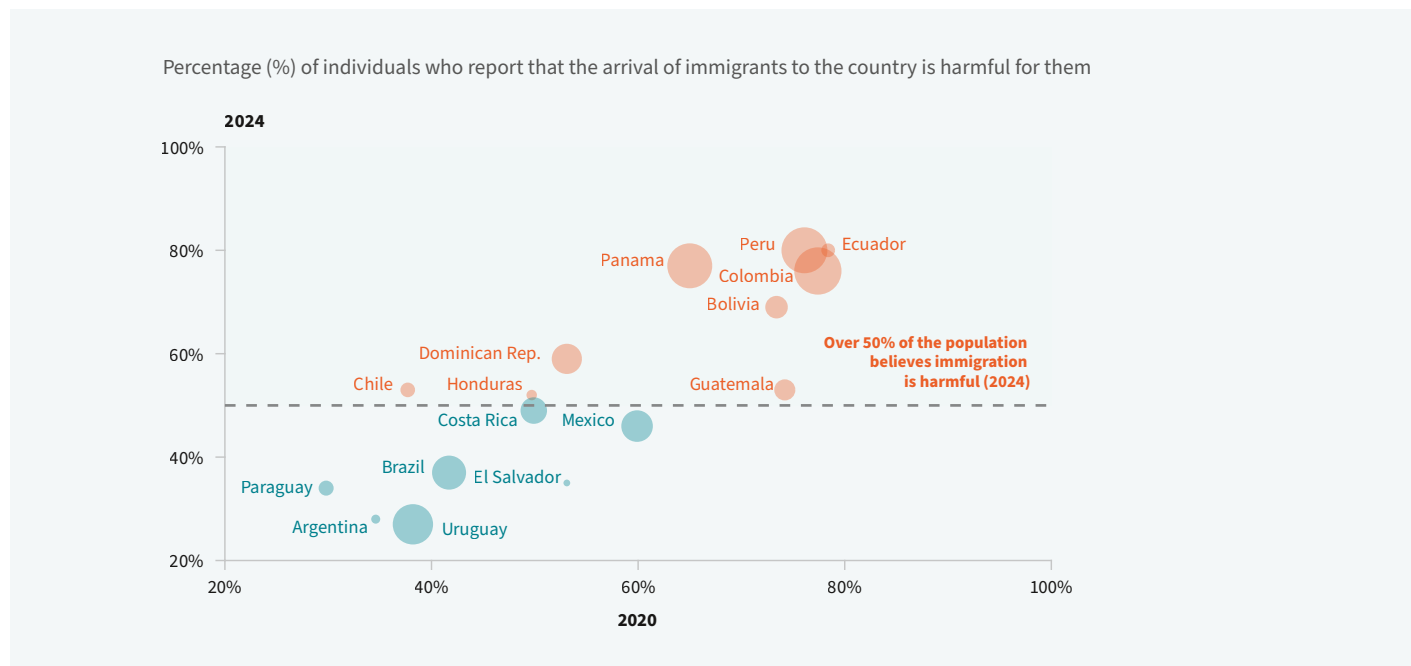
The journeys are becoming increasingly perilous, largely due to more restrictive migration policies. This has led to a surge in smuggling with routes becoming more dangerous and individuals more vulnerable to exploitation and human trafficking. The US-Mexico border and the Darién Gap have been identified as key areas of concern. The Global Study on Smuggling of Migrants 2018, emphasized the significant revenue that smuggling networks generate. The report estimated that smugglers on land routes to North America generated from US\$3.7 billion to US\$4.2 billion in revenue in 2016 alone (UNODC, 2018).

Tragically, many migrants face harsh conditions and violence and may also experience accidents during these journeys, conditions that result in the deaths of thousands annually. According to the Missing Migrants Project, run by the International Organization for Migration (IOM), more than 11,000 people died or disappeared along migration routes in the Americas from January 2014 to May 2025 (IOM, 2025). Almost half of the fatalities from 2020 to 2024 happened along the US-Mexico border (48.4 percent of all deaths and disappearances in the Americas). The maritime routes in the Caribbean represent the second source of danger for irregular migrants, with 19.4 percent of total fatalities in the Americas occurring in this subregion from 2020 to 2024. However, deaths at the U.S. border have recently declined as less people try to cross the border.

Migrants and forcibly displaced persons often face significant barriers to accessing health care in their host countries. These barriers include precarious legal status, language barriers, xenophobia, and fear of detention or deportation. The COVID-19 pandemic exacerbated these challenges, particularly impacting stranded migrants and refugees. There are significant mental health impacts of migration and displacement, with individuals experiencing anxiety, depression, post-traumatic stress disorder (PTSD), and suicidal tendencies.

Anti-immigrant sentiment has been gaining momentum across the region, with a significant portion of the population perceiving immigration as detrimental. This sentiment is fuelled by biased media coverage and political discourse, often dehumanizing migrants and refugees. This environment fosters racism, xenophobia and discrimination,

Figure 4.18 Negative perception of immigrants rising in LAC



Notes: The analyzed question is: 'Do you think that the arrival of immigrants to the country benefits or harms you?' Bubble size represents the growth rate of migrants living in each country from 2020 to 2024.

Source: Latinobarómetro Data from 2020 and 2024, and UNDESA International Migrant Stock (2024).

leading to human rights violations and limited access to services for migrants.

Despite often possessing higher education levels, migrants in LAC frequently face challenges in finding formal and high-quality employment. They are more likely to be employed in informal jobs and experience “brain waste” where their skills are underutilized. Young migrants face particularly significant challenges, with lower school attendance rates and higher dropout rates compared to their native-born peers. These socio-economic integration gaps contribute to social and economic exclusion and hinder the successful integration of migrants into their host communities.

Communities of transit and destination face severe challenges in terms of social cohesion

Transit migration has significantly increased, straining resources in transit communities. This includes increased demand for health care, shelter and water, and sanitation services. The influx of migrants can also exacerbate existing security concerns, as it may facilitate the activities of criminal organizations involved in smuggling and trafficking. Moreover, the presence of large groups of migrants can sometimes be perceived as a threat to local security, potentially leading

to social tensions. Transit migration can also contribute to increased corruption, as local authorities may exploit the situation for personal gain. Finally, the environmental impact of transit migration is significant, with deforestation, pollution and the degradation of wildlife habitats being major concerns. It is important to note that much of the migration considered to be transit migration could become destination migration, especially if the border with the United States remains closed.

While many citizens in the region believe that immigration contributes to economic development in the receiving country (57 per cent according to Latinobarómetro 2024), concerns remain regarding the potential impact of immigration on the labour market and on the community's security. While empirical evidence suggests that the impact of immigration on the labour-market outcomes of native-born workers is generally limited, some studies have found negative effects on the wages of low-skilled workers, particularly in the informal sector.

Perceptions regarding the impact of immigration on security often diverge from empirical evidence. While some segments of the public associate migration with rising crime, numerous studies show that migrants are generally no more

likely—and in many cases less likely—than native-born populations to be involved in criminal activity. Nevertheless, these misperceptions can drive anti-immigrant sentiment and contribute to social polarization.

The impact of migration on host societies is complex and multifaceted. While concerns regarding competition for jobs and potential security threats exist, it is crucial to rely on evidence-based analysis and avoid generalizations.

Migration and forced displacement impact those left behind

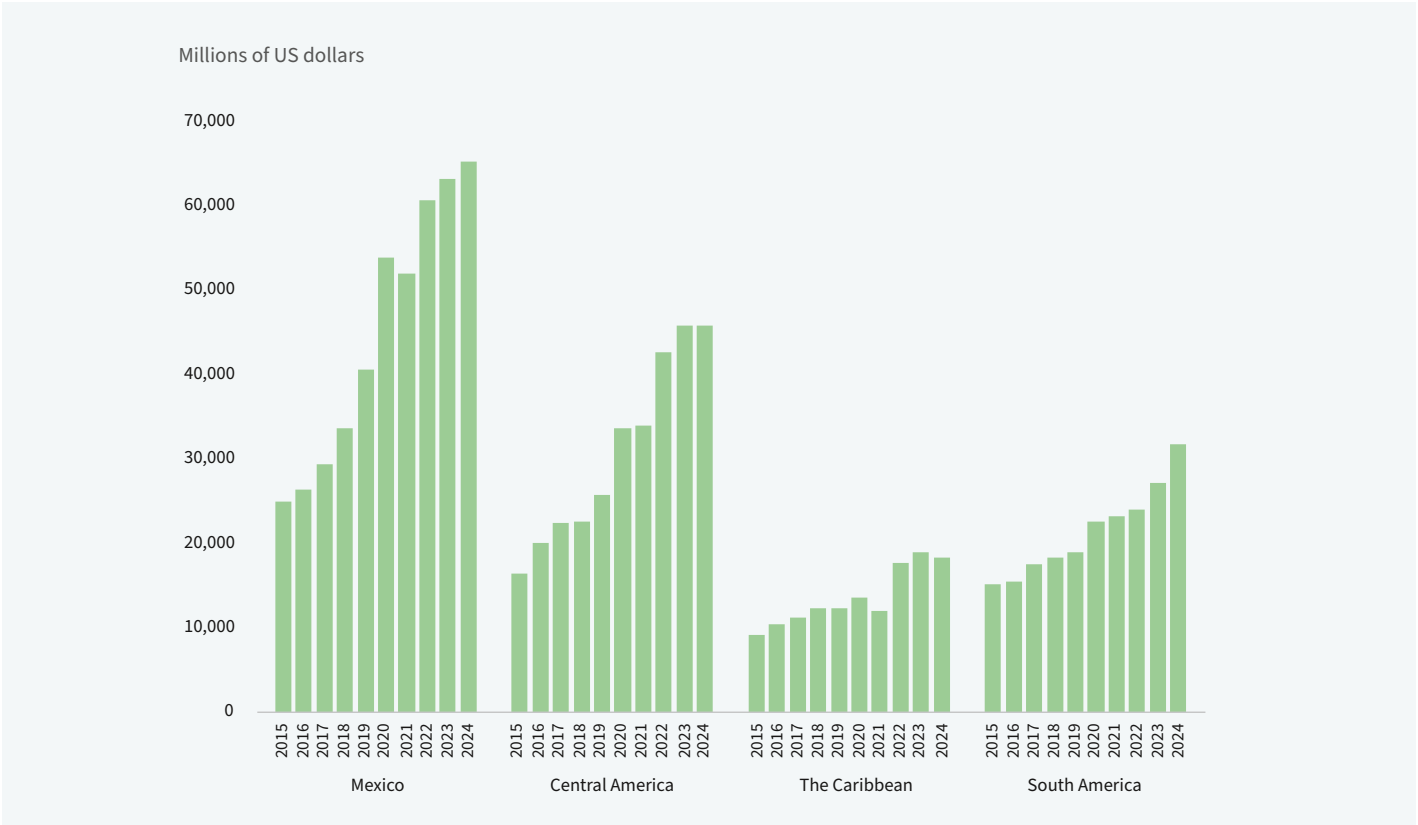
Migration, while often seen as an opportunity for individuals and their families, can also have significant consequences for the communities they leave behind. Remittances provide crucial financial support. In 2024, total remittance inflows to the region reached US\$160.9 billion, reflecting an increase of US\$7.7 billion from 2023. This represents 2.3 percent of the region’s total GDP. While remittance flows grew across

the LAC region, there are significant variations between countries and subregions (figure 4.19).

Mexico received an unprecedented US\$65.1 billion in 2024 (3.2 percent of GDP), reaffirming its status as the largest net remittance recipient in the region. Central America received approximately US\$45.7 billion in 2024, with an average growth rate of 6.6 percent. Of particular note were the remittances to Nicaragua (representing 27.6 percent of GDP) and Honduras (25.9 percent of GDP).

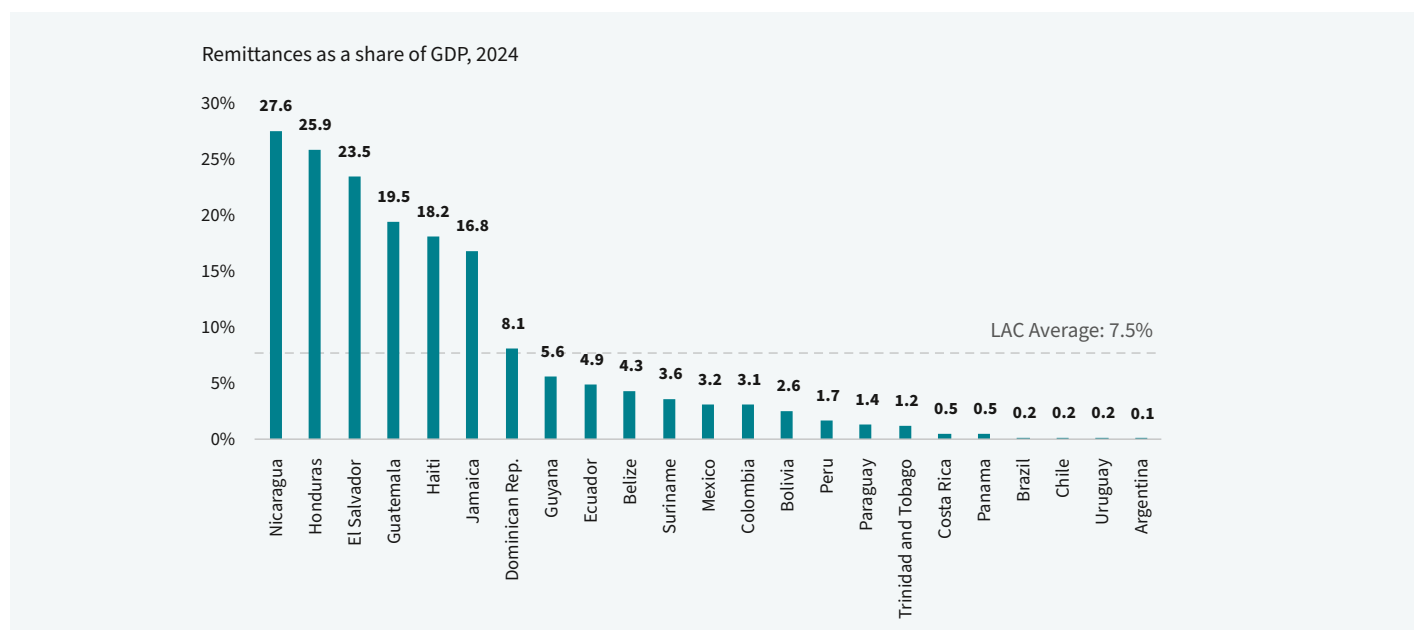
A possible slowdown in the growth of remittances due to stricter migration measures is expected to have a modest impact on economic growth. However, at the household level, the effects could be significant, especially for those highly dependent on remittances or directly affected by deportation. In several countries in Central America, remittances constitute around 25 percent of GDP, making them highly susceptible to fluctuations in migration

Figure 4.19 Remittances to LAC continue to grow, but with diminishing rates



Notes: Last quarter of 2024 uses estimated data.
Source: Maldonado and Harris (2024).

Figure 4.20 For some countries remittances represent a large share of their GDP



Source: Maldonado and Harris (2024).

policies, global economic downturns, and currency devaluations.

Also, the departure of individuals, particularly skilled workers, can have detrimental effects on the local economy. The “lost-labour effect” occurs when the departure of a portion of the workforce creates shortages in crucial sectors, hindering agricultural productivity and potentially impacting food security in rural areas. Moreover, the emigration of highly skilled individuals can lead to a “brain drain,” depleting the country of valuable human capital and hindering long-term development.

Beyond economic impacts, family separation caused by migration can have profound social and emotional consequences. Children left behind may experience increased risks of psychological and emotional disorders, such as depression and anxiety, due to long-term separation from their parents. This can lead to behavioural problems, academic challenges, and even increased vulnerability to substance abuse and involvement in crime.

Furthermore, the gender dynamics within households are significantly impacted by migration. When men migrate, women often assume increased responsibilities for household chores, childcare and even agricultural labour.

This can limit their educational and economic opportunities, perpetuating gender inequalities.

Return and reintegration will be an important challenge for the region

LAC should be prepared for a possible increase of returnees in 2025 and 2026 because of the shift in United States immigration policy. This situation is likely to create many tensions, especially when it comes to the reintegration of the returned population into the economies and societies of their countries of origin.

The return of migrants, particularly through forced deportation, presents a complex set of challenges. Deportation itself can be a traumatic experience, often involving detention, separation from family, and the loss of livelihoods. Upon returning, many individuals face significant obstacles that hinder their reintegration.

Economic hardship is a major issue, as many deported migrants struggle with financial instability. The costs associated with migration often leave them in debt, and the loss of remittances can severely impact the economic well-being of their families and communities. Additionally, finding employment upon return is often difficult, particularly for those with limited skills or in regions with high unemployment rates.

Beyond economic struggles, returnees also face social and psychological challenges. Deportation can carry a significant stigma, making it difficult for individuals to reintegrate into their communities. Many migrants experience mental health issues such as depression, anxiety, and PTSD. Furthermore, some deported individuals may become vulnerable to crime, either as victims or by becoming involved in criminal activities, which can contribute to increased violence and insecurity within their communities.

Successful reintegration requires a comprehensive and multi-faceted approach. Ensuring access to essential services, addressing the stigma associated with deportation, supporting economic reintegration, and strengthening social safety nets are all critical steps in helping returnees rebuild their lives.

4.5 Addressing fragmentation: reducing distance and questioning its potential for social change

Addressing social fragmentation is a complex challenge. This chapter proposes two guiding principles for moving forward. First, it is essential to continue and increase efforts to close the gaps—economic, geographic and identity—that are driving fragmentation. Second, it is equally important to consider whether fragmentation itself may represent a form of social energy—a collective demand for change—that, if understood and guided constructively, could be harnessed in support of inclusive and sustainable development.

4.5.1 Reducing social distances

Reducing social distances is, according to our definition of social fragmentation, the entry point for generating social cohesion. One of the main takeaways of this chapter is that the most important source of fragmentation occurs not within communities (although there is some erosion in this dimension) but among different social groups—particularly along economic lines.

Just as the dimensions of social fragmentation—economic, identitarian and geographic—interact and reinforce one another, the elements of social cohesion can also generate positive virtuous cycles. While few policies are explicitly designed to strengthen social cohesion, all policies inevitably influence social relations. As such policymakers must consider the potential of any intervention to either bridge or deepen social divides.

Economic: closing income gaps

Reducing economic disparities and narrowing inequalities is the foundation for fostering social cohesion. The topic of how to reduce inequalities in LAC is discussed at length in the 2021 *Regional Human Development Report* (UNDP, 2021). This involves a society with a continuous and normal distribution of income that supports a strong and stable middle class. However, when viewed through a policy lens, one key principle stands out: the need to expand human agency. Economic mobility is just as important as reducing inequality—people must have meaningful opportunities to improve their lives, not merely have their basic needs met.

From a social policy perspective, this calls for a shift away from viewing individuals as passive beneficiaries of subsidies or transfers. Instead, the focus should be on equalizing access to the assets that enable people to thrive—such as education, health, networks, and financial capital. While income transfers may be a central component of this strategy, they are not sufficient on their own. Policies must go further to help individuals build capabilities and participate productively in society. This, in turn, fosters a deeper sense of dignity, pride, and belonging—key ingredients of lasting social cohesion that go well beyond material well-being.

Identitarian: cultivating social empathy at early ages

A growing body of research examines interventions designed to cultivate social empathy—the ability to understand and share the experiences of others, particularly those from different backgrounds, while acknowledging the role of systemic inequalities. A thorough review of the evidence identified five key intervention types to improve intergroup relationships (Sonnenfeld and others, 2021): school-based peace education; collaborative contact; intergroup dialogue; workshop-based peace education with intergroup contact and economic support; and media for peace interventions.

The referenced research underscores the importance of multifaceted approaches that address both individual perspectives and systemic barriers. For instance, findings suggest that interventions combining intergroup contact with economic support demonstrate significant positive impacts on social cohesion. This aligns with the core tenets of social empathy, which emphasize the need to understand not only individual experiences but also the broader social and economic contexts that shape those experiences.

School-based peacebuilding programmes emerge as particularly promising. These programmes, such as the

perspective-taking curriculum implemented in Türkiye (Alan and others, 2020), have been shown to effectively reduce peer violence, social exclusion and ethnic segregation while fostering prosocial behaviours like trust and altruism. These findings highlight the critical role of education in cultivating social empathy among young people by equipping them with the knowledge, skills, and values necessary to navigate a diverse and interconnected world.

Geographic: closing State presence gaps

State presence needs to be uniform across a country's territory. In LAC, human development inequality often takes a distinct geographic form. Within countries, regions are not necessarily converging toward similar levels of basic or advanced capabilities—in many cases, they are diverging. Colombia's *National Human Development Report* refers to these disparities as “territorial fractures”—zones where overlapping challenges such as low productivity, violence or crime, weak institutional capacity, and environmental degradation create entrenched cycles of underdevelopment (UNDP Colombia, 2024).

Addressing these territorial disparities requires detailed, subnational data that can capture the uneven effectiveness of State institutions. By focusing on key dimensions that directly affect people's daily lives, policymakers can better identify priorities, tailor interventions, and implement strategies that support equitable growth and sustainable development.

4.5.2 Can social fragmentation drive development? Unlocking its potential for change

Antagonism in fragmented societies can be seen as a form of latent energy—an expression of dissatisfaction with the existing political and socioeconomic equilibrium. It does not carry a predetermined trajectory but reflects a readiness for change. During periods of political rupture, various context-specific factors, contingencies and agents of social change come into play, shaping the outcomes of social interactions. These outcomes can either drive transformative changes or reinforce existing structural paths.

This chapter has examined the ways social fragmentation challenges human development in LAC. Given how deeply rooted these divisions are, an essential question emerges: under what conditions can this energy of discontent be channeled toward developmental progress? While uncommon, historical moments show that it is possible.

As highlighted in this chapter, average public trust in governments has shown a modest but steady recovery since 2018—reversing a long-standing downward trend. Although the improvement is not dramatic, it signals a shift from widespread, generalized distrust to a more polarized distribution of trust. While much of the academic literature emphasizes the risks of political polarization, some studies suggest it can also activate constructive mechanisms, albeit with important caveats.

John Zaller (1992) foundational work on public opinion formation, for example, argues that periods of heightened political conflict—even when fueled by polarization—can lead to increased political awareness and engagement. In this sense, fragmentation and polarization, while often destabilizing, may also contain the seeds of civic revitalization and democratic renewal—if appropriately harnessed.

Polarization can compel political parties to more clearly define their positions and offer voters distinct policy alternatives. This clarity can help citizens better understand the differences between candidates and make more informed choices. However, the literature also highlights the risks of polarization, including increased ideological rigidity and a diminished willingness to compromise—both of which can hamper democratic functioning.

At the same time, heightened polarization can lead to greater political engagement. When voters are more aware and actively involved, politicians may feel stronger pressure to respond to public opinion and be held accountable for their actions.

This context invites deeper reflection on the role of agency in times of social fragmentation. Political and civic leaders must be skilled communicators—particularly in a digital age where simple, compelling messages can gain rapid traction. Equally important is the evolving role of collective agency, especially through social movements. Recent experiences across the region suggest that, even in polarized environments, movements focused on defending and expanding individual capabilities and freedoms can succeed in shaping public agendas.

In deeply divided societies where two opposing political forces hold roughly equal influence, small but pivotal factors can shift the balance of power. In such moments, leadership's capacity to craft resonant narratives and mobilise grassroots support can be decisive. Moreover, unintended consequences of political decisions and unpredictable

Box 4.4 The role of social movements during recent constitutional processes in Chile: achievements and lessons

The case of Chile illustrates how social change can emerge even in contexts marked by fragmentation or overt polarization. Social movements are crucial actors in the drive towards collective change, channeling citizen demands and mobilizing the population to influence decisions made in the public sphere. In Chile, they played a central role in the democratic transition. During Augusto Pinochet's dictatorship (1973–1989), various sectors joined political parties and staged protests that contributed to the regime's end. After the return to democracy, social movements disbanded, losing their capacity for mobilization and influence. But in response to the weakening of institutional channels for addressing social discontent, social movements re-emerged in the mid-2000s with demands related to environmentalism, regionalism, feminism and education.

Protests (a manifestation of these social movements) peaked in 2019, marked by increased violence and disruptions to public order. In response, the political establishment initiated the Agreement for Peace, which included drafting a new Constitution. In October 2020, 78 percent of voters approved a referendum in support of drafting a new Constitution. Additionally, 79 percent of voters approved the creation of a "Constitutional Convention," an assembly consisting primarily of civil society members with no ties to formal political parties (UNDP Chile, 2022). Experts in law, constitutionalism and public policy joined gender advocates to propose a parity-based electoral system for the Constituent Convention. The proposal gained cross-party support from women parliamentarians, who pushed it within their parties, leading to its approval (Llanos, de los Santos and Incio, 2023).

The draft of the new Constitution incorporated key demands from previous social movements, including the universality of social rights, gender equality, plurinationality and environmental sustainability.³³ This process demonstrated the capacity of movements to challenge the political system and directly influence institutional spaces, even the Constitution.

But challenges emerged as soon as the draft of the new constitution began making its way through the established political system. Political polarization hindered consensus-building, favouring fragmentation, maximalism, identity politics and anti-partisan sentiment. Movement participants acknowledged that negotiations and the integration of many popular demands were blocked, creating difficulties in linking social movements with the political system and exercising representation (UNDP Chile, 2024). As a result, 61.8 percent of voters rejected the draft constitution in a 2022 referendum. This led to a second constitutional process, this time dominated by experts and politicians and with less involvement from civil society. In 2023, 55.7 percent of voters also rejected this new proposal.

The Chilean experience demonstrates that social movements can mobilize demands and drive change by pressuring the political system and shaping public opinion. However, it also shows that in polarized contexts, these strategies can hinder consensus-building and progress towards resilient human development. In times of polarization, the challenge for social movements is to balance collective action with strategies that effectively connect to the political system. The success of transformative processes partly depends on achieving this balance.

The analysis of the Chilean case underscores the complex and multifaceted nature of social and political change in contemporary fragmented societies. While fragmentation poses significant challenges, it can also serve as catalysts for social and political mobilization.

Source: Elaborated by M. Retamales, V. Silva, and M. Zilveti, UNDP Chile (2025).

contingencies can alter trajectories in unexpected ways. Still, it is essential to recognise that no political outcome is ever final—each represents a temporary equilibrium that sets the stage for a next cycle of social transformation (Rodríguez-Solorzano, 2025).

Social fragmentation in LAC has slowly evolved from a latent condition—rooted in inequality and weak state capacity—into an explicit driver of instability and risk. Repeated shocks—environmental disasters, economic crises, health emergencies, and security threats—have instilled fear about the future, fueled suspicion among groups, and eroded mutual solidarity, fundamentally reshaping how individuals and communities interact and cooperate. Governance failures, criminal governance schemes, and shifting migration patterns then form reinforcing feedback loops that undermine both individual freedoms and collective resilience. The recent rise in explicit political polarization and short-term policymaking has further weakened public institutions. One of the main characteristics of weak

institutions in LAC is that public services vary greatly in quality along territories. Therefore, people with means are increasingly turning to private providers while others must turn to informal, sometimes illegal, arrangements, further entrenching exclusion and eroding the social contract.

Moving forward, any strategy to rebuild cohesion must address both the structural gaps that fuel fragmentation and the agency of affected populations. Closing strategic economic, identitarian, and geographic divides will reduce pressures that precipitate governance inefficiency or breakdown, illicit governance arrangements, and brittle migration dynamics. Equally crucial is harnessing fragmentation's latent energy by fostering inclusive dialogue, supporting grassroots initiatives and empowering social movements to engage effectively with political processes. In doing so, widespread dissatisfaction can be channelled into alliances and reform rather than conflict, transforming the very forces that now threaten human development into drivers of deeper, more resilient progress across the region.

Notes

1. Sections 4.1, 4.2 and 4.3 are based on Rodríguez-Solorzano (2025), Regional Human Development Report 2025 Background Paper.
2. From a complex systems perspective, see Minh Pham and others (2020); from a socio-spatial perspective, see Sposito and Sposito (2020) and Navez-Bouchanine (2002); from a socio-economic perspective, see Saraví (2009) and Azaola (2021).
3. Andersen, Hans and Ronald Van Kempen (2019).
4. The idea of understanding fragmentation as a function of “distance” between social groups and antagonism was first developed by Esteban and Ray (1994) employing the concepts of identification and alienation.
5. This definition builds upon the framework developed in *Poverty, Trust and Social Distance: A self-reinforcing ‘poverty trap’?* by Fernández, López-Calva and Rodríguez-Solorzano (2024).
6. For a framework, see Rodríguez-Solorzano (2025).
7. According to the results in *New Dimensions of Global Feminist Influence: Tracking Feminist Mobilization Worldwide, 1975-2015*, some fruitful avenues for exploring the relationships between feminist movements, international norms and democracy can be observed. “Regional trajectories also suggest that democratization is associated with feminist mobilization, though the direction of the relationship may be difficult to ascertain” (Forester and others, 2022, p. 19).
8. The classic works of Putnam (1993), Fukuyama (1995) and Coleman (1988) concur on these three features as part of their definitions of social capital.
9. See among others: Lawrance (1991); López and others (2014); and Yesuf and Bluffstone (2008).
10. Appadurai (2004), Genicot and Ray (2017) and Ray (2006) as quoted in Fernández, López-Calva and Rodríguez-Solorzano (2024).
11. According to eMastered, corridos tumbados are a modern Mexican music genre that surge around 2010 that blends traditional corrido storytelling with elements of trap, hip-hop, and reggaeton (Connaghan, 2025).
12. See Sánchez (2024).
13. See Flores (2023).
14. See Sherman and Bautista (2024).
15. From “PRC,” a song by Peso Pluma and Natanael Cano, <https://www.youtube.com/watch?v=kJfIWOiAc6>
16. Competitive military pressures made the Westphalian war-maker the leading agent of state formation in western Europe. Those pressures also forced states to converge on capacity building, territorial extension and internal political standardization. In Latin America, the absence of military threats enabled the emergence of a variety of state-formation agents: a port, a party, or a lord led the process. It also allowed agents to form states without Weberian attributes, gave them room to combine and exclude regions based on coalitional calculations rather than geopolitical imperatives, and exempted them from the effort of exerting uniform control throughout the territory (Mazzuca, 2021).
17. For example, Kawachi and Berkman (2000) and Thoits (2011) have developed good overviews.
18. Data and arguments on mental health are based on Valle (2025), Regional Human Development Report 2025 Background Paper.
19. For a definition of democratic backsliding see Norris (2017).
20. “Most people” is used to refer to any member of a society, even those considered to be “different,” and is distinguished from other forms of trust, such as trust in only your family or close community members.
21. See for example Johri (2020) and Jimenez (2020).
22. The concept of the *outsider* has been extensively examined in political science, particularly in the context of Latin American presidential systems (Linz, 1994). While the term has been interpreted in various ways within the literature, it can be defined operationally as “an individual who rises to political prominence not through or in association with an established, competitive party, but as an independent or in alliance with new or recently competitive parties” (Barr, 2009). Although their “independence” is often questioned by critics, these figures skillfully leverage this narrative to gain significant political traction.
23. Latinobarómetro presents data for LAC as a region as a simple average (unweighted). The mentioned increment in government trust is heavily influenced by countries like El Salvador (56 percentage points increase), Mexico (36 percentage points), and the Dominican Republic (30 percentage points). A second tier of countries showing notable improvements includes Brazil and Panama, each with a 21 percentage point increase.
24. Based on surveys by country experts.

- 
25. The United States is a paradigmatic case. Scholars crafted what became known as the idea of affective polarization: emotional dislike and disgust between members of opposing parties based not on policies but on identity. Partisans who were affectively polarized might actually overlap in their policy views (without knowing it due to misperceptions), or they might differ; policy alignment was not a good measure of emotional feelings (Kleinfeld, 2023).
 26. A paradigm shift implies putting the focus on how the productive capacity of the poor can contribute to economic growth instead of only considering how economic growth can improve the life of the poor (López-Calva and Rodríguez, 2024).
 27. Over 40 years ago, the thesis in the seminal book *The Silent Revolution* (Inglehart, 1977) held that when people grow up taking survival for granted, they are more open to new ideas and more tolerant of outgroups. Insecurity has the opposite effect, stimulating an authoritarian reflex in which people close ranks behind strong leaders, with strong in-group solidarity, rejection of outsiders and rigid conformity to group norms (Inglehart and Norris, 2017).
 28. As defined by V-Dem (2025): "Attacks on the judiciary's integrity can include claims that it is corrupt, incompetent, or that decisions were politically motivated. These attacks can manifest in various ways, including but not limited to prepared statements reported by the media, press conferences, interviews, and stump speeches".
 29. Academic performance, a more comprehensive curriculum and better infrastructure, safety and security are many of the reasons that prompt parents to place their children in private schools as soon as it is economically feasible for them to do so. See, for example, Santibañez and others (2021).
 30. This section is based on Dammert and Sampó (2025), Regional Human Development Report 2025 Background Paper.
 31. Classics like Putnam (2000) and Coleman (1990) sparked much of the research that has been done in this matter.
 32. Arguments and data in the human mobility section are based on Khoudour (2025), Regional Human Development Report 2025 Background Paper.
 33. See Consejo Constitucional de Chile (2023).

Esteban, Joan-Maria, and Debraj Ray. 1994. "On the Measurement of Polarization." *Econometrica* 62 (4): 819. <https://doi.org/10.2307/2951734>.

Fernández, Almudena, Luis F. López-Calva, and Santiago Rodríguez-Solórzano. 2023. "Poverty, Trust and Social Distance: A Self-Reinforcing 'Poverty Trap'?" *Social Philosophy and Policy/Social Philosophy & Policy* 40 (1): 129–49. <https://doi.org/10.1017/s0265052523000407>.

Fernández, Jaime, Sergio Olivieri, and Diana Sánchez. 2023. "A Methodology for Updating International Middle-Class Lines for the Latin American and Caribbean Region." Policy Research Working Papers; 10447. World Bank. <https://openknowledge.worldbank.org/handle/10986/39834>.

Ferreira, Francisco H. G., Julian Messina, Jamele Rigolini, Luis F. López-Calva, Maria Ana Lugo, and Renos Vakis. 2013. *La Movilidad Económica Y El Crecimiento de La Clase Media En América Latina*. Washington, D.C.: World Bank Publications.

Ferreira, M., and Richmond, O. 2021. Blockages to Peace Formation in Latin America: The Role of Criminal Governance. *Journal of Intervention and Statebuilding*, 161-180.

Flores, Griselda. 2023. "What 'Ella Baila Sola' Taught Us about the Future of Latin Music." *Billboard*. <https://www.billboard.com/music/latin/ella-baila-sola-regional-mexican-music-collaborations-analysis-1235547755/>.

Forester, Summer, Kaitlin Kelly-Thompson, Amber Lusvardi, and S Laurel Weldon. 2022. "New Dimensions of Global Feminist Influence: Tracking Feminist Mobilization Worldwide, 1975–2015." *International Studies Quarterly* 66 (1). <https://doi.org/10.1093/isq/sqab093>.

Forteza, Álvaro, Irene Mussio, and Juan Sebastián Pereyra. 2024. "Can Political Gridlock Undermine Checks and Balances? A Lab Experiment." *Journal of Behavioral and Experimental Economics* 108 (February). <https://doi.org/10.1016/j.socec.2023.102128>.

Fukuyama, F. 1995. *Trust: The Social Virtues and the Creation of Prosperity*. New York: Free Press.

Gallup International. 2023. "Do We Live Better than Our Parents? And What about Our Children?" <https://gallup-international.com/survey-results-and-news/survey-result/do-we-live-better-than-our-parents-and-what-about-our-children>.

Genicot, Garance, and Debraj Ray. 2017. "Aspirations and Inequality." *Econometrica* 85 (2): 489–519. <https://doi.org/10.2307/44955127>.

Global Witness. 2023. "Standing Firm: The Land and Environmental Defenders on the Frontlines of the Climate Crisis." <https://globalwitness.org/en/campaigns/land-and-environmental-defenders/standing-firm/>.

Hirschman, Albert O. 1995. *A Propensity to Self-Subversion*. Cambridge, MA: Harvard University Press.

Informe de Expertos. 2023. *Latin America Security Market 2023-2028*.

Inglehart, Ronald. 1975. *The Silent Revolution*. Princeton University Press. Princeton, NJ: Princeton University Press.

Inglehart, Ronald, and Pippa Norris. 2017. "Trump and the Populist Authoritarian Parties: The Silent Revolution in Reverse." *Perspectives on Politics* 15 (2): 443–54. <https://doi.org/10.1017/s1537592717000111>.

International Crisis Group. 2023. "Latin America Wrestles with a New Crime Wave." <https://www.crisisgroup.org/latin-america-caribbean/latin-america-wrestles-new-crime-wave>.

IOM (International Organization for Migration). 2023. "Missing Migrants Project." <https://missingmigrants.iom.int>.

Jachimowicz, Jon M., Salah Chafik, Sabeth Munrat, Jaideep C. Prabhu, and Elke U. Weber. 2017. "Community Trust Reduces Myopic Decisions of Low-Income Individuals." *Proceedings of the National Academy of Sciences* 114 (21): 5401–6. <https://doi.org/10.1073/pnas.1617395114>.

Jimenez, Carmenza. 2020. "The 'Latin-American Spring': Why South America Is Protesting." SBS Spanish. January 14, 2020. <https://www.sbs.com.au/language/spanish/en/article/the-latin-american-spring-why-south-america-is-protesting/owvugn65l>.

Johri, Amber. 2020. "Could 2020 Be the Beginning of the 'Latin American Spring'?" The Politics Society. November 21, 2020. <https://www.politicSATnyu.org/zeitgeist/2020/11/could-2020-be-the-beginning-of-the-latin-american-spring/>.

Kawachi, Ichiro, and Lisa Berkman. 2000. "Social Cohesion, Social Capital, and Health." In *Social Epidemiology*, 174–90. <https://doi.org/10.1093/oso/9780195083316.003.0008>.

Keefer, Philip, and Carlos Scartascini. 2022. "Trust: The Key to Social Cohesion and Growth in Latin America and the Caribbean." Inter-American Development Bank. <https://doi.org/10.18235/0003911>.

Khoudour, David. 2025. "Human Mobility, Resilience and Development in Latin America and the Caribbean." *Regional Human Development Report 2025 Background Paper. No. 50 UNDP LAC Working Paper Series*.

Kinosian, S., and Bosworth, J. 2018. *Security for Sale: Challenges and Good Practices in Regulating Private Military and Security Companies in Latin America*. Washington, DC: Peter D. Bell Rule of Law Program at the Inter-American Dialogue.

Kleinfeld, R. 2023. *Polarization, Democracy, and Political Violence in the United States: What the Research Says*. Washington, DC: Carnegie Endowment for International Peace.

Kurylo, Benjamin. 2024. "The Environmental Impact of Illegal Mining in Latin America." *Earth.org*. April 26, 2024. <https://earth.org/the-environmental-impact-of-illegal-mining-in-latin-america/>.

Latinobarómetro. 2025. "Data 2008- 2023." *Corporación Latino-barómetro*. Santiago, Chile. <http://www.latinobarometro.org/lat.jsp>.

Lawrance, Emily C. 1991. "Poverty and the Rate of Time Preference: Evidence from Panel Data." *Journal of Political Economy* 99 (1): 54–77. <https://doi.org/10.2307/2937712>.

Linz, Juan J. 1994. "Democracy: Presidential or Parliamentary Does It Make a Difference?" In *The Failure of Presidential Democracy*. Baltimore, MD: Johns Hopkins University Press.

Llanos, Beatriz, Daniela de los Santos, and José Incio. 2023. "Mujeres En Movimiento(S): El Poder Del Activismo, La Incidencia Y Las Estrategias Digitales Para La Igualdad Sustantiva." Atenea. UNDP, UN Women and IDEA International. <https://www.undp.org/es/latin-america/publicaciones/mujeres-en-movimientos-el-poder-del-activismo-la-incidencia-y-las-estrategias-digitales-para-la-igualdad-sustantiva>.

López, Richard B., Wilhelm Hofmann, Dylan D. Wagner, William M. Kelley, and Todd F. Heatherton. 2014. "Neural Predictors of Giving in to Temptation in Daily Life." *Psychological Science* 25 (7): 1337–44. <https://doi.org/10.1177/0956797614531492>.

López-Calva, Luis F., Guillermo Cruces, Samantha Lach, and Eduardo Ortiz-Juárez. 2014. "Clases Medias Y Vulnerabilidad a La Pobreza. Reflexiones Desde América Latina." *El Trimestre Económico* 81 (322): 281–307.

López-Calva, Luis F., and Santiago Rodríguez-Solorzano. 2024. "Nostalgia Sobre El Futuro: Como Lograr Una América Latina Sin Pobreza Y Con Menor Desigualdad." In *América Latina: La Visión de Sus Líderes*. Bogotá: Editorial Planeta.

Lustig, Nora, Valentina Martínez-Pabón, and Carola Pessino. 2025. "Fiscal Policy, Income Redistribution, and Poverty Reduction in Latin America." *Oxford Open Economics* 4 (Supplement_1): i426–46. <https://doi.org/10.1093/ooec/odae034>.

Maldonado, René, and Jeremy Harris. 2024. "Remittances to Latin America and the Caribbean in 2024: Diminishing Rates of Growth." *Inter-American Development Bank*. <https://doi.org/10.18235/0013258>.

Mazzuca, Sebastian. 2021. *Latecomer State Formation: Political Geography and Capacity Failure in Latin America*. New Haven: Yale University Press.

McColl, Robert W. 1969. "The Insurgent State: Territorial Bases of Revolution." *Annals of the Association of American Geographers* 59 (4): 613–31. <https://www.jstor.org/stable/2561830>.

McCoy, Jennifer. 2024. "Latin America's Polarization in Comparative Perspective." *Latin American Politics and Society* 66 (2): 161–78. <https://doi.org/10.1017/lap.2024.17>.

Mejia, Christian R, Telmo Raul Aveiro-Róbal, Luciana Daniela, Alejandra, Jhino Valeriano, David Alfonso Ibarra-Montenegro, Aram Conde-Escobar, et al. 2023. "Latin American Perceptions of Fear and Exaggeration Transmitted by the Media with Regard to COVID-19: Frequency and Association with Severe Mental Pathologies." *Frontiers in Psychology* 14 (May). <https://doi.org/10.3389/fpsyg.2023.1037450>.

Minh Pham, Tuan, Imre Kondor, Rudolf Hanel, and Stefan Thurner. 2020. "The Effect of Social Balance on Social Fragmentation." *Journal of the Royal Society Interface* 17 (172): 20200752. <https://doi.org/10.1098/rsif.2020.0752>.

Moncada, Eduardo. 2021. "The Politics of Crime in Latin America: New Insights, Future Challenges." *Latin American Politics and Society* 63 (1): 165–73. <https://doi.org/10.1017/lap.2020.37>.

Navez-Bouchanine, F. 2002. *La fragmentation en question: des villes entre fragmentation spatiale et fragmentation sociale*. Paris: L'Harmattan.

Norris, Pippa. 2017. "Is Western Democracy Backsliding? Diagnosing the Risks." *HKS Faculty Research Working Paper Series*, no. RWP17-012 (March).

O'Donnell, G. 2010. *Democracy, agency and the State: Theory with comparative intent*. Oxford University Press.

Ojala, Maria, Ashlee Cunsolo, Charles A. Ogunbode, and Jacqueline Middleton. 2021. "Anxiety, Worry, and Grief in a Time of Environmental and Climate Crisis: A Narrative Review." *Annual Review of Environment and Resources* 46 (1): 35–58. <https://doi.org/10.1146/annurev-environ-012220-022716>.

PAHO (Pan American Health Organization). 2018. "Mental Health in the Americas: Key Indicators and Prevalence Rates." <https://hia.paho.org/en>.

———. 2023. "Una Nueva Agenda Para La Salud Mental En Las Américas Informe de La Comisión de Alto Nivel Sobre Salud Mental Y COVID-19 de La Organización Panamericana de La Salud." https://iris.paho.org/bitstream/handle/10665.2/57504/9789275327265_spa.pdf.

Pérez-Betancur, V., Piñeiro-Rodríguez, R., and Rossenblatt, F. 2025. "Desafíos de la incorporación política, estabilidad y resiliencia democrática en América Latina." *Regional Human Development Report 2025 Background Paper. No. 55 UNDP LAC Working Paper Series*.

Piketty, T. 2020. *Capital and Ideology*. Cambridge, Massachusetts: The Belknap Press of Harvard University Press.

Putnam, Robert D. 1993. "The Prosperous Community: Social Capital and Public Life." *The American Prospect*, 4, 35-42.

———. 2000. "Bowling Alone: The Collapse and Revival of American Community." *New York: Simon & Schuster*.

Przeworski, A. 2019. *Crises of democracy*. Cambridge: Cambridge University Press.

Ray, Debraj. 2006. "Aspirations, Poverty, and Economic Change." In *Understanding Poverty*, 409–22. Oxford University Press. <https://doi.org/10.1093/0195305191.003.0028>.

Rodríguez-Solorzano, Santiago. 2025. "Fragmented Societies in LAC." *Regional Human Development Report 2025 Background Paper*. No. 53 UNDP LAC Working Paper Series.

Rodríguez-Solorzano, Santiago, and Almudena Fernández. 2023. "Un Sistema de Protección Social Universal En El Centro de Un Nuevo Pacto Fiscal En América Latina Y El Caribe." *PNUD LAC Serie de Documentos de Política Pública*, no. 42. <https://www.undp.org/es/latin-america/publicaciones/un-sistema-de-proteccion-social-universal-en-el-centro-de-un-nuevo-pacto-fiscal-en-america-latina-y-el-caribe>.

Ruiz, José Ignacio, Pablo Castro-Abril, Wilson López-López, Darío Páez, Lander Méndez, Suly Castro-Molinares, Zulma Yadira-Cepeda, et al. 2022. "La Comisión de La Verdad En Colombia: Conocimiento, Percepción, Eficacia Y Emociones Asociadas." *Revista de Psicología* 40 (1): 119–54. <https://doi.org/10.18800/psico.202201.005>.

Sampó, Carolina. 2021. "Una Aproximación Teórica, El Concepto de Gobernanza Criminal En América Latina." In *Los Actores Implícados En La Gobernanza Criminal En América Latina*. Real Instituto Elcano. <https://doi.org/978-84-92983-29-2>.

Sánchez, Luisa. 2024. "Peso Pluma Gana Récord Mundial Por Ser El Artista Latino Más Visto En YouTube." *Guinness World Records*. <https://www.guinnessworldrecords.es/news/2024/4/peso-pluma-gana-record-mundial-por-ser-el-artista-latino-mas-visto-en-youtube>.

Santibañez, Lucrecia, Juan E. Saavedra, Raja B. Kattan, and Harry A. Patrinos. 2021. "Comprehensive Private Schooling for Low-Income Children: Experimental Case-Study Evidence from Mexico." *International Journal of Educational Development* 87 (November). <https://doi.org/10.1016/j.ijedudev.2021.102494>.

Saraví, G. A. 2009. Youth and Feelings of Belonging in Latin America: Causes and Risks of Social Fragmentation. *Cepal Review*, 98, 47-64.

Schedler, Andreas. 2023. "Rethinking Political Polarization." *Political Science Quarterly* 138 (3): 335–59. <https://doi.org/10.1093/psquar/qqad038>.

Schmidt, Liza. 2025. "Organized Crime Cashes in on Record Gold Prices." *InSight Crime*. <https://insightcrime.org/news/organized-crime-cashes-in-record-gold-prices/>.

Sen, A. 2009. *The idea of justice*. Cambridge: Belknap Press of Harvard University Press.

Sergi, A. 2023. Measuring the scope and scale of mafia-style crimes. *Organized Crime Index, Background paper*.

Sherman, Maria, and Berenice Bautista. 2024. "La Música Regional Mexicana Se Vuelve Global ¿Cómo Sucedió?" *Los Angeles Times En Español*. <https://www.latimes.com/espanol/entertainment/articulo/2024-01-26/la-musica-regional-mexicana-se-vuelve-global-como-sucedio>.

Singer, Tania, and Anita Tusche. 2014. "Understanding Others: Brain Mechanisms of Theory of Mind and Empathy." In *Neuroeconomics*, 513–32. San Diego: Academic Press. <https://doi.org/10.1016/B978-0-12-416008-8.00027-9>.

Sonnenfeld, Ada, Jennifer Doherty, Miriam Berretta, Shannon Shisler, Birte Snilstveit, John Eysers, Kiara Castaman, et al. 2021. "Strengthening Intergroup Social Cohesion in Fragile Situations." *3ie Systematic Review*, no. 46. <https://doi.org/10.23846/sr00046>.

Sposito, Eliseu Savério, and Maria Encarnação Beltrão Sposito. 2020. "Socioespacial Fragmentation." *Mercator* 19 (6): 1–12. <https://doi.org/10.4215/rm2020.e19015>.

Spotlight Initiative Regional Programme for Latin America. 2021. *Análisis regional de legislación y políticas sobre crimen organizado y violencia contra las mujeres y niñas y el femicidio/feminicidio. Adecuación de marcos regulatorios según el Protocolo de Palermo*. United Nations Development Programme and Spotlight Initiative.

Thoits, Peggy A. 2011. "Mechanisms Linking Social Ties and Support to Physical and Mental Health." *Journal of Health and Social Behavior* 52 (2): 145–61. <https://doi.org/10.1177/0022146510395592>.

Torgler, B. 2007. *Tax Compliance and Tax Morale*. Edward Elgar Publishing.

Trejo, Guillermo, and Sandra Ley. 2020. *Votes, Drugs, and Violence*. Cambridge University Press. <https://doi.org/10.1017/9781108894807>.

U.S. Customs and Border Protection. 2025. “CBP Releases February 2025 Monthly Update.” <https://www.cbp.gov/newsroom/national-media-release/cbp-releases-february-2025-monthly-update>.

UNDP (United Nations Development Programme). 2010. “Regional Human Development Report for Latin America and Caribbean 2010: Acting on the Future Breaking the Intergenerational Transmission of Inequality.” New York. <https://www.undp.org/latin-america/publications/regional-human-development-report-latin-america-and-caribbean-2010>.

———. **2013.** “Regional Human Development Report 2013-2014: Citizen Security with a Human Face: Evidence and Proposals for Latin America.” New York. <https://www.undp.org/publications/human-development-report-latin-america-2013-2014>.

———. **2022.** “Human Development Report 2021-22.” New York. <https://hdr.undp.org/content/human-development-report-2021-22>.

UNDP (United Nations Development Programme), and Oxford University. 2024. “Peoples’ Climate Vote 2024 Results.”

UNDP Chile (United Nations Development Programme). 2022. “El Camino de Las Mujeres Hacia La Convención Constitucional.”

———. **2024.** “Informe Sobre Desarrollo Humano En Chile 2024: ¿Por Qué Nos Cuesta Tanto Cambiar?”

UNDP Colombia (United Nations Development Programme). 2022. “National Human Development Report: Territories between Fractures and Opportunities.”

UNDP Panama (United Nations Development Programme). 2024. “Informe Nacional de Desarrollo Humano Panamá 2024. Entender El Presente Para Develar El Futuro - Cuaderno I: Desigualdades Y Nuevos Desafíos.” <https://www.undp.org/sites/g/files/zskgke326/files/2024-04/undp-pa-indhc1.pdf>.

UNESCO (United Nations Educational, Scientific and Cultural Organization). 2022. “Education in Latin America at a Crossroads Regional Monitoring Report SDG4—Education 2030.”

———. **2025.** “UNESCO Institute for Statistics.” <https://uis.unesco.org/bdds>.

UNODC (United Nations Office on Drugs and Crime). 2018 “Global Study on Smuggling of Migrants.” https://www.unodc.org/documents/data-and-analysis/glosom/GLOSOM_2018_web_small.pdf.

———. **2019.** “World Drug Report 2019.” <https://wdr.unodc.org/wdr2019/>.

———. **2023.** “Global Study on Homicide 2023.” https://www.unodc.org/documents/data-and-analysis/gsh/2023/Global_study_on_homicide_2023_web.pdf.

———. **2024a.** “Global Report on Trafficking in Persons 2024.” https://www.unodc.org/documents/data-and-analysis/glotip/2024/GLOTIP2024_BOOK.pdf.

———. **2024b.** “World Drug Report 2024.” <https://www.unodc.org/unodc/data-and-analysis/world-drug-report-2024.html>.

V-Dem. 2025. “V-Dem Country-Year Dataset V15.” Data for 2000-2033. Varieties of Democracy (V-Dem) Project. <https://v-dem.net/data/dataset-archive/>.

Valle, Edgar. 2025. “Understanding the Challenge of Resilience and Mental Health in Latin America and the Caribbean.” *Regional Human Development Report 2025 Background Paper. No. 42 UNDP LAC Working Paper Series.*

WHO (World Health Organization). 2022. “World Mental Health Report: Transforming Mental Health for All.” <https://iris.who.int/bitstream/handle/10665/356119/9789240049338-eng.pdf?sequence=1>.

World Bank. 2017. “World Development Report 2017: Governance and the Law.” <https://www.worldbank.org/en/publication/wdr2017>.

Yesuf, Mahmud, and Randall Bluffston . 2008. “Wealth and Time Preference in Rural Ethiopia.” <https://doi.org/10.2307/res-rep14879>.

Zaller, John R. 1992. *The Nature and Origins of Mass Opinion.* Cambridge University Press. Cambridge University Press. <https://doi.org/10.1017/cbo9780511818691>.

Chapter 5

Increasingly changing climate: Managing the risks of a crisis foretold

5.1 From magical realism to relentless reality

The masterpiece of Latin American magical realism, *One Hundred Years of Solitude*, vividly portrays the profound impact of a changing climate on people's lives. The novel, penned by Nobel Prize laureate Gabriel García Márquez, recounts a relentless flood that lasts 4 years, 11 months and 2 days—a disaster that brings life to a halt in the mythical town of Macondo. The overwhelming climate pressure disrupts daily routines, triggers food shortages, deteriorates health, intensifies caregiving burdens, erases prosperity and diminishes accumulated wealth. Rain-submerged pastures no longer yield crops, livestock perish or flee, and when the water finally recedes, Macondo lies in ruins—its swampy streets strewn with broken furniture and animal skeletons. The survivors forced to confront a grim reality and adapt to a profoundly altered climate.

LAC has experienced a significant increase in both the frequency and intensity of climate-related events. At the extreme, some of these events are reminiscent of Macondo's floods; others, while less intense, have become alarmingly common. Either way, climate-related events have upended lives, damaged crops, exacerbated inequalities and transformed daily lives requiring resilience from current and future generations. In recent years, places like Carriacou in Grenada, the southern coast of Jamaica, the Atlantic Coast in Central America, Valparaíso in Chile, or Rio Grande do Sul in Brazil have suffered devastating rains, hurricanes, floods, droughts, wildfires or landslides—leaving towns in ruins and compelling people to abandon their homes and livelihoods.

When *One Hundred Years of Solitude* was published in 1967, the floods it portrayed were among the many surreal elements that defined its magical realism. Yet, more than fifty years later, some of the once-fantastical scenarios feel disturbingly familiar. Humanity finds itself in the

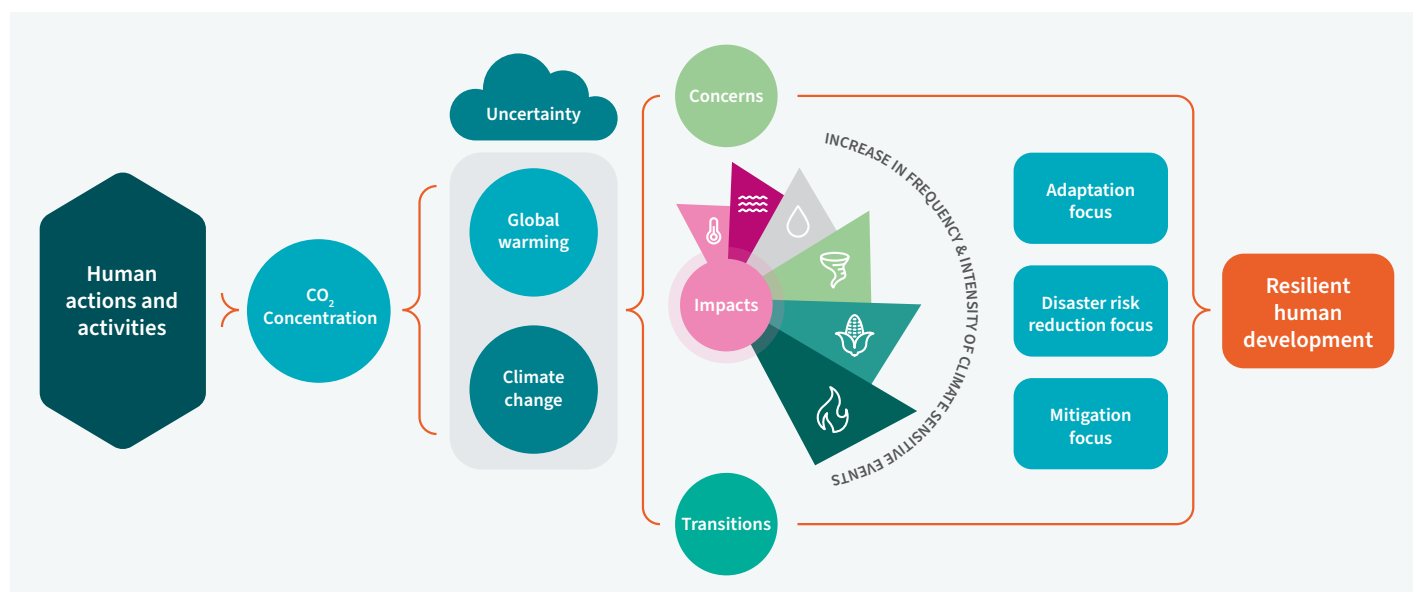
Anthropocene—a new geological epoch marked by humans' profound and destabilizing influence of Earth's natural systems. Much like the “insomnia plague” in the novel, where the boundaries of reality unravel, the Anthropocene confronts us with a world of our own making, where the boundaries of the possible are constantly shifting. In this new era, “planetary boundaries” are the limits for maintaining a safe operating space for humanity (Rockström and others, 2009).

Global warming and climate change have long been recognized as major hazards and growing sources of uncertainty. As they accelerate disruptions across Earth's natural systems, their effects are increasingly felt in daily lives—constraining capabilities and freedoms and placing unprecedented strain on agency. This chapter explores how a changing climate is already shaping human development in LAC, and the risks it poses for the future. Rather than focusing on climate trends or mitigation and adaptation strategies, it offers a reflection on the pressures that climate change exerts on human development and how these pressures might be reframed as opportunities.

The chapter builds on the ideas of the most recent *Human Development Reports* and the recognition that human actions and activities are the primary force shaping planetary systems in the Anthropocene, especially through greenhouse gas (GHG) emissions driving global warming and greenhouse effect. These processes underpin anthropogenic climate change, where future outcomes are marked by a “cascade of uncertainty” that stems from the fact that climate scenarios depend on assumptions about current and future trajectories of global GHG emissions (Hawkins, 2014).

People in LAC are increasingly worried about climate change, and their level of concern is higher than that of people living in other regions.

Figure 5.1 Climate change and human development: impacts, transitions, and concerns



Source: Authors' elaboration.

Building on the previous elements and recognizing different levels of uncertainty, this chapter identifies three key domains through which climate change pressures human development: concerns, transitions and impacts (figure 5.1).

The first domain—concerns—examines how climate change acts as a source of uncertainty across the region. As discussed in earlier chapters, heightened perceptions of uncertainty can erode agency and limit people's ability to make meaningful choices about their lives and about the transformations required to confront climate change. The second domain—transitions—addresses the systemic changes needed to both mitigate climate change and adapt to its consequences, ensuring that development pathways remain sustainable and resilient in the face of intensifying planetary pressures. The third domain—impacts—highlights how different manifestations of climate change directly affect health, education, livelihoods and overall well-being.

This chapter is structured into four main sections. The first section explores climate change awareness in LAC, highlighting how shifting concerns can be reframed as opportunities to strengthen agency and promote action from a human development perspective. The second examines the region's challenges in advancing a green transition, with examples of emerging dilemmas in several countries and introducing a taxonomy of transitions risk. The third

section analyzes the impacts of climate change through five key pressures to human development: rising temperatures, increasing natural hazards, sea-level rise, food insecurity and water scarcity. The fourth situates the region within the broader framework of the Anthropocene, addressing how hazard, exposure, vulnerability and inequality interact—and emphasizing the need for new approaches to confront the compounding challenges that climate change intensifies. The chapter concludes with final reflections and key lessons for advancing climate resilient human development in the region.

5.2 From climate change concerns to empowering agency

People in LAC are increasingly worried about climate change, and their level of concern is higher than that of people living in other regions. However, there are significant differences within LAC countries regarding perceived climate change consequences.

As discussed by Evans and Zechmeister (2018), data from the Latin American Public Opinion Project (LAPOP) 2016 revealed both high levels of concern and notable variation in how serious of a threat climate change is perceived across the Americas. In Mexico and Central America, 81 percent

of respondents viewed climate change to be “very serious” compared to 75 percent in South America and 66 percent in the Caribbean. This contrasts sharply with the United States and Canada, where 39 percent of respondents held the same view (Evans and Zechmeister, 2018). Similarly, a 2020 global survey found that over 80 percent of respondents in Chile, Colombia and Peru supported government action to combat climate change, significantly higher than the 57 percent recorded in the United States (Ipsos, 2020 in Cárdenas and Orozco, 2022).

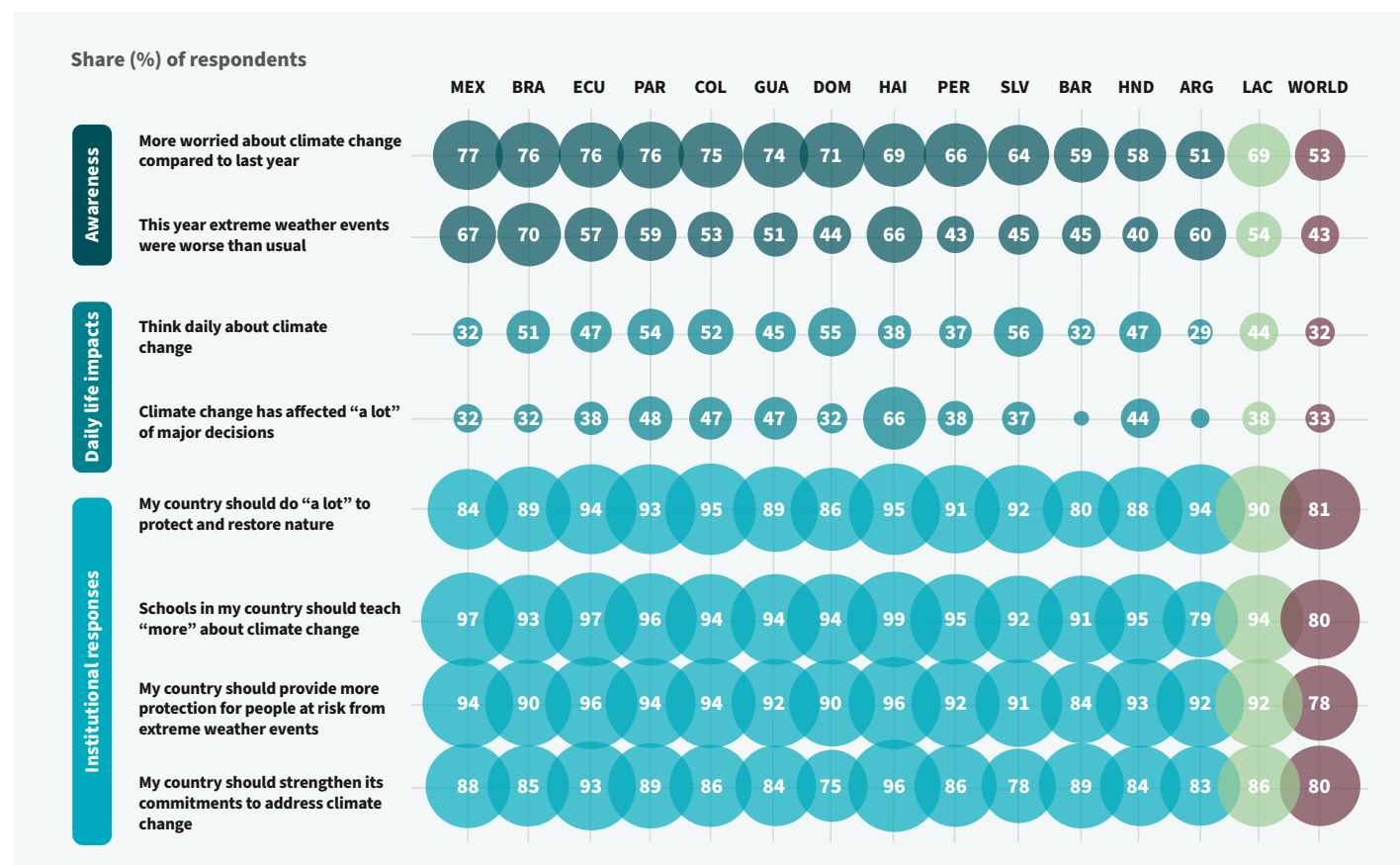
Concerns about the impacts of climate change in LAC are well-founded given the region’s heavy reliance on climate-sensitive sectors such as agriculture and tourism. These dependencies leave large segments of the population directly exposed to shifting climate patterns and increasingly frequent weather-related events. Levels of concern, however, vary across countries, coexisting with significant disparities in the levels of GHG emissions,¹

the contribution of agricultural and land-intensive sectors to GDP,² geographic size, and vulnerability to recurrent extreme weather events.³ The region’s abundant natural capital, including oceans, fisheries, forests, soils, biodiversity and wildlife, represents a resource that offers significant economic opportunities to enhance capabilities. Yet, the growing hazards of climate change are already eroding this natural wealth and constraining people’s functionings, choices and agency.

5.2.1 The rising concerns over climate change in LAC

Data from Peoples’ Climate Vote 2024⁴ shows that awareness and concern about climate change in LAC remains higher than in other regions. Figure 5.2 summarizes the results obtained from respondents in the 13 countries of the region that were included in the survey compared to regional and world average responses.⁵ The results reflect only the most categorical answer choices (those that reflect the

Figure 5.2 LAC speaks on climate change: worries, impacts and a call to action



Source: Authors’ elaboration based on UNDP and Oxford University (2024).

highest level of awareness, concern or demand), grouped into three main categories: awareness, daily life impacts, and institutional responses. The first category contains results related to the level of concern about climate change and extreme events, the second refers to impacts on daily life issues, and the last one is about perceived priorities of institutional responses regarding commitments, protection and education.

On awareness, 69 percent of respondents reported being much more worried than last year about climate change—one level higher than the world average of 53 percent (UNDP and Oxford University, 2024). In Mexico, Brazil, Ecuador, Paraguay, Colombia, Guatemala, the Dominican Republic and Haiti, concern was as high as 7 out of 10 respondents. In Peru, El Salvador, Barbados and Honduras, the proportion is closer to 6 out of 10. Argentina stands out as an exception, with fewer than 5 out of 10 respondents expressing increased concern.

Catastrophes and disasters play a major role in shaping people's awareness of climate change. Many people in LAC perceive extreme weather events such as droughts, floods, storms and extreme temperatures as worsening both in frequency and intensity.⁶ Over half of the population in LAC reported that extreme weather experienced by their community in the last year was worse than usual—a perception that surpassed the global average. Exceptions include Peru, which aligns with the world average, and Honduras, which reports a slightly lower level. In contrast, countries like Brazil, Mexico, Haiti, Argentina and Paraguay have higher-than-average perceptions of worsening weather events, which align closely with actual weather occurrences over the past year.

The global survey also explored how climate change affects people's daily life, grouping responses under the category "daily life impacts." This includes how frequently people think about climate change, and the extent to which it has influence over major decisions, such as where to live and work or what to invest in (UNDP and Oxford University, 2024). LAC ranks among the highest globally in this category, alongside the Arab States and Sub-Saharan Africa. On average of 32 out of 100 people worldwide report thinking about climate change every day, compared to 44 out of 100 in LAC. In countries such as El Salvador, the Dominican Republic, Colombia, Brazil, Paraguay, Ecuador and Honduras, this proportion raises to nearly half the population. When asked about how much climate change has influenced major decisions, the share of respondents answering "a lot" exceeds the global average in 9 of the 13 LAC countries surveyed.

Stronger views emerge when respondents are asked about the actions their countries should take on key climate issues, such as protecting and restoring nature, improving climate change education, safeguarding populations at risk, and increasing commitments to combat climate change. These answers fall under the category of institutional responses, where results across all areas show significantly higher support in LAC compared to the global average. In fact, more than 8 out of 10 people select the highest level of commitment. These findings highlight strong public backing for bold climate action and a clear demand for greater ambition from national institutions. However, the extent to which these preferences translate into electoral choices or political pressures remain uncertain, an issue briefly explored in the next section.

Box 5.1 In Argentina, older adults and women express greater concern about the impacts of climate risks compared to younger people and men

Many international studies have found a small but consistent gender gap in environmental and climate change concerns, with women showing greater levels of concern than men on perceived climate change risks, identification of risks across a broad range of environmental hazards, and the recognition of global warming as posing a threat during their lifetime (Pearson and others, 2017).

Results from People's Climate Vote 2024 also show that women report heightened climate-related concerns. Globally, 55 percent of women express increased worry about climate change compared to 51 percent of men. This disparity is slightly more pronounced in LAC, where 76 percent of women versus 70 percent men express concern. That gap is most evident in Argentina, with a 21-percentage point gap, followed by Colombia (8 points), Ecuador (7 points), and Brazil (6 points) (UNDP and Oxford University, 2024).

At the regional level, there is growing interest and evidence of how citizens perceive the risks associated with climate change. Argentina has been a pioneer in this area, recently conducting surveys to explore public perceptions of increasing climate risks, whose results were published in *Environmental Action: Beliefs, Expectations, and Citizen Participation* (UNDP, 2024a). The local surveys conducted also reveal important differences in risk perception across age groups and gender.⁷

In total, 88 percent of Argentinians surveyed believe that climate change is a very or fairly important issue for the future of the country. However, perceptions of specific risks related to climate change, and their expected severity vary significantly across demographic groups. Respondents most often cited extreme weather events, species loss and reduced food availability as the main consequences of climate change.

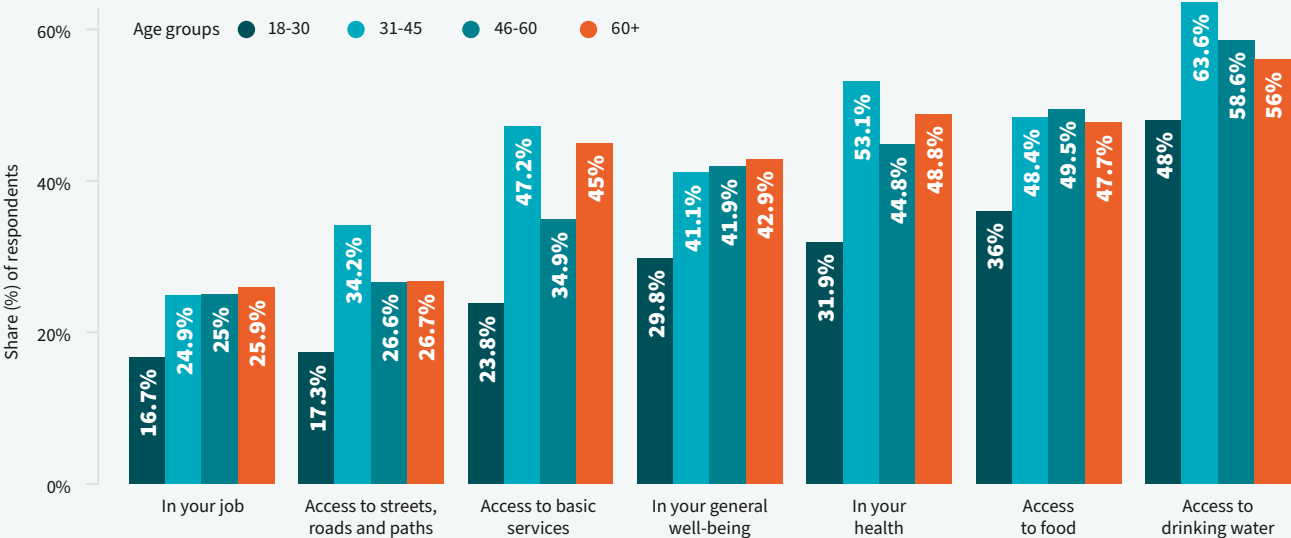
Notably, younger respondents prioritized food availability as the most important consequence, while concerns about personal impacts—such as access to drinking water, food security and health effects—ranked high among all respondents. Respondents’ age influenced their perception of the severity of personal access to drinking water. Specifically, 47 percent of respondents under 30 years of age identified climate hazard impacts on water access as high, compared to from 54 to 63 percent among older age groups. Moreover, only 35 percent of men under 30 years of age felt that climate variations would have a significant effect on their personal lives, compared to higher rates among young women.

The analysis also found that women under 30 years of age consistently report higher perceptions of the impact of climate variations alongside stronger support for action-oriented discussions and a greater willingness to engage in environmental initiatives, when compared to men in the same age group. These findings persist even when controlling for factors such as region, education level and parenthood. Interestingly, parenthood appears to narrow the gap in some indicators, to the point where the difference between men and women becomes statistically insignificant.

Finally, the study identifies a relatively small, yet highly committed group of young people involved in environmental protection campaigns. A key factor driving this commitment, as shown by in-depth interviews that complemented the research, is direct contact with nature, which fosters curiosity and awareness. Additionally, complementary testimonies based on the survey highlighted the need to define actions that align with local priorities and demands, thereby fostering greater ownership and understanding of environmental risks at the local level.

Figure 5.3 Adults are more concerned than youth about climate risks in Argentina

Do you think that climate hazards can affect these aspects of your life?



Notes: The values shown correspond to respondents who answered 'A lot' and are statistically significant at the 95% confidence level.
Source: Catterberg, Yamin and Moreno (2025).

Stronger views emerge when respondents are asked about the actions their countries should take on key climate issues, such as protecting and restoring nature, improving climate change education, safeguarding populations at risk, and increasing commitments to combat climate change.

5.2.2 Unlocking the power of agency

As discussed in chapter 2, the 2020 HDR underscored the importance of integrating values, capabilities and agency to effectively address planetary pressures. It argued that expanding people’s capabilities alone is not enough; equal attention must be given to agency (the ability to make meaningful choices) and to values (the choices people prioritize), particularly in relation to how we interact with nature. These dimensions function as the legs of a three-legged stool: all are essential and interdependent in advancing human development in the Anthropocene. Addressing agency and values requires more than public policy; it demands strong incentives, regulations and social norms that foster equity, innovation and environmental stewardship.

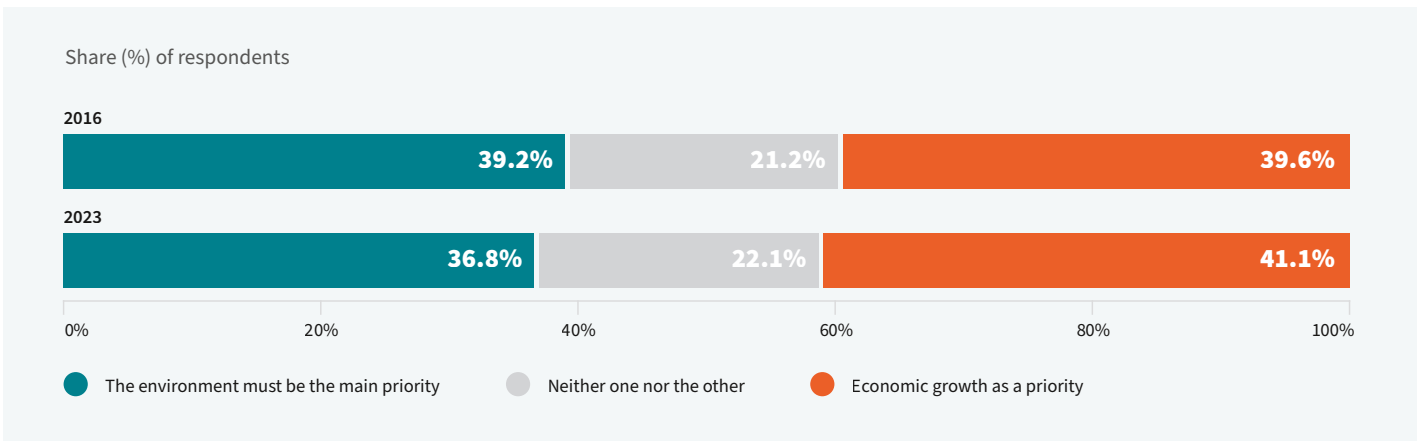
Human agency lies at the core of the transformative processes needed to ease pressures on the planet and enhance equity in human development. To enable this transformation, it is essential to understand what people truly value and to remove the barriers that limit their ability

to participate in shaping change. While values related to climate action and environmental conservation may sometimes appear in conflict with those tied to economic growth, they can also open pathways towards green growth models. These tensions between economic and environmental priorities offer valuable insights into societal values, and highlight the complex trade-offs policymakers navigate in advancing human development.

Data from LAPOP in 2016 and 2023 show how people in LAC balance values around environmental protection and economic growth. The results show that despite expressing high levels of concern about climate change, people increasingly prioritize economic growth. Figure 5.4 shows that from 2016 to 2023, the share of people prioritizing economic growth increased from 39.6 to 41.1 percent. Meanwhile, those who consider the environment the main priority declined from 39.2 percent to 36.8 percent. Conversely, the proportion of respondents during that same period who held neutral views, prioritizing neither the environment nor economic growth, grew modestly by less than 1 percentage point, from 21.2 to 22.1 percent.

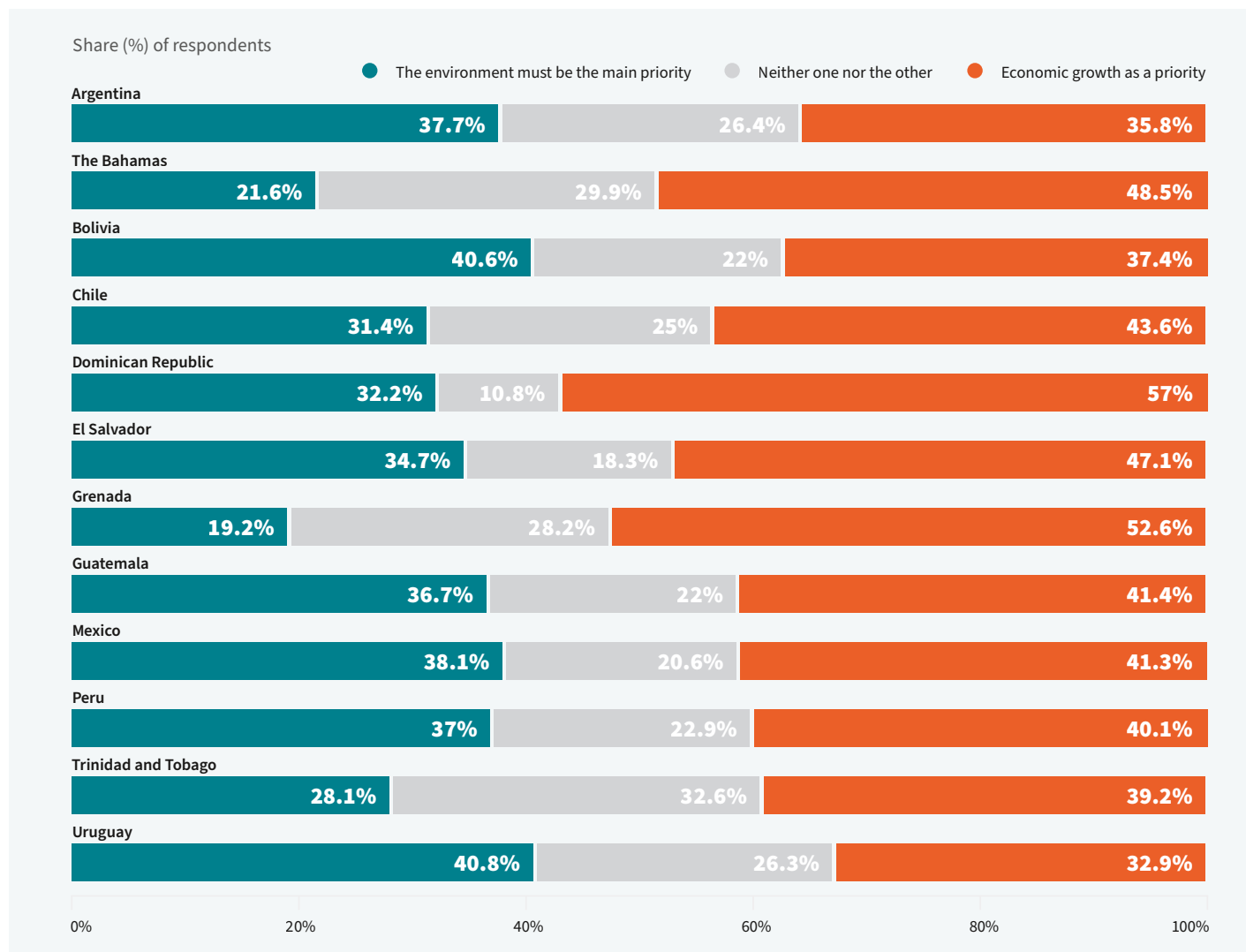
The decline in support for environmental preservation from 2016 to 2023 suggests that short-term economic pressures may lead individuals to de-prioritize long-term environmental sustainability. As highlighted in chapter 1, average GDP growth has continued to decline, falling from 3 percent during 2001-2014 to just 1.4 percent over the subsequent decade. A similar downward trend is observed

Figure 5.4 Opinions on prioritizing environment versus economic growth in LAC remain almost unchanged⁸



Notes: The average is based on the 12 countries included in the 2023 survey: Argentina, The Bahamas, Bolivia, Chile, Dominican Republic, El Salvador, Guatemala, Grenada, Mexico, Peru, Trinidad and Tobago, and Uruguay.
Source: LAPOP, Americas Barometer 2016-2023. Vanderbilt University.

Figure 5.5 A mixed picture of priorities between the environment and economic growth in LAC (2023)⁹



Source: LAPOP, Americas Barometer 2023. Vanderbilt University.

when comparing the average GDP growth rates for the five-year periods preceding the 2016 and 2023 LAPOP rounds used as reference points. This shift over economic growth preference is also especially plausible in the aftermath of the COVID-19 pandemic, which brought a widespread economic contraction. In this context, people might feel compelled to “trade-off” environment concerns in order to meet immediate needs, much like they would liquidate other assets during a crisis. These trends may also point to the central role of economic security, which is a cornerstone of human security, as people who lack stable livelihoods or fear sudden income loss are more vulnerable to effects of shocks and uncertainties (UNDP, 2022).

An analysis of how respondents prioritize environmental protection versus economic growth reveals significant cross-country variations. As shown in figure 5.5, 2023 data indicates that the Dominican Republic and Grenada report the highest share of respondents favouring economic growth, followed closely by The Bahamas, Chile and El Salvador. In contrast, Uruguay, Bolivia and, to a lesser extent, Argentina, demonstrate stronger preferences for environmental protection, with 40.8 percent, 40.6 percent, and 37.7 percent of respondents, respectively prioritizing it. Other countries display more balanced views, though economic growth continues to be slightly more favoured than environmental protection.

Human agency lies at the core of the transformative processes needed to ease pressures on the planet and enhance equity in human development.

Theories on the values and drivers of pro-environmental attitudes often draw on Ronald Inglehart's post-materialism framework, which argues that economic stability frees up resources for interests beyond immediate needs, such as environmental concern. Findings show that individuals who align with "postmaterialist" values are more likely to engage in protecting the environment than those who align with "materialist" values that focus primarily on economic and physical security (Inglehart 1990). The author also points out that "public support for environmental protection is shaped by subjective cultural factors, and certain cultural regions tend to rank relatively high compared to others on support for environmental protection" (Inglehart, 1995, p. 57).

Empirical analysis from LAC indicates that traditional socio-economic factors—such as wealth, age and education—do not significantly affect individuals' support for environmental protection in LAC; instead, the only statistically significant variables that explain environmental attitudes are gender and whether an individual lives in an urban area (with individuals living in urban areas less likely to express pro-environmental support) (Evans, 2015). The data presented in box 5.1 suggest that the relevance of individual characteristics—such as age and gender—may vary depending on the context and, as Inglehart argues, are shaped by cultural and other contextual factors.

Also, results are unclear regarding the extent to which wealth indicators, such as GDP per capita and income, explain an individual's willingness to prioritize economic growth or the environment. The results point out that wealthier nations are no more likely to have individuals who are environmentally supportive than poor countries. And in opposition to post-materialism framework arguments, individuals living in poorer regions are more supportive of environmental protection than those living in wealthier regions (Evans, 2015). These findings support the observed disparities in figure 5.5 between countries like Uruguay and The Bahamas, both with the highest GDP per capita among the group, and each showing very different levels of environmental support.

Values are essential for fostering development because they shape attitudes, behaviours, policies and social norms. In *Development as Freedom*, Amartya Sen emphasized the importance of public policy in translating societal values and priorities into action, while also fostering inclusive and open public discussions (Sen, 1999, p. 281). At the heart of this approach is the recognition of individuals as active agents of change, rather than passive recipients of policy. Public discussion can be enhanced through various means, such as press freedom and media independence (including the absence of censorship), access to quality education, especially for women, the promotion of economic autonomy through employment, and broader social and economic reforms that enable meaningful civic engagement. The growing awareness about climate change in LAC presents an opportunity to empower people and advance green growth strategies rooted in participation and shared values.

To fully seize the opportunity to empower people, it is essential to address the challenges of political participation and representation, particularly issues of misrepresentation and political incorporation. The 2023–2024 HDR identified misrepresentation as a key barrier to agency and a contributor to political polarization (UNDP, 2024b, p. 186). Misrepresentation occurs when individuals wrongly assume that others do not care about the environment or would not support climate action, even when, in reality, many do. Widespread misperceptions about the extent to which others are willing to act can hinder collective action. While individual beliefs about climate issues are important, they alone are insufficient to drive the broad societal engagement needed. These misperceptions can lead to the persistence of pluralistic ignorance, where public policies or political arrangements persist despite being misaligned with the majority's actual preferences. This not only weakens agency, but also fuels polarization and reinforces polarizing leadership, as discussed in chapter 4.

The qualitative study carried out by Cháidez (2025) across LAC reveals that vulnerable populations perceive and experience the effects of climate change in diverse and context specific ways. Respondents from surveyed countries reported a broad range of environmental challenges, including poor natural resource management, deforestation, widespread and persistent water scarcity, and increasing vulnerability to climate related hazards (Cháidez, 2025). These findings underscore that the concerns captured by instruments such as People's Climate Vote are not abstract

or distant—they are deeply rooted in the daily lives people across the region. At the same time, the study highlights that while concerns for climate change are shared across countries, the specific challenges and their impacts differ by context and are shaped by local conditions.

Despite widespread concern and awareness about climate change, environmental parties in the region remain niche political actors (Kernecker and Wagner, 2018). This may be partly explained by the region's generally low levels of political incorporation—defined as the consistent integration of demands and interests of key social groups into the political system—as highlighted by Perez-Bentancur, Piñeiro-Rodríguez and Rosenblatt (2025) and presented in box 4.3. It is possible that environmental concerns and climate related demands are not yet recognized as substantive priorities by the broader political establishment, pointing to a need to strengthen agency. These dynamics raise more questions than they answer about whether (and how) environmental and climate concerns can translate into meaningful political change in the region. Nevertheless, they present an opportunity to more fully integrate these agendas into political systems across the region.

Finally, concerns about climate change present an opportunity to move forward on green growth strategies. Transitioning to a greener economy could help achieve economic, social and environmental goals—if investments are made in infrastructure and technologies that help enhance productivity, innovation and employment (Ivanova, Kozack and Muñoz, 2024). Achieving economic growth while protecting the environment is both possible and desirable, offering a valuable opportunity for the region. In this context, citizens' growing environmental concern should be harnessed to drive a sustainable productive agenda that incorporates renewable energy, promotes cleaner technologies, and addresses the climate-related challenges faced by different productive sectors. Aligning development strategies with environmental priorities is not only necessary but also an opportunity to innovate, generate green jobs, and build a more inclusive and sustainable future for the region, with the private sector playing a key role in advancing responsible consumption and production. However, realizing this potential will require overcoming challenges as financial constraints, but also managing transition risks as detailed in next section.

Achieving economic growth while protecting the environment is both possible and desirable, offering a valuable opportunity for the region. In this context, citizens' growing environmental concern should be harnessed to drive a sustainable productive agenda that incorporates renewable energy, promotes cleaner technologies, and addresses the climate-related challenges faced by different productive sectors.

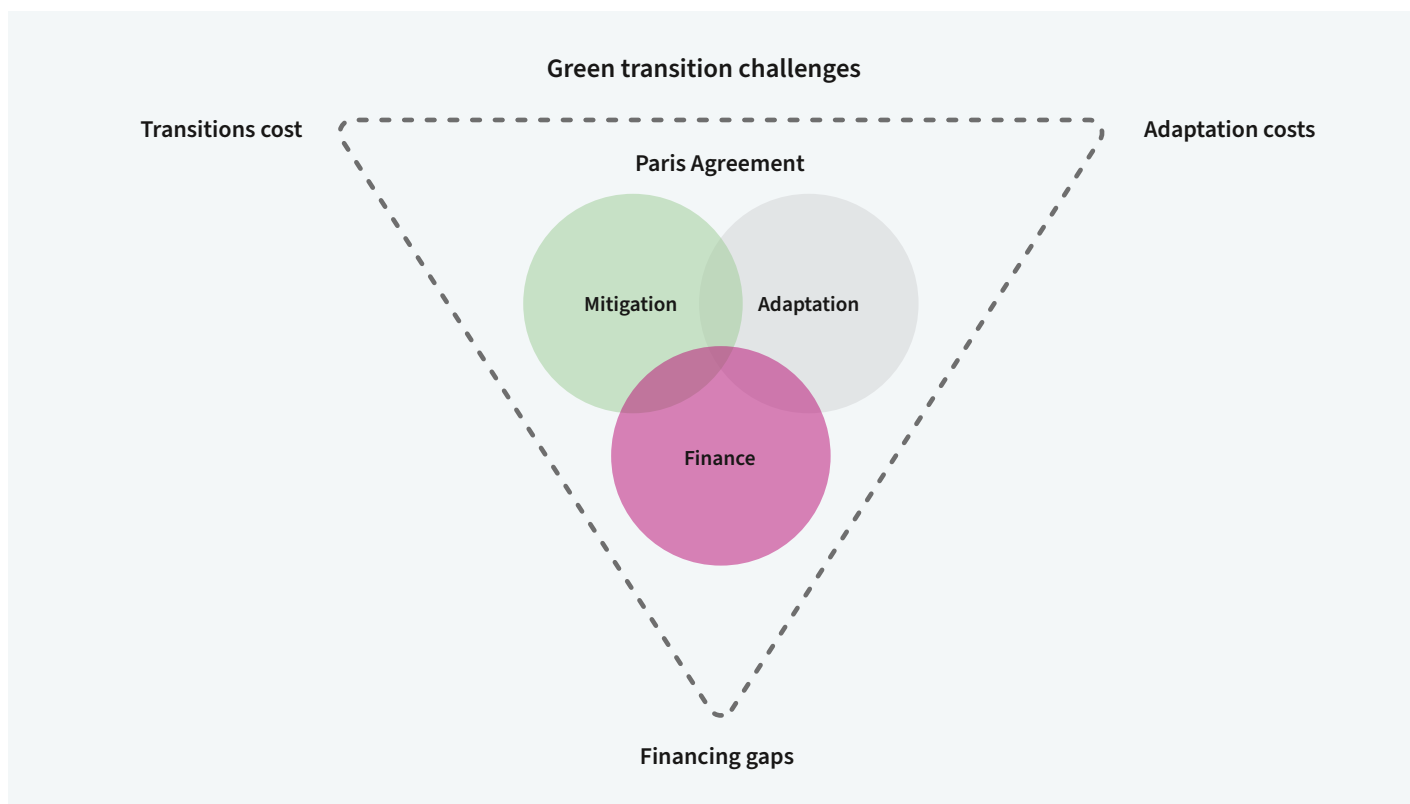
5.3 Green transitions challenges and risks in LAC

LAC stands at a pivotal juncture as the Anthropocene unfolds and the world accelerates its push towards decarbonization, with the goal of achieving net-zero GHG emissions by mid-century. Reaching this target requires a fundamental transformation across all sectors of the economy—from how energy is produced, to how goods and services are manufactured and delivered, how buildings are constructed, and how land and natural resources are managed. Balancing GHG emissions with removal by sinks and reservoirs is at the core of the Paris Agreement, a legally binding international treaty on climate change that 195 Parties¹⁰ adopted at the United Nations Climate Change Conference (COP21) in Paris in December 2015. This agreement¹¹ calls for comprehensive action across mitigation, adaptation and climate finance to bridge the gap between ambition and implementation.

Adaptation and mitigation are so intrinsically connected that they are often described as “two sides of the same coin.” Climate change adaptation refers to the actions taken to manage the impacts of climate change by reducing vulnerability and exposure to its harmful effects and exploiting any potential benefits. Climate change mitigation aims to reduce or prevent GHG emissions (IPCC, 2018 in OECD, 2021). Achieving the Paris Agreement global commitment requires substantive and cumulative investments across LAC in adaptation and mitigation.

The total cumulative resources the region requires for adaptation and mitigation to climate change—based on the annual needs to achieve the Nationally Determined Contributions (NDCs) for the period 2023–2030—are estimated to be from 3.7 to 4.9 percent of annual regional GDP (equivalent to an amount ranging from US\$215 to US\$284 billion) (ECLAC, 2024, p. 35). Of that total amount, and relative to the region's annual GDP, mitigation efforts

Figure 5.6 Paris Agreement commitments and challenges



Source: Authors' elaboration

require investments equivalent to 2.3 to 3.1 percent, while adaptation investment range from 1.4 to 1.8 percent.

Under the principle of common but differentiated responsibilities—and because the region accounts for less than 10 percent of global emissions—there is consensus that LAC should prioritize adaptation over mitigation. Adaptation actions are fundamental to protect communities from the detrimental impacts of climate variability and change. These actions are especially crucial as weather-related events are becoming increasingly intense and shifting, vector-borne diseases are widespread, and climate tipping points are reached triggering potentially irreversible environmental changes (OECD, 2021).

The region remains highly exposed and vulnerable to the impact of climate-related physical risks, despite contributing a relatively low share of global emissions. Yet, current funding levels might fall short, revealing a clear and persistent financial gap. Strengthening resilience to climate change, and therefore resilient human development, has to be seen as a long-term process, one that is often

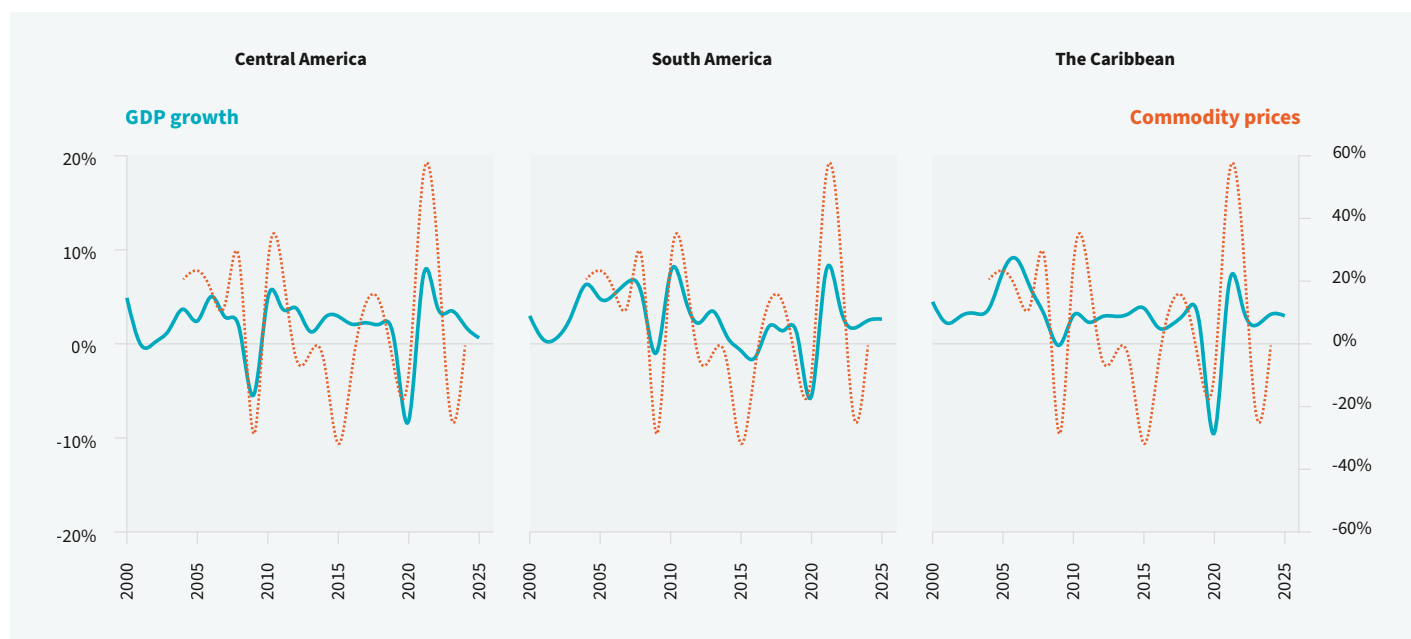
jeopardized by the recurrent emergencies and shocks that drain financial capacity and increase pressures that often do not allow planning beyond the short term. This section reflects briefly on challenges related to transition risks and climate adaptation in LAC.

5.3.1 A taxonomy of transition risks for LAC

Beyond financial constraints, green transitions present additional challenges for LAC and other developing regions, particularly due to their production structures and heavy reliance on land-intensive activities. Economic growth in LAC is closely tied commodity price cycles. Commodities account for 40 percent of the region's total goods exports, making the region particularly susceptible to external shocks and fluctuations in global commodity markets. Declines in commodity prices have often triggered economic contractions, while periods of growth have closely followed commodity booms (figure 5.7).

From a broader perspective, Addison and Roe (2024) emphasize the critical role that extractive industries in

Figure 5.7 Growth in LAC is traditionally highly correlated to commodity prices



Notes: The dotted line represents the annual percentage change in commodity prices. All aggregates are weighted averages.

Source: UNDP's calculations based on the World Bank's World Development Indicators (2023), and the Latin America and the Caribbean Economic Review (April 2025).

developing countries play in achieving the global goal of net-zero emissions. These industries are not only sources of tax revenue, that can fund essential development spending but also hold potentially to drive economic diversification. However, the authors also identify a distinct set of challenges, particularly relevant for LAC.

The first challenge lies in the dual nature of extractive industries: while the sale of natural resources can help lift people out poverty, these industries often generate social and political tensions and pose serious risks to renewable natural capital (Addison and Roe, 2024, p. 14). As demonstrated in multiple cases across LAC, extractive industries are frequently linked to social conflict and fragmentation—dynamics explored in chapter 4 of this Report. For example, in South America, illegal mining has become a source of revenue of organized crime, causing significant harm to local communities (Dammert and Sampó, 2025; López Villanes, 2025).

Moreover, between 1990 and 2020, 80.2 percent of socio-environmental conflicts in Central America were linked to disputes over land use, agriculture, water, fossil fuel extraction or demands for climate justice (Programa Estado de la Nación, 2021). A nearshoring analysis in Mexico suggests that economic stimulus and industrialization

strategies aimed at attracting foreign investment also carry environmental pressures, including increased demand for land, water, and energy, as well as higher levels of solid waste and greenhouse gas emissions (García De Alba, Martínez y Pacheco, 2025).

A second challenge relates to the material demands of the global energy transition. The critical minerals needed to power emerging green technologies far exceeds what can currently be provided through recycling.¹² As chapter 3 discusses, this makes the mineral reserves of LAC essential to meeting global demand. Yet, the region faces the pressing need to move beyond the role of raw material exporter. To fully benefit from the green transition, LAC must invest in adding value—developing industries that process and manufacture while also adhering to high environmental standards. In the case of lithium, for instance, LAC can transition from exporting raw lithium to producing batteries within the region, thereby generating employment, increasing economic returns, and positioning itself in the global clean energy market.

Together, these challenges illustrate the complex landscape of green transition in LAC, and the tensions between environmental sustainability, economic growth, poverty reduction and the advancement of human development.

While extractive industries and natural resources remain vital sources of revenue and development, failing to govern them within sustainable and equitable frameworks risk undermining long term progress. These tensions add layers of complexity and uncertainty to agency—highlighting the urgent need for policymakers to balance competing objectives.

Cárdenas and Orozco (2022) propose a taxonomy of transition risks for LAC countries based on their economic structures. Many economies in the region face high transition risks due to their dependence on GHG-intensive exports like fossil fuels and agriculture. Oil, natural gas and minerals constitute large portions of GDP and exports in countries such as Bolivia, Colombia, Ecuador, Guyana, Mexico, and Trinidad and Tobago. Similarly, agricultural products dominate exports in Argentina, Ecuador, Guatemala, Nicaragua and Uruguay. Based on this combination of factors, LAC countries are classified in one of three ways:

1. **Fossil fuel producers:** Countries that risk losing government revenues, stranded assets of extractive industries and falling demand of high-carbon-intensive exports.
2. **Agriculture-based countries:** Countries exposed to transition risks because the agriculture sector—which must reduce emissions—represents a sizeable share of their economies.
3. **Land-use-intensive, subsistence agriculture economies:** Countries largely dependent on their natural capital and land-use-intensive activities, including extensive cattle raising and forestry. These countries face a loss of income for communities that depend on land-use-intensive subsistence activities.

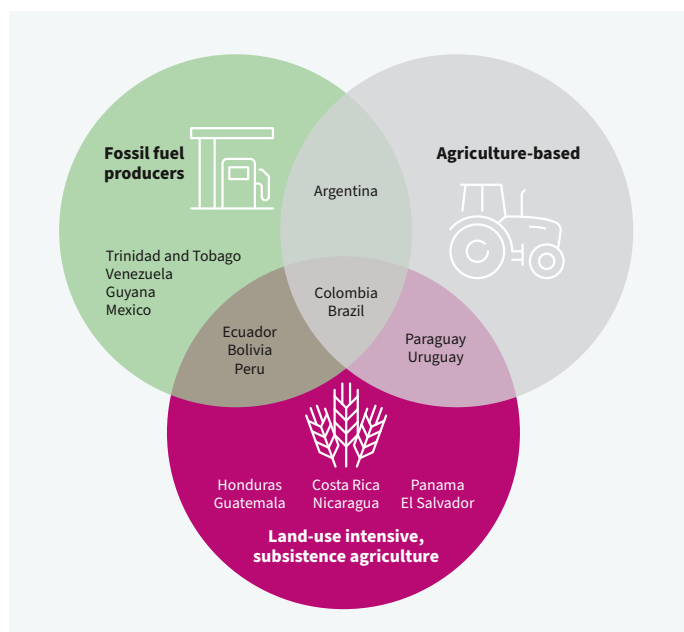
This taxonomy is useful when thinking about the challenges that LAC faces in this process of global transitions and in realizing the trade-offs of propelling human development in the region. The economies of these countries largely depend on their natural capital and land-use-intensive activities. It is worth saying that the three types of transition risks coexist in places such as Brazil and Colombia.

Reliance on resource extraction and agricultural expansion in LAC has had profound environmental and social consequences. Between 2013 and 2023, agriculture accounted for an average of 5.6 percent of the region's GDP—down from

around 10 percent in earlier decades. Agricultural exports produced through intensive practices have contributed to the depletion of natural resources, environmental pollution, and significant health risks. The agriculture, forestry and other land use (AFOLU) sectors are central to the region's environmental footprint, responsible for approximately half of the total GHG emissions. While globally, activities related to the energy system (electricity and heat generation, and oil extraction and refining, which generate fugitive emissions) are the main sources of GHG emissions, in LAC, 38 percent of total emissions come from land-use changes, particularly deforestation, and 20 percent from agriculture and forestry (FAO and UNEP, 2020 in ECLAC, 2024). These activities have also accelerated biodiversity loss, heightened vulnerability to climate-related shocks, and intensified socio-environmental conflicts.

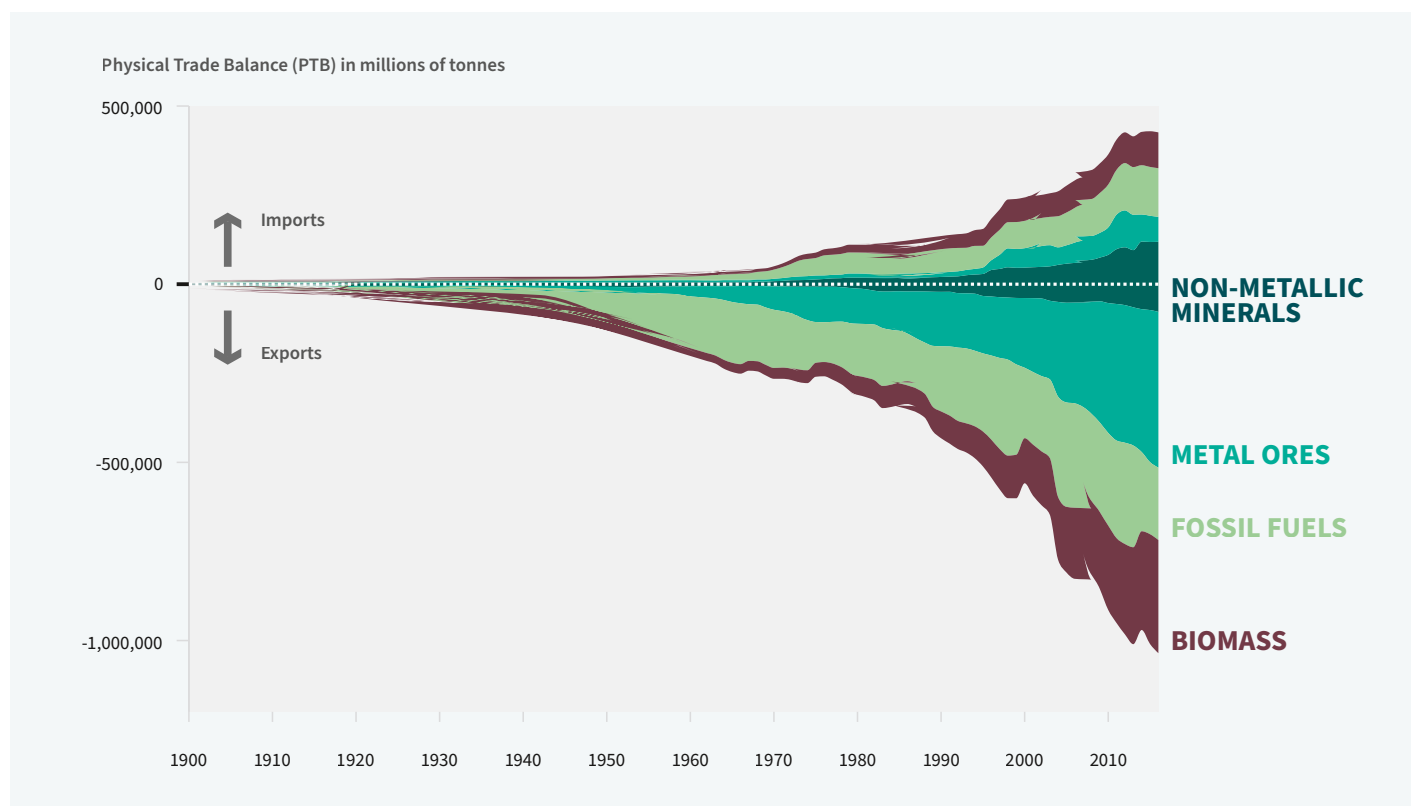
The planetary pressures-adjusted Human Development Index (PHDI) offers a valuable lens for understanding the contribution of LAC to global environmental pressures. This experimental index adjusts the Human Development Index (HDI) for planetary pressures in the Anthropocene, by factoring in carbon dioxide emissions per capita (production-based) and material footprint per person—two key indicators of humanity's environmental impact (UNDP, 2020). In an ideal scenario with no environmental degradation, the PHDI would

Figure 5.8 Taxonomy of transition risks for countries in LAC



Source: Authors' elaboration based on Cárdenas and Orozco (2022).

Figure 5.9 LAC's material deficit has grown sharply over time



Source: Infante-Amate and others (2022).

be equal to the HDI. However, as environmental pressures increase, the PHDI declines relative to the HDI, reflecting the trade-offs of certain development trajectories.

The 2023 PHDI reveals that on average, LAC's HDI drops by 8.7 percent when adjusted for planetary pressures, decreasing from 0.783 to 0.715 (UNDP, 2025). The steepest declines—exceeding the regional average—are seen in Panama, The Bahamas, Argentina, Chile, Brazil, and Paraguay.

Historically, Latin America has played a major role as a global supplier of natural resources and commodities. The region's rate of resource extraction significantly surpasses exceeds the global average, reinforcing its position in global material economy. The region's material deficit has grown sharply over time, with net exports increasing from 4 million metric tons (Mt) in 1900 to 610 Mt in 2016 (figure 5.9) (Infante-Amate and others, 2022). While the Global North's "Great Acceleration"—a term used to describe the surge in material flows since the mid-1900s—began after World War II, Latin America's most intense period of resource extraction began in the 1990s (Infante-Amate and others, 2022).

The variety of exported materials highlights the complex environmental and social challenges confronting. Balancing economic growth, environmental sustainability and social equity is essential but remains a difficult task. The transition to low-GHG emission models is further complicated by structural inequalities, which deepen vulnerabilities and heighten the risks of disruption. In this context, the Anthropocene lens of the 2020 HDR offers a valuable framework to understand and navigate these overlapping pressures—an approach further explored in the sections that follow.

The green transition presents LAC with the challenge of decoupling economic growth from GHG emissions while managing the risks inherent in global transitions. This process requires navigating tensions between development goals and the safeguarding of natural resources. By leveraging its natural capital responsibly and investing in sustainable practices, LAC can lead the way in defining a just and equitable path forward for green transitions. However, the region must recognize the intensiveness of its extractive industries.

Box 5.2 Decolonial, reparatory pathways to climate resilience in the Caribbean

The Caribbean has entered a new era of complexity, with record-breaking climate-induced disasters and ecosystem decline, real time consequences for communities and serious risks for reversing countries' hard-won gains in poverty reduction. As identified by the UN Secretary-General, the region is "ground zero for the global climate emergency" amid a planetary crisis that is the "biggest challenge facing our world today." The nexus between climate risk and ecosystems is especially critical for the Caribbean, which lies not only at the centre of the climate crisis but also hosts some of the world's most vital coral and marine ecosystems, foundations for human security and livelihoods.

With a view to scaling up action on these challenges, alongside efforts to close the gap in finance and technology, enhancing resilience also demands a deeper understanding of the root causes of the crisis and a reconsideration of development paradigms and solutions. While socioecological systems are in flux, conventional approaches to development and resilience-building are being called into question. Driven by voices from the Caribbean and across the Global South, a need has emerged to correct the often ahistorical view of the planetary crisis prevalent in global discourse. We need to better recognize the ways in which colonial and post-colonial injustices of the past are directly connected to today's accelerating planetary crisis and its disproportionate impacts across the Global South. The experience and voice of the Caribbean is critical in this regard, with growing calls for climate justice and reparatory approaches to building resilience.

Communities across the Caribbean share a history of systemic vulnerability rooted in colonial legacies of slavery and plantation economies, which decimated social and ecological systems and, in many ways, laid the groundwork for today's profiles of multidimensional risk and crisis. Since Columbus's arrival in the Caribbean on 12 October 1492 and in the centuries that followed, communities endured one of the world's most intensive periods of social and ecological transformation. The Caribbean was reshaped through colonial extraction "to achieve maximum wealth extraction to fuel[...] industrial transformation" in imperial capitals, resulting in the widespread exploitation of both people and ecosystems.

A decolonial perspective is essential to understand the continuum between the past generation of poverty and under-development, present states of vulnerability and future reparatory opportunities. In 2019, the UN Special Rapporteur on the Right to Development noted that ensuring the right to food, water and other climate-affected determinants of human development relies on achieving climate justice. That, in turn, entails "full reparation, comprising restitution, compensation and rehabilitation" among other factors. Decoloniality fundamentally involves recognizing root causes of socioecological vulnerability, historical faults and accountabilities, and the creation of new reparatory policies and initiatives to overcome the structural and epistemic legacies within conventional systems of development today.

In the Caribbean context, embracing the weight of the past is no mere academic exercise; it is an act of self-awareness and a form of collective action to bridge the gap between past harm and future potential. In the face of intense pressures both past and present, the Caribbean has shown tremendous levels of resilience. Looking to the future, its lived experiences and collective imagination can play a catalytic role in advancing new thinking on decolonial, reparatory approaches to development, as the region emerges at once in the eye of the storm of the planetary crisis and as "an epicentre of the global reparatory justice movement." Bringing light to the deep connections between the injustices of the past and the vulnerabilities of today is a top priority for combating the planetary crisis and ensuring socio-ecological resilience for communities most at risk.

Source: Khoday (2025).

5.4 Climate driven pressures and human development

The 2024 documentary *Cuando el Río Suena* (*When the River Sounds*) chronicles the struggle and resilience of two Guatemalan communities in El Arenal, located in the municipality of Cabañas, Zacapa, within the Central American Dry Corridor. As climate change intensifies, these communities have watched their livelihood options dwindle, and their assets erode. Shifting weather patterns led to declining soil productivity, leaving farmers with little choice but to seek more fertile land or migrate to nearby towns in search of work.

The documentary is just one example of how as erratic climate conditions became the norm, communities faced more difficult decisions about how best to secure a future for the next generations. Many chose to emigrate to the United States, sending remittances back home—lifelines for those left behind struggling to rehabilitate their lands. Yet, this coping strategy does not shield them from escalating climate risks. And eventually in 2016, a sudden storm unleashed torrential rains that trigger devastating mudslides from surrounding hills. A nearby river, swollen by the downpour, surged with deadly force, sweeping away homes and livelihoods. Landslides buried houses and the local school under 25 metres of sediment, leaving the community with no choice but to abandon everything and start anew elsewhere.

The experiences collected and presented in the documentary illustrate how environmental conditions can either enable or constrain people's capabilities. Environmental conditions, natural resources and technology, are not inherently transformative but serve as resources that enable the expansion or realization of human capabilities. Natural resources such as water, minerals, forests or land, gain their value through the opportunities they create for individuals and communities to “be” or “do” in ways that expand their capabilities. Some Caribbean countries use their natural capital—for example, pristine beaches, rich biodiversity and vibrant ecosystems—to thrive as tourist destinations, driving economies centred on hospitality and recreation. Without a doubt, climate change has the pervasive potential to diminish human capabilities because it can reduce the options that people value, and it creates hazards to human life and communities.

Regarding the risk climate change poses to human life in LAC, the *Sixth Assessment Report* of the IPCC, finalized

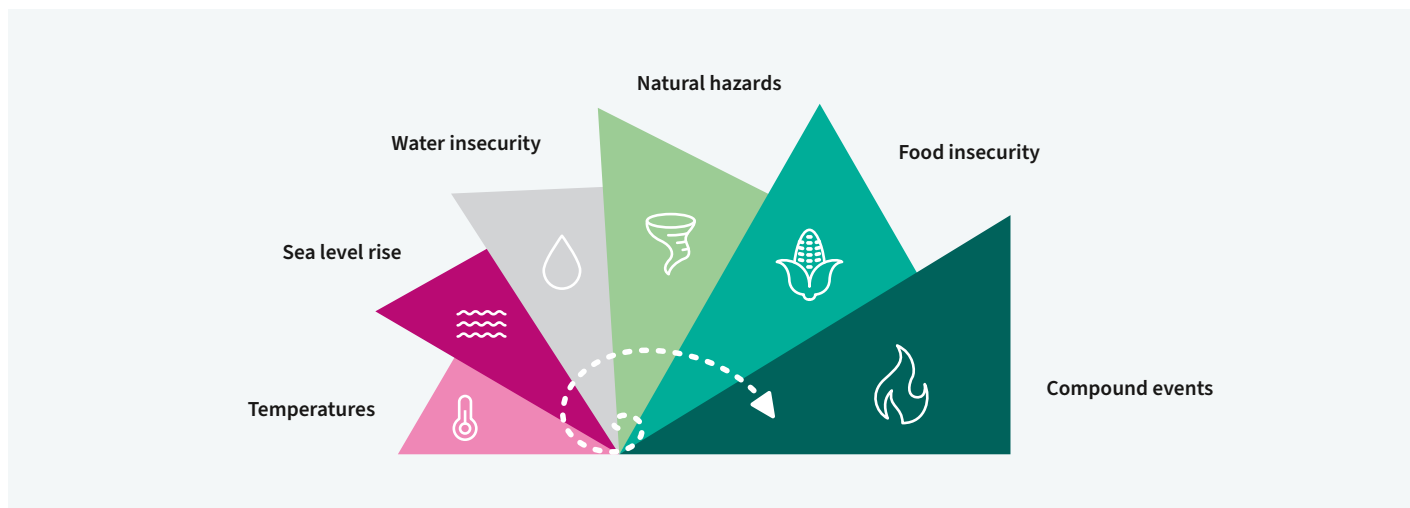
in 2023, has identified seven risks specific to the region: (i) food insecurity caused by more frequent or severe droughts; (ii) risks to life and infrastructure due to flooding and landslides; (iii) water insecurity; (iv) severe health impacts from increasing vector-borne diseases; (v) systemic vulnerabilities stemming from strained infrastructure and public services; (vi) ecosystem degradation associated with coral bleaching; and (vii) socioecological risks in coastal areas resulting from sea level rise, storm surges and coastal erosion.

Previous global HDRs have also identified risks that climate change poses for human development. The 2008 HDR identified five key channels through which climate change could stall and even reverse progress in human development: agricultural production and food security; water stress and insecurity; rising sea levels and exposure to climate disasters; ecosystems and biodiversity; and human health (UNDP, 2008). More recently and focused on the era of the Anthropocene, the 2020 HDR also identified the following risks for human development: increasing hunger; increasing impacts of natural hazards; increasing numbers of extreme temperature events; higher mortality due to health-related costs and a lower ability to adapt; and rising sea levels (UNDP, 2020).

This section presents data for some of the most pressing risks for LAC: increasing temperatures; impacts of natural hazards; food and water insecurity; and sea level rise. The Fibonacci spiral in Figure 5.10 illustrates how these pressures accumulate and compound to create a cascading effect that can diminish all human development dimensions. All of them are deeply interconnected and systemic, and they do not act in isolation. Instead, they accumulate and intensify progressively, undermining the foundations of well-being, capabilities and freedoms.

Many of these pressures are deeply entrenched in people's daily lives across the region. A quick glance at regional news outlets reveals frequent and recurring headlines about climatic challenges. Yet, despite the public concern highlighted in the first section of this chapter, a regional study surveying over 130 journalists from 18 countries found that fewer than 2 percent of news published in the region's media addresses climate change issues (Cigarán, Celi and Dancuart, 2023). This gap is particularly striking given the growing impact of climatic pressures on daily life and the need for accessible information and effective communication.

Figure 5.10 Influence of climate change on human development



Source: Authors' elaboration.

5.4.1 Pressures arising from increased temperatures

MEXICO ON HEAT WAVE ALERT, WITH HIGHS OF 45 DEGREES CELSIUS ACROSS MUCH OF THE COUNTRY

– CNN, Mar 2025

EXTREME HEAT WAVE IN BRAZIL: TEMPERATURES COULD EXCEED 60°C, SETTING A NEW RECORD

– Infobae, Feb 2024

AN EXTREME HEAT WAVE IS COMING THAT WILL SUBJECT ALMOST THE ENTIRE COUNTRY THIS WEEK.

– La Nación Argentina, Jan 2025

The planet is warming. Temperature is one of the most visible and consequential dimensions of climate change. Elevated ambient temperatures pose serious challenges to human health, increase the risk of heat stress, while also straining water resources, ecosystems and agriculture—foundations of human well-being. Heat is both a direct consequence of global warming and a catalyst of other climate-related hazards, including shifts in precipitation patterns, increased evapotranspiration that affects water resources, and extreme events such as heatwaves, wildfires and droughts.¹³ Rising temperatures can also compromise the functioning of basic services such as electricity, water

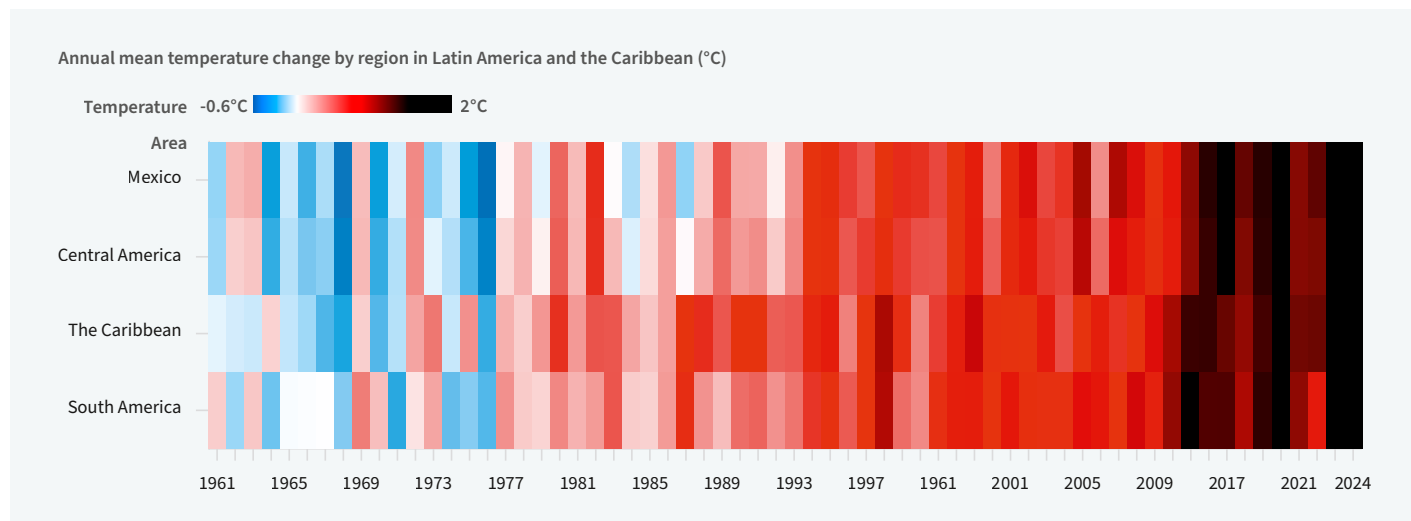
supply and transportation, particularly when infrastructure is not designed to withstand prolonged heat.

Human activity has led to a rise in the Earth's average temperature of approximately 1.2°C since the 1800s, with over two-thirds of this warming occurring since 1975 (UNDP, 2023). In 2024, the World Meteorological Organization (WMO) confirmed it as the warmest year on record, with global average surface temperatures 1.55°C above the 1850–1900 average. The WMO also reported that the decade spanning 2015 and 2024 was the hottest on record (WMO, 2025). This milestone not only heighten global uncertainty but also marks the first time average global temperatures have exceeded the 1.5°C threshold set by the Paris Agreement.

The increase in global temperatures has been perceptible across all subregions and countries of LAC. In 2024, the registered average surface temperature across the whole of the Americas was 2.3°C higher in comparison to the 1951–1980 baseline; that includes all territories across North America, Central America, South America and the Caribbean. In LAC subregions, the temperature change in 2024 with respect to the same period was 1.6°C in the Caribbean, 1.8°C in Central America, 1.4°C in South America and 1.9°C in Mexico alone.

High temperatures affect the productivity of workers across all sectors through their impact on physical and mental health. A growing field of literature has been

Figure 5.11 LAC's average temperature has increased significantly in the last few decade



Notes: Reflects the change in mean surface temperature relative to the baseline climatology for the period 1951–1980.

Source: Authors' elaboration based on the Food and Agriculture Organization Corporate Statistical Database (FAOSTAT database).

trying to understand how high temperatures affect health, cognition and task performance. Climate change economics has remarked that temperature increases will likely affect long-term productivity in almost all LAC countries by 2030 and 2050 (ECLAC, 2024). Figure 5.12 shows the extent to which labour productivity in LAC (measured as output per hour of work) has declined—and is projected to continue declining—due to heat stress, relative to the 1986–2006 average. The figure shows that countries like Suriname, Guyana, Venezuela, Belize, Brazil, Nicaragua, El Salvador, Panama and Colombia are expected to experience the most significant losses in labour productivity—beyond 9 percentage points—by 2050 (figure 5.12). In contrast, Chile, Uruguay and Dominica exhibit relatively lower negative impacts, approaching neutral levels by 2050.

The impacts of rising heat extend beyond health, affecting productivity and income across different economic sectors. Heat-related health risks are particularly acute in outdoor work environments such as agriculture, fishing, hunting, forestry and construction (Gubernot, Anderson and Hunting, 2015). One critical consequence is the reduction in labour capacity—the decline in a worker's ability to perform physical or cognitive tasks due to high temperatures.

In 2022, Latin American countries faced an estimated US\$1.78 billion in potential income losses from heat-related labour capacity reduction, equivalent to 1.34 percent of their combined GDPs (Hartinger and others,

2024). The agriculture sector accounted for the largest share of the losses (40.6 percent), followed by construction (32.5 percent). In the Caribbean, the most comprehensive data available pertains to Small Island Developing States (SIDS).¹⁴ Between 1990 to 2023, SIDS collectively lost and estimated US\$273 billion in potential earnings due to the heat-related reductions in labour capacity, an average of US\$8.2 billion annually. Of this, nearly 37 percent occurred in agriculture, 33 percent in construction, 17 percent in services, and 13 percent in manufacturing (Gordon-Strachan and others, 2024).

Extreme heat also acts as a catalyst for disruptions across key economic sectors by straining critical inputs such as water and electricity. High temperatures accelerate water evaporation, lower reservoir levels, and degrade water quality, all while increasing demand for irrigation and household consumption. Simultaneously, electricity systems come under mounting pressure as rising cooling needs—particularly for air conditioning—drive peak energy loads and elevate overall demand, contributing in turn to higher GHG emissions.

These cascading impacts not only jeopardize the continuity of essential services but also raise operational and infrastructure costs. For example, if LAC, as mentioned in chapter 3, aspires to host more data centers—facilities with extensive electricity and cooling requirements—extreme heat could become a constraining factor for future growth.

Figure 5.12 Decreasing labour productivity due to heat stress in most countries in LAC



Notes: The change in labour productivity is relative to the reference period 1986–2006.

Source: ECLAC (2024).

**“Muriendo de calor”:
Climate change and health-related issues¹⁵**

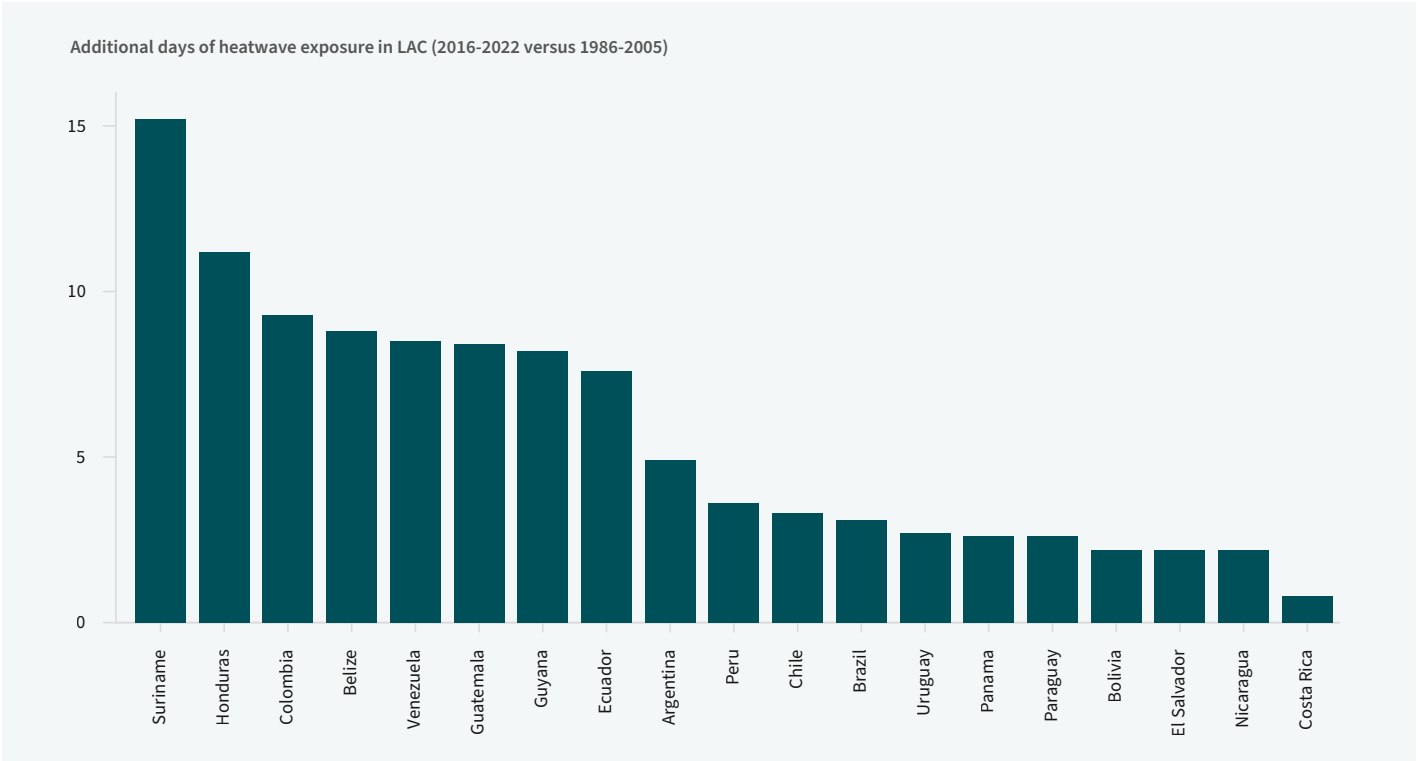
Higher temperatures and extreme heat exposure negatively impact the chance of living a long and healthy life, directly threatening advances in human development. Wet-bulb temperature—a measure that shows how well the human body can cool off through sweating when it’s hot and humid—is a crucial concept for understanding the risks of extreme heat. When high temperatures combine with humidity for too long, the body keeps getting hotter because it can’t release heat, leading to serious health problems like heatstroke, organ failure and even death. Wet-bulb temperatures above 35°C mark the limit beyond which the human body cannot survive for more than a few hours.

Several countries in the region that have not historically been subject to high temperatures are now routinely experiencing numerous days during which temperatures exceed 35°C. These occurrences are projected to rise significantly under different Shared Socioeconomic Pathway (SSP)¹⁶ scenarios. Rising temperatures have increased the number of days people in all countries in the region endure

heatwaves from 0.8 days per year from 1986–2005 to 15.2 days from 2016–2022, with the largest increases reported in Suriname (15.2 days); Honduras (11.2 days); Colombia (9.3 days); Belize (8.8 days); Venezuela (8.5 days); Guatemala (8.4 days); and Guyana (8.2 days) (ECLAC, 2024).

Infants and older adults are considered particularly vulnerable to adverse health effects from heat exposure. They are increasingly exposed to heatwaves, defined as a period of two or more days during which both the minimum and maximum temperatures are above the 95th percentile recorded during the period 1986–2005 (The Lancet, 2024). Person-days of heatwave exposure have been rising in recent decades among infants and people over 65 years of age. The term “person-days” is the cumulative number of days that people—collectively—have been exposed to heatwaves. In other words, if 100 people are exposed for 5 days, there would be 500 person-days of exposure (The Lancet, 2024). Figure 5.14 shows the absolute increase (measured in millions person-days) experienced by people in the youngest and oldest age groups. Although there were some unusually high values before the year 2000, the

Figure 5.13 The number of days that people endure heatwaves has increased in all countries in LAC region



Source: ECLAC (2024).

overall trend for both groups—excluding outliers—has been upward.

Another serious impact of rising temperatures is the increase in heat-related deaths. Between 2000 and 2019, in LAC an estimated 36,695 heat-related excess deaths occurred annually—a figure that is very likely an underestimate (Zhao and others, 2021). To put this into perspective, these deaths represent about two-fifths (40 percent) of all traffic-related fatalities in the Americas (WHO, 2018).

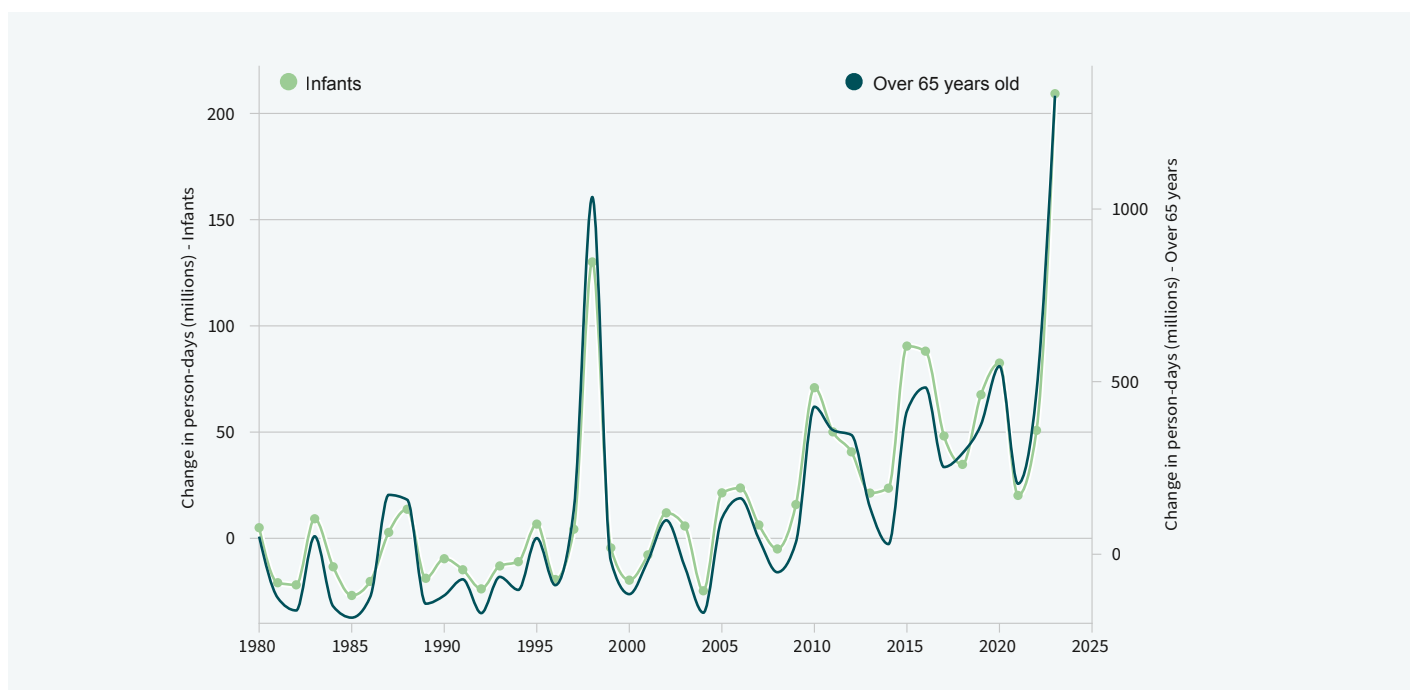
The health burden is particularly acute among older adults. In Latin America heat-related deaths among people aged 65 and older increased 140 percent in the period between 2013 to 2022, compared to the period between 2000 to 2009 (Hartinger and others, 2024). In the Caribbean, the same group saw a 103 percent increase over the same period (Gordon-Strachan and others, 2024).

Excessive heat can also pose indirect life-threatening risks—intensifying gender-based violence and exacerbating mental health challenges (see Interlinkage #1). Research has increasingly explored the relationship between rising temperatures, mental health and human behaviour, with

evidence showing that warmer temperatures correlate with a 4 percent increase in interpersonal violence and a 14 percent rise in intergroup conflicts globally (Woods and Agoncillo, 2024). Given the limited data on the linkages between heatwaves and gender-based violence, more evidence is required to design interventions to prevent and address gender-based violence before and during heatwaves.

Urban heat islands (UHI), linked to rapid urbanization process in LAC, represent another heat-related threat. The UHI effect occurs when urban areas experience significantly higher temperatures than surrounding areas (Libertun and Peciña-López, 2024). As one of the most urbanized regions of the world (UNDESA, 2019), UHI represent an important threat with populations living in dense, underserved urban areas facing a heightened risk of heat stress, highlighting the intersection between climate change and inequality. In the case Mexico City, for example, UHI effect has made temperature around 4°C higher than in surrounding areas, moreover, more urbanized and populated areas are up to 8°C hotter than more affluent ones (GCDMX-SMA, 2021). The unequal distribution of infrastructure and services—like shaded areas, parks and services—exacerbates these vulnerabilities, highlighting the urgent need for inclusive

Figure 5.14 The number of heatwave person-days among infants and adults over 65 has increased over the last four decades



Source: The Lancet (2024).

urban planning that addresses climate resilience and social equity.

How these climate imbalances exacerbate inequality and how they are unevenly distributed is explored in the following section.

5.4.2 Pressure emerging from sea levels rise

SEA LEVEL RISE DOUBLES IN SPEED DUE TO RECORD-BREAKING WARMING

– EFE Verde, Mar 2025

PANAMA COMMUNITY PUSHED FROM CARIBBEAN ISLAND BY RISING SEA LEVELS MOVES INTO NEW HOUSES

– Associated Press, Jun 2024

ON THE GRENADIAN ISLAND OF CARRIACOU, EVEN THE DEAD ARE NOW CLIMATE VICTIMS

– The Guardian, Dic 2024

Global mean sea level rise (SLR) is driven by the combined effects of seawater thermal expansion¹⁷ and the melting of land-based ice¹⁸ in a warming climate (IPCC, 2021a). LAC, with an extensive coastline of 72,182 km, across North America, Central America, South America and the Caribbean islands (ECLAC, 2012), is particularly vulnerable to this phenomenon. Across all emission scenarios, the region is projected to experience a steady and sustained rise in sea levels over the coming decades.¹⁹

SLR poses threats to human development by triggering a range of impacts, including permanent and temporary flooding, beach erosion, saltwater intrusion into aquifers and agricultural soils, population displacement, disrupted port activity, coral bleaching and altered sediment transport.

The Caribbean, with its low-lying coastal geography, faces some of the most acute risks from SLR. Projections for short-, medium-, and long-term periods (2020–2039, 2040–2059 and 2080–2099) under a moderate emission scenario estimate average SLR of 10 cm, 23 cm, and 53 cm, respectively (UNDP, 2025). The most significant difference among emission scenarios emerges by the end of the century, with a spread of approximately ± 10 cm across emission pathways.

The countries projected to experience the greatest absolute increases in sea level—measured in centimetres—under the moderate emissions scenario across all three time periods are Belize, The Bahamas, Cuba, Haiti, and Trinidad and Tobago. In all these countries, projections for the last decade of the century exceed 50 cm, with the greatest rise in Belize, with an expected increase of 78 cm (figure 5.15 panel A).

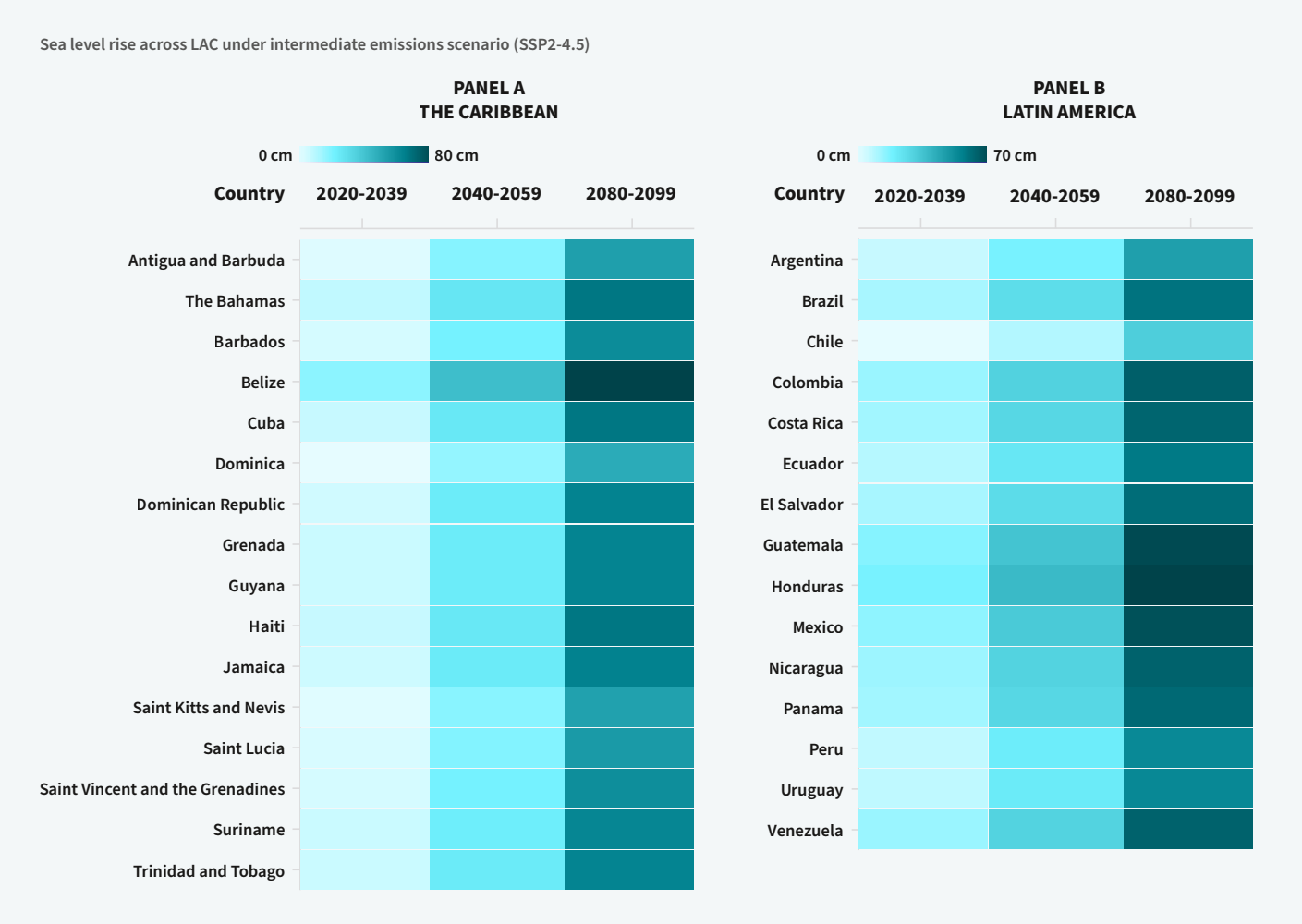
SLR is also expected to impact countries along the continental coasts of Latin America. Overall, the region is projected to experience a consistent upward trend, with the most pronounced increase observed along the Atlantic coast (ECLAC, 2012b). Under the moderate emission scenario, the highest increases by the end of the century are expected in Honduras, with a projected rise of 66 cm; Guatemala, 62 cm; Mexico, 59 cm; Colombia and Nicaragua, 54 cm each; and Costa Rica, 53 cm (figure 5.15, panel B).

There are three key indicators used to assess the impact of SLR: the projected percentage of land falling below the local mean sea level; the median projected land area below this threshold; and the percentage of the population living within the area encompassed by the median projected 1-in-20-year floodplain (UNDP, 2025). Like the projected rise in sea level measured in centimetres, these indicators vary depending on which emissions scenario is applied, and the impacts differ significantly across countries. Figure 5.16 summarizes trends under three different scenarios for Caribbean countries.

Under the moderate emissions scenario, the Caribbean countries expected to experience the highest percentage of land inundation are The Bahamas (2 percent) and Cuba (1.1 percent).²⁰ In absolute terms, Cuba is projected to lose the largest land area, with 1,205 km² affected, followed by The Bahamas with 249.5 km² and the Dominican Republic with 139.2 km². Box 5.3 provides more details about this issue in Cuba. To put these figures into perspective, Mexico City spans approximately 1,495 km² (INEGI, 2025), while the municipality of Guatemala City alone covers about 228.74 km² (Municipalidad Guatemala, 2025), which illustrates the extent of the losses in Cuba and The Bahamas.

Finally, the countries projected to have the highest proportion of their population living in the median 1-in-20-year floodplain are Guyana (7.98 percent), Suriname (7.85 percent), and Belize (2.48 percent). With rising sea levels caused by global warming, storm surge flooding will occur more often, especially in low elevation coastal zones (LECZs)

Figure 5.15 Sea level is expected to rise across LAC



Source: Authors' elaboration based on the data platform Human Climate Horizons (UNDP, 2025).

(IPCC 2019). Suriname and Guyana offer clear examples of these problems. A significant proportion of their residents, 68 percent in Suriname and 31 percent in Guyana live at elevations below 5 metres above sea level. Significant portions of Georgetown, Guyana’s capital, are situated below sea level.

SLR interacts with a range of other climate change-related pressures affecting LAC. For example, rising seas increase the likelihood and severity of coastal flooding, particularly when combined with hydrometeorological events—such as storms and hurricanes—which are expected to increase in frequency and will be discussed in the following section. In low-lying areas, SLR also accelerates saltwater intrusion into freshwater systems, reducing agricultural productivity

and compromising drinking water supplies. These effects are directly linked to water insecurity, another escalating pressure in the region.

In coastal areas, rising sea levels place growing pressure on food insecurity and livelihoods. Fisheries, which serve as a vital source of food, income and cultural identity, are increasingly at risk due to ocean acidification, declining fish stocks, and degradation of marine ecosystems. As fish stocks diminish, coastal communities face mounting economic hardship and fewer income-generating opportunities, threatening their capacity to maintain traditional practices and cultural heritage. For millions in the region, shrinking fisheries also mean reduced access to an essential source of daily protein, deepening the challenge of food insecurity.

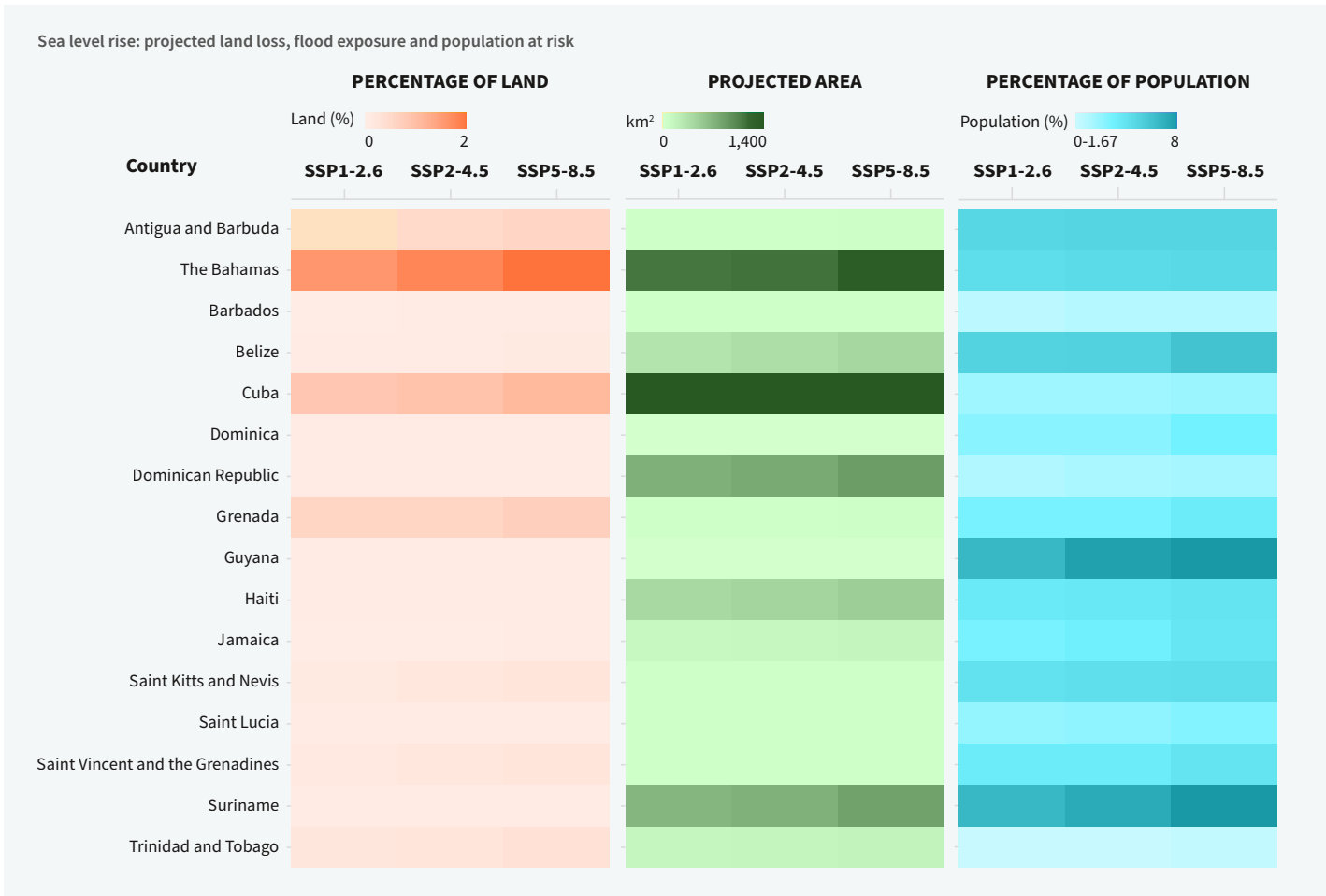
SLR also affects physical infrastructure. Based on SLR projections, almost all port and harbour facilities in the Caribbean will suffer inundation in the future (Cashman and Nagdee, 2017). If the average surface temperature rises 1.5°C in Jamaica and Saint Lucia, SLR and extreme sea level (ESL) events are projected to pose key risks to transportation infrastructure—unless further adaptive measures are put into place (Monioudi and others, 2018).

In anticipation of rising seas, coastal communities can relocate, leaving high-hazard-prone areas behind. But this shift would need to be policy driven. For example, coastal setback policies have been implemented for hotels in Barbados. Relocation efforts are often driven and financed by governments and non-governmental organizations (NGOs), typically within a well-structured policy framework (Mycoo and others, 2022). In areas where the risks from rising

sea levels, flooding and erosion are extremely high and cannot be effectively mitigated, retreating from the shoreline becomes the only viable option to eliminate or reduce risks. Given the high costs and disruptions associated with relocation, displacement and migration are typically considered last-resort adaptation strategies.

SLR is both a scaling threat and a slow-onset event. It unfolds gradually over time, but its impacts are far-reaching and should not be viewed in isolation. Instead, SLR should be understood as part of a broader, interconnected set of climate change pressures that require coordinated adaptation and anticipatory policy responses. The compounded effects of SLR—combined with other environmental stressors—pose serious risks to the well-being and resilience of coastal populations, particularly those whose livelihoods rely on fishing, tourism, and related industries.

Figure 5.16 Sea level rise is expected to result in land loss in various countries in the Caribbean



Source: Authors' elaboration based on the data platform Human Climate Horizons (UNDP, 2025).

Box 5.3 Beyond rising waters: sea level rise in Cuba

Cuba, an archipelago in the Caribbean Antilles, is the most populous island nation in the Caribbean, with 10 million inhabitants as of 2023. Its insular nature, geographic extension, high exposure to extreme hydrometeorological events, concentration of population and infrastructure in coastal areas, and reliance on marine and coastal ecosystems for livelihoods make Cuba particularly vulnerable to the impacts of a changing climate. Among these challenges, sea level rise stands out as a multidimensional issue that extends beyond environmental and infrastructure-based solutions.

According to the country's Institute of Meteorology (INSMET), sea levels are projected to rise 0.29 metres by 2050. SLR impacts are exacerbated by the increasing frequency of extreme events such as hurricanes, directly threatening 262 coastal settlements that are home to 1.5 million people, including the major provincial capitals of Cienfuegos, Santiago de Cuba and Matanzas.

The physical and environmental impacts of sea level rise include coastal flooding, which could affect up to 19,935 km² under extreme scenarios. Saline intrusion also poses a significant threat, degrading the quality of potable water and salinizing agricultural lands, thereby jeopardizing water and food security. Additionally, the accelerated degradation of ecosystems, such as mangroves and coral reefs, reduces their ability to naturally protect coastal areas from climatic impacts, further compounding the vulnerability of these regions.

From a socio-economic perspective, recurring damage to infrastructure and drainage systems worsens living conditions in coastal communities. Livelihoods, particularly in the fishing industry, which serve as the primary income source for many settlements—are negatively affected by the degradation of marine habitats, leading to reduced yields and diminished employment opportunities.

While residents in the south coast recognize the immediate impacts of extreme weather events, there is insufficient awareness of the long-term consequences of sea level rise. Underestimating risk hampers the adoption and implementation of sustainable adaptive measures.

SLR presents a complex challenge for Cuba, not only due to its immediate physical impacts but also because of its far-reaching social, economic and environmental repercussions. These effects exacerbate existing inequalities and threaten the livelihoods of coastal populations. Addressing these challenges will require a comprehensive approach that includes nature-based solutions, inclusive territorial planning and strengthened local capacities to effectively mitigate and adapt to these threats. Only through coordinated, multidimensional efforts—supported by international cooperation—can Cuba build resilient coastal communities and protect its natural ecosystems for future generations.

Source: Muñoz Campos and others (2025).

5.4.3 Water insecurity and water stress

URUGUAY WASN'T SUPPOSED TO RUN OUT OF WATER

– The New York Times, Aug 2023

AN ELECTRICITY CRISIS THREATENS COSTA RICA WITH A WAVE OF POWER OUTAGES

– El País, May 2024

THE RIVERS RUN DRY AND THE LIGHTS GO OUT: A WARMING NATION'S DOOM LOOP (ECUADOR)

– The New York Times, Dic 2024

Water and climate change are deeply intertwined. Climate change affects water availability, quality and quantity. Rising temperatures disrupt precipitation patterns, accelerate the melting of ice sheets, and intensify extreme events such as floods and droughts. These hydrological changes place strain on water resources available for human consumption and represent a source of pressure across the region, manifested through intense droughts and water shortages.

From 2020 to 2023, droughts manifested in Mexico, Central and South America and the Caribbean. In 2020, over half of Mexico was affected, while Haiti, the Dominican Republic and Cuba faced acute drought conditions. The Paraná–

La Plata basin experienced one of its worst droughts on record, significantly reducing global supplies of key agricultural commodities such as soybeans and corn. By 2022, the situation further deteriorated, with the Río de la Plata basin experiencing the most severe drought since 1944 (WMO, 2023).

In 2023, severe drought conditions further escalated, affecting 76 percent of Mexico, and marking the country’s driest year on record. In Uruguay, the government declared a water emergency due to critically low water storage, impacting over 60 percent of the population. Water shortages also threatened cities in Chile, Colombia and Mexico. Unprecedented droughts due to the influence of the El Niño Southern Oscillation (ENSO) also disrupted vessel traffic through the Panama Canal, affecting a substantial portion of the country’s GDP and a significant share of the global maritime trade.

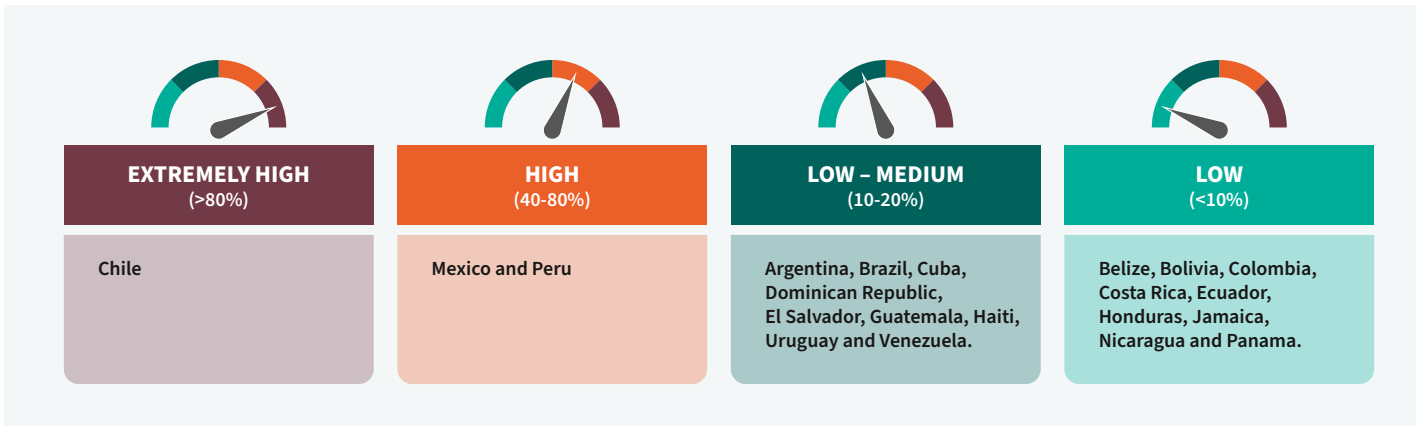
These events are not isolated but part of a broader trend in which climate-induced water stress is reshaping development trajectories across the region. Ecuador’s 2024 energy shortage offers a vivid illustration of how quickly climate change risks are intensifying and how their compounding effects can undermine long-term development. Just a decade ago, Ecuador made a bold investment in hydroelectric power, aiming to harness its abundant rivers to meet growing energy demands and reduce poverty. Today, those ambitions are being challenged by a changing climate. An extraordinary drought—exacerbated by global warming and intensified by El Niño—dried up rivers and reservoirs, placing severe strain on the power grid and jeopardizing the country’s energy security.

Water stress measures the balance between water demand and renewable supply (Kuzma, Saccoccia and Chertock, 2023). The greater the demand relative to the supply, the higher the stress and the more vulnerable the area is to water scarcity. Countries classified as facing “extreme water stress” use over 80 percent of their renewable water supply for irrigation, livestock, industry and domestic needs. “High water stress” applies when 40 to 80 percent of the supply is withdrawn. Data from the World Resources Institute (WRI) assessing current and projected water stress in LAC in 2023, under scenarios shaped by climate change and rising global temperatures, reveal that Chile is among those that face extreme high levels of stress, while Mexico and Peru are experiencing high-stress levels. The rest of the region is classified at lower levels of water stress (see Figure 5.17).

Water stress is a progressive condition that can intensify over time, particularly in response to rising temperatures. Using the WRI categories, figure 5.18 shows the projected percentage of countries at different levels of water stress using diverse temperature increase scenarios that range from optimistic to pessimistic when compared to a baseline from the period 1979–2019. Under an intermediate or “business-as-usual” scenario, nearly half of the region’s countries will face medium to extreme water stress by 2080. Specifically, 29 percent will experience medium to high stress, while 16 percent will face high to extreme stress.

Data from the Food and Agriculture Organization (FAO) offers a global and regional perspective on the evolution of water stress from 2000 to 2022, based on indicator 6.4.2 of the 2030

Figure 5.17 More than half the countries in LAC are currently experiencing some level of water stress



Source: Kuzma, Saccoccia and Chertock (2023).

Figure 5.18 If climate efforts continue as they are today , it is expected that over 80% of countries in LAC will suffer from at least medium water stress



Notes: The optimistic scenario refers to a temperature increases by 2100 align with the Paris Agreement. The intermediate scenario assumes current climate mitigation efforts continue. The pessimistic scenario assumes fossil fuel use intensifies, leading to even higher temperatures.
Source: UNDP’s calculations based on the World Resources Institute projections (2024).

Agenda (figure 5.19).²¹ The indicator measures freshwater withdrawal as a share of available resources. Between 2000 and 2022, average water stress in LAC subregions generally exceeded the global average—except in South America. In 2022, the Caribbean reported the highest water stress at 28.1 percent, followed by North America (20.2 percent) and Central America (19.3 percent), while South America recorded just 6 percent.

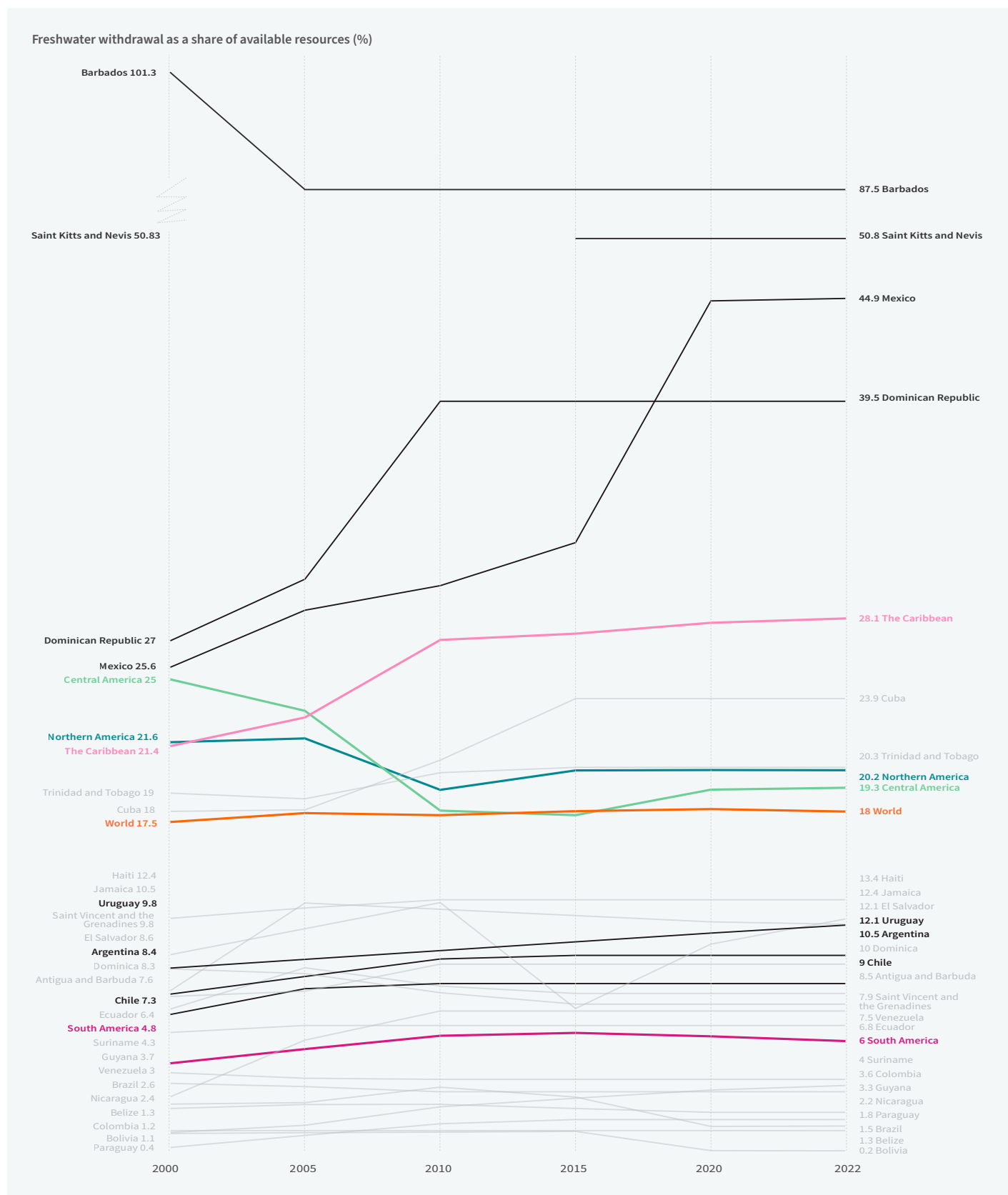
Despite the described regional averages, there are differences within each subregion. In the Caribbean, for example, several countries reported significantly higher water stress levels than the regional average in 2022, including Barbados (87.5 percent), Saint Kitts and Nevis (50.8 percent), and the Dominican Republic (39.5 percent). Both Barbados and the Dominican Republic stand out for their trends: Barbados saw a decline between 2000 and 2005, while the Dominican Republic experienced a notable increase in the same decade. In North America, Mexico stands out with one of the highest levels of water stress in 2022 (44.9 percent), which is 1.7 times higher than its level in 2000. In South America, Uruguay, Argentina, and Chile are the countries that reported the highest levels of water stress within the subregion. These examples underscore

that water stress is not static, but a dynamic condition influenced by multiple factors.

The impact of water stress goes beyond environmental concerns and impacts human development and its components. It affects health, as scarcity can lead to the consumption of contaminated water and poor sanitation. It influences nutrition—as food can become scarce and more expensive. And it impacts livelihoods, as land yields decline.

Water issues in LAC go beyond water stress. Directly physical assets—such as homes, productive tools, and crops—might be affected through floods and droughts, disrupting people’s livelihoods and hindering paths to progress. Women and girls are disproportionately affected by drought due to persistent structural gender inequalities that limit access to water as well as other essential resources such as land and financial services. These inequalities also place additional workload on women and girls. In many drought-impacted areas, women are primarily responsible for collecting water, often walking long distances, putting their health and safety at risk (UNCCD and FAO, 2024).

Figure 5.19 LAC experiences higher water stress than the global average, with the Caribbean region particularly affected



Source: Authors' elaboration based on the FAOSTAT database.

Box 5.4 Implications of droughts in Uruguay from an institutional perspective

From 2020 to 2024, Uruguay experienced a severe drought that led to a significant water deficit in the agricultural sector, prompting authorities to declare agricultural emergencies on five occasions. Unlike previous crises, the most recent drought extended to the capital and metropolitan area of Montevideo, affecting the Santa Lucía River basin, which supplies water to over 60 percent of the country's population. This situation compromised both the availability and quality of potable water for a large portion of the urban population.

The agricultural sector was one of the hardest hit, with estimated direct losses during 2022–2023 reaching US\$1.883 billion. That represented 3 percent of the national GDP and nearly 39 percent of the agricultural value added, an unprecedented level of loss over the past three decades. For the State Insurance Bank (BSE), this drought marked the most severe disaster in its history, as the institution, which manages 60 percent of the rural insurance market, paid out US\$92 million in claims.

In Montevideo, the crisis particularly affected the potable water supply, impacting households as well as health institutions, schools and businesses. Consequently, the sale of bottled water increased significantly, with non-carbonated bottled water sales rising by 467 percent, large water containers by 217 percent, and carbonated water by 105 percent. These increases created new environmental pressures due to the substantial rise in plastic waste.

At the institutional level, the crisis posed unprecedented challenges. Interviews with institutional representatives revealed that an event of such magnitude and duration was not anticipated, straining the response capacities of teams that were already limited in personnel and resources. Coordination challenges emerged, alongside difficulties in establishing an institutional vision that extended beyond technical reports on water resources. Some local actors began referring to a “collapse” in water resource management, citing inefficiencies across various government bodies and institutions.

Water insecurity and systemic vulnerabilities—stemming from infrastructure overload and strained public services—have been identified by the IPCC as two of the seven key climate change risks in Latin America. The water crisis in Uruguay highlights the profound vulnerabilities countries face from extreme climate-linked events. It also underscores the critical importance of addressing coordination challenges to prevent fragmented responses and overstretched public services from becoming sources of heightened uncertainty and risk.

Source: Balderrín and Rodríguez (2025).

5.4.4 Natural hazards

A MONTH OF WILDFIRES RAVAGES SOUTH AMERICA, SETTING OFF CLIMATE ALARMS

– El País, Sep 2023

FROM CLIMATE CHANGE TO EL NIÑO: THE DEVASTATING POWER OF HURRICANE OTIS SURPRISES SCIENTISTS

– El País, Oct 2023

BRAZIL FLOODS DRIVE THOUSANDS FROM THEIR HOMES

– BBC, May 2024

Over the last two decades, the number of extreme events in LAC has more than doubled when compared to the average from 1963–2000. Floods and storms have seen the most significant rise in frequency (figure 5.20). According to data from the UN Office for the Coordination of Humanitarian Affairs (OCHA), between 2000 and 2019, LAC experienced a total of 1,205 disasters—an average of 5 disasters per month or 60 per year. These include 548 floods, 330 storms, 75 earthquakes (25 percent of which had a magnitude 8.0 or higher), 74 droughts, 66 landslides, 24 wildfires, and 50 extreme temperature events (OCHA, 2020).

The Caribbean stands out for the disproportionate impacts they suffer from storms, hurricanes and other extreme weather events. From 2000 to 2019, the countries in the region that were the most heavily impacted by storms were

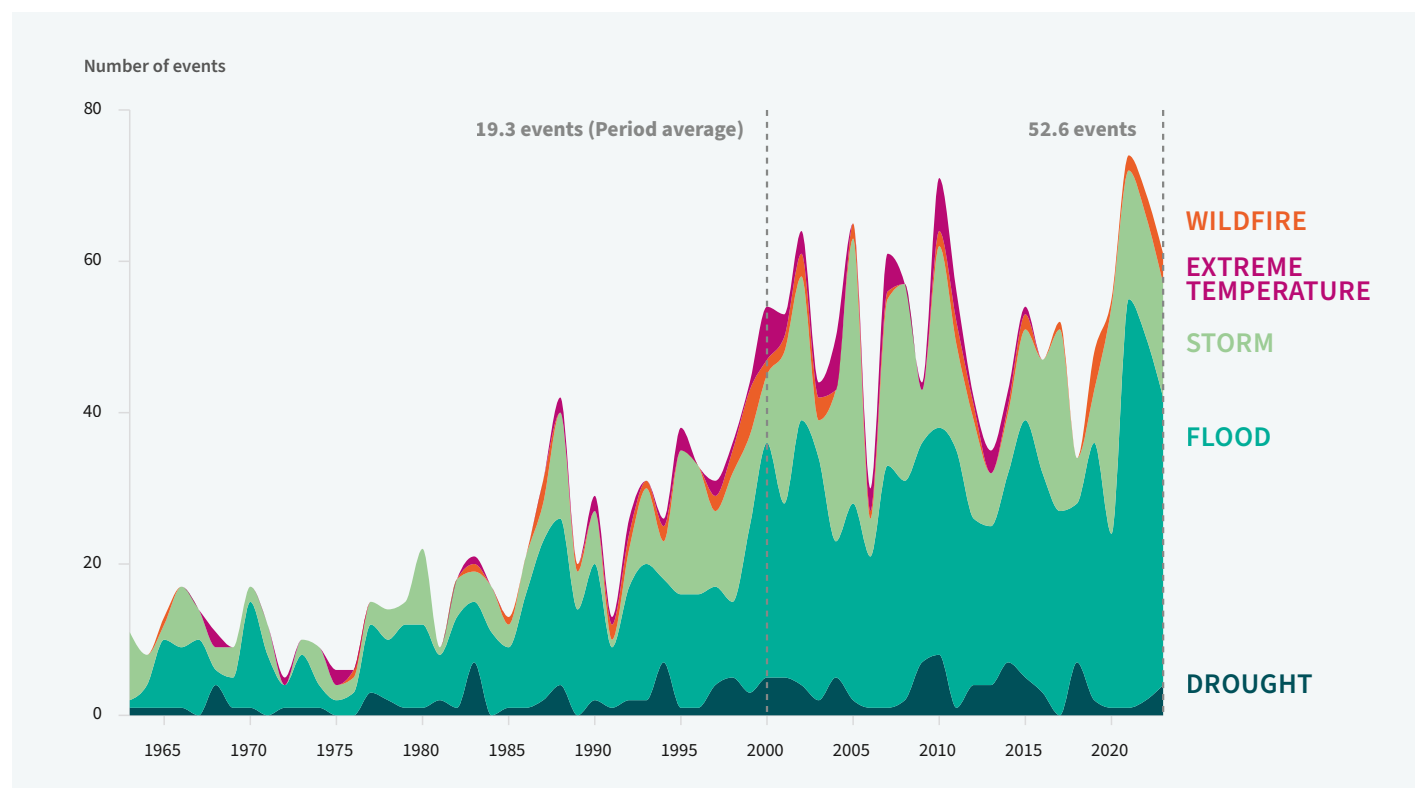
Cuba, Haiti and Mexico. Together, they experienced 110 storms, saw 29 million people affected, and recorded 5,000 deaths (more than 85 percent of those deaths were recorded in Haiti), which suffered an estimated US\$39 billion in total damages (OCHA, 2020).

From 2001 to 2020, climate-related extreme weather events in the Caribbean increased by 85 percent compared to the previous two decades, resulting in losses and damages equivalent to 3.6 percent of aggregate GDP (Rozenberg, and others, 2021, in Watson, 2025). Of the 10 territories worldwide that suffered the largest average losses per unit of GDP (in percent) due to extreme events from 2000 to 2019, more than half are located in the Caribbean: Dominica (placing first), Grenada (third), The Bahamas (fourth), Antigua and Barbuda (seventh), Belize (eighth) and Haiti (tenth) (EIB, 2023, in Watson, 2025). These data underscore the Caribbean's vulnerability to climate-related disasters and highlight the urgent need for stronger resilience-building and risk reduction strategies, as further discussed in section 5.5.

When it rains, it pours. And when it doesn't, it burns: the rise of compound events

Compound disasters refer to situations where two or more extreme events occur simultaneously or in close succession, often driven by multiple, interconnected factors that can exponentially amplify damage and loss (National Academies of Sciences, Engineering and Medicine, 2022). Compound disasters are defined as: (i) two or more extreme events occurring simultaneously or successively; (ii) combinations of extreme events with underlying conditions that amplify the impact of the events; or (iii) combinations of events that are not themselves extreme but lead to an extreme event or impact when combined (IPCC, 2021b). Examples include simultaneous heatwaves and droughts; compound flooding caused by storm surges coinciding with heavy rainfall or river flow; fire weather conditions driven by a combination of hot, dry and windy conditions; and concurrent extremes events occurring simultaneously in different locations (IPCC, 2021b, p. 9).

Figure 5.20 Extreme weather events in LAC have doubled in recent decades

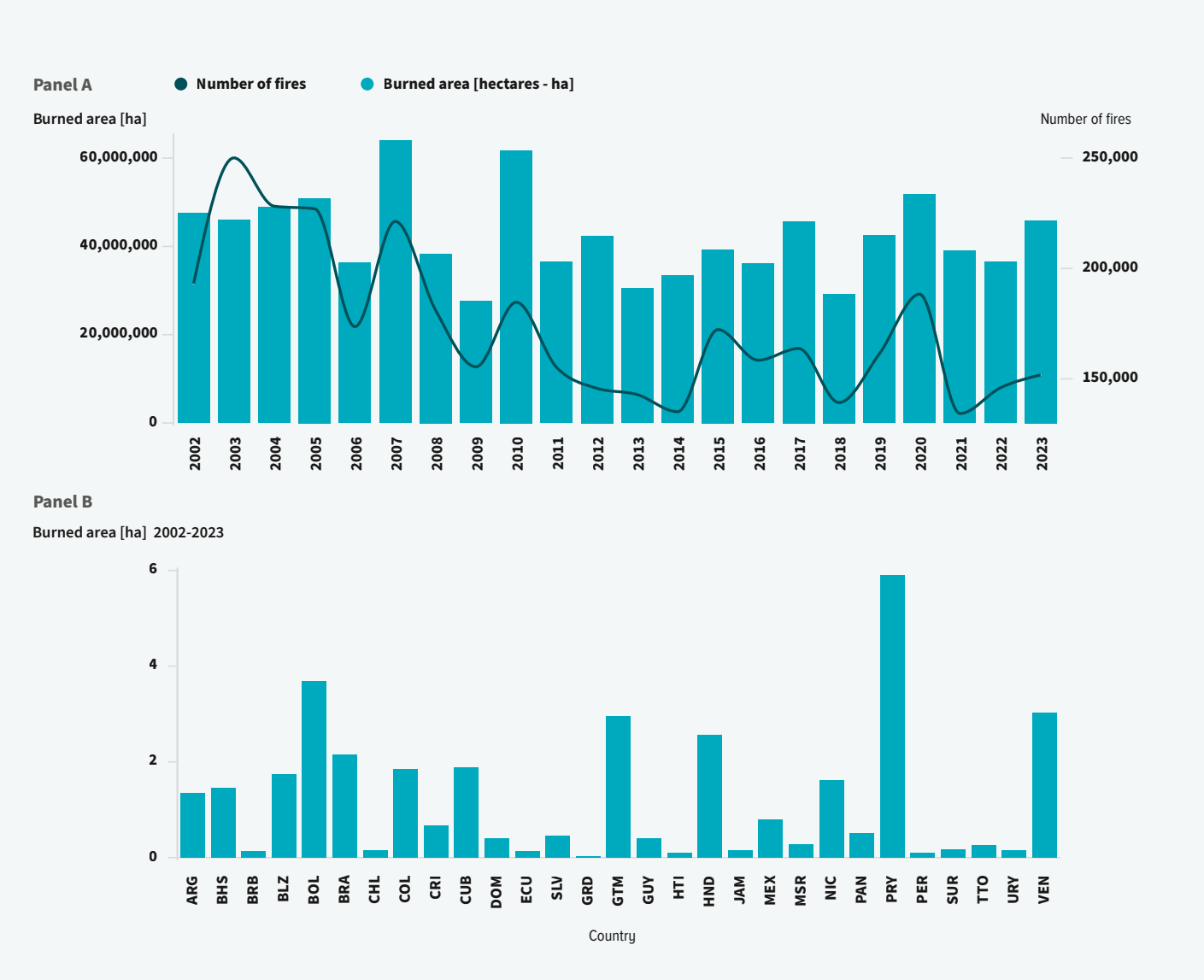


Source: UNDP's calculations based on data from EM-DAT: The Emergency Events Database (1963-2023).

Today, most disasters no longer occur in isolation. Instead, they tend to pile on, striking in succession or overlap, compounding their effects and overwhelming communities before they have a chance to recover from previous shocks. Acute events can also be intensified by chronic, underlying deteriorating conditions (National Academies of Sciences, Engineering, and Medicine 2022). A widely cited example is the 2011 earthquake in Japan, which triggered a tsunami that led to the failure of the Fukushima nuclear reactor. Similar examples have also emerged in LAC in recent years.

The 2020 hurricane season in the Atlantic Ocean compounded with the COVID-19 pandemic in several countries in the Caribbean and in Central America. The year 2020 was a record-breaking hurricane season, according to the National Hurricane Center (NHC).²² The season featured a total of 30 named storms, 14 of which became hurricanes—and half of which were classified as major hurricanes (IFRC, 2022). Storm activity was so intense that the WMO list of 21 names was exhausted, requiring use of the Greek alphabet for only the second time since 2005. Hurricanes Eta and Iota struck

Figure 5.21 A decrease in the number of wildfires has not resulted in a decrease in the area affect



Source: UNDP’s calculations based on the Global Wildfire Information Systems (GWIS) Statistics Portal (2024).

Central America as category 4 storms just two weeks apart, devastating the region and causing hundreds of deaths.

Wildfires, which have affected several parts of LAC, are also clear examples of compound disasters. The historical trend of fire events for the two decades from 2002 to 2023 shows a downward trajectory (figure 5.21, Panel A). Despite the decline during this period, the annual extent of the burned area appears to remain stable, suggesting that although the number of events has decreased, the extent of hectares destroyed has not.

Wildfires affect, on average, an estimated 39.9 million hectares (Mha) of land in LAC each year, equivalent to nearly 400 Mha over the decade between 2014 and 2023. It is estimated that the total area affected during the decade is equivalent to the combined territory of Argentina and Chile, accounting for more than 360 million hectares (UN, 2022). During the last decade Brazil have accounted for over half of affected lands, followed by Argentina and Bolivia (UN, 2022). However, between 2002 and 2023, the countries with the highest proportion of burned area relative to their territories were Paraguay, Bolivia, Venezuela, Guatemala and Honduras (figure 5.21, Panel B).

Box 5.5 Wildfires in Valparaíso and Viña del Mar: a compounded and socially constructed event

Wildfires are a clear example of a compounded climatic event because they arise from the interaction of multiple environmental, social and institutional factors that amplify their severity and consequences. Climatically, wildfires are fuelled by extreme weather patterns such as prolonged droughts, rising temperatures and reduced precipitation—conditions increasingly driven by climate change.

The 2022 wildfire in Valparaíso and Viña del Mar,²³ Chile, impacted 1,000 people, destroyed 400 homes and consumed 110 hectares. By contrast, in February 2024 another wildfire²⁴ was significantly more severe, with 134 fatalities, over 1,500 injuries and more than 10,000 hectares devastated. These cases highlight how the combination of climatic factors, such as extreme temperatures and reduced rainfall, with social factors, including irregular urban expansion in high-risk areas and inequality, can escalate a wildfire into a disaster of historic proportions.

The wildfires that struck Valparaíso and Viña del Mar in 2022 and 2024 were both clear examples of compound risks, where climatic, socio-economic and institutional factors interact and amplify the devastating consequences. These events extended beyond the immediate destruction caused by fire and result in long-term impacts on health, livelihoods, infrastructure, education and social cohesion—all exacerbated by pre-existing vulnerabilities in the affected populations.

Human elements magnify the impact of wildfires. These elements include urban sprawl into high-risk areas, inadequate land management practices and social inequalities that almost always leave more disadvantaged, poorer and marginalized populations disproportionately exposed. Those interconnected factors make wildfires not merely natural hazards, but complex crises with far-reaching implications for health, livelihoods, ecosystems and infrastructure. Understanding their compound nature and how they are socially constructed is essential to developing holistic strategies that address both their root causes and cascading effects.

The 2022 and 2024 fires revealed structural and operational gaps in Chile's emergency system, especially in prevention and preparedness, while also exposing inequalities in vulnerable urban/rural areas marked by self-construction, poor infrastructure and weak urban planning. These elements underscore the urgency of addressing compound risks through an integrated approach. This approach should combine climate action, sustainable urban development and social vulnerability reduction while also incorporating social policy and humanitarian response mechanisms to ensure swift and equitable recovery.

These events also underscored the critical importance of governance and coordination in aligning the efforts of municipalities, NGOs, and communities to address institutional gaps and accelerate assistance. Community participation and local networks also prove to be essential for anticipating, mitigating and recovering from disasters of this scale. These lessons emphasize the need for collaborative, inclusive and proactive strategies to enhance resilience and reduce the impacts of future compound risks.

Source: Troncoso and Berwart (2025).

In 2024, South America faced an exceptionally flammable year, with record-breaking fires devastating even the typically moist Amazon rainforest (MacCarthy and Parsons, 2024). High temperatures, persistent drought worsened by El Niño, deforestation, and long-term climate change fuelled wildfires that spread across millions of hectares, severely affecting Peru, Brazil—particularly São Paulo and Río de Janeiro—and causing Bolivia’s worst fire season in over two decades, prompting a national emergency. Unlike natural fire cycles in boreal regions, fires in the Amazon are almost entirely human-driven, largely resulting from land clearing and deforestation (MacCarthy and Parsons, 2024).

With 2024 and 2023 ranking as the first and second warmest years on record, respectively, the worsening fire crisis underscores the dangerous interplay between human activity and accelerating climate change. Lessons and details about the wildfires that affected Valparaíso and Viña del Mar in Chile in 2022 and 2024 are presented in box 5.5. As climate pressures intensify and human vulnerabilities deepen, compound events remind us that disasters rarely strike alone. Instead, they arrive in waves, testing the resilience of communities and exposing the urgent need for integrated, forward-looking risk management.

5.4.5 Food insecurity

‘NO FISH, NO MONEY, NO FOOD’: COLOMBIA’S STILT PEOPLE FIGHT TO SAVE THEIR WETLANDS

– The Guardian, Apr 2025

HAITIANS FACE RECORD HUNGER AS GANG VIOLENCE GRIPS COUNTRY IN THROES OF ECONOMIC CRISIS

– Associated Press, Apr 2025

‘WE ARE CRYING FOR RAIN’: SURINAME’S VILLAGES GO HUNGRY AS DROUGHT BITES

– The Guardian, Jan 2025

The impacts of climate change on food insecurity are nuanced and complex, because rapid onset, slow onset and compound events have the potential to harm food systems. Rapid onset events affect food production in direct and indirect ways and on the four dimensions of food security: food availability, food access, food use and food stability.

Slow onset climate and global warming events (such as drought, rising sea levels or land degradation) contribute to food insecurity by altering livelihoods and reducing a population’s well-being over a long period of time (Pörtner and others, 2022, in IOM, 2024). Compound events, such as wildfires or droughts, can destroy crops, reduce yields or generate displacement in search of new cultivation areas.

Climate change and disasters have been key factors contributing to food insecurity in LAC. Recent droughts, hurricanes, floods and extreme temperatures have exposed the population to reduced food availability and increased instability in the supply of and access to food (Salazar, González-Flores, and Alvarez, 2024). Data gathered from 71 Post-Disaster Needs Assessments (PDNAs) revealed that agriculture represented 26 percent of the total impact associated with medium- to large-scale disasters in low- and lower-middle-income countries from 2008 to 2018 (FAO, 2021, in Salazar, González-Flores and Alvarez, 2024).

Evidence shows that slow onset events also have significant impacts. Changes in temperature and precipitation, shorter production cycles, and reduced water availability are some of the major challenges (Confalonieri and others, 2012). Warmer temperatures affect the amount and quality of forage (protein content and digestibility), cattle fertility, and animals’ energy demands; heat stress lowers milk and meat production (Salazar, González-Flores and Alvarez, 2024). Global warming and other environmental changes are also affecting fishing and aquaculture, with ocean acidification and rising sea temperatures and levels especially stressing fisheries.

The combination of these elements can lead to more people suffering from undernourishment and food insecurity, posing challenges to human development. After increasing from 2014 to 2016, and again from 2019 to 2021, the prevalence of undernourishment in the region fell in 2023 but not yet to the level it had reached in 2014. In 2023, the prevalence of undernourishment in LAC was estimated at 6.2 percent—which represents approximately 41 million people. This is significantly lower than it was in 2022 (6.6 percent) and 2020 (6.5 percent), but it is still 1.2 percentage points above 2014 levels. Over the past two years, the extent of undernourishment has increased in the Caribbean, remained relatively stable in Mesoamerica, and declined in South America (FAO and others, 2025). The latest estimates show that 17.2 percent of the population in the Caribbean was undernourished in 2023, which is a 0.4 percent higher than in 2022.

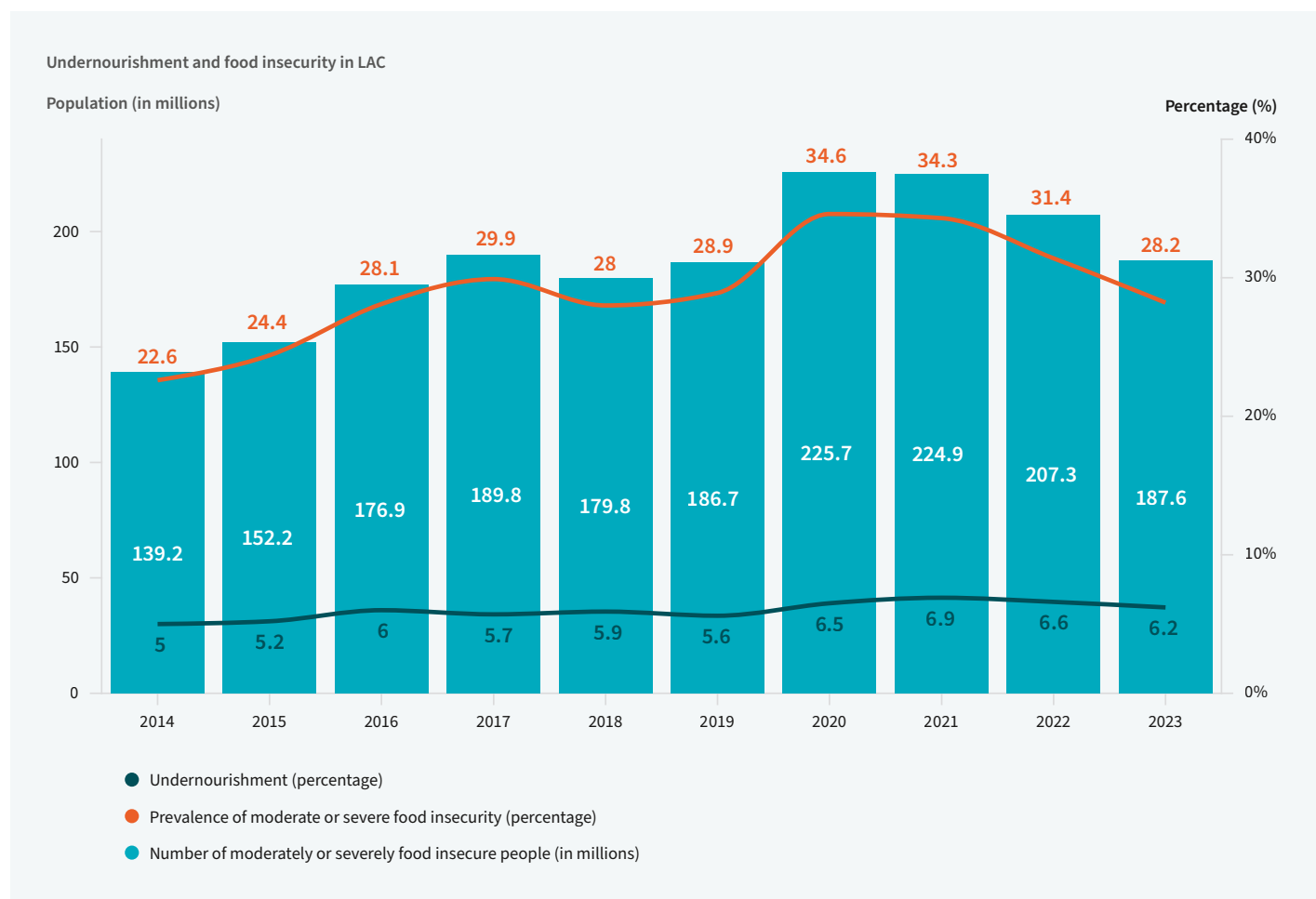
At the regional level, in 2023 the prevalence of moderate²⁵ or severe²⁶ food insecurity decreased for the second year in a row, affecting 28.2 percent of the population in 2023, equivalent to 187.6 million people (figure 5.22). Regarding severe food insecurity, the regional estimate for 2023 was 8.7 percent, equivalent to 58.1 million people. Food insecurity grew from 2014 to 2020 and has been decreasing slightly since 2021. Compared to 2022, the prevalence of moderate or severe food insecurity in 2023 decreased by 3.2 percentage points. Severe food insecurity also decreased in this period by 2.3 percentage points, or 14.4 million fewer people than the previous year.

The improvement masks significant differences among subregions (FAO and others, 2025). Both South America and Meso-america have a lower prevalence of moderate or

severe food insecurity than the world average, estimated at 25.1 and 28.2 percent, respectively, which is equivalent to 110.4 million and 51 million people, respectively. The Caribbean has a food insecurity prevalence of 58.8 percent, equivalent to 26.3 million people.

Food insecurity, at both moderate and severe levels, continues to impact women disproportionately. In 2023, the gender gap for moderate or severe food insecurity in the region stood at 5.2 percentage points, while for severe food insecurity, it was 1.4 percentage points, aligning more closely with global estimates. Among subregions, Mesoamerica exhibited the largest gender disparity, with a 5.8 percentage point gap for moderate or severe food insecurity and 1.3 percentage points for severe food insecurity. In South America, these gaps were 5.3 percentage

Figure 5.22 Food insecurity increased in the last decade



Source: UNDP's elaboration based on the FAOSTAT database.

points and 1.2 percentage points, respectively. Meanwhile, in the Caribbean, the gender gap for moderate or severe food insecurity was 3.9 percentage points, while for severe food insecurity, it reached 3.3 percentage points, exceeding the disparities observed in the rest of the region.

Increases in food prices and the reduction of food availability and quality particularly affect women and vulnerable groups including low-income urban consumers, wage labourers and low-income rural households who are net food buyers (Green and others, 2013; FAO, 2016). Also, low-income women, ethnic minorities and Indigenous communities are often more vulnerable to food insecurity and malnutrition from climate change impacts, as poverty, discrimination and marginalization intersect (Vinyeta and others, 2016; Clay and others, 2018).

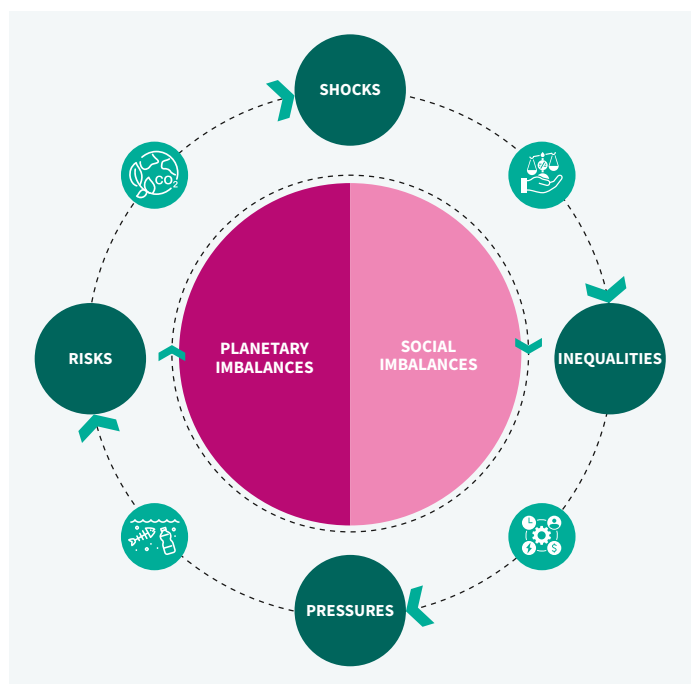
5.5 Planetary and social imbalances in LAC

One of the defining features of climate change pressures is their capacity to intensify pre-existing inequalities. The 2020 HDR explained that in the Anthropocene era, threats are not only more frequent and intense, but also different because they reflect a new, complex relationship

between planetary and social imbalances (UNDP, 2020, p. 56). Dangerous planetary imbalances—which include climate change, biodiversity loss and extinction, zoonotic diseases, pollution and environmental degradation—create risks that can manifest as pressures and shocks to human development (see figure 5.23). Social dynamics can either intensify or alleviate pressures on the planet, while social imbalances feed inequalities in human development. Traditionally, addressing these—represented as the right hemisphere of the figure—has been at the core of the human development approach. However, the Anthropocene perspective introduces the need to also bring planetary imbalances—represented as the left hemisphere—into the human development journey.

Combining the human development paradigm and the Anthropocene holds the potential to offer fresh perspectives to expand capabilities and human agency to ease planetary pressures and build resilience to climate change. Integrating resilience into development strategies is essential to address the multiple and interconnected risks of the Anthropocene. This perspective extends beyond climate change approaches, encompassing broader interactions between social and planetary imbalances that underpin several compounded and interrelated risks. Adopting a planetary and social imbalances perspective involves addressing three relevant challenges rooted in LAC's particularities, many of which stem from historical factors and are embedded in the region's structural development characteristics and vulnerabilities.

Figure 5.23 Planetary and social imbalances in the Anthropocene



Source: UNDP (2020).

LAC as a region has the second-highest number of disasters in the world (World Bank, 2020; UNDRR, 2021, 2023, 2024), and 83 percent of its disasters are climate-related (UNDRR, 2024). From 2000 to 2019, disasters caused more than US\$300 billion in direct economic damage, resulting in over 300,000 deaths, and affected more than 152 million people (Relief Web, 2022). That total number of deaths is equivalent to approximately half of Suriname's population in 2022, and equivalent to three-quarters of Belize's population the same year. The number of people affected corresponds to roughly two-thirds of LAC's total population in 2022.

A second major challenge is the region's high exposure and vulnerability to critical climate change-related events, combined with a limited capacity to leverage investments and respond effectively to adaptation needs. Estimates indicate that 31 percent of the region's population is exposed to extreme events,²⁷ particularly to droughts, heatwaves and floods (World Bank, 2024). According to IPCC, exposure refers to the presence of people, ecosystems, infrastructure or

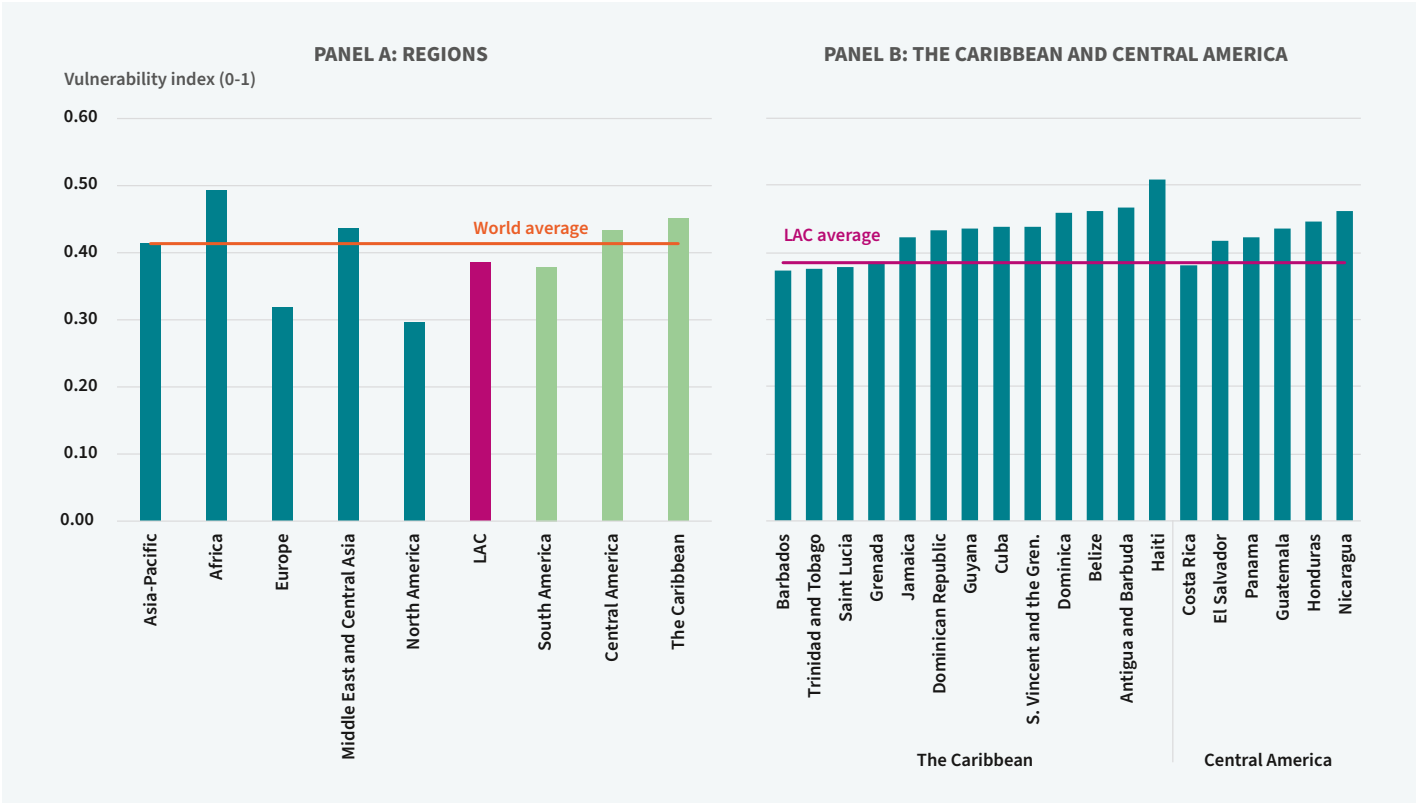
assets in areas that could be adversely affected by a hazard. Vulnerability is a function of social, economic and environmental factors, such as poverty, inequality, governance and access to resources to prevent or mitigate, cope or adapt to these hazards. While the concept of risk was introduced in box 1.1, the discussion of vulnerability and exposure here follows the IPCC definitions, as detailed in box 5.6.

The Notre Dame Global Adaptation Initiative (ND-GAIN) country index offers a useful benchmark for comparing global and regional vulnerability. This index assesses a country's vulnerability to climate disruptions and its ability to respond using two dimensions: vulnerability and readiness (ND-GAIN, n.d.). Vulnerability measures the propensity or predisposition of human societies to be negatively impacted by climate hazards²⁸ by looking separately to exposure,²⁹ sensitivity,³⁰ and adaptation capacity.³¹ Readiness measures a country's ability to leverage investments to adaptation actions in economic, governance and social terms.

LAC exhibits lower vulnerability than other parts of the world; nevertheless, Central America and the Caribbean exhibit significantly higher levels, highlighting critical hotspots within the region. According to 2022 ND-GAIN results, LAC, along with Europe and North America, obtain vulnerability levels below the global average. However regionally disaggregated data shows that the Caribbean ranks as the second-most vulnerable region—after Africa—while Central America follows closely, with levels comparable to those of the Middle East and Central Asia, which ranks third (figure 5.24, Panel A).

Some countries within the Caribbean and Central America have higher levels of vulnerability compared to LAC despite similar exposure levels. The ND-GAIN exposure component of the vulnerability indicator shows similar levels for the aforementioned countries. But in the Caribbean, countries including Barbados, Trinidad and Tobago, Saint Lucia and Grenada report vulnerability levels at or below the LAC average, while others—such as Haiti, Antigua and Barbuda and Belize—show significantly higher levels (figure 5.24,

Figure 5.24 Central America and the Caribbean face higher climate vulnerability compared to other regions



Notes: Score calculates the values for vulnerability on a scale from 0-1; the lower the vulnerability score, the better. Regional average weighted by annual population as of 2021.
Source: UNDP's elaboration based on ND-GAIN data for 2022.

Panel B). A similar pattern is seen in Central America, where only Costa Rica aligns with the LAC average, while the rest of the region exceeds it.

Finally, a third challenge for LAC, is that the region remains the world’s most unequal in terms of income—as remarked in chapter 1. The region continues to grapple with stark

disparities, despite reductions in its Gini coefficient and stalled progress as economic growth slowed in the region. Inequality has been pointed out as both a driver and a consequence of uncertainty in LAC, with abundant evidence that disadvantaged groups are more vulnerable to risks due to their exposure to hazards. This dynamic is particularly evident in the context of climate change.

Figure 5.25 Countries with higher levels of human development are better positioned to navigate climate hazards



Notes: The score calculates the values for vulnerability and readiness indicators on a scale from 0-1. When calculating the score of vulnerability (the lower, the better). For readiness, (the higher, the better).
Source: Authors’ elaboration using data from the Human Development Report Office (HDRO) and ND-GAIN.

Focused on inequalities in the 21st century, the 2019 HDR argued that climate change is also a driver of inequalities, as it can deepen pre-existing disparities in human development. Therefore, it brings resilience capacity to the forefront. The challenge to human development is to ensure that climate resilience is not reserved only for the wealthiest nations and communities, as this would only deepen impacts of the climate crisis (UNDP, 2019). The Report also states that development alone cannot protect against all the negative impacts of climate change. It also is necessary to emphasize resilience capacity, particularly for groups that might be left behind, and to fully integrate climate change challenges into policy and institutional responses.

The challenges described are reflected in patterns seen across regions, where data clearly illustrate the link between human development levels, vulnerability and adaptive capacity. Global and regional data show that lower human development countries tend to experience higher vulnerability and lower resilience, particularly in their ability to leverage investments for adaptation, as measured by the readiness dimension of the ND-GAIN index. By comparing

the indicators of vulnerability and readiness alongside HDI levels, it becomes evident that countries with lower HDI values face the greatest climate vulnerability and are the least equipped to advance adaptation efforts (figure 5.25, Panel A and B). By contrast, countries with high and very high HDI levels are better positioned to leverage adaptation efforts.

This underscores that ensuring climate resilience is not a privilege reserved for the wealthiest communities. It remains a pressing challenge, as countries with lower human development—and people with the lowest income levels—are also more vulnerable to economic and human losses from climate shocks (UNDP, 2019). Evidence from the region shows that low-income people living in urban outskirts are more likely to suffer the effects of climate disasters and are also more sensitive to climatic pressures, as shown in the example on the effects of urban heat islands.

On climate disasters, evidence from San Salvador and Tegucigalpa, the capitals of El Salvador and Honduras, respectively, shows that people in the lowest-income quintiles were three and two times more likely to be affected

Box 5.6 Revisiting the IPCC risk framework

As previously mentioned in chapter 1, the IPCC defines risks as a function of three interlinked factors: hazards, exposure and vulnerability. Risk is defined as the potential occurrence of a physical event or trend, such as extreme weather events (hurricanes, droughts, floods and heatwaves) or slow-onset changes (sea level rise, temperature increases).

Exposure refers to the presence of people, ecosystems, infrastructure or assets in areas that could be adversely affected by a hazard. Vulnerability is defined as the susceptibility or sensitivity of a system, society or individual to be harmed by a hazard according to their ability to cope with or adapt to them; it is a function of social, economic and environmental factors. Hazard considers the potential occurrence of an event or trend that may cause loss of life, injury or other health impacts, as well as causing damage or loss to property, infrastructure, livelihoods, service provision, ecosystems and environmental resources.

Figure 5.26 A visual representation of risk according to IPCC



Source: IPCC (2021).

by floods and landslides (UNDP, 2019). In Santo Domingo, Dominican Republic, flood risk ranges from 6 percent for households on higher ground to 45 percent for those near rivers (Hallegatte and others, 2016). Some of these challenges can be addressed through adaptation measures, because cities must also adapt to new climate conditions. However, there is a strong connection to urban planning, as the spatial distribution of hazards increasingly reflects a social construction of risk, as discussed in box 5.7. This is a pressing issue in the region, as 82 percent of the population now lives in urban areas, and the share of the poor living in urban areas increased from 66 percent in 2000 to 73 percent in 2022.

Inequality and marginalization exacerbate vulnerability and undermine the resilience of populations facing intersecting disadvantages linked to gender, ethnicity, income or geography. These impacts disproportionately harm marginalized groups, including Indigenous communities, small communities, and people in rural areas who often face other context-specific factors such as culture, gender, disability and ethnicity (IPCC, 2021c). Addressing these inequalities is essential to building climate resilience that is inclusive, while assuming a perspective that considers the planetary and social imbalances in the region.

5.5.1 A common ground for building resilience

Building resilience across people, economies and ecosystems has been a shared objective of climate change adaptation (CCA) and disaster risk reduction (DRR) agendas. CCA and DRR both address risks arising from the interaction of hazards, exposure, vulnerabilities and coping capacities. From a resilient human development perspective, it is important to recognize the ongoing debates between CCA and DRR, even though their interconnections are not the focus of analysis in this chapter.

Despite the overlaps between DRR and CCA, both have been historically managed by different political processes and communities (UNDRR, 2021). Different international frameworks guide each domain: the Paris Agreement focuses on enhancing adaptive capacity and resilience to climate change, while the Sendai Framework emphasizes reducing disaster risks from a broader range of hazards.

It is important to note a conceptual difference between two types of events regarding climate change-related pressures—the rapid onset events and slow onset events. According to the United Nations Framework Convention

on Climate Change (UNFCCC), a rapid onset event refers to single, discrete occurrences that unfold in a matter of days or even hours. By contrast slow onset processes evolve gradually from incremental changes occurring over many years or from an increased frequency or intensity of recurring events.

From a DRR perspective, both rapid and slow onset events can also be characterized as either intensive or extensive events. The UN Office for Disaster Risk Reduction (UNDRR) defined extensive risk as those associated with low-severity, high-frequency events—mainly but not exclusively with highly localized hazards. Examples include flash floods, landslides, land degradation, and fires. Intensive risks are those associated with high-severity, mid- to low-frequency events. Examples include earthquakes, tsunamis, large volcanic eruptions, the flooding of large river basins, and tropical cyclones. From 1998 to 2017, 83 percent of the intensive risk events in the region corresponded to events of climatic origin and 11 percent to events of geological origin; but mortality reported an inverse pattern, with 74 percent of lives lost corresponding to geophysical events and 26 percent to climatic events (UNDRR, 2024).

The conceptual clarification between both events is relevant because climate change risks overlap with each other and with pre-existing vulnerabilities and inequalities, as mentioned previously in this section. Each type of event, whether intensive or extensive, needs to be addressed differently according to its duration period or recurrence. The response to rapid onset events typically emphasizes immediate disaster preparedness and emergency response. By contrast, slow onset and extensive events require long-term adaptation measures such as developing infrastructure, relocating communities, implementing sustainable land management practices, and addressing gender and other social inequities to meet sustainability and equity goals.

CCA and DRR both address weather- and climate-related hazards—including the slow onset and intensive and extensive events. DRR, however, has a broader scope, encompassing geological, environmental, biological and technological hazards. Climate change reshapes patterns of exposure and vulnerability, altering risk profiles beyond climate-specific threats (UNDRR, 2021, p. 9).

Figure 5.27 represents the overlapping and distinct hazards of CCA and DRR, highlighting their shared concern with the increasing frequency and intensity of climate-sensitive

events. Despite this convergence, integrating the two agendas remains an ongoing challenge, one that this chapter does not seek to fully resolve. Instead, it provides guidance on understanding how resilient human development is built by drawing on insights from various fields.

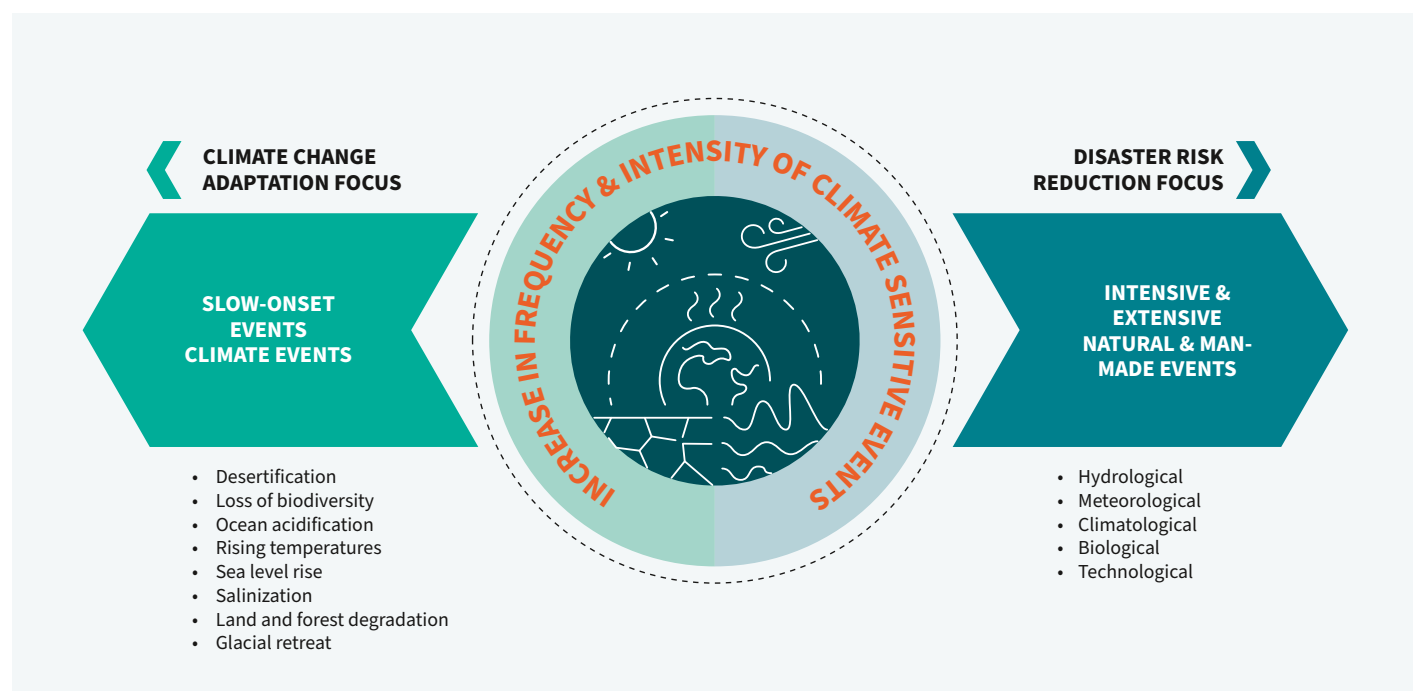
Considering climate threats and disasters as the starting point, it is evident that building resilience has been a shared objective and provided common ground among CCA, DRR, and even humanitarian emergency response interventions—as mentioned in chapter 1 and shown in figure 5.29. Integrated approaches and concepts have emerged in response to international aid needs between relief and longer-term development operations following disasters. From the food crisis in Africa in the 1980s, for example, emerged the concept of “linking relief, rehabilitation and development (LRRD)” (Ramet, 2012). In 2016, the World Humanitarian Summit proposed a New Way of Working and the triple nexus concept emerged to strengthen the interrelationship between humanitarian efforts, development goals and peace efforts (Howe, 2019).

While building synergies and fostering integration among all the mentioned areas is essential, resilient human

development is about enabling people to live valuable lives in such a way that the impact of critical pervasive shocks on their lives is prevented or mitigated and that, after shocks, they can recreate valuable lives (Alkire, 2025). That can certainly be done through DRR, CCA or humanitarian responses, and it has grown out of the connection between human development and human security. The question, then, is how to promote resilient human development in the face of increasingly frequent and intense climate-sensitive events.

Two key lessons emerge from experiences in the DRR and CCA fields. First is the recognition that crises have systemic connections that affect individuals and must be addressed holistically. This calls for a systemic perspective in which development, humanitarian, peace and risk management issues are considered together, especially in the face of compound crises. The second lesson is that even though everything is connected, their respective responses are timed differently: some concentrate on preventing and mitigating potential risks, others on emergency preparedness and response, and yet others on sustainable post-emergency recovery. The final chapter of the Report presents further details highlighting the rebound and flourish components of resilient human development.

Figure 5.27 Climate-sensitive events: a shared challenge for CCA and DRR



Source: Authors' elaboration based on UNDRR (2021).

Uncertainty surrounding climate change is a central concern in adaptation economics due to tipping points—the abrupt, irreversible transitions that lead to worse outcomes (Lenton and others, 2008). Policy responses must address a broad spectrum of possibilities, from moderate to severe impacts, and prepare for worst-case scenarios. To effectively address climate emergency, the region must continue to push on adaptation efforts in all sectors related to well-being but also broaden the interpretation of risk beyond dominant paradigms.

In this context, building resilience offers a common platform for aligning the objectives and instruments of CCA, DRR, humanitarian action and resilient human development. Resilient human development builds on the CCA and DRR agendas, focusing on expanding people’s capabilities to prepare for, respond to, and recover from climate-related shocks and stresses in ways that safeguard and enhance human well-being. It emphasizes the need to coordinate diverse approaches and timelines—from emergency response to long-term adaptation—under a shared vision that places people and their freedoms at the center. LAC has demonstrated that addressing climate change can become a new development pathway, with the NDCs and National Adaptation Plans (NAPs) as examples of international commitments that foster development strategies with

multiple sectors. This Report does not seek to prescribe a single framework, but rather to reflect on how resilience can serve as common ground for navigating uncertainty and complexity in a way that sustains and advances human development.

5.5.2 A multi-hazard approach for resilience and uncertainty³²

The UNDRR defines multi-hazards as “the selection of multiple major hazards that the country faces, and the specific contexts where hazardous events may occur simultaneously, cascadingly or cumulatively over time, and taking into account the potential interrelated effects” (UNDRR, 2023).

The need to manage multi-hazard, multi-risk contexts with systemic effects is a cornerstone of the 2015 *Sendai Framework for Disaster Risk Reduction*. It is also particularly relevant in today’s interconnected world, where the complexity of disasters is heightened by intersecting hazards. The framework applies to all types of disasters—whether small- or large-scale, frequent or infrequent, sudden or slow onset—aiming to guide disaster risk management across all sectors and levels of development.

A multi-hazard approach to risk management is useful because it moves beyond addressing single types of disasters, focusing instead on the interconnectedness of risks, including cascading and domino effects as shown in chapter 1 (figure 5.29). Strategies for managing desertification or droughts, for example, might also help reduce the risk of disruptions in hydroelectric power production or address the risk of wildfires or food insecurity.

A second advantage is that this approach fosters adaptability by encouraging the development of broad-based strategies that can be customized to respond to emerging risks, such as new pandemics or biotic threats (those caused by living organisms, such as pests, pathogens or invasive species, that disrupt ecosystems or human activities). Finally, it incorporates diverse risk scenarios, including worst-case and low-probability events, enabling preparedness for unforeseen but plausible challenges.

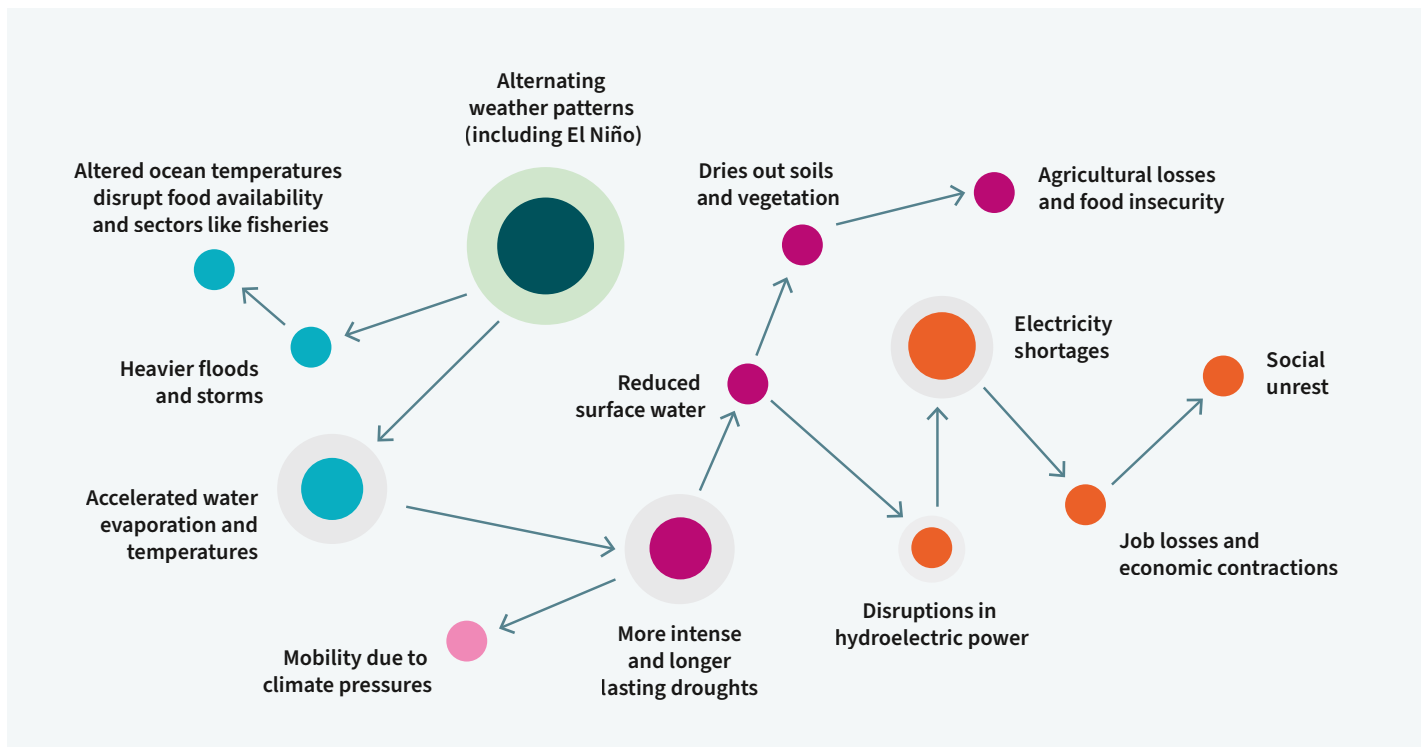
In an era of growing uncertainty and systemic risk, adopting a multi-hazard, inclusive approach is essential for building resilience. This approach ensures that DRR strategies are comprehensive, flexible and equitable, equipping

Figure 5.28 Resilience as common ground



Source: Authors’ elaboration.

Figure 5.29 An illustration of the "domino effect" across sectors, compoundin



Source: Authors' elaboration.

communities and governments to navigate an increasingly unpredictable world. Historically, disaster management focused on reactive measures, addressing immediate threats or damage after a disaster had already materialized. While recent adaptation policies and mechanisms are increasingly incorporating anticipatory action that aims to mitigate or avoid harm, there are still important gaps.

Managing increasingly interconnected hazards and risks clearly requires moving to prospective and corrective risk reduction. Prospective DRR is about preventing the development of new manifestations of disaster risk, while corrective risk reduction is resolving and reducing existing disaster risk (UNDRR, 2024).

The compensatory-reactive approach remains dominant today and includes much-needed early warning systems, anticipatory or early action, humanitarian response, rehabilitation, reconstruction and recovery, resilience-building and social protection. This reactive approach, dominant in the early days of disaster management, arose from the perception of disasters as "natural" phenomena

leading to the still prevalent and extremely dangerous notion of "natural disasters" (O'Keefe and others, 1976, in Lavell, 2025). Because the dominant approach to disaster response continues to be reactive, disaster risk management has traditionally never been linked to development policies. As complexity and uncertainty increases, along with the interrelationships between diverse hazards and risk, it becomes necessary to break down established silos.

Consequently, a multi-hazard DRR is a perspective that can promote sustainable and resilient human development. To truly integrate risk management into development processes, consideration of risk must be woven into all societal sectors, from health and education to agriculture and infrastructure. This integration requires embedding risk criteria into economic and social policies and investments at a territorial level, treating risk management as fundamental to development objectives.

Box 5.7 Sowing the seeds of disaster—a social construction of risk perspective

The long-dominant “hazard-based paradigm” views disasters as exogenous events that are driven primarily by physical hazards and are disconnected from social causality. This perspective depicts disasters as external phenomena, separate from societal development and change. The alternative social construction paradigm considers disaster and the risk that precedes it as processes endogenous to society and its development process, while recognizing that physical or biological hazards are required to trigger a disaster.

Climate change has introduced a new variable that requires new thinking and conceptual and practical development from a social construction perspective. Among the prevailing concerns expressed in the DRM field is the almost unique presence and dominance of the notion of “extreme events” that, due to the intensity and scale of the hazard involved, tends to re-emphasize a physical base interpretation of risk, with hazard dominating the scene and human action much relegated in cause-effect terms.

The concept of “extreme events” frequently framed in purely physical terms, emphasizes hazards and not human agency. While physical hazards are necessary conditions for disasters, this perspective highlights that social, economic and developmental contexts are equally critical factors in their creation. The social construction view suggests that many past and current development processes, particularly those prioritizing economic growth and short-term gains, directly contribute to disaster risk. This is especially evident in low-income countries where poverty and inequality are prevalent.

This paradigm postulates that while disasters erode, damage and destroy development assets, certain development models and pathways simultaneously create conditions that construct or perpetuate future disaster risks. A complex network of interdependent risk drivers—including climate change, environmental degradation, poorly planned urbanization, displacement, migration, and food and water stress—contributes to increasingly unpredictable outcomes for social and economic development and environmental sustainability.

Climate change, in this context, presents a critical challenge in balancing physical and social factors in risk analysis. The emerging hazards associated with climate change demand new interpretations of risk that integrate both reactive and proactive responses. This dual approach ensures a comprehensive understanding of risk, addressing not only the immediate impacts of hazards but also the underlying social and developmental conditions that contribute to their occurrence.

Source: Lavell (2025).

5.6 Preparing for the unexpected: climate risks and human development

The prolonged rainfall and flood depicted in *One Hundred Years of Solitude*, as recalled in this chapter’s introduction, serves as a powerful metaphor for today’s climate resilience challenge. Writer Gabriel García Márquez illustrated how a single climatic shock was compounded to devastate a community and magnify human suffering. Similarly, today’s climate crises—whether droughts followed by wildfires or storms coinciding with health threats—disproportionately impact the most vulnerable populations.

Human-induced climate change poses intensifying challenges to human development in a region marked by high exposure and vulnerability to climate hazards and low adaptation

capacity. The cascading uncertainties of climate impacts—intertwined with economic instability, technological changes and social fragmentation analysed in previous chapters—exacerbate the sense of fragility and insecurity that pervades many parts of LAC. Exposure and vulnerability to recurrent climate-related disasters also have onerous costs and represent considerable macroeconomic shocks in a region with pressing financial needs. Throughout the chapter, evidence has been provided on climatic pressures over human development and their potential to intensify inequalities, strain livelihoods and undermine human development across multiple dimensions. While these challenges amplify social and economic pressures and increase financial needs to build resilience to reduce the impacts of climate change, they can also create opportunities to advance more sustainable pathways.

Resilience is not just about managing isolated hazards, nor will it result from having all the necessary resources; it is instead about strengthening the capacity of people, communities and institutions to navigate multiple, interconnected risks. Without this, human development gains will remain fragile, perpetually at risk of being undone by cascading shocks that deepen inequality. This approach to resilience prioritizes integration, coordination and synergies across sectors and levels. Establishing risk management structures would help governments and communities better understand and strengthen adaptive capacities, enabling equitable policies and targeted support for those with limited resources to prepare for and respond to hazards.

5.6.1 From citizen concerns to citizen action

The region's growing awareness of climate change coexists with persistent expectations of economic growth, raising questions about the depth of environmental commitment. Encouragingly, overcoming pluralistic ignorance—the mistaken belief that others do not care about climate change—offers a promising entry point. When people perceive that climate concerns is widely shared, they might be more likely to express their own views, support environmental policies, and engage in collective actions, what can also trigger positive social actions.

Also, education and public awareness play a pivotal role in preparing for the unexpected, as they help individuals and communities understand the risks associated with climate change and the importance of proactive adaptation. Climate literacy can build resilience from the ground up, promoting a culture of risk reduction and preparedness across generations. Education about climate change is also highly demanded throughout the region. Integrating climate education into school curriculums throughout LAC countries would not only inform students about the science of climate change but also teach them practical skills for managing climate-related risks.

Public awareness campaigns, especially those that harness the power of social media, can rapidly disseminate information about upcoming threats, emergency protocols and post-disaster resources. This approach has proven effective during hurricane emergencies, when social media platforms were used extensively to organize relief efforts and keep communities informed. Society can leverage these platforms to promote climate preparedness tips, emergency contacts and safety protocols, fostering a well-informed public that is better equipped to handle the unexpected.

Human-induced climate change poses intensifying challenges to human development in a region marked by high exposure and vulnerability to climate hazards and low adaptation capacity.

However, citizen empowerment and political dynamics also matter. As the chapter has shown, while public demand for stronger environmental protection is rising, political parties focused on environmental issues remain on the margins. This suggests that environmental issues have yet to be fully integrated into national political agendas, partly due to limited political inclusion. Strengthening these links is essential not only for advancing climate action but also for deepening democracy and better connecting citizens' priorities to political representation.

5.6.2 Embedding climate resilience across sectors and policies

The tension between environmental preservation and economic growth opens the door to discussing green growth strategies, the transition to more sustainable economies, and how to think deeply about regional integration. This chapter has underscored the importance of material flows in regional trade and highlighted risks for economies heavily dependent on fossil fuels, agriculture and land-intensive activities. Global geopolitical shifts, technological change and rising demand from the technology sector offer an opportunity to rethink regional integration, strengthen value chains and increase economic complexity—areas where the region currently lags.

The increasing complexity of recent crises also demands moving beyond reactive emergency responses and hazard-based approaches towards integrated, anticipatory policy frameworks. To meet the unpredictable nature of climate shocks, governments in LAC should pursue adaptive, flexible policies centred on three goals: anticipating and addressing climate risks; protecting vulnerable populations to preserve human development gains; and empowering communities to adapt and thrive.

A strong consensus among citizens has also emerged demanding that governments do a better job of protecting populations at risk from extreme weather events. Evidence has shown that approximately 1 in 3 people in the region faces such risks, a figure comparable to the share of the population living on \$6.85–\$14 per day (2017 PPP) and who

To truly integrate risk management into development processes, consideration of risk must be woven into all societal sectors, from health and education to agriculture and infrastructure.

are highly susceptible to falling into poverty when shocks occur. Although poverty rates remain higher (56 percent) than climate vulnerability rates (31 percent), the levels of exposure and limited response capacities highlighted in this chapter underscore the urgent need for new approaches to managing environmental threats—especially those that address compound and systemic crises.

Embedding climate resilience across governance and development is critical. Infrastructure, agriculture, urban planning and economic policies all need to incorporate disaster risk management and adaptability to better withstand future uncertainties. Traditional policies, often grounded in historical data, are proving inadequate in the face of unprecedented events. A promising path forward lies in anticipatory approaches that account for a wide range of scenarios—from rare but catastrophic events to frequent, lower-impact shocks—allowing for risk reduction, flexible emergency planning and swift adaptation when conditions change.

5.6.3 Expanding human development policies to new sustainability pathways

The human development paradigm has been evolving towards new perspectives that promote greater environmental sustainability. The introduction of the HDI adjusted for planetary pressures in the 2020 HDR is a clear milestone in this progress. Likewise, the adoption of a resilience perspective reflects a continued commitment to advancing along this path. However, significant challenges remain in achieving deeper integration. While important tools and instruments have been developed, key policy domains still operate largely in isolation. The parallel but separate approaches of CCA and DRR to resilience-building highlight this persistent fragmentation.

Given the region's increasingly uncertain context, accelerating the integration of these frameworks is essential. Evidence from the field underscores the urgency of adopting approaches that bridge planetary and social imbalances. Box 5.8, highlighting the experience of the Dominican Republic, offers a compelling final example of both the pressing challenges facing the region and the opportunities to broaden our current perspectives—expanding the reach and ambition of human development policies.

Box 5.8 Human development resilience to environmental shocks: harnessing transitions and new trends for sustainability in the Dominican Republic

The Dominican Republic, located along the Caribbean hurricane path, is one of the most vulnerable countries to natural disasters and climate-related events. It is ranked 41st among countries with the highest risk, according to the 2023 World Risk Index, with recurrent exposure to hurricanes and floods. On average, a major hurricane strikes the country every 3-5 years. Between 1980 and 2012, the country was impacted by 28 hurricanes and 20 severe floods with significant human and economic losses (UNDP, 2018). In 1998, Hurricane George caused 400 deaths, displaced more than 100,000 people, and inflicted an estimated US\$1.5 billion in damages, equivalent to 14% of the country's GDP at the time.

The high economic growth and progress in human development achieved over the last years by the country are at risk of slowing down due to social, economic, and environmental challenges that generate instability, fragility and volatility. Climate change causes losses close to 1% of its GDP each year,³³ while extreme weather events cost represents between 0.69% and 3.3% of their GDP. Social and productive vulnerability, low human capital, labor transitions, poverty, and the high concentration of populations in at-risk areas increase exposure to crises and setbacks. Climate change is expected to significantly impact health, infrastructure, ecosystems, and tourism by 2050.³⁴

To reduce climate change impacts, the Dominican Republic has made progress in establishing a solid legal framework and has strengthened policies aiming to build resilience. Timely emergency management has safeguarded lives and tended to reduce the total number of deaths caused by disasters. The country has established a National Prevention, Mitigation, and Response System, also a Territorial Planning Law was enacted, and at local level, municipalities are mandated to develop prevention, mitigation, and response plans, as well as their risk reduction plans, among others.

To better manage the growing complexity of risks, there is a shift toward more comprehensive strategies that span prevention, preparedness, and post-disaster recovery. Post-disaster investment is significant. In 2024, 0.11% of GDP was spent in emergency response, mostly financed by loans from international organizations and instruments activated upon the occurrence of an event. However, due to preexisting vulnerabilities, poverty, and structural inequalities in certain segments of the population, authorities have proposed greater investment in prevention and preparedness. Also, strengthening post-disaster recovery with a more comprehensive risk reduction approach, one that not only restores physical infrastructure but also includes the human impact of disasters, restores assets, livelihoods and human capital.

Investing in prevention has been shown to reduce financial burdens during response and recovery. To achieve this in the Dominican Republic is key to strengthen the dynamics of the coordination bodies of the National System contemplated in the Risk Management Law so that they can work in a more complementary and coordinated manner.³⁵ It is also essential to continue coordinating disaster prevention efforts with climate change adaptation strategies and programs, which include short-, medium-, and long-term climate risk scenarios, addressing losses and damage caused by both extreme events and slow-onset events.

Building resilience and managing risk are opportunities to encourage community participation, however some perceptions need to be overcome. Results from a qualitative analysis on resilience conducted by Cháidez (2025) show that family, community, and religion are the main sources of support for facing adversities, and that self-motivation is a key factor in overcoming challenges. The Risk Management Law proposes including individuals and communities to mitigate risks. However, to achieve so, it is necessary to overcome the idea that people are not fully co-responsible for risk management—specially on youth—because most respondents delegate disaster mitigation responsibility to emergency agencies and government. This is an opportunity to work on risk awareness to reduce information gaps and promote their capacity to influence the different stages of risk management, going beyond beliefs and social norms that predispose them to be beneficiaries rather than active subjects of solutions.

In the area of Adaptive Social Protection (ASP), the country has implemented strategies to provide immediate assistance to populations affected by natural disasters, economic crises, and pandemics. A key instrument is the *Bono de Emergencia* (Emergency Voucher), activated following catastrophic events to provide economic support to affected households. The targeting process uses the *Ficha Básica de*

Emergencia (FIBE - Basic Emergency Sheet), managed by the *Sistema Único de Beneficiarios* (SIUBEN - Single Beneficiary System). To ensure that the ASP contributes even more to resilience and sustainability in development, these instruments—that are still in the development phase—could be part of an integrated plan as a longer-term, intersectoral strategy, through a multi-stakeholder platform at the local level, promoting institutional synergies and linking greater participation of civil society, individuals, and communities.

The Climate Shock Vulnerability Index (IVACC) is another innovative instrument that contributes to a more comprehensive risk management strategy.³⁶ The IVACC measures the probability of households being affected by storms and hurricanes given certain socioeconomic conditions. The results show that by 2022, 25.1 percent of the population had a high probability of being impacted by climate disasters, while 38.2 percent of households face an above-average risk. The findings show that beyond structural conditions, other factors affect resilience: low awareness of climate risk, a culture of underestimating danger, and differences in risk perception by income and gender. For example, poor families often don't recognize alerts despite living in high-risk areas. Women tend to better at perceiving risks and focusing on emotional and family impacts, while men prioritize economic and job-related losses.

From a resilient human development perspective, policy responses have the capacity to impact and generate opportunities at least in five important levels:

1. **Prevention and mitigation:** Adopting a proactive approach that assesses risk in terms of exposure, sensitivity, and adaptive capacity at the individual, community, and national levels. Planning and policy design should actively incorporate human agency and knowledge from the most vulnerable communities.
2. **Preparedness:** Strengthen early warning systems, develop territorial contingency plans, and implement tools to monitor and target human and infrastructure vulnerabilities. This must be accompanied by effective inter-institutional coordination with adequate resources and financing, especially at the local level.
3. **Risk analysis and mapping:** Identify and map the differential levels of exposure and impact across populations. This requires analyzing the links between vulnerability, poverty, and both climate and non-climate risks using multidimensional, household-level approaches. It also calls for multisectoral interventions that protect, restore, and build resilience across systems and communities.
4. **Emergency response:** Apply a multidimensional human security approach that addresses economic, food, health, personal, and collective security. Prioritize the restoration of essential services, prevent the deepening of inequalities, and ensure targeted support to the most vulnerable populations.
5. **Recovery and reconstruction:** Adopt a long-term, integrated vision beyond physical rebuilding to restore livelihoods and promote social, environmental, and economic renewal. Tools such as the Household and Building Damage Assessment (HBDA)—used to prioritize recovery in places like Sabana de la Mar after Hurricane Fiona—demonstrate how recovery efforts can strengthen territorial governance and address structural inequalities, with special attention to gender and spatial disparities.

Source: Barinas (2025).

Notes

1. The main contributors to GHG emissions in the region are Brazil, Mexico and Argentina.
2. Including in addition to those previously mentioned, Colombia, Paraguay, Uruguay, Costa Rica, Honduras and Panama.
3. Notably in the Caribbean and Central America.
4. The survey calls were made from September 2023 to May 2024.
5. The countries included are Argentina, Barbados, Brazil, Colombia, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Mexico, Paraguay and Peru. Nicaragua was also included, but the results are not presented in the analysis.
6. An extreme event in climate terms must be in the 90th percentile or above or in the 10th percentile and below. The IPCC defines an extreme weather event as “an event that is rare at a particular place and time of year” and an extreme climate event as “a pattern of extreme weather that persists for some time, such as a season” (Seneviratne and others, 2021, p. 1,521). The common use of the term is not necessarily aligned to climate and risk jargon and might lead to confusion and uncertainty.
7. The survey was conducted with a nationally representative sample of the population over 18 years of age, totaling 1,496 cases, distributed across 35 cities in the six geographical regions of the country. It was conducted by telephone in June 2022, with a margin of error of ± 2.7 percent and a confidence interval of 95 percent.
8. This scale is made from an original question that asked respondents to rate their preferences on a scale from 1 to 7, where 1 indicates that the environment should be the highest priority and 7 indicates that economic growth should be the highest priority. Following Evans (2015), the graph shows the combined percentage of respondents who prioritized the environment (scores 1 to 3) and those who prioritized economic growth (scores 5 to 7).
9. A total of 194 states, plus the European Union, are Parties to the Agreement. Recently, the U.S. has announced its withdrawal; however, it will not take effect until January 2026.
10. The agreement, which took effect in late 2016, recognizes humanity’s influence on planetary systems. The agreement aims to limit global temperature increases to well below 2°C above pre-industrial levels and use mitigation and adaptation measures to limit the increase to 1.5°C by 2050.
11. In reference to the total quantity of usable metals that can be recovered from existing products and materials through current recycling processes.
12. Evapotranspiration is the combined process by which water is transferred from land to the atmosphere through evaporation from soil and water surfaces and transpiration from plants.
13. This includes: Antigua and Barbuda, The Bahamas, Barbados, Belize, Cabo Verde, Comoros, Cook Islands, Cuba, Dominica, Dominican Republic, Fiji, Grenada, Guinea-Bissau, Guyana, Haiti, Jamaica, Kiribati, Maldives, Marshall Islands, Micronesia (Federated States of), Mauritius, Nauru, Niue, Palau, Papua New Guinea, Samoa, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Seychelles, Solomon Islands, Singapore, São Tomé and Príncipe, Suriname, Timor-Leste, Tonga, Trinidad and Tobago, Tuvalu, and Vanuatu.
14. An expression in Spanish meaning “dying from heat” or “melting.”
15. The SSPs are five scenarios developed by the climate research community to explore how global society, demographics and economics might change over the 21st century, and how these changes may impact GHG emissions and climate change. They are used alongside climate models to assess future risks and inform policy. The data presented correspond to SSP2 (Middle of the Road or a continuation of historical trends) and SSP5 (Fossil-fueled Development, a world focused on rapid economic growth powered by fossil fuels).
16. As global temperatures increase, ocean water warms and expands, taking up more space.
17. Global warming causes glaciers and polar ice sheets to melt at accelerated rates, which adds additional water.
18. The analysis considers low, moderate and high emissions scenarios. Under the low emissions scenario, warming stays below 2.0°C relative to the 1850–1900 baseline. The moderate emissions scenario aligns with countries carrying out their current policies, resulting in a best estimate of around 2.7°C of warming by 2100. Under the high emissions scenario, emissions would continue to increase at the same pace they did during the first decade of the 21st century, resulting in a warming of around 4.4°C by 2100.
19. According to official estimates from Cuba’s National Assembly (July 2023), land flooding is projected to affect 6.2% of national territory, equivalent to 6,977 km².
20. FAO is the guarantor agency for this indicator which is defined as the ratio between total fresh water withdrawn by all major sectors and total renewable freshwater resources, after accounting for environmental water requirements.

-
21. The National Hurricane Center is part of the United States National Oceanic and Atmospheric Administration (NOAA).
 22. It occurred on December 22, 2022. The wildfire broke out in the commune of Viña del Mar, in Chile's Valparaíso region and the fire ignited in the wildland-urban interface.
 23. The wildfire occurred on February 2, 2024, affecting the municipality of Viña del Mar and surrounding areas in the Valparaíso Region, including Quilpué and Villa Alemana, both municipalities in Chile's Central Zone and part of Greater Valparaíso Area.
 24. People face moderate food insecurity when they are uncertain of their ability to obtain food and have been forced to reduce, at times over the year, the quality and/or quantity of food they consume due to lack of money or other resources.
 25. Severe food insecurity means that individuals have likely run out of food, experienced hunger and, at the most extreme, have gone for days without eating, putting their health and well-being at serious risk.
 26. Being at high risk is defined as being exposed to hazards and being vulnerable to their impacts.
 27. It is assessed across six life-supporting sectors: food, water, health, ecosystem services, human habitat and infrastructure.
 28. In reference to the extent to which society and its supporting sectors are stressed by the future changing climate conditions.
 29. The degree to which people and the sectors they depend upon are affected by climate-related perturbations.
 30. The ability of society and its supporting sectors to adjust to reduce potential damage and to respond to the negative consequences of climate events.
 31. This section is based on Lavell (2025), Regional Human Development Report 2025 Background Paper.
 32. National Council for Climate Change and Clean Development Mechanism (CNCCMDL).
 33. World Bank (2023).
 34. This includes the National Emergency Commission (CNE), the Emergency Operations Center (COE), the National Technical Committee (CTN), and the local prevention, mitigation, and response committees. It also considers representatives from response agencies such as Civil Defense, firefighters, and others participate in all of these initiatives, as well as from multiple sectors and agencies linked to social protection and poverty, water and sanitation sector, telecommunications, the private sector, and civil society organizations.
 35. Instrument developed by the Single Beneficiary System (SIUBEN) and UNDP in the Dominican Republic in 2017, under the coordination of the Vice Presidency of the Republic.

References

- Addison, Tony, and Alan Roe. 2024.** "Resources Matter." *Oxford University Press EBooks*. Oxford University Press. <https://doi.org/10.1093/oso/9780192872197.001.0001>.
- Ainchil, Camila Súnico. 2025.** "Llega Una Ola de Calor Extremo Que Someterá a Casi Todo El País Esta Semana." *LA NACION*. January 14, 2025. <https://www.lanacion.com.ar/sociedad/llega-una-ola-de-calor-extremo-que-sometera-a-casi-todo-el-pais-esta-semana-nid14012025/>.
- Alkire, Sabina. 2025.** "Resilient Human Development: Advancing Human Development amidst Shocks and Crises." *Regional Human Development Report 2025 Background Paper. No. 41 UNDP LAC Working Paper Series*.
- Andreoni, Manuela. 2023.** "Uruguay Wasn't Supposed to Run out of Water." *New York Times*, August 10, 2023. <https://www.nytimes.com/2023/08/10/climate/uruguay-wasnt-supposed-to-run-out-of-water.html>.
- Balderrín, Valentín, and Sabrina Rodríguez. 2025.** "Estudio Sobre Las Implicancias de Las Sequías En Uruguay Desde Una Perspectiva de Desarrollo Humano Y Resiliencia." *Regional Human Development Report 2025 Background Paper. No. 56 UNDP LAC Working Paper Series*.
- Barinas Guerrero, Sócrates. 2025.** "Desarrollo Humano Resiliente Frente a Choques Ambientales: Aprovechar Las Transiciones Y Nuevas Tendencias Para La Sostenibilidad En La República Dominicana." *Regional Human Development Report 2025 Background Paper. No. 59 UNDP LAC Working Paper Series*.
- Barragán, Almudena, and Jorge Vaquero Simancas. 2023.** "From Climate Change to El Niño: Devastating Power of Hurricane Otis Surprises Scientists." *EL PAÍS English*. October 26, 2023. <https://english.elpais.com/international/2023-10-26/from-climate-change-to-el-nino-devastating-power-of-hurricane-otis-surprises-scientists.html>.
- Cárdenas, Mauricio, and Sebastián Orozco. 2022.** "The Challenges of Climate Mitigation in Latin America and the Caribbean: Some Proposals for Action 1." *UNDP Policy Documents Series 40*. <https://www.undp.org/sites/g/files/zskgke326/files/2023-01/PNUDLAC-working-paper-40-climate-EN.pdf>.
- Cashman, Adrian, and Mohammad R. Nagdee. 2017.** "Impacts of Climate Change on Settlements and Infrastructure in the Coastal and Marine Environments of Caribbean Small Island Developing States (SIDS) What Is Already Happening?" *Science Review*. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/605066/11._Settlements_and_Infrastructure_combined.docx.pdf.
- Catterberg, Gabriela, Patricio Yamin, and Maria Veronica Moreno. 2025.** "Percepción de Riesgos Climáticos Y Resiliencia Ambiental: Un Análisis de La Opinión Pública En Argentina." *Regional Human Development Report 2025 Background Paper. No. 60 UNDP LAC Working Paper Series*.
- Cháidez, Azucena. 2025.** "Retratos de La Resiliencia En El Campo: Investigación Cualitativa Sobre Riesgo, Resiliencia Y Desarrollo." *Regional Human Development Report 2025 Background Paper. No. 49 UNDP LAC Working Paper Series*.
- Cigarán, Maite, Pilar Celi, and Thalia Dancuart. 2023.** "Cobertura Del Cambio Climático, Biodiversidad Y Economía Circular: Retos Y Soluciones Para Periodistas Y Otros Actores de América Latina Y El Caribe." *Libélula*. ConexiónCOP. <https://libelula.com.pe/publicaciones/cobertura-del-cambio-climatico-biodiversidad-y-economia-circular-retos-y-soluciones-para-periodistas-y-otros-actores-de-america-latina-y-el-caribe/>.
- Confalonieri, Roberto, Soliman Ayat, Marcello Donatelli, Francesco N. Tubiello, and Eric Fernandes. 2012.** "Latin American and the Caribbean - Climate Change and Agriculture in Latin America, 2020-2050 (English)." *World Bank*. <http://documents.worldbank.org/curated/en/841851468270865223/Latin-American-and-the-Caribbean-Climate-change-and-agriculture-in-Latin-America-2020-2050>.
- Dammert, Lucía, and Carolina Sampó. 2025.** "What Do We Know about Organized Crime in Latin America and the Caribbean? Trends, Definitions, and Risks for Democracy." *Regional Human Development Report 2025 Background Paper. No. 46 UNDP LAC Working Paper Series*.
- Duncan, Natricia. 2024.** "On the Grenadian Island of Carriacou, Even the Dead Are Now Climate Victims." *The Guardian*. December 3, 2024. <https://www.theguardian.com/world/2024/dec/03/grenada-carriacou-caribbean-climate-victims-icj>.
- ECLAC (Economic Commission for Latin America and the Caribbean). 2012.** "Efectos Del Cambio Climático En La Costa de América Latina Y El Caribe: Impactos." *Comisión Económica Para América Latina Y El Caribe*. <https://www.cepal.org/es/publicaciones/4003-efectos-cambio-climatico-la-costa-america-latina-caribe-impactos>.
- . 2024.** "La Economía Del Cambio Climático En América Latina Y El Caribe, 2023: Necesidades de Financiamiento Y Herramientas de Política Para La Transición Hacia Economías Con Bajas Emisiones de Carbono Y Resilientes al Cambio Climático." *CEPAL*. <https://repositorio.cepal.org/entities/publication/d3aad-da2-415a-4a04-a8e9-a82f64d58464>.
- EFE. 2025.** "México En Alerta Por Ola de Calor, Con Máximas de 45 Grados Celsius En Gran Parte Del País." *CNN*, March 31, 2025. <https://cnnespanol.cnn.com/2025/03/31/mexico/mexico-ola-de-calor-45-gradus-celsius-efe>.
- El País. 2024.** "Un Mes de Incendios Azota Sudamérica Y Enciende Alarmas Climáticas." *El País América*, September 22, 2024. <https://elpais.com/america/2024-09-22/un-mes-de-incendios-azota-sudamerica-y-enciende-alarmas-climaticas.html>.
- Evans, Claire. 2015.** "Rethinking Environmental Attitudes in Latin America and the Caribbean." *Insights Series 118*. <https://www.vanderbilt.edu/lapop/insights/IO918en.pdf>.
- Evans, Claire, and Elizabeth Zechmeister. 2018.** "Education and Risk Assessments Predict Climate Change Concerns in Latin America and the Caribbean." *Insights Series 129*. <https://www.vanderbilt.edu/lapop/insights/IO929en.pdf>.
- FAO (Food and Agriculture Organization of the United Nations). 2025.** "FAOSTAT." <https://www.fao.org/faostat/en/#data/ET>.

FAO (Food and Agriculture Organization), IFAD (International Fund for Agricultural Development), PAHO (Pan American Health Organization), UNICEF (United Nations Children's Fund), and WFP (World Food Programme). 2025. *Latin America and the Caribbean Regional Overview of Food Security and Nutrition 2024 – Building Resilience to Climate Variability and Extremes for Food Security and Nutrition*. <https://doi.org/10.4060/cd3877es>.

García De Alba, Maite, Jesús Pacheco, and Cynthia Martínez. 2025. "Nearshoring: Anticipando Riesgos Para Aprovechar Oportunidades." *Regional Human Development Report 2025 Background Paper. No. 58 UNDP LAC Working Paper Series*.

Gobierno de la Ciudad de México. Secretaría del Medio Ambiente. 2021. "Estrategia Local de Acción Climática 2021-2050." https://www.sedema.cdmx.gob.mx/storage/app/media/DGCPCA/PACCM_y_ELAC_uv.pdf.

Gordon-Strachan, Georgiana M, Stephanie Y Parker, Heather C Harewood, Pablo A Méndez-Lázaro, Salanieta T Saketa, Kimalie F Parchment, Maria Walawender, et al. 2024. "The 2024 Small Island Developing States Report of the Lancet Countdown on Health and Climate Change." *The Lancet Global Health* 13 (1). [https://doi.org/10.1016/s2214-109x\(24\)00421-2](https://doi.org/10.1016/s2214-109x(24)00421-2).

Gubernot, Diane M., G. Brooke Anderson, and Katherine L. Hunting. 2015. "Characterizing Occupational Heat-Related Mortality in the United States, 2000-2010: An Analysis Using the Census of Fatal Occupational Injuries Database." *American Journal of Industrial Medicine* 58 (2): 203–11. <https://doi.org/10.1002/ajim.22381>.

GWIS (Global Wildfire Information system). 2024. "GWIS - Statistics Portal." <https://gwis.jrc.ec.europa.eu/apps/gwis.statistics/>.

Hallegatte, Stephane, Adrien Camille Vogt-Schilb, Mook Bangalore, and Julie Rozenberg. 2016. "Unbreakable : Building the Resilience of the Poor in the Face of Natural Disasters." *World Bank*. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/512241480487839624/unbreakable-building-the-resilience-of-the-poor-in-the-face-of-natural-disasters>.

Hartinger, Stella M, Yasna K Palmeiro-Silva, Camila Llerena-Cayo, Luciana Blanco-Villafuerte, Luis E Escobar, Avriel Diaz, Juliana Helo Sarmiento, et al. 2024. "The 2023 Latin America Report of the Lancet Countdown on Health and Climate Change: The Imperative for Health-Centred Climate-Resilient Development." *The Lancet Regional Health - Americas* 33 (100746): 100746–46. <https://doi.org/10.1016/j.lana.2024.100746>.

Hawkins, Ed. 2014. "The Cascade of Uncertainty in Climate Projections | Climate Lab Book." *Climate-Lab-Book.ac.uk*. February 6, 2014. <https://www.climate-lab-book.ac.uk/2014/cascade-of-uncertainty/>.

Howe, Paul. 2019. "The Triple Nexus: A Potential Approach to Supporting the Achievement of the Sustainable Development Goals?" *World Development* 124 (104629): 1–13. <https://doi.org/10.1016/j.worlddev.2019.104629>.

IFRC (International Federation of Red Cross and Red Crescent Societies). 2022. "Central America: Hurricanes Eta & Iota - Final Report (MDR43007) - Guatemala | ReliefWeb." *Reliefweb.int*. <https://reliefweb.int/report/guatemala/central-america-hurricanes-eta-iota-final-report-mdr43007>.

INEGI (Instituto Nacional de Estadística y Geografía). 2025. "Cuéntame de México." https://cuentame.inegi.org.mx/descubre/conoce_tu_estado/tarjeta.html?estado=09.

Infante-Amate, Juan, Alexander Urrego-Mesa, Pablo Piñero, and Enric Tello. 2022. "The Open Veins of Latin America: Long-Term Physical Trade Flows (1900–2016)." *Global Environmental Change* 76 (0959-3780): 102579. <https://doi.org/10.1016/j.gloenvcha.2022.102579>.

INFOBAE. 2025. "Ola de Calor Extremo En Brasil: Advierten Que La Sensación Térmica Podría Superar Los 60° Y Marcar Un Nuevo Récord." *Infobae*. February 15, 2025. <https://www.infobae.com/america/america-latina/2025/02/15/ola-de-calor-extrema-en-brasil-advierten-que-la-termica-podria-superar-los-60-y-marcar-un-nuevo-record/>

Inglehart, Ronald. 1995. "Public Support for Environmental Protection: Objective Problems and Subjective Values in 43 Societies." *PS: Political Science and Politics* 28 (1): 57. <https://doi.org/10.2307/420583>

Inglehart, Ronald. 1990. *Culture Shift in Advanced Industrial Society*. Princeton University Press.

IOM (International Organization for Migration) Global. 2024. "From Climate Change to Food Insecurity: Compounding and Direct." *World Migration Report*. <https://worldmigrationreport.iom.int/what-we-do/world-migration-report-2024-chapter-7/climate-change-food-insecurity-compounding-and-direct-drivers-human-mobility>.

IPCC (Intergovernmental Panel on Climate Change). 2019. "Chapter 4: Sea Level Rise and Implications for Low-Lying Islands, Coasts and Communities — Special Report on the Ocean and Cryosphere in a Changing Climate." *Www.ipcc.ch*. IPCC. <https://www.ipcc.ch/srocc/chapter/chapter-4-sea-level-rise-and-implications-for-low-lying-islands-coasts-and-communities/>.

———. 2021a. "Chapter 9: Ocean, Cryosphere and Sea Level Change." *Www.ipcc.ch*. IPCC. *Www.ipcc.ch*. IPCC. <https://www.ipcc.ch/report/ar6/wg1/chapter/chapter-9/>.

———. 2021b. "Chapter 11: Weather and Climate Extreme Events in a Changing Climate." *Www.ipcc.ch*. IPCC. <https://www.ipcc.ch/report/ar6/wg1/chapter/chapter-11/>.

———. 2021c. "IPCC AR6 Working Group 1: Summary for Policymakers." *Www.ipcc.ch*. IPCC. <https://www.ipcc.ch/report/ar6/wg1/chapter/summary-for-policymakers/>.

Ivanova, Anna, Julie A Kozack, and Sònia Muñoz, eds. 2024. *Climate Change Challenges and Opportunities in Latin America and the Caribbean*. *International Monetary Fund EBooks*. International Monetary Fund. <https://doi.org/10.5089/9798400240577.071>.

Kernecker, Theresa, and Markus Wagner. 2018. “Niche Parties in Latin America.” *Journal of Elections, Public Opinion and Parties* 29 (1): 102–24. <https://doi.org/10.1080/17457289.2018.1464014>.

Khoday, Kishan. 2025. “The Roots of Resilience: Towards Reparatory Approaches to Development.” *Regional Human Development Report 2025 Background Paper. No. 61 UNDP LAC Working Paper Series*.

Kuzma, Samantha, Liz Saccoccia, and Marlena Chertock. 2023. “25 Countries, Housing One-Quarter of the Population, Face Extremely High Water Stress.” *World Resources Institute*, August. <https://www.wri.org/insights/highest-water-stressed-countries>.

Lavell, Allan. 2025. “Redefining Socio-Natural Resilience within the Human Development Framework: Disaster, Risk and Resilience in Latin America and the Caribbean.” *Regional Human Development Report 2025 Background Paper. No. 47 UNDP LAC Working Paper Series*.

Libertun, Nora, and Daniel Peciña-López. 2024. “How Will Climate Change Impact Cities in Latin America and the Caribbean?” *Ciudades Sostenibles*. February 18, 2024. <https://blogs.iadb.org/ciudades-sostenibles/en/climate-change-impact-cities-latin-america-caribbean/>.

López Villanes, Noam. 2025. “Cómo La Extorsión Mina La Gobernabilidad Democrática. Un Estudio de 2 Casos En El Departamento de La Libertad.” *Regional Human Development Report 2025 Background Paper. No. 57 UNDP LAC Working Paper Series*.

MacCarthy, James, and Sarah Parsons. 2024. “6 Graphics Explain South America’s Forest Fires.” *World Resources Institute*. September 19, 2024. <https://www.wri.org/insights/amazon-forest-fires-2024>.

Matilla, Ana Tuñas. 2025. “La Subida Del Nivel Del Mar Duplica Su Velocidad Por Un Calentamiento Que Bate Récords.” *EFEverde*, March 19, 2025. <https://efeverde.com/la-subida-del-nivel-del-mar-duplica-su-velocidad-por-un-calentamiento-que-bate-records/>.

Monioudi, Isavela N., Regina Asariotis, Austin Becker, Cassandra Bhat, Danielle Dowding-Gooden, Miguel Esteban, Luc Feyen, et al. 2018. “Climate Change Impacts on Critical International Transportation Assets of Caribbean Small Island Developing States (SIDS): The Case of Jamaica and Saint Lucia.” *Regional Environmental Change* 18 (8): 2211–25. <https://doi.org/10.1007/s10113-018-1360-4>.

Municipalidad Guatemala. 2025. “Estadística Municipal.” *Muni-guate.com*. <https://gis.muniguate.com/estadistica/>.

Muñoz Campos, Marta Rosa, Arianna Rodríguez García, Dariadna Barrios Tabares, and Leyner Javier Ortiz Betancourt. 2025. “Impacto de La Degradación de Los Ecosistemas Y Del Cambio Climático En Asentamientos Humanos de La Costa Sur de Cuba.” *Regional Human Development Report 2025 Background Paper. No. 62 UNDP LAC Working Paper Series*.

Murillo, Álvaro. 2024. “Una Crisis Eléctrica Amenaza a Costa Rica Con Una Oleada de Cortes.” *El País América*, May 9, 2024. <https://elpais.com/america/2024-05-09/una-crisis-electrica-amenaza-a-costa-rica-con-una-oleada-de-cortes.html>.

National Academies of Sciences, Engineering, and Medicine. 2022. *Resilience for Compounding and Cascading Events*. *National Academies Press EBooks*. <https://doi.org/10.17226/26659>.

OCHA (The United Nations Office for the Coordination of Humanitarian Affairs). 202 . “Natural Disasters in Latin America and the Caribbean, 2000-2019 | OCHA.” <https://www.unocha.org/publications/report/world/natural-disasters-latin-america-and-caribbean-2000-2019>.

OECD (Organization for Economic Co-operation and Development). 2021. “Strengthening Adaptation-Mitigation Linkages for a Low-Carbon, Climate-Resilient Future.” *OECD*. https://www.oecd.org/en/publications/strengthening-adaptation-mitigation-linkages-for-a-low-carbon-climate-resilient-future_6d79ff6a-en.html.

Pearson, Adam R., Matthew T. Ballew, Sarah Naiman, and Jonathon P. Schuldt. 2017. *Race, Class, Gender and Climate Change Communication*. *Oxford Research Encyclopedia of Climate Science*. Oxford University Press. <https://doi.org/10.1093/acrefore/9780190228620.013.412>.

Pérez-Bentancur, Veronica, Rafael Piñeiro-Rodríguez, and Fernando Rosenblatt. 2025. “Desafíos de La Incorporación Política, Estabilidad Y Resiliencia Democrática En América Latina.” *Regional Human Development Report 2025 Background Paper*.

Pinas, Jason. 2025. “‘We Are Crying for Rain’: Suriname’s Villages Go Hungry as Drought Bites.” *The Guardian*, January 14, 2025. <https://www.theguardian.com/global-development/2025/jan/14/crying-for-rain-suriname-drought-environment-climate-rivers-drying-hunger-clean-water-transport-health>.

Programa Estado de la Nación. 2021. “Conflictos Socioambientales En Centroamérica Y República Dominicana – Programa Estado Nación.” *Programa Estado Nación*. <https://estadonacion.or.cr/?basedatos=conflictos-socioambientales-en-centroamerica-y-republica-dominicana>.

Ramet, Valerie. 2012. “Linking Relief, Rehabilitation and Development: Towards More Effective Aid.” [https://www.europarl.europa.eu/RegData/etudes/briefing_note/join/2012/491435/EXPO-DEVE_SP\(2012\)491435_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/briefing_note/join/2012/491435/EXPO-DEVE_SP(2012)491435_EN.pdf).

Rockström, Johan, Will Steffen, Evin Noone, Åsa Persson, F. Stuart III Chapin, Eric Lambin, Timothy M. Lenton, et al. 2009. “Planetary Boundaries: Exploring the Safe Operating Space for Humanity.” *Ecology and Society* 14 (2). <https://www.ecologyandsociety.org/vol14/iss2/art32/>.

Salazar, Lina, Mario González-Flores, and Luis Alvarez. 2024. “Climate Change Vulnerability and Food Insecurity: Empirical Evidence for Countries in Latin America and the Caribbean.” *Inter-American Development Bank*. <https://publications.iadb.org/publications/english/document/Climate-Change-Vulnerability-and-Food-Insecurity-Empirical-Evidence-for-Countries-in-Latin-America-and-the-Caribbean.pdf>.

Sanon, Evens, and Dánica Coto. 2025. “Haitians Face Record Hunger as Gang Violence Grips Country in Throes of Economic Crisis.” *AP News*. April 17, 2025. <https://apnews.com/article/haiti-hunger-starvation-gang-violence-c5f3255aeb6a-107ba0e419288bd3503c>.

Sen, Amartya. 1999. *Development as Freedom*. Oxford: Oxford University Press.

Souza, Felipe, Fernando Otto, Ligia Guimarães, and Luis Antônio Araujo. 2024. “Brazil Floods Drive Thousands from Their Homes.” *Www.bbc.com*, May 11, 2024. <https://www.bbc.com/news/world-latin-america-68979430>.

The Lancet. 2024. “Explore Our Data - Lancet Countdown.” <https://lancetcountdown.org/sids/explore-our-data/>.

Troncoso, Javiera, and Rocio Berwart. 2025. “Impacto Y Respuesta Ante Incendios Forestales En Chile: El Caso de Viña Del Mar de 2022 Y 2024.” *Regional Human Development Report 2025 Country Office Background Paper. No. 63 UNDP LAC Working Paper Series*.

Turkewitz, Julie, León Cabrera, and Federico Rios. 2024. “Hydropower Was Ecuador’s Answer to Climate Change. Until the Drought Hit.” *Nytimes.com*, December 30, 2024. <https://www.nytimes.com/2024/12/30/world/americas/ecuador-hydropower-drought.html>.

UNCCD (The United Nations Convention to Combat Desertification), and FAO (Food and Agriculture Organization). 2024. “Women-Led Solutions for Drought Resilience.” *UNCCD*. <https://www.unccd.int/resources/publications/women-led-solutions-drought-resilience>.

UNDP (United Nations Development Programme). 2008. “Human Development Report 2007/8.” <https://hdr.undp.org/content/human-development-report-20078>.

———. **2019.** “Human Development Report 2019. Beyond Income, beyond Averages, beyond Today: Inequalities in Human Development in the 21st Century.” <https://hdr.undp.org/content/human-development-report-2019>.

———. **2020.** “Human Development Report 2020. The next Frontier: Human Development and the Anthropocene.” <https://hdr.undp.org/content/human-development-report-2020>.

———. **2022.** “2022 Special Report on Human Security: New Threats to Human Security in the Anthropocene Demanding for Greater Solidarity.” <https://hdr.undp.org/content/2022-special-report-human-security>.

———. **2023.** “The Climate Dictionary: An Everyday Guide to Climate Change.” *UNDP Climate Promise*. <https://climatepromise.undp.org/news-and-stories/climate-dictionary-everyday-guide-climate-change>.

———. **2024a.** “Acción Ambiental: Creencias, Expectativas Y Participación Ciudadana.” <https://www.undp.org/es/argentina/publicaciones/accion-ambiental-creencias-expectativas-y-participacion-ciudadana>.

———. **2024b.** “Human Development Report 2023-24. Breaking the Gridlock: Reimagining Cooperation in a Polarized World.” *Hdr.undp.org*. <https://hdr.undp.org/content/human-development-report-2023-24>.

———. **2025.** “UNDP Human Climate Horizons.” <https://horizons.hdr.undp.org/#/>.

UNDP (United Nations Development Programme), and Oxford University. 2024. “Peoples’ Climate Vote 2024 Results.” <https://www.undp.org/publications/peoples-climate-vote-2024>.

UN (United Nations). 2022. “Wildfires in Latin America. A Preliminary Analysis, Messages and Resources for RC/UNCT.” <https://www.undrr.org/media/80887/download?startDownload=20250503>.

UNDESA (United Nations Department of Economic and Social Affairs - Population Division). 2019. “World Urbanization Prospects 2018: Highlights.” <https://population.un.org/wup/assets/WUP2018-Highlights.pdf>.

UNDRR (United Nations Office for Disaster Risk Reduction). 2021. “Promoting Synergy and Alignment between Climate Change Adaptation and Disaster Risk Reduction in the Context of National Adaptation Plans: A Supplement to the UNFCCC NAP Technical Guidelines.” United Nations Office for Disaster Risk Reduction.

———. **2023.** “Hazard.” *www.undrr.org*. 2023. <https://www.undrr.org/terminology/hazard>.

———. **2024.** “Regional Assessment Report on Disaster Risk in Latin America and the Caribbean (RAR24).” <https://www.undrr.org/media/105782/download?startDownload=20250504>.

ND-GAIN (University of Notre Dame Global Adaptation Initiative). n.d. “University of Notre Dame Global Adaptation Initiative Country Index Technical Report.” https://gain.nd.edu/assets/581554/nd_gain_countryindex_technicalreport_2024.pdf.

Wallace, Euan. 2025. “‘No Fish, No Money, No Food’: Colombia’s Stilt People Fight to Save Their Wetlands.” *The Guardian*, April 17, 2025. <https://www.theguardian.com/global-development/2025/apr/17/colombia-wetland-cienaga-grande-de-santa-marta-unesco-biosphere-stilt-villages>.

Watson, Carol. 2025. “Regional Human Development Report: Resilient Human Development in Latin America and the Caribbean.” *Regional Human Development Report 2025 Background Paper. No. 52 UNDP LAC Working Paper Series*.

WHO (World Health Organization). 2018. “Global Status Report on Road Safety 2018.” <https://www.who.int/publications/i/item/9789241565684>.

WMO (World Meteorological Organization). 2021. “El Comité de Huracanes Examina La Temporada Récord de 2020 Y Debate Los Planes Para 2021.” *Organización Meteorológica Mundial*. <https://wmo.int/es/news/media-centre/el-comite-de-huracanes-examina-la-temporada-record-de-2020-y-debate-los-planes-para-2021>.

———. **2023.** “Climate Change Vicious Cycle Spirals in Latin America and Caribbean.” *World Meteorological Organization*. <https://wmo.int/news/media-centre/climate-change-vicious-cycle-spirals-latin-america-and-caribbean>.

———. **2025.** “WMO Confirms 2024 as Warmest Year on Record at about 1.55°C above Pre-Industrial Level.” *World Meteorological Organization*. <https://wmo.int/news/media-centre/wmo-confirms-2024-warmest-year-record-about-155degc-above-pre-industrial-level>.

Woods, Zonibel, and Micaela P. Agoncillo. 2024. "How to Confront Gender-Based Violence in a Warming World." <https://www.preventionweb.net/news/how-confront-gender-based-violence-warming-world>.

World Bank. 2024. "Poverty, Prosperity, and Planet Report 2024: Pathways out of the Polycrisis." World Bank. 2024. <https://www.worldbank.org/en/publication/poverty-prosperity-and-planet>.

WRI (World Resources Institute). 2024. "Aqueduct Country Ranking." <https://www.wri.org/applications/aqueduct/country-rankings/?indicator=bws>.

Zamorano, Juan. 2024. "Panama Community Pushed from Caribbean Island by Rising Sea Levels Moves into New Houses." AP News. June 6, 2024. <https://apnews.com/article/panama-climate-change-guna-sea-level-8667f35ccace6dcdf063bf2df-1c802f>.

Zhao, Qi, Yuming Guo, Tingting Ye, Antonio Gasparrini, Shilu Tong, Ala Overcenco, Aleš Urban, et al. 2021. "Global, Regional, and National Burden of Mortality Associated with Non-Optimal Ambient Temperatures from 2000 to 2019: A Three-Stage Modelling Study." *The Lancet Planetary Health* 5 (7): e415–25. [https://doi.org/10.1016/s2542-5196\(21\)00081-4](https://doi.org/10.1016/s2542-5196(21)00081-4).



Interlinkages

Everything, everywhere, all at once

In the previous chapters, we explored the transformative forces of digitalization and emerging technologies, the escalating challenges of social fragmentation, the profound effects of climate change, and the pressures each force exerts on human development in LAC. The Interlinkages section examines a few areas where these pressures interact, shedding light on how they intersect and amplify each other. Four critical areas will be highlighted. These are the places where pressures compound, intensifying and radically altering the way certain issues manifest within the region, specifically in the realms of mental health, misinformation, migration and environmental sustainability.

The hidden epidemic: Mental health challenges in LAC¹

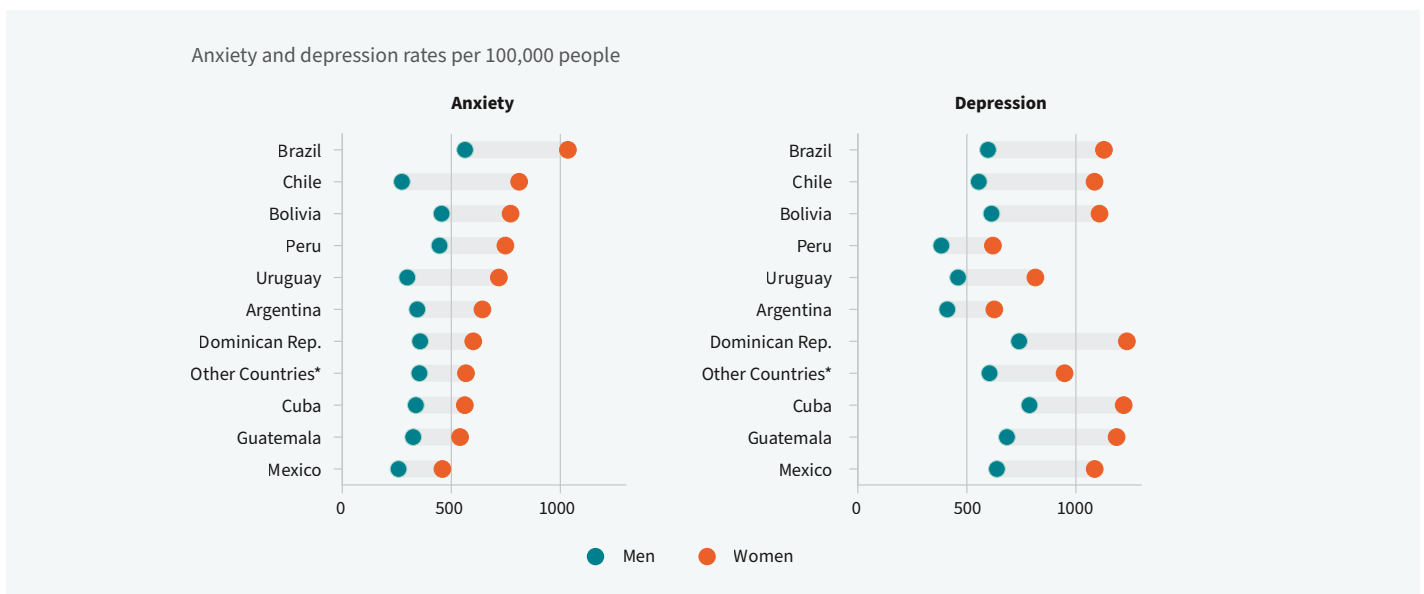
“People are constantly overwhelmed by the rush of daily life. Mental health isn’t talked about; it’s not even acknowledged as something that exists. Sometimes, it’s not even seen as a problem. It’s just part of everyday life, and emotions are the least of people’s concerns—something that simply doesn’t get any attention.” – Guatemala (female, 24 years old)

Over the past decade, mental health has emerged as a pressing public health issue in the region, with one in four people expected to experience a mental health disorder at some point in their lives (PAHO, 2018). This crisis is compounded by overlapping pressures. Digitalization fosters connectivity but also fuels cyberbullying, social comparison and digital addiction. Although these issues most frequently impact adolescents, the problems also affect adults. Climate

change further intensifies psychological distress by driving economic instability, environmental displacement and rising uncertainty. Social isolation, whether from excessive screen time or broader socio-economic shifts, exacerbates these challenges, weakening collective well-being.

Recent data suggests that mental health problems, in general, are reaching epidemic levels, posing a threat to individual well-being and overall development in LAC. In some countries for which data is available, mental health issues have increased by more than 30 percent since 2013 (WHO, 2023). Depression and anxiety are particularly widespread in the region; approximately 35 percent of individuals have experienced anxiety, while 25 percent have faced depression at some point in their lives (Valle, 2025). Depression and anxiety disorders

Figure I1.1 In LAC, depression and anxiety rates are 1.5 times higher among women than men



Notes: The category "Other Countries" refers to the remaining countries in the Americas not listed in the graph, excluding the United States and Canada.
Source: UNDP calculations based on Valle (2025) and PAHO data (2018).

are most prevalent in urban areas, where high levels of violence, poverty and social inequality intensify the mental health burden. In 2019, depressive disorders were the leading cause of mental illness-related disability in LAC, accounting for nearly four million years lived with disability (YLD) and an average rate of 789.30 YLDs per 100,000 inhabitants (PAHO, 2021b).² Anxiety disorders and major depressive disorders followed closely, contributing to a combined 73 percent of the total burden associated with mental illnesses.

Women are disproportionately affected by all major mental health disorders. For instance, in many LAC countries, rates of depressive disorders among women are usually greater than 1,200 cases per 100,000 people, whereas in men the rates range from approximately 750 to 800 cases per 100,000. Other mental illnesses, such as anxiety and major depressive disorders, exhibit similar trends. This disparity is driven by sociocultural factors such as gender-based violence, unequal family responsibilities and rigid societal

expectations. These factors not only heighten women's vulnerability to mental health disorders but also restrict their access to care, underlining the need for mental health interventions that address gender inequities.

Age is also linked to mental illness. Anxiety disorders (607 cases per 100,000 inhabitants) and bipolar disorder (301 cases per 100,000 inhabitants) were most common among people 25–34 years of age, indicating that the transitions to starting a career and having a family are particularly critical. Conversely, depressive and major depressive disorders progressively increase with age, with the peak observed in older adults (870 cases and 767 cases per 100,000 inhabitants, respectively). This largely results from social isolation, battling chronic diseases and bereavement. The heightened mental health risks among aging populations highlight the need for targeted interventions that address their specific vulnerabilities, ensuring access to appropriate care and support systems tailored to their evolving needs.

Box 11.1 Nearly one-third of older adults in El Salvador have mental health concerns, but diagnoses are rare

The population of El Salvador is growing older, yet both physical and mental health care remain inadequate to ensure dignified aging. According to the 2022 National Mental Health Survey, while 30.8 percent of the population exhibits mental health concerns, only 3.9 percent of adults have received a formal diagnosis, with rates even lower among those 60 years of age and older (3.3 percent). This discrepancy suggests the presence of barriers such as limited awareness, stigma and a lack of access to health care. Mental health conditions are more prevalent among women than men, 35.0 percent versus 20.8 percent, respectively. The risk increases with age, meaning women are not only more likely to experience these conditions but also face greater vulnerability over time.

Depression emerges as the most prevalent mental health condition, affecting 1 in 4 older adults. Although most cases are mild, 5.5 percent experience moderate to severe depression, exceeding the 4.9 percent rate observed in younger adults. Contributing factors include chronic illness, disability, economic dependence, bereavement and enduring experiences of discrimination. Notably, 16.5 percent of older adults report facing discrimination based on age (36.9 percent), economic status (34.1 percent), or religion (33.4 percent), which can exacerbate psychological distress.

Additionally, older adults face heightened risks related to substance use, with 26.3 percent at risk of consuming alcohol in moderate to high quantities, and 94.1 percent report being vulnerable to tobacco-related health consequences. Social isolation further compounds these challenges, as only 10.7 percent of older adults report strong community support. This suggests low social integration and limited support networks, which are necessary for mitigating the effects of isolation and loneliness, key risk factors for declining mental health (WHO, 2022a). Therefore, strengthening social networks through targeted interventions and improved health care access becomes critical for enhancing mental well-being in older adults.

Only 10 percent of older adults receive a pension, and just 21 percent have health insurance. As a result, many remain in the workforce, comprising 10.7 percent of the labor force in 2022, while 42.4 percent rely on family support for financial stability. These economic insecurities contribute to risk factors that heighten vulnerability to mental health conditions.

Source: Erazo and Molina (2025).

1.1 A closer look at country-specific dynamics of mental health

The populations of Brazil, Colombia and Chile have experienced significant increases in mental health challenges, particularly anxiety and depression. In Brazil, 33 percent of adults report high levels of anxiety and 27 percent exhibit symptoms of depression (Brazilian Institute of Psychiatry, 2023). Colombia saw the prevalence of anxiety among its population rise from 10.7 percent in 2015 to 14.5 percent during the COVID-19 pandemic, according to data up to 2021. Depression also rose notably, affecting 13.6 percent of women and 14.9 percent of adolescents, indicating a disproportionate impact on these groups (Martínez-Cabezas and others, 2024). In Chile, approximately 15 percent of the population exhibits depressive symptoms, with more women than men reporting symptoms (21.7 percent and 10 percent, respectively) (Nazar and others, 2021). This increase has been particularly pronounced among teenagers, adolescents and vulnerable groups, such as children and the elderly, with mental health issues intensifying following the social uprisings of 2019 and the pandemic.

In Mexico, economic challenges and migration pressures contribute to rising anxiety and depression, particularly among rural and Indigenous communities, where access to mental health services is limited. Despite some progress, the number of mental health specialists remains critically low, with only 1.6 psychiatrists per 100,000 people, and rural areas are especially underserved (WHO, 2020b). Similarly, Ecuador faces a 4.3 prevalence of depression and 3.2 percent for anxiety and only offers limited services; just 0.3 percent of the health budget is allocated to mental health, and there are 0.42 psychiatrists per 100,000 inhabitants (WHO, 2020b).

In Central America, the mental health crisis is also exacerbated by insufficient infrastructure, such as a lack of specialized mental health facilities, poorly equipped primary care centers, limited psychiatric beds, and weak referral systems. Many countries in the subregion also lack trained personnel and reliable supply chains for psychotropic medications, making it difficult to deliver continuous, quality care. For instance, Honduras had only 185 mental health professionals serving nearly nine million people, while El Salvador had 225 professionals for six million people (APA, 2017). Even in Guatemala, which had 7,700 mental health workers, services were insufficient to meet demand, especially in rural areas, which remain largely underserved. Additionally, alcohol abuse represents a major public health issue in the region. In El Salvador,

approximately 27 percent of substance use disorders are linked to alcohol, contributing to more than 30 percent of the overall mental health burden among adults. Other disorders (anxiety, depression, self-harm and somatic symptom disorder) account for 35 percent, headaches 18 percent, and severe mental disorders (schizophrenia and bipolar disorders) around 7 percent (PAHO, 2020).

In the Caribbean, economic instability and frequent weather disasters have compounded the mental health challenges for people in the region. Those living in Jamaica and Cuba have experienced heightened mental health issues due to the combined effects of economic hardship, environmental vulnerability and the long-term impacts of the COVID-19 pandemic. Similarly in Trinidad and Tobago, substance abuse has increased in response to socio-economic instability, with cannabis use rising by 20 percent over the past decade (Walker and others, 2022). In Haiti, post-traumatic stress disorder (PTSD) affects nearly 21 percent of individuals impacted by weather events, mirroring trends observed in Jamaica and The Bahamas (Chambers, 2024; Valle, 2025). This shows that climate change is not only an environmental issue but also a critical social justice challenge that disproportionately affects the most vulnerable populations.

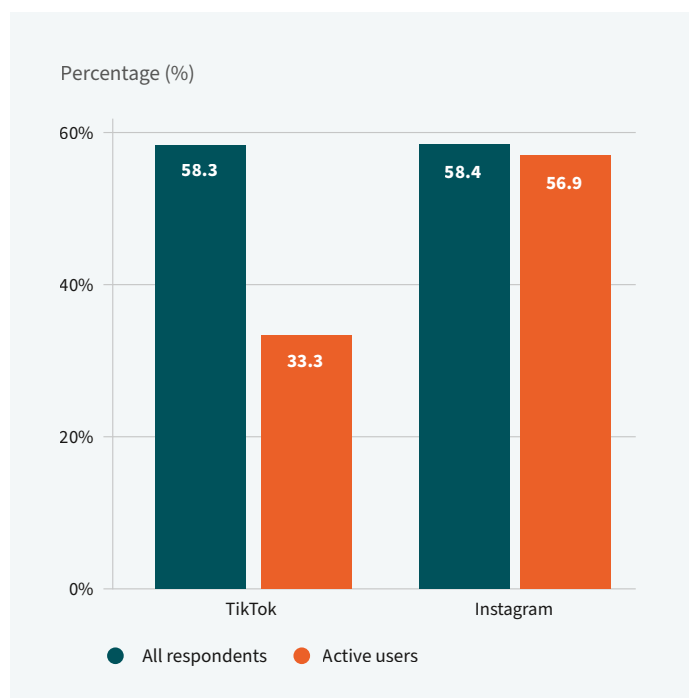
1.2 Addicted to scrolling: how technology is reshaping mental health

“The use of devices, when excessive, is harmful—I see it with my daughter. We are trying to take them away from her. We already made the mistake of giving them to her at a young age, and now it has almost become an addiction,” – Argentina (male, 29 years old)

The rapid expansion of digital technologies and social media has significantly influenced mental health trends in LAC. The region leads globally in social media usage, with an average of 3 hours and 32 minutes per day—far surpassing North America (2 hours and 13 minutes) and Europe (2 hours and 1 minute) (GWI, 2024). This level of connectivity has facilitated access to information and social networks but has also introduced complex psychological challenges, particularly among adolescents.

Emerging research highlights a strong correlation between early smartphone adoption, prolonged screen time, and declining mental health outcomes. Adolescents who spend extended hours online are more likely to experience loneliness, anxiety, and depression, with social

Figure I1.2 Percent of respondents who would prefer a world without TikTok and Instagram



Notes: Respondents who agree with the elicited valuations and those who pass all of the attention checks are included.

Source: Bursztyn and others (2023).

media algorithms reinforcing compulsive engagement (Blanchflower and others, 2024). This digital overexposure disrupts sleep patterns, impairs focus, and increases vulnerability to emotional overstimulation, thereby undermining the development of psychological resilience (Valle, 2025). This is particularly concerning considering that over 70 percent of adolescents in LAC frequently use social media, often exceeding four to five hours daily (PAHO, 2022).

A key psychological mechanism exacerbating these issues is social comparison. Social media platforms curate and promote content that aligns with idealized standards of beauty, success and social status, fostering unattainable aspirations among young users. This exposure intensifies feelings of inadequacy, particularly among adolescent girls (WHO, 2022a). Additionally, the pressure to maintain an idealized online persona has been linked to “Instagram anxiety” and “Facebook depression,” with over 7 out of 10 adolescents reporting stress related to their digital image (APA, 2017).

Digital addiction further compounds these challenges. Adolescents in LAC experience disrupted sleep patterns and increased susceptibility to mood disorders due to excessive social media engagement (PAHO, 2022). Notably, despite their reliance on digital platforms, many young users express dissatisfaction with the social media landscape. In a recent survey, 33.3 percent and 56.9 percent of active users responded that they would prefer to live in a world without TikTok and Instagram, respectively (Bursztyn and others, 2023). This contradiction highlights the urgent need for policies that promote digital literacy, mental health awareness and responsible social media engagement among youth in LAC.

At the same time, cyberbullying has emerged as one of the most pervasive and damaging mental health threats in the digital era, particularly among adolescents. Unlike traditional bullying, which is confined to physical spaces such as schools, cyberbullying transcends boundaries, following victims into their homes and personal lives. This constant accessibility intensifies feelings of helplessness and fear, as there is no clear point at which the harassment ends.

The anonymity of digital platforms emboldens perpetrators, reducing their accountability and amplifying the psychological toll on victims. Studies indicate that adolescents who experience cyberbullying are two to three times more likely to suffer from PTSD, depression and anxiety compared to their peers (Bottino and others, 2015). Many victims withdraw from both online and offline interactions as a coping mechanism, which further isolates them and deprives them of crucial support systems. This distress often manifests in maladaptive coping strategies, such as substance abuse, self-harm or disordered eating. Additionally, the impact extends to academic performance, leading to concentration difficulties, reduced motivation and absenteeism.

In LAC, cultural norms surrounding honour and reputation exacerbate the stigma associated with being a victim of cyberbullying. Adolescents may avoid seeking help due to fear of judgment from peers or family members, leaving them to navigate these psychological burdens alone. Socio-economic disparities further compound the issue, as underserved communities often lack access to mental health resources and digital literacy programmes that could mitigate the risks associated with online harassment.

1.3 Building resilience and strengthening mental health in LAC

Despite the high prevalence of mental health conditions in LAC, most countries allocate less than 2 percent of their national health budgets to mental health services (OECD and World Bank, 2023). This chronic underfunding underscores the need for increased investment and the full integration of mental health care into primary health systems, particularly in rural and underserved areas where access remains limited (PAHO, 2021b). Digital platforms can serve as critical tools in bridging these gaps, offering online counselling, peer support networks, and mobile applications that provide coping strategies to complement traditional mental health services.

Beyond health care, embedding psychoemotional education into school curricula is essential for cultivating emotional intelligence, self-awareness and critical thinking—key components of resilience (Valle, 2025). Digital literacy programmes should also be incorporated into education systems to equip adolescents with strategies to manage cyberbullying, including blocking perpetrators, preserving evidence and seeking support from trusted adults.

Community-based interventions further enhance both individual and collective resilience by leveraging family networks, local leadership and social cohesion. Integrating mental health services into schools and community organizations can help reduce stigma and foster a sense of belonging. At the regional level, improving data-collection and reporting systems is crucial for effective policymaking, as the lack of comprehensive mental health data limits the ability to assess needs and track progress (Valle, 2025).

Finally, multi-sectoral partnerships are key to sustaining these efforts. Schools can serve as mental health hubs, while collaborations with tech companies can promote ethical algorithm design and enhance digital safety. Governments and public institutions must take the lead in coordinating these initiatives, ensuring that mental health interventions reach the most vulnerable populations and contribute to a more inclusive, resilient society.

Notes

1. This Interlinkage is based on and contains excerpts from Valle (2025), Regional Human Development Report 2025 Background Paper.
2. YLDs (Years Lived with Disability) represent the number of years lived with a disability or less-than-full health due to a disease, adjusted for the severity of the condition (Valle, 2025).

Interlinkage #2

The war on truth: How misinformation is undermining reality in LAC

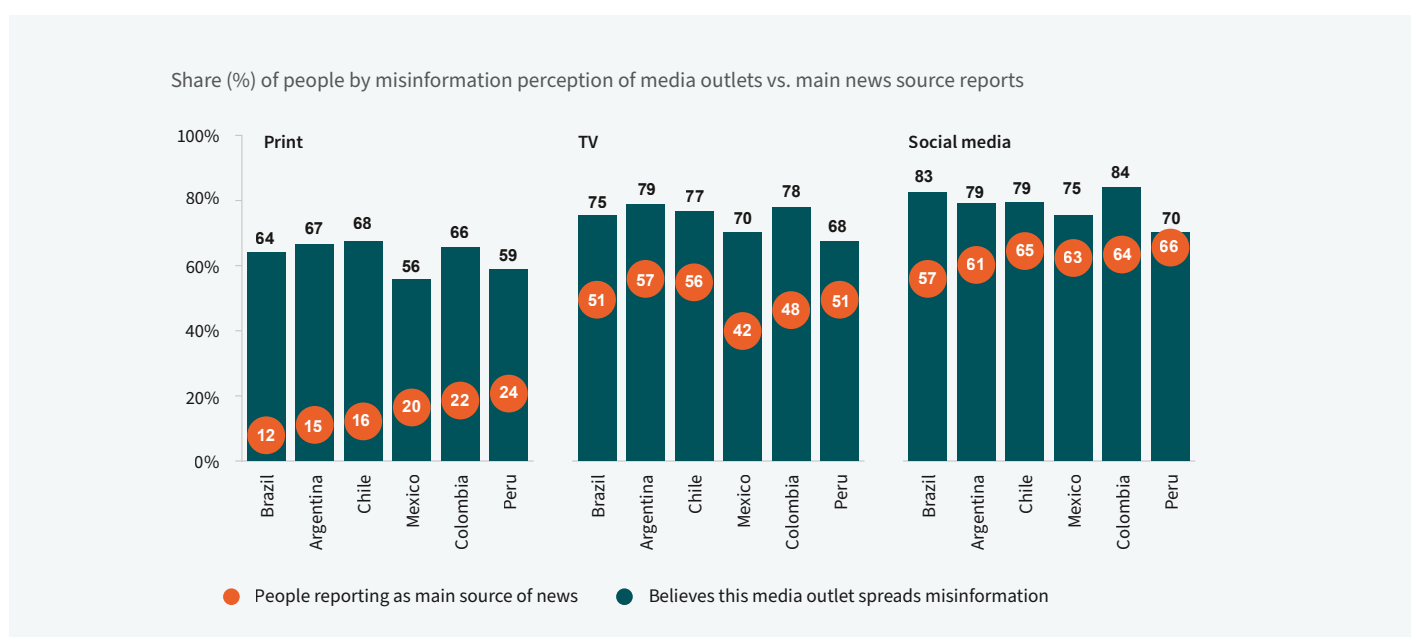
In his famous dystopian novel 1984, George Orwell paints a chilling picture of a society in which truth is malleable and history is constantly rewritten to serve those in power. The haunting line: “Who controls the past controls the future. Who controls the present controls the past,” encapsulates a core danger of misinformation—the power to reshape narratives.

Misinformation (unintentional) and disinformation (deliberate) have long existed. But in the digital age, false information spreads at unprecedented speeds. False content is becoming increasingly compelling, blurring the lines between fact and fiction. Although misinformation today is not centralized under a single oppressive regime as in Orwell’s novel, the subtle manipulation of events by multiple (although powerful)

actors—through selective reporting and altered content—achieves a similar effect, it obscures the truth.

Technological infrastructure like social media allows misinformation to spread faster than it can be corrected, generating far-reaching impacts on society’s shared understanding of critical issues. According to 2024 Latinobarómetro data, 76 percent of LAC residents think false information circulates widely on social media. Additionally, 63 percent of citizens in LAC express distrust of social media. Approximately 35 percent believe it worsens politics, 45 percent consider it neutral, and only 13 percent think it improves political discourse. Paradoxically, despite these concerns, social media remains the most common

Figure 12.1 The paradox of news consumption through social media: high distrust but widespread use



Notes: The graph shows the self-reported main news sources by country, with multiple responses allowed. Misinformation circulation reflects the share of people who believe a media outlet spreads “a lot” or “some” misinformation.

Source: UNDP’s calculations based on Latinobarómetro 2023 data and Newman and others (2023).

source of news in several countries, with from 57 to 66 percent of individuals reporting it as their primary source (figure I2.1). At the same time, more than 70 percent of respondents acknowledged that social media spreads at least some or a significant amount of misinformation.

Despite widespread distrust, research shows that social media platforms have become the primary news source for many in the region (Newman and others, 2023). Although people believe that social media is rife with misinformation, many remain confident in their own ability to discern the truth. The idea that if someone is exposed to various sources of information that are in alignment then the information must be true reflects how modern algorithms can create echo chambers and reinforce false narratives.

I2.1 Misinformation erodes trust and increases political polarization

In Orwell's novel, "the Party" maintains control by eroding trust in objective reality. Similarly, misinformation campaigns can sow distrust in legitimate sources of information, such as journalism and science. They also create an environment of uncertainty and fear, making people more susceptible to manipulation and weakening social cohesion by pitting groups against one another.

Disinformation campaigns—often orchestrated through bots and AI technologies—have misled voters and swayed public opinion in various countries, affecting the democratic fabric of the region. Research by Chesney and Citron (2019) highlights how disinformation, combined with political campaigning and manipulation through big data, undermines electoral integrity. These strategies include the use of deepfakes to spread false representations of candidates or political events, especially of women, creating an atmosphere of distrust and confusion among the electorate, as discussed in chapter 3.

Recent elections in the region illustrate the far-reaching consequences of disinformation for democratic governance. For instance, the 2018 Brazilian elections were marked by widespread disinformation, particularly on platforms like WhatsApp, where misleading claims about candidates and fabricated news stories significantly affected voter perceptions and trust in the electoral process (Del Picchia and others, 2022). Similarly in Colombia, disinformation has undermined electoral integrity. During the 2016 peace agreement referendum and the 2018 presidential election,

the prevalence of disinformation campaigns lead to public confusion and skepticism about the electoral outcomes. These campaigns aimed to influence voter behaviour and undermine trust in democratic institutions (Horowitz, 2020).

These trends mirror global patterns but manifest with heightened intensity in LAC, where political histories and socio-economic inequalities create fertile ground for mistrust and conflict. The affordability of mobile technology and widespread use of social media platforms have amplified the reach of misinformation in isolated and rural communities, where educational resources to critically evaluate information are often scarce. In Bolivia, disinformation regarding land rights and conflicting narratives about the construction of a road through the *Isiboro Sécure* National Park and Indigenous Territory have led to significant disputes between Indigenous inhabitants and external parties interested in exploiting the area's natural resources (Amnesty International, 2016).

I2.2 Health misinformation: A matter of life or death

Health misinformation becomes even more critical when public health is at stake because false information can lead to harmful behaviours and outcomes. The COVID-19 pandemic starkly revealed the devastating consequences of false claims about the virus, treatments and vaccines. Nieves-Cuervo and others (2021) examined the spread of fake news related to COVID-19 mortality and infodemic management in six Latin American countries. They found that countries where fewer people relied solely on social media for information—and where trust in such content was lower—tended to experience lower COVID-19 mortality rates. Conversely in Mexico, misinformation about COVID-19 and the vaccine fueled public skepticism and resulted in comparatively lower vaccine uptake during the initial roll out phase, as reported by UNICEF (2020).

Research by Rodríguez-Morales and Franco (2021) found that misinformation covering topics like the virus's origins, potential cures and the effectiveness of lockdowns proliferated across LAC during the pandemic, damaging public confidence in health officials and undermining scientifically backed health guidelines. According to this analysis, misinformation targeting specific populations (including Indigenous groups in the Amazon) exploited existing vulnerabilities, leading to disparities in COVID-19 outcomes across different communities.

12.3 Disinformation and climate change: compounding the risks of extreme weather events

Disinformation has the potential to influence both immediate disaster response and long-term resilience, exacerbating the impacts of natural events. In Guatemala, disinformation circulating through popular WhatsApp groups claimed that recent floods were intentionally caused by the government to displace Indigenous communities and seize land. This led to widespread distrust in government-provided aid, discouraging affected populations from seeking assistance and even contributing to localized protests and social unrest (UNDP, 2022). Similarly in Honduras, social media posts during Hurricane Eta in 2020 spread rumours that corrupt local authorities were withholding international aid, causing public anger and hesitation to cooperate with emergency services, further complicating an already challenging disaster response environment (Amnesty International, 2020).

A recent study by Rodrigues and Leonel Caetano (2023) explored how political engagement on Twitter (now “X”) can predict fires and deforestation in the Brazilian Legal Amazon. Using machine learning for sentiment analysis alongside satellite fire data, researchers compared tweet sentiments with daily fire incidents. They found that positive tweets about agriculture, industry and the Amazon—triggered by statements from high-ranking Brazilian politicians—were linked to later increases in positive comments about

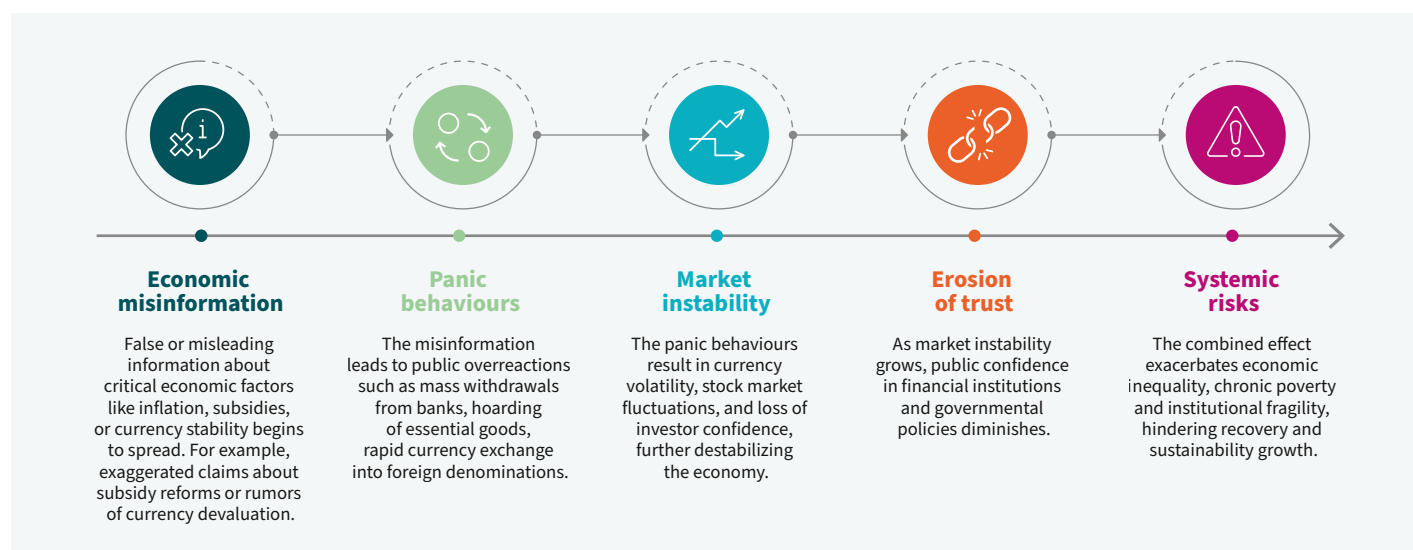
fire outbreaks and deforestation, reliably predicting fire outbreaks with a six-day lag. This suggests that top political figures can significantly influence events that damage communities, the environment and the economy.

Renewable energy projects in LAC have been the target of misinformation campaigns, often asserting that wind or solar farms have adverse environmental or health effects. Such false narratives create resistance among local populations, delaying the transition to sustainable energy sources. For instance, wind farms in Mexico have been accused of causing noise pollution and health problems (Fox, 2023), claims that lack scientific backing but have nonetheless gained traction, influencing community attitudes towards renewable energy initiatives (Winter and others, 2024). This scepticism can hinder public cooperation with climate policies, reduce compliance with adaptation strategies, and lead to greater overall vulnerability to climate impacts.

12.4 Economic implications of misinformation: the case of financial stability

Economic misinformation, particularly concerning inflation, employment and currency stability, poses significant challenges in LAC. Unfounded rumours and misinformation can fuel economic anxiety, leading to behaviours that exacerbate financial crises and destabilize markets. During the economic

Figure 12.2 The impact of economic misinformation



Source: Authors' elaboration.

downturn triggered by COVID-19, misinformation regarding bank stability and deposit safety circulated in Peru, prompting mass withdrawals that intensified financial uncertainty and eroded trust in financial institutions (BCRP, 2020).

In LAC, the effects of economic misinformation are compounded by existing socio-economic inequalities, as lower-income populations are often the most affected due to limited access to accurate information. This division creates a cycle in which misinformation widens gaps in economic resilience and reduces overall economic stability. ECLAC (2018) underscores how misinformation can impair decision-making capabilities, limit access to financial opportunities, and increase susceptibility to economic shocks of economically vulnerable groups. They emphasize that misinformation exacerbates existing inequalities, hindering inclusive growth and stability in the region.

I2.5 Resilience building amid misinformation

The societal impact of misinformation is profound. When it takes root, it polarizes communities, erodes democratic processes and fosters distrust. Decisions based on falsehoods—whether about public health, elections, climate change or economic issues—can have tangible, often devastating consequences.

Addressing this challenge requires sustained vigilance, enhanced media literacy and a shared societal commitment to safeguarding truth. Effective responses must be multifaceted, targeting both the psychological drivers and structural enablers of misinformation. Promoting critical thinking, strengthening digital literacy, and implementing fact-checking mechanisms are essential for effective strategies, as well as ensuring accountability from public figures to mitigate the influence of false narratives.

Evidence also points to the effectiveness of inoculation—preemptively alerting individuals to the risk of misinformation and illustrating common manipulation techniques—as a means to build cognitive resilience to falsehoods (Lewandowsky and Van Der Linden, 2021). Complementary efforts that promote transparency, institutional support for reliable information, and social norms that value accuracy can further enhance society's ability to resist misinformation (Roozenbeek, Culloty and Suiter, 2023). In a context in which distrust and polarization are rising, Orwell's dystopia serves as a stark reminder of what is at stake when facts become flexible and truth is treated as a commodity.

SustAInability: The intersection of AI and environmental stewardship in LAC¹

LAC stands out as one of the world's most biodiverse regions, home to approximately 40 percent of the planet's biodiversity. From the Amazon rainforest and the Andes Mountains to the Caribbean's coral reefs, the region's varied ecosystems are vital not only for local communities but also for global environmental stability, as they play a crucial role in regulating the Earth's climate. The Amazon rainforest, often referred to as the "lungs of the planet," absorbs billions of tons of carbon dioxide annually, acting as a natural buffer against climate change. Similarly, the region's mangroves and wetlands provide essential carbon sequestration, water filtration and flood mitigation services.

However, LAC's unique and biodiverse ecosystems face mounting threats from deforestation, illegal mining, climate change and urbanization, making LAC both a biodiversity hotspot and a critical player in addressing global environmental challenges (Lebdioui, Melguizo, and Muñoz, 2025). In 2022 alone, deforestation in the Amazon reached its highest level in 15 years, with over 11,000 km² of forest lost, jeopardizing its role as a carbon sink and threatening countless endemic species (Ministério de Ciência, Tecnologia e Inovações, 2023).

In this context, AI emerges as a powerful tool that can reshape how the region monitors, manages and responds to environmental and climate risks. From predictive analytics that forecast extreme weather events to satellite monitoring systems that track deforestation in real time, AI offers new pathways to protect LAC's natural wealth while building resilience against escalating climate shocks. Yet, realizing this potential is not without its challenges. The region must grapple with the environmental footprint of AI itself, the risk of exacerbating digital inequalities, and the ethical dilemmas inherent in deploying advanced technologies in vulnerable communities (Lebdioui, Melguizo, and Muñoz, 2025).

13.1 AI as a catalyst for environmental monitoring and precision conservation

In a region as ecologically diverse as LAC, AI technologies are advancing environmental monitoring by integrating vast amounts of data from satellites, drones and the Internet of Things (IoT) devices, which enable real time tracking of deforestation, illegal mining and pollution levels, empowering stakeholders to make informed decisions. For example, in the Amazon rainforest, AI-powered tools such as Global Forest Watch have been instrumental in detecting deforestation hotspots. By analyzing satellite imagery and using machine learning algorithms, these tools provide actionable insights that help authorities respond more quickly to illegal activities. Such precision is crucial in a region where deforestation rates experienced an alarming 22 percent increase between 2020 and 2021 (InfoAmazonia, 2021).

AI also supports marine and coastal ecosystem monitoring, which is vital for LAC countries with extensive coastlines and rich marine biodiversity. For instance, machine learning models are being used to analyze sonar data, detect illegal fishing activities and monitor coral reef health (González-Rivero and others, 2020). These technologies allow governments to implement targeted conservation measures, such as establishing marine protected areas or regulating fishing zones. In the Caribbean, AI-driven mapping tools have been deployed to assess coral reef degradation, providing critical information for restoration projects and enhancing the region's ecological resilience against climate change.

Moreover, AI's role in air quality monitoring has significant implications for public health. In urban areas across LAC, where air pollution contributes to thousands of premature

deaths annually (Pedraza, 2023), AI-powered sensors and predictive models can identify pollution sources, forecast air quality and guide urban planning. Cities like Mexico City have integrated AI into their air quality management systems using predictive analytics to inform traffic regulations and industrial emissions controls (International Transport Forum, 2017).

In addition to precision, AI enhances scalability in environmental monitoring. Traditional methods of ecological data-collection are often labor-intensive and limited in scope, but AI enables broader and more frequent data acquisition. In Brazil and Colombia, researchers have employed AI to classify audio recordings from the Amazon, identifying specific bird and animal species (Smith, 2023).

AI is also making environmental governance more participatory. Tools like smartphone-based citizen science platforms allow local communities to contribute data on water quality, wildlife sightings or illegal activities. For example, the app Global Fishing Watch has enabled coastal communities in Peru to document and report illegal fishing, promoting grass-roots involvement in resource management. However, the effective deployment of AI in environmental monitoring faces challenges (Lebdioui, Melguizo, and Muñoz, 2025). Data gaps, especially in remote and underserved areas, limit the accuracy of AI models. Additionally, there is a need for regulatory frameworks to address ethical concerns, such as data privacy and algorithmic biases.

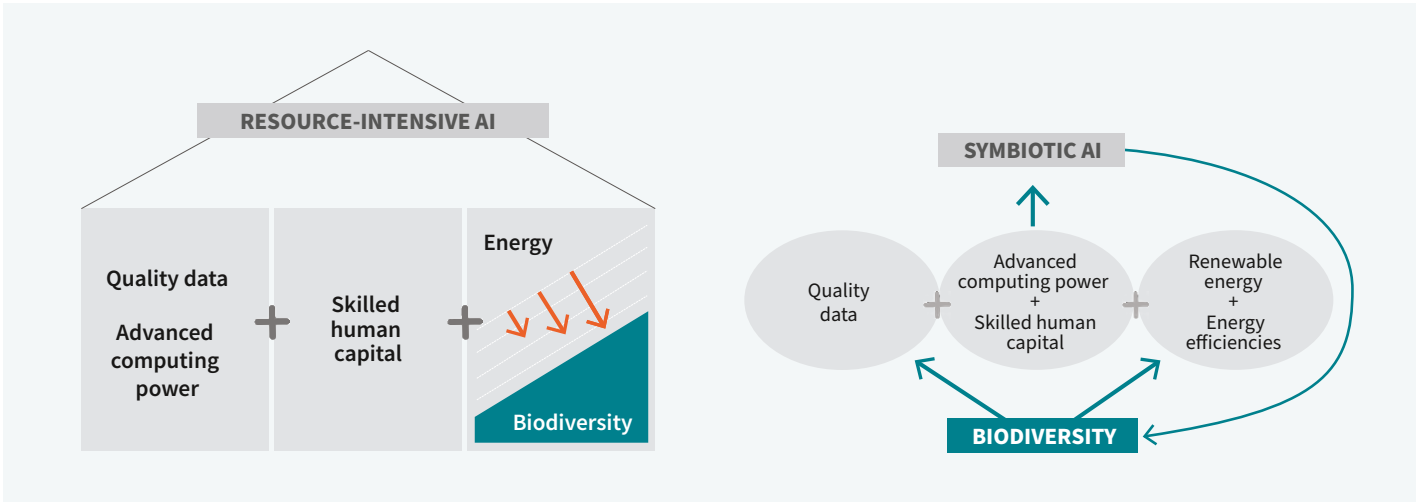
13.2 From a resource-intensive to a symbiotic tech approach

The rapid adoption of AI globally has come with significant environmental costs, particularly in regions like LAC, where ecological systems are already under stress. As discussed in chapter 3, AI systems require substantial computational power, energy and resources, all of which carry environmental consequences. This creates a potential conflict between AI, energy and biodiversity. Either AI's rapid growth continues intensifying energy demands and threatening biodiversity—or preservation takes precedence, curbing energy use and slowing AI's progress. However, a virtuous relationship between AI, energy and biodiversity is possible.

Figure I3.1 shows how nature could inspire energy solutions that sustain AI's momentum while fostering sustainable growth and biodiversity preservation. Biodiversity can serve as a pillar of sustainable AI development—alongside human capital, computing power, data and energy—if strong policies prevent its depletion. This transition from a resource-intensive to a symbiotic AI approach is particularly relevant for the region.

Establishing a symbiotic relationship between AI and environmental management in LAC demands a concerted effort by governments, civil society, academia and the private sector. As the region grapples with environmental

Figure I3.1 From a resource-intensive to a symbiotic AI approach



Source: Lebdioui, Melguizo, and Muñoz (2025).

degradation, biodiversity loss and the challenges of climate change, policies and innovations must align to harness the potential of AI as a tool for sustainable development.

A foundational step is the creation of robust policy frameworks that prioritize environmental objectives alongside technological innovation. Governments must integrate AI into their national and regional climate strategies, ensuring that technological tools complement environmental policies such as the Escazú Agreement, which emphasizes access to environmental information and public participation. For instance, including AI-driven monitoring systems in national biodiversity action plans could significantly enhance their efficacy by providing real time data and predictive analytics.

Education and capacity-building are critical for democratizing access to AI tools and ensuring their ethical use. Policymakers must invest in digital literacy programmes that focus on rural and Indigenous communities, equipping them with the skills needed to engage with AI technologies while preserving their autonomy. One example is the collaboration between Indigenous groups in the Amazon and environmental organizations that use AI-powered drones to monitor deforestation (DroneDeploy, 2022). These drones, equipped with machine learning algorithms, can identify illegal logging activities and provide actionable data to local communities. Co-designing AI-driven tools with rural and Indigenous communities ensures their relevance and practical use.

By fostering equitable collaboration among governments, community organizations and tech companies, LAC can lead an inclusive model of innovation that aligns technology with Indigenous values and knowledge systems. Expanding these partnerships to include international organizations and academic institutions could amplify impact, providing access to cutting-edge research and funding for scalable AI applications. The regional adoption of initiatives such as the “World Environment Situation Room” by the United Nations Environment Programme (UNEP) could serve as a model for multi-stakeholder collaboration.

Biomimicry also presents an innovative frontier for advancing AI’s symbiotic relationship with the environment. Drawing inspiration from nature’s designs, AI can model ecological systems to create more sustainable solutions. For example, the communication patterns of bees can inform efficient computer network designs, while the

self-cleaning properties of lotus leaves inspire AI-assisted materials science to develop water-efficient technologies. The economic potential of biomimicry is vast; it is estimated that it will contribute approximately US\$1.6 trillion to global output by 2030, with sectors like electronics manufacturing, water and energy, and engineering experiencing revenue growth of 5 percent to 15 percent (Fermanian Business & Economic Institute, 2013).

Nature-inspired innovation presents significant opportunities across various industries, particularly in energy generation, transmission, storage and renewable technologies. For example, evidence suggests that biomimetic designs could transform up to 10 percent of the global transportation equipment industry—including cars, trucks, planes and boats—through energy-efficient advancements. For LAC, biomimicry offers a dual opportunity—fostering local innovation ecosystems focused on energy generation, CO2 capture and resource efficiency while simultaneously attracting investment in green technologies.

13.3 Nature-inspired energy solutions for AI in LAC

As shown in table I3.1, nature-inspired solutions can be explored through three main lenses: forms, processes and ecosystems. Emulating natural forms has already demonstrated significant benefits for energy optimization. Microbial patterns and fungal networks, which enable resource distribution with minimal energy, provide a blueprint for distributed AI architectures such as edge computing, where data processing occurs closer to the source, reducing energy transfers.

Similarly, innovations in wind energy have emerged by mimicking whale fin tubercles to improve aerodynamics and increase energy capture, while termite mound-inspired ventilation systems have led to natural cooling solutions that reduce energy consumption in buildings. For AI hardware, bio-inspired materials such as spider silk offer opportunities to create lightweight and durable components that decrease energy production costs.

Biological processes refined through evolution also hold transformative potential for energy efficiency. Photosynthesis, nature’s most efficient energy production mechanism, has inspired innovations like the artificial leaf, which replicates its principles for industrial applications.

Technologies such as BioWave simulate seaweed movements in ocean currents to generate renewable energy, offering coastal regions a sustainable alternative. For AI systems, cooling technologies inspired by the heat dissipation strategies of beetles that live around volcanoes could address the thermal management challenges of energy-intensive data centers.

Ecosystems, as interconnected systems of circularity and adaptability, provide additional lessons. In nature, waste from one organism becomes a resource for another. This principle can be applied to AI infrastructure, such as data centers, where excess heat could be repurposed. Ecosystem adaptability also inspires energy systems that dynamically adjust consumption based on availability, mirroring natural self-regulation.

Table I3.1 Examples of using biomimicry to achieve sustainable energy solutions

Forms	
Sustainable materials	Biomaterials, inspired by structures like spider silk or insect exoskeletons, can be both lightweight and strong. By applying these materials to AI hardware design, it is possible to reduce the energy needed for material production and device operation.
Optimization of resource distribution	Deep learning of microbial patterns and fungal networks, such as mycelium, which distribute resources with minimal energy can inspire distributed AI architectures minimizing data transfer and processing energy (e.g., edge computing where processing happens close to the source of data).
Energy efficiency through new forms	The design of whale fins (with their protrusions called tubercles) to the blades of wind turbines improve aerodynamics, allowing for kinetic energy to be converted into electricity more efficiently (<i>WhalePower</i> project). Use of natural ventilation principles observed in termite mounds significantly reduce air conditioning use and energy consumption (<i>Eastgate Center</i>, Zimbabwe). This system is used to cool buildings for improved energy efficiency.
Processes	
Energy generation (including photosynthesis)	Artificial photosynthesis can be used to improve the efficiency of solar cells (such as Daniel Nocera's Artificial Leaf). AI can be trained on the mechanics of photosynthesis to optimize solar-powered energy sources or even develop artificial photosynthesis. This could help produce on-site energy that powers AI systems sustainably. The structure of seaweed can inspire processes to generate electricity from the flow of water (<i>BioPower Systems' BioWave</i>). These generators are set up in coastal areas, providing clean, renewable energy. Piezoelectric batteries, which are self-charging power cells that convert mechanical energy (the energy related to an object's motion and position), into chemical energy can be a solution for EVs battery charging, improving long-distance smart mobility. Electricity generation inspired by the organic structure of the pectoral fin of electric fish (such as rays), composed of electro plaques—flattened cells stacked in vertical columns like piles of coins.
Energy-efficient sensor networks	Biological Sensor Models offer important lessons to improve AI systems, given the superiority of the various highly sensitive and efficient sensory systems found in nature (such as the olfactory senses of dogs or navigation systems of bees, birds and bats). By studying these systems, AI developers can create sensors that are more efficient and require less energy for functions like environmental monitoring.
Thermal management and cooling	Some species (e.g., volcanic long-horned beetles) have evolved with natural ways to dissipate heat and chemical reactions to reduce their body temperature. Hardware inspired by these natural thermal regulation methods could improve the efficiency of cooling systems in data centers and AI hardware.
Ecosystems	
Circular energy and material flow models	Principles of circularity and re-use of waste into inputs for other productive systems, as natural ecosystems operate on principles of waste recycling where the byproduct of one species becomes the resource for another. By designing AI systems inspired by these circular principles, excess heat, and by products (like data centre heat), can be redirected and used to fuel other processes, lowering the net energy consumption.
Real-time adaptation for energy consumption	Just as ecosystems dynamically adjust to environmental changes, AI systems can be designed to scale their operations based on real-time energy availability and environmental conditions.

Source: Lebdioui, Melguizo, and Muñoz (2025).

13.4 Symbiosis in motion: charting a greener AI future for LAC

This Interlinkage has explored the critical nexus between AI and environmental stewardship within LAC, highlighting the region's unique responsibility and immense potential in addressing global sustainability challenges. With approximately 40 percent of the world's biodiversity, LAC stands at a crucial intersection, where the preservation of its extraordinary ecosystems and the responsible deployment of transformative technologies converge.

AI has emerged as a pivotal tool to enhance environmental governance, conservation and resilience. By enabling precision monitoring of ecological degradation, AI has the potential to empower governments, civil society and local communities to respond proactively and strategically.

However, this promising relationship is neither automatic nor free of complexities. The region must actively navigate AI's inherent environmental footprint, ethical considerations and the potential exacerbation of digital inequalities. Transitioning from a resource-intensive to a symbiotic, nature-inspired AI approach could be key to minimizing ecological impacts and position biodiversity as a foundation for sustainable technological progress.

In charting this path forward, biomimicry offers valuable insights by drawing inspiration from natural forms, processes and ecosystems. Such an approach could catalyze significant economic opportunities, attracting investment into local innovation ecosystems while promoting the broader principles of circularity and resource efficiency.

For this to happen, regional cooperation must be strengthened to address transboundary environmental issues such as deforestation, illegal mining, and marine conservation. Platforms like the Amazon Cooperation Treaty Organization can integrate AI into cross-border initiatives, enabling better coordination and resource sharing. Similarly, a regional AI observatory could track the implementation and impacts of AI applications in environmental management, providing data to inform policy adjustments and promote knowledge exchange.

By adopting a symbiotic approach to AI, where innovation not only avoids harm but actively contributes to environmental and social resilience, the region can redefine its development trajectory. This vision, if realized, can serve as a model for the global community, demonstrating that technological advancement and environmental preservation are not mutually exclusive but mutually reinforcing pillars of resilient and sustainable development.

Notes

1. This Interlinkage is based on and contains excerpts from Lebdioui, Melguizo, and Muñoz (2025), Regional Human Development Report 2025 Background Paper.

No single road: Rising pressures, waves of change and shifting grounds on human mobility¹

Migration is and has been one of the main escape valves towards greater well-being for inhabitants of LAC. Development setbacks, recurrent shocks and disasters have consistently left individuals in fragile conditions, with no options or resilience mechanisms other than to leave their homeland and communities. In other cases, the conditions under which individuals can fully develop their capacities simply do not exist in their communities of origin due to a lack of opportunities or prevailing threats.

Chapters 4 and 5 highlighted some threats, risks and pressures associated with human mobility in the context of social fragmentation and a changing climate across the region. The pressures emerging from the increased fragmentation of societies and the escalating impacts of an altered climate are, without a doubt, interlinked. These pressures have become increasingly pronounced in human mobility issues, which currently have their own sources of uncertainty and complexity that also lead to rising pressures.

Human mobility in LAC is not occurring in a vacuum; it is increasingly shaped by compounding and intersecting forces—from economic instability and democratic backsliding to climate disruption and social dislocation. Three elements in this dynamic are presented here as rising pressures, waves of change and shifting grounds. These evolving conditions create an environment where mobility is both a coping mechanism and a reflection of deeper systemic ruptures. As these pressures intensify and take new forms, they reshape the geography, temporality and meaning of migration across the region, turning mobility into a central arena where broader development tensions and aspirations are negotiated.

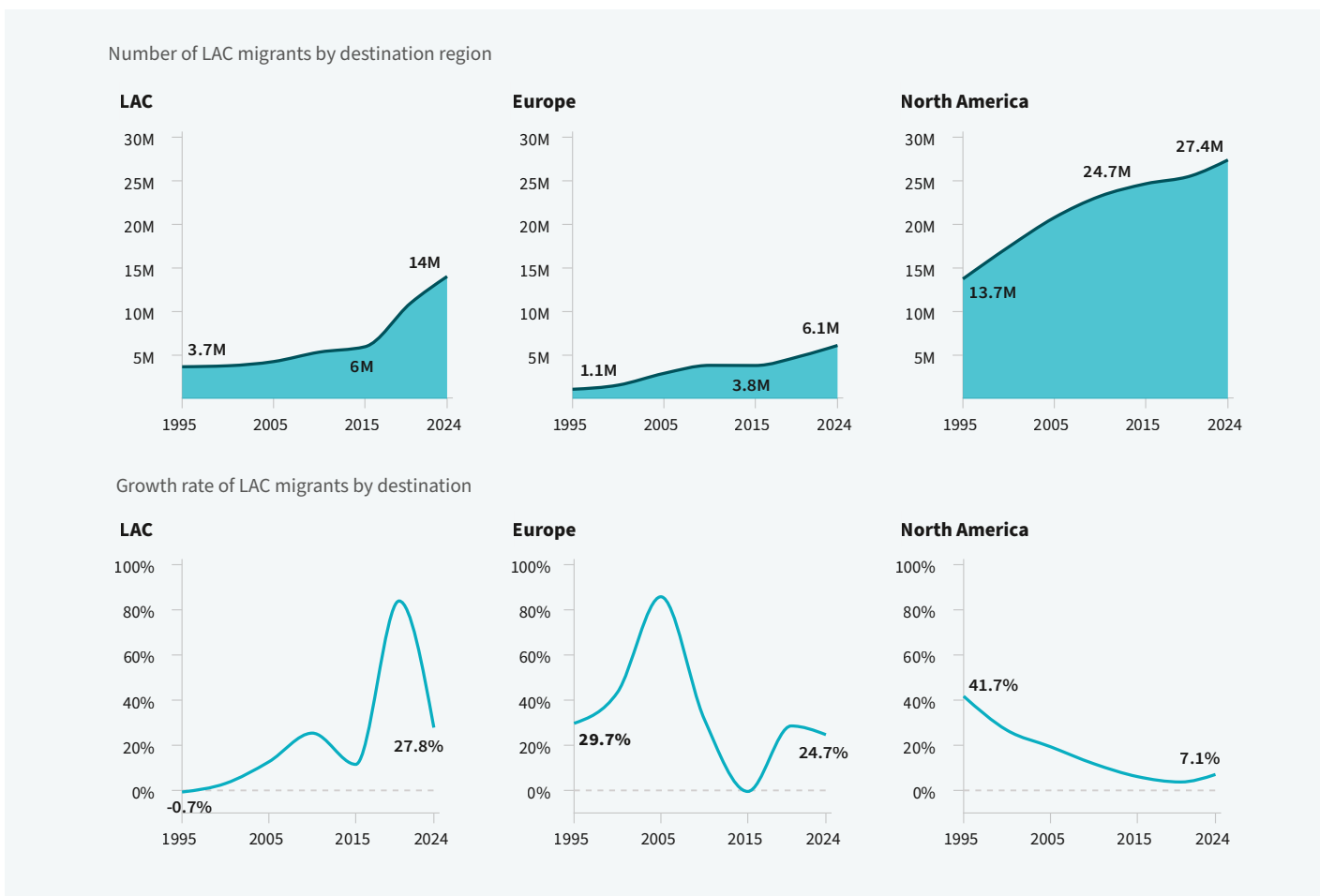
14.1 Same aspirations, changing paths on human mobility in LAC

Recent migration patterns in LAC reveal a region in motion, where movement follows no single path or traditional destination. While outmigration towards the United States, Canada and Europe continues, intraregional migration has expanded more rapidly, reflecting shifting dynamics in labor mobility, transit migration and refugee movements (UNDP, 2023). Countries that were once primarily departure points are now becoming transit hubs or even destinations, as shifting economic conditions, policy changes and evolving social networks redefine mobility across the region.

In recent years, migration flows have increased significantly. From 2019 to 2024, the number of LAC migrants increased by 7.5 percent, rising from 40 million to 43 million people. Migration within the region saw an even sharper increase, with the number of LAC migrants living in another LAC country almost tripling from 6 million in 2015 to over 14 million in 2024 (around 135 percent) (figure I4.1). The traditional destinations of Europe and North America continue to draw migrants, although the incoming flow to those places has slowed over time.

The economic crisis that accompanied the COVID-19 pandemic clearly exemplifies how shocks influence migration flows by increasing migration intentions in the region. In 2021, right after the pandemic, emigration intentions in LAC rose significantly, with almost 4 in 10 people (39 percent) expressing a desire to “live or work in another country in the next three years.” By 2023, this figure decreased slightly to a regional average of 32 percent, yet it remained above pre-pandemic levels, which stood at 28 percent in 2018–2019. It is worth noting that the percentage of individuals who aspire to leave their country

Figure I4.1 During the last decade, migration within the region experienced a sharp increase, but it has slowed in recent years



Source: UNDP's calculations based on UNDESA International Migrant Stock (2024).

has increased in most countries for which cross-time data are available. However in some countries—such as Haiti, Jamaica, Nicaragua, Suriname and the Dominican Republic—more than 40 percent of the population have voiced their intention to leave (figure I4.2).

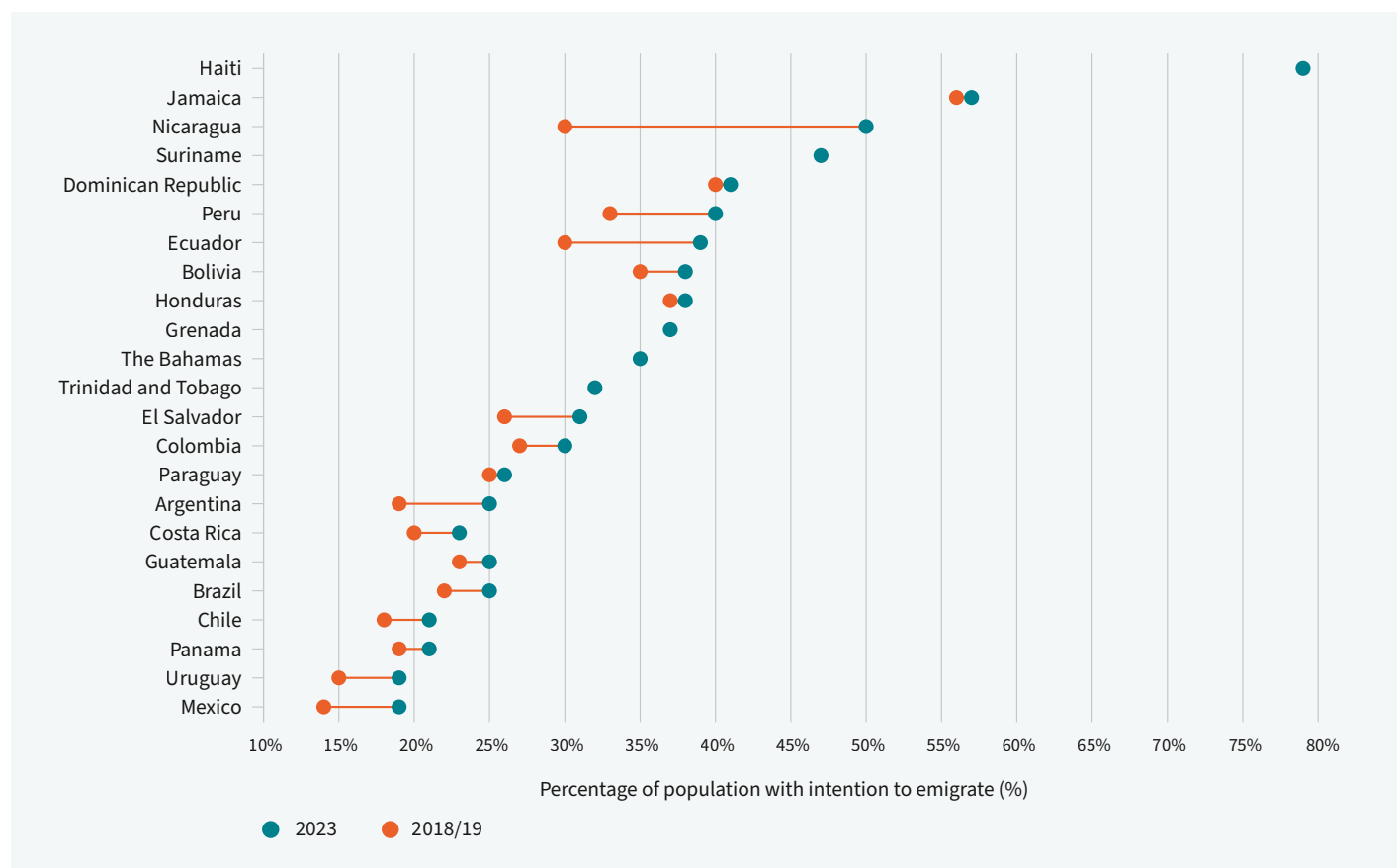
I4.2 Waves of change: shifting migration roles

Migration flows within LAC have increased markedly over the past decade, with many countries in the region assuming expanded roles as countries of transit and destination. A significant portion of this mobility is associated with the displacement of over 7.7 million Venezuelans since 2015, driven by a complex interplay of factors—including sustained

economic hardship, political polarization, institutional challenges, and external constraints affecting the state's capacity to ensure essential services. More than 6 million Venezuelans have settled across the region, particularly in Colombia, Peru, and Ecuador. This evolving pattern of regional mobility has placed considerable pressure on national social protection systems and long-term integration mechanisms, prompting a range of innovative—though uneven—policy responses by host countries (ILO, 2024).

Haitian migration has also intensified in recent years due to political instability, gang violence and repeated natural disasters (ILO, 2024). The Dominican Republic is home to over 500,000 Haitian migrants, most of whom work in construction, agriculture and domestic labor. Chile and Brazil have also received a significant number of Haitians,

Figure 14.2 In most LAC countries, more people than in the past have the intention of leaving their country



Source: LAPOP, Americas Barometer 2018-2023. Vanderbilt University.

though restrictive immigration policies and xenophobic attitudes in recent years have made integration more difficult. Many Haitians are now taking irregular migration routes through Central America and Mexico to try to reach the United States, exposing them to heightened risks, including trafficking, extortion and violence (IOM, 2024).

Transit migration has become a defining feature of mobility in the region, particularly in areas like the Darién Gap between Colombia and Panama, where growing numbers of migrants from South America, the Caribbean, and even Africa and Asia attempt to reach North America. Until early 2025, crossings through the Darién Gap surged 1,267 percent, from 22,102 (in 2019) to over 302,000 (in 2024), mainly from Venezuela, Colombia, Ecuador, Haiti, and Cuba. By mid-2025, however, this trend shifted dramatically, with migration through the Darién Gap virtually coming to a halt (Servicio Nacional de Migración de Panamá, 2025).

14.3 Uncertain grounds: mobility in a changing political and economic landscape

As economic instability, violence, environmental degradation and political uncertainty continue to drive people out of their countries of origin, mixed migration flows have become more common. In consequence, the historical distinction between voluntary migration and forced displacement has become increasingly blurred in a region where multiple crises overlap, shaping large-scale mobility patterns.

Development studies and economic literature have long analyzed human mobility and its causes. The classic 1970 paper by Harris and Todaro, “Migration, Unemployment, and Development: A Two-Sector Analysis,” introduced the foundational model explaining the economic motivations for migration, highlighting wage differentials and employment

probabilities as key determinants of equilibrium. While the search for economic opportunities remains a fundamental driver, scholars have pointed to motivations beyond economic factors.

Remittances represent one of the most direct economic benefits of migration, reaching a record US\$156 billion in 2023. These financial inflows support household consumption, reduce poverty and contribute to economic stability, particularly in regions where formal employment opportunities are scarce (Maldonado and Harris, 2024). These financial flows are crucial to the economies of Guatemala, El Salvador and Honduras, where remittances account for more than 20 percent of GDP. Mexico remains the largest remittance recipient in the region, with US\$66 billion sent by migrants abroad (World Bank, 2024).

In *Exit, Voice, and Loyalty*, published in 1972, Albert Hirschman argues that people seek to be heard in the political sphere and expect governments to be responsive to their demands. And when political voice is absent, individuals may “vote with their feet” and opt out of existing social contracts. The ways people “exit” varies in scale and consequence—ranging from tax evasion and reliance on private services to engaging in illegal activities or migrating. These perspectives remain relevant to human mobility, with migration across borders becoming an increasingly pressing political issue and a mainstream political demand in several developing countries, heightening its already intertwined and multidimensional characteristics. This rising attention has some voices in favor and others more critical. Yet across the spectrum, migrants are increasingly becoming subjects of attention—central figures in political debates, media narratives and public policy agendas—amid a broader context of uncertainty about migration’s future direction, governance and societal impact.

The US administration that took office in January 2025, along with subsequent policy shifts on immigration—particularly repatriation measures and remittance flows—might have short- and medium-term impacts on LAC countries. But they remain a source of uncertainty because there are still elements under development. During President Trump’s first administration, 1.5 million deportations were carried out over four years, while President Biden’s administration oversaw 1.1 million deportations. During the first month of President Trump second term, the United States deported around 37,660 individuals, less than the 2024 monthly average of 57,000 (Hesson, 2025).

The migratory phenomenon and its consequences—whether in countries of origin, transit or destination—pose national, regional and supranational challenges for the entire LAC region. This complexity sits atop shifting ground, offering opportunities for both individuals and communities while also presenting risks and public policy challenges requiring coordinated responses, balancing policies that respect human rights, and addressing security concerns. Migration can act as a mechanism for resilience, allowing people to access better economic and social opportunities, while also benefiting host societies by contributing to labor markets, remittances and cultural diversity. However, these benefits can only be realized if migration policies are structured to protect migrants from vulnerability and support their integration.

14.4 Building resilience through policy and practice

In LAC, migration governance has evolved in response to large-scale displacement and economic migration, with countries adopting diverse strategies to manage mobility and integration. The resilience of migrants and host communities is shaped by policies and practices that either enable or hinder their ability to adapt to new socio-economic and environmental conditions.

One of the most effective ways to enhance migrant resilience is through legal regularization programmes that provide pathways to residency, work permits and social protections. Regularization allows migrants to transition from precarious or undocumented status to full economic and social participation, reducing their exposure to exploitation, discrimination and informal labor markets. Regularization is particularly important for women, children and marginalized groups who face additional barriers to integration. Ensuring that legal status extends to all migrants—regardless of gender, nationality or socio-economic background—is essential for building inclusive and resilient societies.

The ability of migrants to integrate and contribute to host societies depends largely on access to education, healthcare, housing and employment opportunities. Inclusive social policies that incorporate migrants into national service systems are crucial for ensuring that migration translates into long-term benefits rather than humanitarian crises. Though migrants often make significant contributions to labor markets, they frequently face challenges such as discrimination, informal work and underemployment.

Streamlining credential recognition processes and offering targeted labor market integration programmes would maximize the economic benefits of migration, both for migrants themselves and for host societies (IOM, 2024).

As climate change increasingly drives migration in LAC, governments must prioritize policies that address both the root causes and immediate impacts of climate-induced displacement. As millions are displaced by extreme weather events, prolonged droughts and rising sea levels, governments should prioritize policies that integrate climate adaptation strategies with migration management.

Another significant challenge is the lack of harmonized migration policies across the region. Disparities in visa requirements, asylum processes and work permit regulations create obstacles for migrants and limit the effectiveness of regional mobility. Expanding regional agreements that facilitate legal pathways for migration would enhance economic integration and reduce irregular migration.

Finally, financing remains one of the major challenges to effective migration governance. Humanitarian aid for migration crises in LAC has often been underfunded, with gaps in resources affecting essential services such as refugee shelters, employment programmes and legal assistance. Expanding financial commitments from donor countries and international financial institutions will be necessary to sustain long-term migration governance efforts (IDB, 2024).

Notes

1. This Interlinkage is based on and contains excerpts from Khoudour (2025), Regional Human Development Report 2025 Background Paper.

References

- Agosto, Gabriela, and Fabiana Rubinstein. 2022.** "Migration and the 2030 Agenda in Argentina." *International Development Policy | Revue Internationale de Politique de Développement*, no. 14 (April). <https://doi.org/10.4000/poldev.4939>.
- Amnesty International. 2016.** "Bolivia: Hostility against Human Rights Defenders."
- . **2020.** "When It Rains It Pours: The Devastating Impact of Hurricanes Eta and Iota in Honduras." <https://www.amnesty.org/en/latest/news/2020/12/devastating-impact-hurricanes-eta-iota-honduras/>.
- APA (American Psychological Association). 2017.** "Stress in America: Technology and Social Media." <https://www.apa.org/news/press/releases/stress/2017/technology-social-media>.
- Bahar, Dany, Ana María Ibáñez, and Sandra V. Roza. 2021.** "Give Me Your Tired and Your Poor: Impact of a Large-Scale Amnesty Program for Undocumented Refugees." *Journal of Development Economics* 151 (June): 102652. <https://doi.org/10.1016/j.jdeveco.2021.102652>.
- BCRP (Banco Central de Reserva del Perú). 2020.** "Medidas Del Banco Central de Reserva Para Enfrentar El Impacto Del Covid-19 En La Economía." <https://www.bcrp.gob.pe/politica-monetaria/medidas-del-bcrp-frente-al-covid-19.html>.
- Blanchflower, David G., Alex Bryson, and Xiaowei Xu. 2024.** "The Declining Mental Health of the Young and the Global Disappearance of the Hump Shape in Age in Unhappiness." *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.4794387>.
- Bottino, Sara Mota Borges, Cássio M. C. Bottino, Caroline Gomez Regina, Aline Villa Lobo Correia, and Wagner Silva Ribeiro. 2015.** "Cyberbullying and Adolescent Mental Health: Systematic Review." *Cadernos de Saúde Pública* 31 (3): 463–75. <https://doi.org/10.1590/0102-311x00036114>.
- Brazilian Institute of Psychiatry. 2023.** "Anxiety and Depression Prevalence in Urban Centers of Brazil."
- Bursztyn, Leonardo, Benjamin Handel, Rafael Jimenez, Christopher Roth, Daron Acemoglu, Eliana Ferrara, Matthew Gentzkow, et al. 2023.** "When Product Markets Become Collective Traps: The Case of Social Media. National Bureau of Economic Research." https://www.nber.org/system/files/working_papers/w31771/w31771.pdf.
- Cháidez, Azucena. 2025.** "Retratos de La Resiliencia En El Campo: Investigación Cualitativa Sobre Riesgo, Resiliencia Y Desarrollo." *Regional Human Development Report 2025 Background Paper*. No. 49 UNDP LAC Working Paper Series.
- Chambers, Kevoyné. 2024.** "Addressing the Prevalence and Impact of PTSD after Natural Disasters in the Caribbean Population." *Caribbean Medical Journal* 86 (1). <https://doi.org/10.48107/cmj.2024.03.002>.
- Chesney, Bobby, and Danielle Citron. 2019.** "Deep Fakes: A Looming Challenge for Privacy, Democracy, and National Security." *California Law Review*. <https://www.californialawreview.org/print/deep-fakes-a-looming-challenge-for-privacy-democracy-and-national-security>.
- Del Piccia, Lucia, and Stephanie Diepeveen. 2022.** "Misinformation in Brazilian Elections: Can the Judiciary Stem the Tide of Political Misinformation?" *ODI: Think Change*. <https://odi.org/en/insights/misinformation-in-brazilian-elections-can-the-judiciary-stem-the-tide-of-political-misinformation/>.
- Doctors Without Borders. 2023.** "Migrants Left without Protection as Darién Gap Crossings Reach Half a Million." <https://www.doctorswithoutborders.org/latest/migrants-left-without-protection-darien-gap-crossings-reach-half-million>.
- DroneDeploy. 2022.** "DroneDeploy and WWF-Brazil Partner to Support Environmental Defenders of the Amazon Rainforest." *Dronedeploy.com*. <https://www.dronedeploy.com/blog/dotorg-wwf>.
- ECLAC (Economic Commission for Latin America and the Caribbean). 2018.** "The Inefficiency of Inequality." <https://repositorio.cepal.org/server/api/core/bitstreams/8dad94f1-b3b7-47e0-b18a-1d63349d5427/content>.
- Erazo, María José, and Carolina Molina. 2025.** "La salud mental en la población adulta salvadoreña. Un riesgo emergente en un contexto de envejecimiento poblacional y crisis de los cuidados." *Regional Human Development Report 2025 Background Paper*. No. 64 UNDP LAC Working Paper Series.
- Escobar, Carlos. 2023.** "Five Contributions of Migrants to the Growth of Latin American Economies." <https://lac.iom.int/en/blogs/five-contributions-migrants-growth-latin-american-economies>.
- Fermanian Business & Economic Institute. 2013.** "Bioinspiration: An Economic Progress Report." <https://cnnspanol.cnn.com/wp-content/uploads/2014/05/bioreport13.final.sm.pdf>.
- Fox, Michael. 2023.** "Wind Energy in Mexico Is Not as Clean as You Think." *The Real News Network*. <https://therealnews.com/wind-energy-in-mexico-is-not-as-clean-as-you-think>.
- González-Rivero, Manuel, Oscar Beijbom, Alberto Rodríguez-Ramírez, Dominic E. P. Bryant, Anjani Ganase, Yeray González-Marrero, Ana Herrera-Reveles, et al. 2020.** "Monitoring of Coral Reefs Using Artificial Intelligence: A Feasible and Cost-Effective Approach." *Remote Sensing* 12 (3): 489. <https://doi.org/10.3390/rs12030489>.
- Groeger, André, Gianmarco León-Ciliotta, and Steven Stillman. 2024.** "Immigration, Labor Markets and Discrimination: Evidence from the Venezuelan Exodus in Perú." *World Development* 174 (February): 106437–37. <https://doi.org/10.1016/j.worlddev.2023.106437>.
- Guerra, Shannon. 2021.** "A 'Growing Concern': The Public's Xenophobia toward and Discrimination against Venezuelan Migrants in Ecuador - the Yale Review of International Studies." *The Yale Review of International Studies*. <https://yris.yira.org/essays/a-growing-concern-the-publics-xenophobia-toward-and-discrimination-against-venezuelan-migrants-in-ecuador/>.
- GWJ (Global Web Index). 2024.** "The 2024 Social Media Trends Report." *GWB*. <https://www.gwj.com/reports/social>.

Hesson, Ted. 2025. "Trump Deporting People at a Slower Rate than Biden's Last Year in Office." *Reuters*. <https://www.reuters.com/world/us/trump-set-broaden-arrests-deportation-routes-expand-immigration-crackdown-2025-02-21/>.

Hirschman, Albert O. 1970. "Exit, Voice, and Loyalty: Responses to Decline in Firms, Organizations, and States." Cambridge, MA: Harvard University Press.

Horowitz, Jamie. 2020. "Disinformation and Democracy: The Colombian Experience." <https://items.ssrc.org/democracy-papers/democratic-erosion/disinformation-and-democracy-the-colombian-experience/>.

IDB (Inter-American Development Bank). 2024. "Climate Change and Latin America and the Caribbean." <https://www.iadb.org/en/news/climate-change-and-latin-america-and-caribbean>.

ILO (International Labour Organization). 2024. "Human Mobility and Labour Migration in Latin America and the Caribbean. Governance Movements, Trends and Challenges." https://www.ilo.org/sites/default/files/2024-08/ilo_trends_human_mobility_labour_migration_latin_america_caribbean_2024.pdf.

InfoAmazonia. 2021. "Deforestation in the Legal Amazon Grows 22% in 2021, Reaching the Highest Rate in 15 Years." *InfoAmazonia*. <https://infoamazonia.org/en/2021/11/19/deforestation-amazon-grows-22-in-2021/>.

International Transport Forum. 2017. "Corporate Partnership Board CPB."

IOM (International Organization for Migration). 2024. "New Strategy to Support Stabilization and Integration of Refugees and Migrants in Latin America and the Caribbean." <https://www.iom.int/news/new-strategy-support-stabilization-and-integration-refugees-and-migrants-latin-america-and-caribbean>.

Khoudour, David. 2025. "Human Mobility, Resilience and Development in Latin America and the Caribbean." *Regional Human Development Report 2025 Background Paper. No. 50 UNDP LAC Working Paper Series*.

LAPOP Lab. 2025. "Americas Barometer." Data 2010-2023. Center for Global Democracy. Vanderbilt University. www.vanderbilt.edu/lapop.

Latinobarómetro. 2024. "Latinobarómetro 2024 Report: Resilient Democracy." <https://www.latinobarometro.org/lat.jsp?Idioma=0>.

———. 2025. "Data 2008- 2023." *Corporación Latinobarómetro*. Santiago, Chile. <http://www.latinobarometro.org/lat.jsp>.

Lebdoui, Amir, Angel Melguizo, and Victor Muñoz. 2025. "From a Resource-Intensive to a Symbiotic Tech." *Regional Human Development Report 2025 Background Paper. No. 43 UNDP LAC Working Paper Series*.

Lewandowsky, Stephan, and Sander van der Linden. 2021. "Countering Misinformation and Fake News through Inoculation and Prebunking." *European Review of Social Psychology* 32 (2): 1–38. <https://doi.org/10.1080/10463283.2021.1876983>.

Maldonado, René, and Jeremy Harris. 2024. "Remittances to Latin America and the Caribbean in 2024: Diminishing Rates of Growth." Inter-American Development Bank. <https://doi.org/10.18235/0013258>.

Martínez-Cabezas, Sandra, Mónica Pinilla-Roncancio, Gabriel Carrasquilla, Germán Casas, and Catalina González-Urbe. 2024. "Prevalence of Depression and Anxiety in Colombia: What Happened during Covid-19 Pandemic?" Edited by Carla Maria Gomes Marques de Faria. *PLOS ONE* 19 (10): e0282760. <https://doi.org/10.1371/journal.pone.0282760>.

Ministério de Ciência, Tecnologia e Inovações. 2022. "A taxa consolidada de desmatamento para os nove estados da Amazônia Legal em 2022 foi de 11.594 km2." https://www.gov.br/inpe/pt-br/assuntos/ultimas-noticias/a-taxa-consolidada-de-desmatamento-para-os-nove-estados-da-amazonia-legal-em-2022-foi-de-11-594-km2-1/NotaTecnica_consolidado_PRODES_2022.pdf.

Moslimani, Mohamad, and Jeffrey S. asel. 2024. "What the Data Says about Immigrants in the U.S." Pew Research Center. September 27, 2024. <https://www.pewresearch.org/short-reads/2024/09/27/key-findings-about-us-immigrants/>.

National Institute of Health, El Salvador. 2022. "National Mental Health Survey."

Nazar, Gabriela, Mariela Gatica-Saavedra, Alvaro Provoste, Ana Maria Leiva, Miquel Martorell, Natalia Ulloa, Fanny Petermann-Rocha, Claudia Troncoso-Pantoja, and Carlos Celis-Morales. 2021. "Factores Asociados a Depresión En Población Chilena. Resultados Encuesta Nacional de Salud 2016-2017." *Revista Médica de Chile* 149 (10): 1430–39. <https://doi.org/10.4067/s0034-98872021001001430>.

Newman, Nic, Richard Fletcher, Kirsten Eddy, Craig T. Robertson, and Rasmus Kleis Nielsen. 2023. "Digital News Report 2023." *Reuters Institute for the Study of Journalism*. <https://reutersinstitute.politics.ox.ac.uk/digital-news-report/2023>.

Nieves-Cuervo, Giselly Mayerly, Edgar F. Manrique-Hernández, Angelo Fernando Robledo-Colonia, and Elvia Karina Ardila Grillo. 2021. "Infodemia: Noticias Falsas Y Tendencias de Mortalidad Por COVID-19 En Seis Países de América Latina." *Revista Panamericana de Salud Pública* 45 (May). <https://doi.org/10.26633/rpsp.2021.44>.

OECD (Organisation for Economic Co-operation and Development). 2020. "Strategic Foresight: Making Migration and Integration Policies Future Ready." <https://www.oecd.org/content/dam/oecd/en/events/2020/1/ministerial-meeting-on-migration/migration-strategic-foresight.pdf>.

OECD (Organisation for Economic Co-operation and Development), and World Bank. 2023. "Health at a Glance: Latin America and the Caribbean 2023." <https://doi.org/10.1787/532b0e2d-en>.

Orwell, George. 1949. *Nineteen Eighty-Four*. Penguin Clothbound Classics. London, England: Penguin Classics.

PAHO (Pan American Health Organization). 2018. “Mental Health in the Americas: Key Indicators and Prevalence Rates.” <https://hia.paho.org/en>.

———. **2020.** “Mental Health Country Profile: El Salvador.” <https://www.paho.org/en/documents/mentalhealth-country-profile-salvador>.

———. **2021a.** “Mental Health Services Integration with Primary Healthcare Systems and the Role of Telemedicine during the Pandemic.”

———. **2021b.** “The Burden of Mental Disorders in the Region of the Americas, 2000–2019.” <https://www.paho.org/en/enlace/burden-mental-disorders#:~:text=In%20the%20Region%20of%20the%20Americas%3A,per%20100%2C000%20population%20in%202019>.

———. **2022.** “No Time to Lose. Health Challenges for Adolescents in Latin America and the Caribbean.” <https://doi.org/10.37774/9789275126219>.

Pedraza, Jennifer. 2023. “Clearing the Air: Advancing Regional Efforts for Clean Air in Latin America and the Caribbean.” *SEI*. <http://www.sei.org/perspectives/clearing-the-air/>.

Peri, Giovanni. 2020. “Can Immigration Solve the Demographic Dilemma?.” *International Monetary Fund*. <https://www.imf.org/en/Publications/fandd/issues/2020/03/can-immigration-solve-the-demographic-dilemma-peri>.

Rodrigues, Vinícius Picanço, and Marco Antonio Leonel Caetano. 2023. “The Impacts of Political Activity on Fires and Deforestation in the Brazilian Amazon Rainforest: An Analysis of Social Media and Satellite Data.” *Heliyon* 9 (12): e22670–70. <https://doi.org/10.1016/j.heliyon.2023.e22670>.

Rodriguez-Morales, Alfonso J., and Oscar H. Franco. 2021. “Public Trust, Misinformation and COVID-19 Vaccination Willingness in Latin America and the Caribbean: Today’s Key Challenges.” *The Lancet Regional Health - Americas* 3 (November): 100073. <https://doi.org/10.1016/j.lana.2021.100073>.

Romero, José. 2022. “Medidas Del BCRP Frente al COVID 19.” <http://www.bcrp.gob.pe/politica-monetaria/medidas-del-bcrp-frente-al-covid-19.html>.

Roozenbeek, Jon, Eileen Culloty, and Jane Suiter. 2023. “Countering Misinformation.” *European Psychologist* 28 (3): 189–205. <https://doi.org/10.1027/1016-9040/a000492>.

Servicio Nacional de Migración de Panamá. 2025. “Estadísticas – Migración Panamá.” *Migración Panamá*. <https://www.migracion.gob.pa/estadisticas/>.

Smith, Elliot. 2023. “AI May Hold a Key to the Preservation of the Amazon Rainforest.” *Source LATAM*. <https://news.microsoft.com/source/latam/features/ai/amazon-ai-rainforest-deforestation/?lang=en>.

UNDESA (United Nations Department of Economic and Social Affairs). 2024 “International Migrant Stock.” <https://www.un.org/development/desa/pd/content/international-migrant-stock>.

UNDP (United Nations Development Programme). 2022. “Impacto Humano Del Fenómeno Tropical ETA E IOTA En Guatemala.” <https://www.undp.org/sites/g/files/zskgke326/files/2022-08/Impacto%20Humano%20del%20Fen%C3%B3meno%20Tropical%20ETA%20e%20IOTA%20en%20Guatemala.pdf>.

———. **2023.** “Crossing Borders: The Unprecedented Growth of Migration within Latin America and the Caribbean.” <https://www.undp.org/latin-america/blog/crossing-borders-unprecedented-growth-migration-within-latin-america-and-caribbean-0>.

UNICEF (United Nations International Children’s Emergency Fund). 2020. “COVID-19 Vaccines: Misinformation Management Guide.” <https://www.corecommitments.unicef.org/kp/vaccine-misinformation.guide.url>.

———. **2023.** “The Changing Face of Child Migration in Latin America and the Caribbean. A Region like No Other.” <https://www.unicef.org/media/144741/file/Migration-Child-Alert-English-2023.pdf>.

United States Department of State. 2022. “Dominican Republic 2022 Human Rights Report.” https://do.usembassy.gov/wp-content/uploads/sites/117/2023/08/415610_DOMINICAN-REPUBLIC-2022-HUMAN-RIGHTS-REPORT-1-1.pdf.

Valle, Edgar. 2025. “Understanding the Challenge of Resilience and Mental Health in Latin America and the Caribbean.” *Regional Human Development Report 2025 Background Paper. No. 42 UNDP LAC Working Paper Series*.

Walker, Ian F., Laura Asher, Anees Pari, Jennifer Attride-Stirling, Ayoola O. Oyinloye, Chantelle Simmons, Irad Potter, et al. 2022. “Mental Health Systems in Six Caribbean Small Island Developing States: A Comparative Situational Analysis.” *International Journal of Mental Health Systems* 16 (1). <https://doi.org/10.1186/s13033-022-00552-9>.

Wejsa, Shari, and Jeffrey esser. 2018. “Migration in Brazil: The Making of a Multicultural Society.” Migration Policy Institute. <https://www.migrationpolicy.org/article/migration-brazil-making-multicultural-society>.

WHO (World Health Organization). 2020a. “Mental Health Atlas 2020 Country Profile: Ecuador.” <https://www.who.int/publications/m/item/mental-health-atlas-ecu-2020-country-profile>.

———. **2020b.** “Mental Health Atlas 2020 Country Profile: Mexico.” <https://www.who.int/publications/m/item/mental-health-atlas-mex-2020-country-profile>.

———. **2022a.** “World Mental Health Report: Transforming Mental Health for All.” <https://iris.who.int/bitstream/handle/10665/356119/9789240049338-eng.pdf?sequence=1>.

———. **2022b.** “World Report on the Health of Refugees and Migrants.” <https://www.who.int/publications/i/item/9789240054462>.

Winter, Kevin, Matthew J Hornsey, Lotte Pummerer, and Kai Sassenberg. 2024. "Public Agreement with Misinformation about Wind Farms." *Nature Communications* 15 (1). <https://doi.org/10.1038/s41467-024-53278-2>.

Woods, Zonibel, and Micaela Agoncillo. 2024. "How to Confront Gender-Based Violence in a Warming World." <https://www.preventionweb.net/news/how-confront-gender-based-violence-warming-world>.

World Bank. 2018. "Internal Climate Migration in Latin America." <https://documents1.worldbank.org/curated/es/983921522304806221/pdf/124724-BRI-PUBLIC-NEWSERIES-Groundswell-note-PN3.pdf>.

———. 2024. "Remittances Slowed in 2023, Expected to Grow Faster in 2024." <https://www.worldbank.org/en/news/press-release/2024/06/26/remittances-slowed-in-2023-expected-to-grow-faster-in-2024>.

World Bank, UNHCR (United Nations High Commissioner for Refugees), and Joint Data Center and Forced Displacement. 2023. "Venezuelans in Chile, Colombia, Ecuador and Peru a Development Opportunity." <https://documents1.worldbank.org/curated/en/099022024085522704/pdf/P17578013f69d804019f8516ffbb072fc34.pdf>.



Part III

RECALIBRATING DEVELOPMENT





Chapter 6

Recalibrating the future of development in LAC

In a context of increased uncertainty and mounting pressure, what is the way forward? How can we channel the pressure faced by individuals, decision makers, and societies into a force for change, a determination to act? Can we seize this opportunity to recalibrate development progress in LAC?

The answer is yes. Pressure can be a catalyst for action, a driver of hope. The certainty that the future is uncertain, and increasingly so, can galvanize societies to move, unite and innovate, perhaps even more creatively and purposively than before. The challenge is to move beyond merely recognizing that we live in an era of uncertainty and interconnected threats, and instead use this awareness as a guiding lens for policy design and implementation while grabbing the opportunities that emerge from ongoing dynamic processes of transformation.

A central message of this Report is that the development agenda in LAC needs a new playbook, one that is apt for our times and for the future. What worked in the past will no longer suffice. Partly because there is much unfinished business, but also because times have changed. At the centre of this new playbook is resilience—not as a by-product of growth, poverty reduction or climate change adaptation but as a core objective of our development strategies. Without resilience, development progress will be sluggish at best, and experience reversals at worst.

This chapter is organized as follows. The next section outlines a set of guiding principles for what a new development playbook—centred on resilience—could look like for LAC. These principles are intentionally broad, as concrete recommendations require context-specific analysis. Nevertheless, they offer a foundation for decision makers, development practitioners and experts to envision how a resilience-oriented development agenda might take shape in their national or subnational contexts.

The subsequent sections focus on reimagining policy instruments, institutions and infrastructure to meet the challenges of emerging threats and overlapping crises, while capitalizing on potential opportunities. The chapter concludes by reinforcing the Report's central message: in times of uncertainty, the future is not predetermined—it is shaped by our choices. This moment demands not only a renewed push for development progress, but also a collective commitment to protect it. The moment calls for resilience.

6.1 A new playbook for development in LAC with resilience at its core

The story of Paulina, recounted in chapter 2 about the single mother who sells prepared foods at a market, highlights why LAC needs to update its development strategies. When Paulina had to close her business, no instruments were available to her to protect her livelihood and the few assets she had succeeded in accumulating throughout her life. No social programmes or insurance mechanisms were able to “catch” her as her living standards deteriorated. When a shock manifested (regardless of the type of shock), and she was not able to carry out her business, she bore the risk alone. While the shock was temporary, the impact on her life was permanent.

The story of Paulina is in many ways a testimony to the huge success of poverty reduction strategies in the region—she was able to escape poverty, access some level of education, and expect a better life for her daughter—but these strategies fell short of providing a path for her to enter a stable middle class. They allowed her to escape poverty but did little to protect her well-being once she did.

Roughly one in three people in LAC lives in similar conditions as Paulina, not poor, but vulnerable¹—without the financial

stability or access to insurance mechanisms that would allow them to withstand adverse events without significant setbacks in well-being. If we continue using the same development strategies, people like Paulina will remain susceptible to the deterioration of their effective freedoms after even moderate adverse events. And in the aggregate, development progress will continue to stall or reverse when systemic risks manifest.

A central tenet of a new playbook for LAC is the realization that resilience does not happen solely as a by-product of poverty reduction efforts or economic growth, as has often been the underlying assumption of policy design. LAC's development trajectory is evidence that poverty reduction does not fully translate into stability or sustainability in human development progress; the instruments that might be successful for poverty reduction are not necessarily apt for building resilience. In rethinking development policies, an emphasis must be placed on protecting effective freedoms, not just expanding them.² Resilient human development, thus, needs to constitute a core objective of development strategies, including instruments, institutions and infrastructure, that need to be designed with this objective in mind.

Just as poverty reduction and economic growth alone are not enough to build resilience, strategies focused on responses to climate-sensitive events, whether through adaptation, disaster risk reduction, or humanitarian aid, have also proven to be insufficient to build resilient human development trajectories. The region has made notable progress in establishing emergency response mechanisms, particularly focused on addressing extreme weather events. But this has not been enough to prevent significant setbacks in human development when adversity strikes. At the intersection of poverty reduction, economic growth, climate adaptation and disaster risk reduction—agendas that usually operate in isolation—there is a need to embed resilience as a unifying, foundational element around which these efforts can converge. Only by coordinating actions across these domains can countries effectively address interconnected threats and uncertainty, ultimately fostering resilient human development.

In times of uncertainty, the future is not predetermined—it is shaped by our choices. This moment demands not only a renewed push for development progress, but also a collective commitment to protect it. The moment calls for resilience.

Three characteristics of resilient human development are important to highlight before moving on to concrete recommendations. One is that this Report brings forward a view of resilience that is multidimensional and multilayered. It is not just about resilience to one type of shock (i.e. earthquakes), or the resilience of a specific system (i.e. health systems). Addressing resilience shock by shock and system by system can only lead to more siloed, inefficient and ultimately ineffective policies, particularly in an era of interlinked crises and unknown threats. The resilience proposed in this Report is about the capacity of the network of interconnected elements that comprise the capabilities of individuals to withstand and rebound from adversity. It is about the resilience of human development progress to withstand shocks of any type, placing the focus on the elements that make human development progress stable and able to withstand adversity.

A second distinguishing element, closely related to the first, is that while resilient human development focuses on individuals as the unit of analysis, the conditions and actions necessary to achieve it must be established at the societal level. The states of beings that a person achieves (functionings) are individual by definition (i.e. eating sufficient nutritious food), but they can only be achieved within an enabling environment (transformation function) that happens at a societal level (i.e. availability, accessibility, and adequacy of food). Thus, resilience in human development, contrary to the colloquial use of the term—equivalent to *aguante* or endurance—is not about absorbing the impacts of shocks separately. Quite the opposite, resilience needs to be a part of the social contract, reflecting an agreement to collectively manage and distribute risk instead of leaving people to cope alone. Policy instruments, institutions and infrastructure form essential pillars for fostering resilience in communities.

Finally, it is important to stress the instrumental value of resilient human development, even when adverse events fail to materialize. The mere existence of resilience enhances people's agency and autonomy through a real expansion of the life choices that are available during uncertain times. Uncertainty fosters fear, a condition incompatible with freedom. Resilience—providing individuals with mechanisms to navigate adversity, serves as an antidote to fear, cultivating hope instead. Embedded in hope is agency: the capacity to act and influence one's future. In today's environment of heightened uncertainty and frequent disruptions, pursuing human development without resilience is no longer feasible. Resilience, by enabling agency, constitutes the very essence of human development.

Reinventing the playbook is not new to LAC. When the region emerged from the “lost decade” of the 1980s, a period marked by severe economic stagnation, debt crises and social setbacks across the region, it endeavoured to reinvent its institutional structure, building strong monetary and fiscal institutions—institutions that have since been able to largely prevent inflationary and monetary crises (albeit with exceptions). The uncertainty the region faces today, and the decline in development progress, calls again for innovation, this time to prevent future threats from erasing decades of hard-earned social progress.

6.1.1 What would a new development playbook look like?

Every country’s journey advancing resilient human development will be distinct, reflecting unique realities and challenges. Despite these differences, each path fundamentally involves doubling down on human development, not only expanding capabilities, but also safeguarding achievements, and equipping societies with the necessary tools to harness the potential embedded in uncertain times.

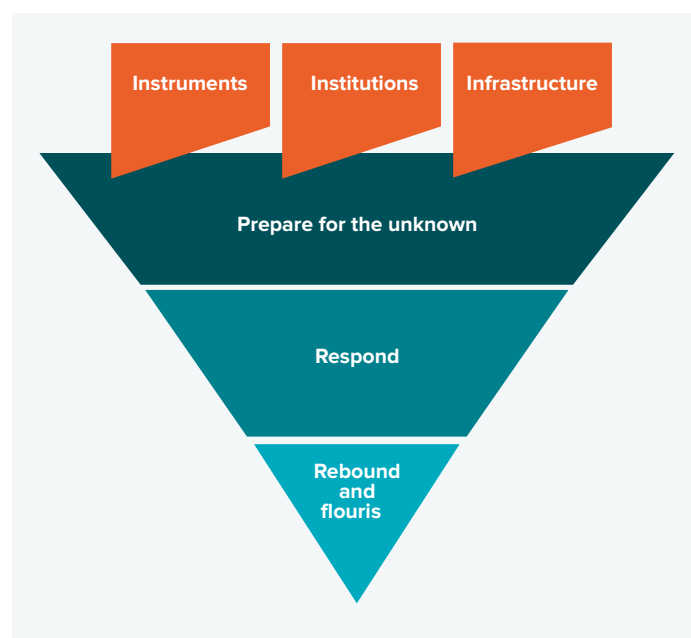
We propose a three “I” framework that provides guidance for building resilient human development in LAC (figure

6.1). The base of the framework is about what capacities are needed to enable resilient human development. Societies need the ability to prepare for the unknown, the capacity to respond to hazards effectively and efficiently, and the means to rebound and flourish if adversity strikes to prevent any permanent effects on people’s well-being.

The top of the framework, the three “I”s, represent mechanisms of change through which these objectives can be achieved: instruments to navigate uncertainty, institutions that embrace complexity, and infrastructure that unleashes the power of local communities.

This framework is not a definitive recipe but prompts questions such as: What instruments would prepare households or individuals to face uncertainty and interlinked shocks? What would institutions that embrace the complexity necessary to prepare societies for unknown threats, or threats with unknown outcomes, look like? How can the physical space that communities occupy facilitate flourishing after adversity strikes? The answers to these questions will be context-specific and must be developed in partnership with local communities, particularly those most vulnerable to shocks. The following sections aim to provide evidence and guiding principles to inform this process.

Figure 6.1 The three “I” framework for resilient human development



Source: Authors’ elaboration.

6.2 Shaping instruments to navigate uncertainty

For the purpose of this Report, instruments are defined as practical tools that enable governments to translate social policy objectives into actionable measures. In LAC, these typically encompass the programmes and mechanisms employed to alleviate poverty, reduce structural inequalities and promote human development in diverse and frequently unequal societies. These instruments include non-contributory programmes—such as conditional and unconditional cash transfers—contributory social insurance schemes, public service delivery systems (in areas like health, education and housing), and labour-market policies. In LAC, social protection systems have emerged as one of the most powerful instruments at the disposal of governments to protect households from risk and to reduce poverty.

6.2.1 The unfinished business of universality in social protection

In recent decades, social protection systems have played a transformative role in reducing poverty across LAC

(Cecchini, Villatoro, and Mancero 2021; Ocampo and Gómez-Arteaga 2018; Stampini and Tornarolli 2012). However, despite notable expansion and innovation, these systems remain fragmented, leaving large segments of the population without adequate protection and poorly equipped to adapt to evolving social and economic contexts.

Initially developed in the early 20th century, LAC's social protection systems emerged as a dual structure comprising contributory schemes alongside targeted non-contributory programmes. Contributory social insurance schemes primarily cater to formal workers, addressing traditional life cycle risks such as old age, disability, maternity, illness and occupational injuries. In parallel, non-contributory programmes, such as conditional cash transfers (CCTs), specifically target poverty alleviation.

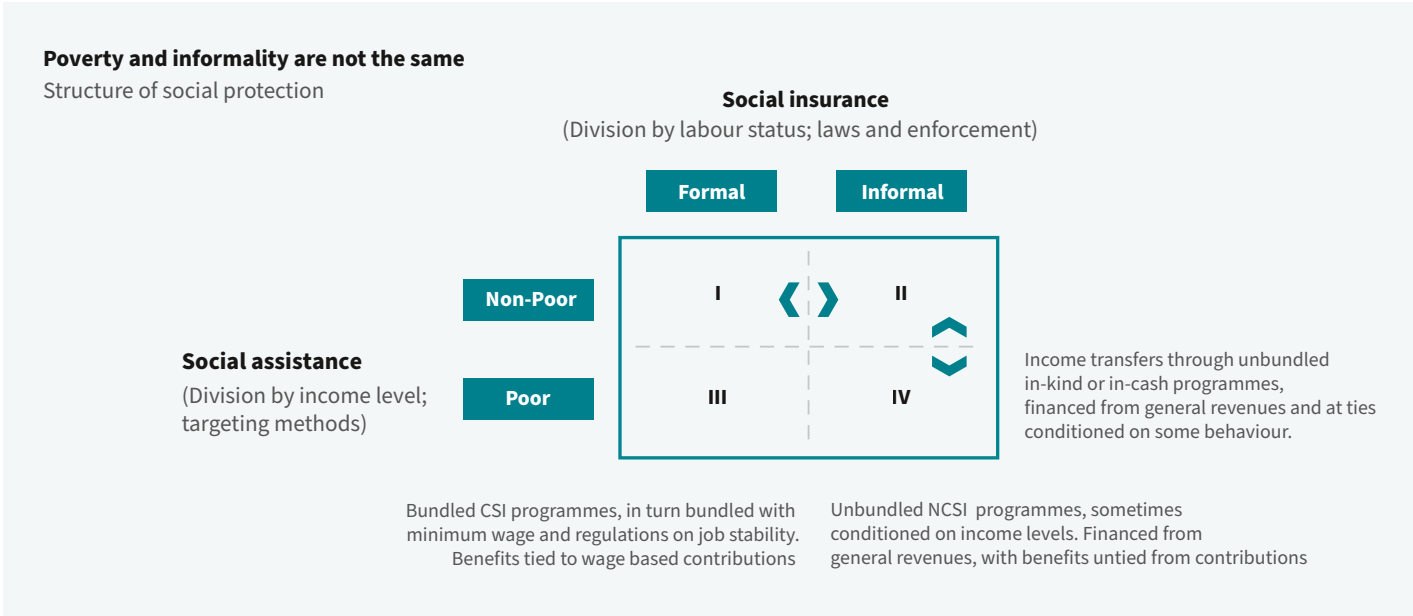
Yet, even with substantial progress in many countries in the region to expand social protection systems, a large segment of informal workers remains uncovered, particularly those who are not classified as poor. Informal workers earning above poverty thresholds often fall outside the reach of both contributory and non-contributory social protection systems (UNDP, 2021; Levy and Cruces, 2021). They do not participate in formal insurance schemes due to their labour status and are typically ineligible for targeted social

assistance because their income exceeds the cut-off for poverty-focused programmes. This “missing middle” of non-poor informal workers represents a substantial share of the workforce in most LAC countries, and these workers remain exposed to shocks without adequate protection (Levy and Cruces, 2021).

Levy and Cruces (2021) illustrate this situation with a stylized matrix mapping workers by income level and formal/informal status (figure 6.2). This framework highlights that many workers with earnings above the poverty line but without formal jobs fall into a coverage gap, receiving neither contributory social insurance nor poverty-focused transfers. In short, the authors underscore a large contingent of informal workers who are not poor but are effectively left out of the social protection system in LAC (UNDP, 2021).

Some countries have made strides towards addressing this coverage gap by extending non-contributory benefits to all informal workers regardless of income. For example, Brazil's unified health system (SUS) provides universal access irrespective of income or labour status. In Colombia, mandatory universal health insurance covers both those who can pay and fully subsidizes the poor (Brun Vergara, García Ruiz and Guzmán, 2024). The pension system also allows voluntary contributions from anyone, regardless of

Figure 6.2 The "missing middle" of social protection systems in LAC



Source: Levy and Cruces (2021).

Table 6.1 A path towards social protection systems that build resilient human development

	Current Social Protection Systems	Universal Social Protection Systems	Resilient Social Protection Systems
Objective	Protect workers from life cycle risks; reduce poverty	Protect workers from life cycle risks; reduce poverty	Protect workers from life cycle risks; protect from covariate risks; reduce poverty
Coverage (de facto)	Formal workers; people living in poverty	Formal workers; informal workers; people living in poverty	Formal workers informal workers/ vulnerable; people living in poverty
Types of interventions	Contributive (health, pension, disability); non-contributive (cash transfers)	Universal (health, pensions); targeted (cash transfers)	Universal (health, pensions); targeted (asset accumulation programmes for the vulnerable, cash transfers for those living in poverty, recovery after shocks for particularly affected populations)

Source: Authors' elaboration.

work arrangement, enabling broader access to retirement benefits (Colpensiones, 2022). However, such universalist approaches are the exception. In most countries, non-contributory programmes are still designed primarily for the poor and often explicitly exclude households with incomes above a certain threshold. As a result, informal workers who are not poor are systematically left out.

Given these conditions, redefining social protection systems as an instrument for resilient human development requires addressing critical systemic gaps. First, there is the unfinished task of achieving universality. Traditional social protection models assumed a smooth transition from poverty-targeted non-contributory support to contributory schemes as individuals moved out of poverty. In reality, this continuum is fractured. A critical priority, therefore, is to address the systemic exclusion of the “missing middle.” Bridging this gap would require to significantly strengthen the asset base of vulnerable populations, offering access to basic health care and old-age pensions that support long-term human capital accumulation.

Achieving universality demands rethinking eligibility criteria and financing models. Social protection must be decoupled from formal employment status, shifting towards universal or residency-based access. Expanding non-contributory programmes beyond poverty targeting—particularly in health and pensions—would extend coverage to all informal workers, reducing vulnerability to shocks and preventing long-term setbacks in well-being.³

While these reforms demand public investment, they offer the potential for greater efficiency, equity, and resilience by integrating currently fragmented programmes into a more coherent and inclusive system. This transformation should be underpinned by interoperable digital infrastructure and financed through sustainable mechanisms that move away from payroll-based contributions and towards progressive general taxation (UNDP, 2021).

Finally, beyond universality, a resilience-oriented social protection system would be designed to function across the three resilience objectives: it would help households and individuals prepare for adversity by supporting asset accumulation; respond rapidly to shocks to contain immediate losses; and facilitate recovery by targeting support to those most affected, enabling them to rebound and rebuild capabilities. This approach repositions social protection not just as a safety net, but as a foundational pillar of resilient human development.

6.2.2 Instruments that prepare—building assets for the vulnerable⁴

The ability of households to cope with shocks depends on a variety of factors, including the types and levels of assets they possess and can be drawn from when adversity strikes. Assets (whether human capital, physical, social, financial or natural) act as buffers to withstand adverse events without compromising effective freedoms. Evidence from Mexico and Chile, discussed in detail in box 6.1, shows that those

that experience deprivations in asset accumulation are disproportionately susceptible to experiencing declines in well-being during shocks (Ecker, Martínez-Aguilar and Ortiz-Juárez 2025).

In LAC, asset ownership across households remains low and unequal, with the poorest still falling behind in terms of human capital accumulation, land ownership, access to financial services, and the ability to tap into social networks.⁵ Evidence also shows that while cash transfers—the region’s cornerstone of social protection systems—have effectively reduced poverty and inequality by increasing consumption and some human capital accumulation, their direct impact on long-term asset accumulation is less pronounced, primarily due to the modest transfer amount and limited coverage (Stampini, Medellín and Ibarrarán, 2025).

Thus, building resilience in LAC will require enhancing social protection programmes with complementary services and an enabling environment for accumulating and utilizing assets. The specific policy design requires context-specific analysis and mapping to determine which assets provide the greatest protection under different circumstances. This section will present some emerging evidence on the role of different types of assets for enhancing resilience during shocks.

Different asset types interact to shape a household’s resilience capacity. Human capital (education, skills, health status) enhances productivity and income potential; financial capital (savings, credit, insurance) provides essential buffers against shocks; physical capital (land, housing, tools) supports livelihoods and wealth creation; and social capital (family and community networks, social support) functions as an informal safety net. These assets are complementary and mutually reinforcing; for example, better health and additional education, may lead to higher earnings—allowing for the accumulation of savings and the establishment of credit; in turn, these assets can be used for additional schooling and health care. Maintaining a diverse mix of assets has been shown to strengthen households’ ability to manage risks and recover from setbacks (Dercon, 2010).

Digital connectivity has emerged as a critical enabler that amplifies the returns on other assets by bridging gaps in information and market access. Strategic investments in ICT infrastructure, digital literacy and online services (e.g. mobile banking, e-learning, telemedicine) can enhance income opportunities and service delivery for underserved communities. The synergies among human, financial, physical, social and digital assets underscore the need for

an integrated approach to resilience; weaknesses in any one asset domain can undermine the strength of the others.

Creating an enabling environment is vital to unlock the resilience potential of household assets. This means tackling the structural barriers that perpetuate asset inequality, while directly boosting the asset base of the vulnerable. Some targeted interventions (albeit not a comprehensive list) that could be part of a comprehensive resilience-focused social protection package include:

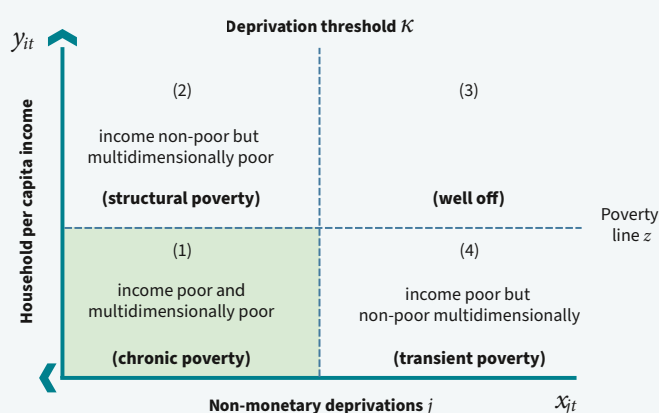
- Digital inclusion that allows households to leverage other assets by improving access to information, markets, and services. For example, mobile banking and e-commerce platforms enable low-income entrepreneurs to reach customers and access financial services remotely. Such measures can increase returns on assets and facilitate income diversification, especially when paired with supportive policies to bridge the digital divide.
- Asset transfers and financial inclusion that directly enhance the asset base of the poor while improving their access to financial instruments. Targeted asset transfer programmes—such as providing seed capital, tools, livestock or small grants—giving ultra-poor households a tangible means to generate income. Some experimental evidence shows that “graduation” approaches that combine asset transfers with skills training and financial services can lift households out of extreme poverty. In tandem, inclusive financial services such as microcredit, savings groups, and insurance tailored for low-income and informal workers could improve financial inclusion. Removing barriers to credit (e.g. lack of collateral or credit history) is also critical, as well-off households currently enjoy about two times the access to credit of chronically poor households in LAC (as shown in chapter 1).⁶ Financial inclusion initiatives enable poor families to invest in livelihoods and protect themselves against shocks, strengthening their long-term resilience.
- Education quality and skills development efforts that prioritize improvements in the quality of education and the relevance of skills training for disadvantaged populations. It is not enough to increase years of schooling; the learning outcomes and marketable skills gained are what determine resilience dividends. Governments should invest in teacher training, school infrastructure and curriculum reforms in poor communities to close the learning gap. There is an opportunity to leverage AI to complement efforts to improve quality education.

Box 6.1 Mapping assets and household resilience in Mexico and Chile

Ecker, Martínez-Aguilar and Ortiz-Juárez (2025) identify critical assets for resilience, sorting households into one of four quadrants given their level of income poverty and non-monetary deprivations. The analysis employs the approach developed by Bolch, López-Calva, and Ortiz-Juarez (2022), illustrated in figure 6.3, which assumes that the simultaneous experience of monetary and multidimensional poverty can be an approximation of chronic poverty.

Households in the bottom-left quadrant (1) are chronically poor, facing both monetary poverty (per capita income below the poverty line z) and multidimensional deprivation (failing to meet a threshold k in non-monetary dimensions). Those in the upper-left quadrant (2) are structurally poor, with incomes above the poverty line but facing multidimensional deprivation, indicating barriers to leveraging income for resilience. Those in the lower-right quadrant (4) are considered transient poor, with incomes below the poverty line but non-deprived multidimensionally, indicating temporary monetary poverty with a potential for recovery. Those in the upper-right hand quadrant (3) are the well-off, with incomes above the poverty line and minimal multidimensional deprivation (if any), indicating resilience.

Figure 6.3 A stylized representation of household poverty status



Source: Bolch, López-Calva, and Ortiz-Juárez (2022).

The chronically poor, who hold the smallest and least diverse array of assets, are the most vulnerable to shocks due to their limited ability to respond and recover. By contrast the well-off, who live above poverty line and hold greater and more diverse assets, are expected to be the most resilient. The transient poor, who hold more assets than the structurally poor group, are better positioned to respond to shocks than structurally poor households, consistent with their potential to fluctuate above and below the monetary poverty line.

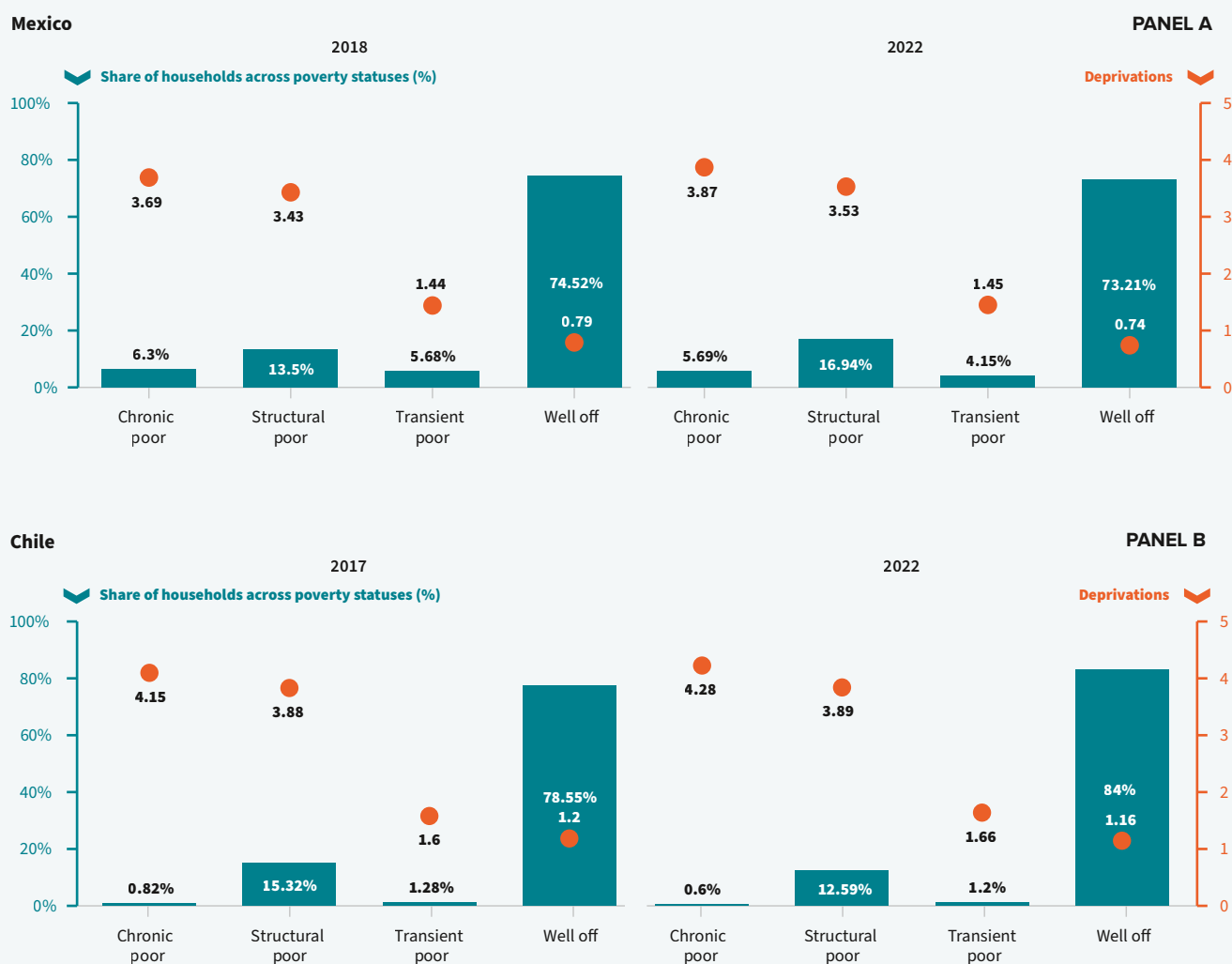
This analysis looks at the dynamics of household asset distribution in Mexico and Chile, comparing household deprivations before and after the COVID-19 pandemic (between 2018 and 2022, and 2017 and 2022, respectively).

In the case of Mexico, the COVID-19 pandemic significantly impacted those who experienced either chronic or structural poverty, affecting not only the size of these two groups but also the deprivations they experienced (figure 6.4, panel A). Households in the chronically poor quadrant faced profound structural constraints, preventing them from accumulating the resources necessary to escape poverty. While the relative size of this quadrant remained relatively stable from 2018 (6.3 percent) to 2022 (5.69 percent), deprivations worsened during this period; the average number of deprivations experienced by this group increased from 3.69 to 3.87, with a more pronounced rise observed in rural areas compared to urban ones. This rise was partly driven by an increase in health care deprivation across the population, which can be explained by the 2019 phase-out of the universal health care programme, *Seguro Popular*. By contrast, deprivation levels in all other dimensions declined across all quadrants over the same period.

The structurally poor group experienced the most significant transformations from 2018 to 2022, marked by both an increase in the group's size and a deterioration in its living conditions. The proportion of structurally poor households increased from 13.5 percent in 2018 to 16.9 percent in 2022, with a slightly larger increase observed in rural areas compared to urban ones. The average number of deprivations also increased for this group, rising from 3.43 to 3.53.

In Chile, changes across poverty groups were more subtle but still significant. While the size of the chronically and structurally poor groups declined, the chronically poor experienced an increase in the number of deprivations from 4.15 to 4.28 (figure 6.4, panel B).

Figure 6.4 Household distribution across poverty quadrants and average deprivations, Mexico and Chile



Notes: The graph displays the household distribution across poverty quadrants and average deprivations using data for Mexico and Chile.

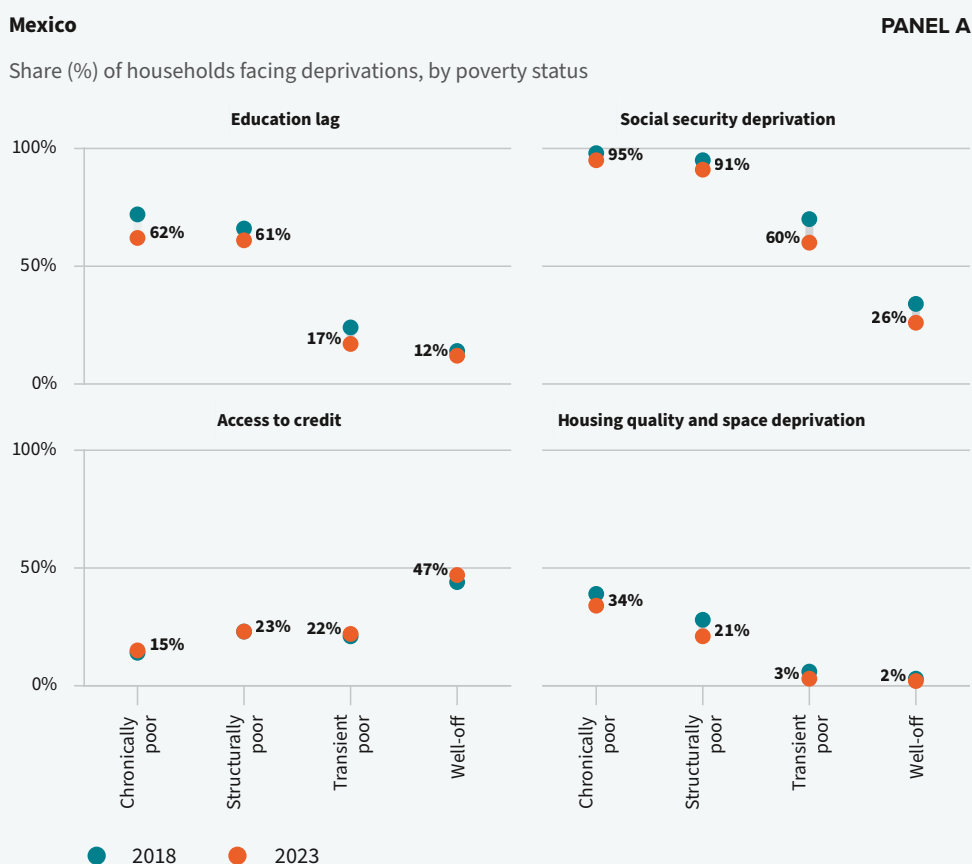
Source: Ecker, Martínez-Aguilar and Ortiz-Juárez (2025).

The differences among households in each quadrant in both countries becomes more evident when examining their endowment of assets (figure 6.5). For example, when looking at households that experience an education lag (a measure that reflects disparities in access to and attainment of education across poverty quadrants) in Mexico, we observe that 62 and 61 percent of the chronically and structurally poor respectively, experience education lag, compared to 17 and 12 percent of the transient poor and the well-off, respectively. In Chile, 72 and 69 percent of the chronically and structurally poor lack compulsory schooling, compared to only 19 and 18 percent of the transient poor and well-off.

Similar differences can be observed when looking at access to social security. In Mexico, 95 percent of those who were chronically poor and 91 percent of those who were structurally poor in 2022 lacked access to social security, reflecting the informal nature of employment across all worker types. Among the transient poor, deprivation in social security decreased to 60 percent in 2022, but remained high, while only 26 percent of those who were well-off were deprived of access to social security. The chronically poor were 3.6 times more likely to be deprived of access than the well-off. In Chile, access to social security decreased between 2017 and 2022 for the less well-off groups. While only 1 in 4 people of the transient poor and well-off did not have access to social security, 55 and 71 percent of the chronic and structurally poor were outside of the social security system.

When examining financial assets, those who are well-off are twice as likely to access credit as those who are structurally poor in Mexico—47 percent versus 15 percent, respectively. And when looking at physical assets, specifically to housing quality and space deprivation, the disparities are even greater. In Mexico, 34 percent of the chronically poor face deprivations in housing quality and space compared to 2 percent of the well-off. In Chile, 54 percent of the structurally poor lack adequate housing compared to 16 percent of the transient poor.

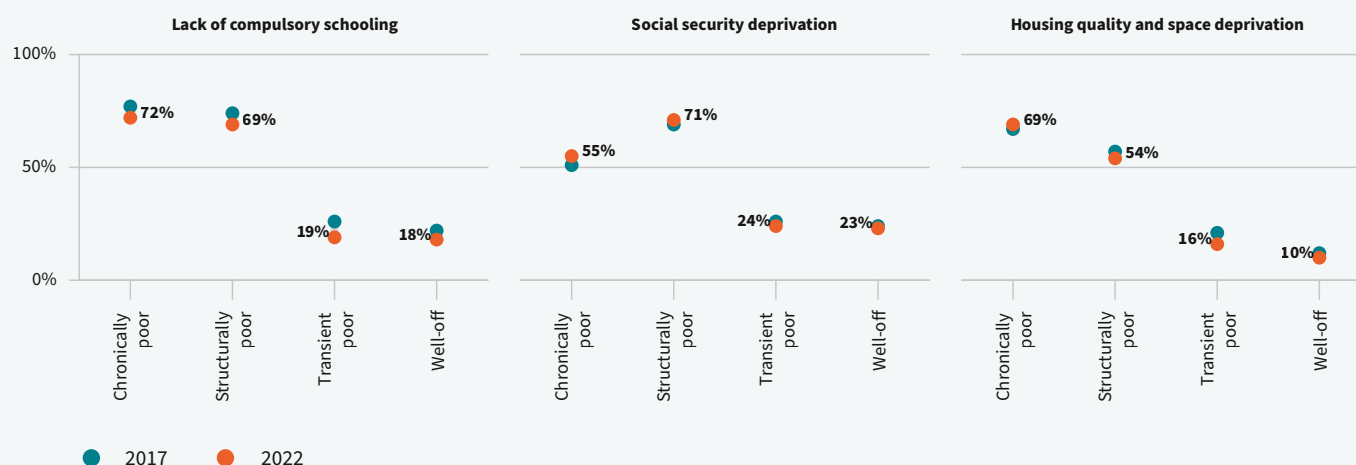
Figure 6.5 Deprivations and changes by poverty quadrant, Mexico and Chile



Chile

PANEL B

Share (%) of households facing deprivations, by poverty status



Notes: The figure shows the household distribution across types of deprivation by poverty quadrant using data for Mexico and Chile. The labels display values for 2022 (Chile) and 2023 (Mexico).

Source: Ecker, Martínez-Aguilar and Ortiz-Juárez (2025).

The results of this study evidence the vulnerability of structurally and transient poor households. In Mexico while the structurally poor, increased their number of deprivations, the transient poor decreased its size from 5.7 percent in 2018 to 4.2 percent in 2022, with a slightly sharper decrease observed in rural areas. At the same time, the size of the structurally poor increased from 13.5 to 16.94 percent. These opposing trends suggest that some transient poor households transitioned into the structurally poor category. Within this group, the analysis reveals a divergence; households with fewer deprivations managed to maintain or slightly improve their conditions, while those facing more deprivations likely transitioned into structural poverty.

In Chile, robust COVID-19 era measures appear to have helped those within the structurally poor group with the least deprivations, transition towards transient poor, reducing their share by 2.7 percentage points—without changing the group’s average deprivations. This pattern implies that income supports, wage subsidies and uninterrupted health coverage enabled this group to withstand the shock of the COVID-19 pandemic, and those with the fewest asset deficits to improve their well-being.

These findings underscore the importance of the asset-based approach, which rests on the idea that income alone is insufficient for sustainable progress. Vulnerable households often lack the necessary resources to withstand shocks, leaving them at heightened risk of sliding deeper into poverty. For the well-off group, there were no statistically significant changes, suggesting that its members have solid mechanisms to bear shocks.

Source: Ecker, Martínez-Aguilar and Ortiz-Juárez (2025).

A randomized pilot using generative AI as a virtual tutor in secondary education led to an improvement in student learning equivalent to 1.5 to 2 years of regular instruction. Students engaged in twice-weekly after-school sessions where they used AI powered tools to complete curriculum-aligned English assignments, with notable gains in both language proficiency and digital skills (De Simone and others, 2025). Moreover, expanding vocational training, certification programmes, and re-skilling opportunities (especially for youth and women) can help align human capital with labour-market demand. The goal is to ensure education truly expands capabilities—countering the current pattern where education delivers low returns for the poorest. High-quality education and training, coupled with job placement support, will enable people to secure better-paying, formal jobs, thus converting human capital into greater financial stability.

- Care infrastructure that reduces the burden of unpaid care work on poor households (particularly on women) and strengthens community support networks. Investing in childcare, eldercare, and disability care services has a triple benefit: it creates jobs in the care sector, frees up caregivers (often women) to pursue education or employment, and improves human capital outcomes for children and dependents. For instance, accessible child-care centers and community care programmes allow parents to enter the labour force or upgrade their skills, which over time increases household earnings and resilience. Strengthening support systems for caregiving—including community-based care and associated programmes—builds social capital and trust within communities. By recognizing and supporting care as essential infrastructure, policymakers can address a significant structural barrier to equal economic participation.

Box 6.2 Care systems for resilience

In LAC, unpaid care work is equivalent to 21 percent of GDP, with women contributing three-fourths of this share (UNDP, 2024b). By investing in policies that support women's participation in the economy, such as affordable childcare, paid parental leave, and flexible working arrangements, societies can harness the full productive capacity of women. For example, expanding access to childcare tends to increase women's participation in the labour force by about 1 percentage point initially, and this impact doubles over five years (World Bank, 2025b).

At a regional level, care has been recognized by governments as a fundamental human right, emphasizing its crucial social role in supporting the production, reproduction, and well-being of societies. Over the past 45 years, within the framework of the Regional Conference on Women in Latin America and the Caribbean, governments have adopted a series of agreements focused on care policies and shared responsibility among the state, the private sector, families and communities.

These agreements promote the collection of data on time use and care work, its economic value and the development of comprehensive caregiving systems that are gender-sensitive, intersectional, intercultural and recognize human rights. In response, comprehensive care systems have progressively materialized across the region.

Despite progress, countries in the region still have a significant way to go in terms of the creation, coverage, and reach of care services aimed at the diverse target populations of care systems. The development of these services must be coordinated to ensure their long-term sustainability under a governance system that establishes a clear structure along with guiding principles and guidelines to direct expected outcomes in the short, medium, and long-term.

Notable advancements have been made in creating care services, particularly those for early childhood. However, it is crucial to broaden the focus to address the needs of other population groups: elderly individuals in dependent situations; people with disabilities requiring assistance; school-age children needing care while their parents work; and caregivers themselves. A systemic approach to care seeks to integrate all stakeholders in designing systems tailored to the contexts and realities of each country, which is essential for the relevance and validation of the needs of target populations (Lupica and others, 2024).

Each of these interventions reinforces the others. For instance, better education and childcare enable people to take advantage of digital opportunities. A policy package that combines asset-building programmes with structural reforms will have the greatest impact. Fostering household asset resilience in LAC requires not only boosting the assets themselves but also dismantling the structural barriers that prevent people from using those assets effectively.

6.2.3 Instruments that have the ability to respond to hazards⁷

Beyond their exclusion errors and narrow focus on cash-based transfers, traditional social protection systems in LAC were not designed to address systemic or covariate shocks, such as economic crises, pandemics or climate-related disasters, that affect large segments of the population simultaneously. These systems were originally built around contributory insurance models aimed at managing life cycle risks like unemployment, disability or old age. Under this model, resources are pooled from formal workers and redistributed based on individual need.

When systemic shocks occur, responses tend to be ad hoc, reactive and fiscally improvised. For example, temporary cash transfer programmes are frequently created in the aftermath of a crisis rather than deployed through pre-existing, scalable systems designed for shock response (Williams and Gonzalez, 2020). As a result, these interventions offer only short-term relief and do little to build long-term resilience.

In response to these limitations of traditional social protection, the concept of adaptive social protection emerged in the late 2000s, linking social safety nets with disaster risk management and climate adaptation (Bowen and others, 2020). The goal of adaptive social protection is to enable social protection programmes to help vulnerable households prepare for, cope with, and adapt to shocks, particularly those related to extreme climate events, ensuring that hazards do not derail development gains (Williams and Gonzalez, 2020).

This marked an important shift from viewing social protection merely as a safety net to recognizing it as a tool for risk management and shock response. Despite its conceptual appeal, the adoption of adaptive social protection in LAC has been slow. While some countries have adapted existing social programmes to respond to shocks, few have integrated contingency plans or preventive permanent programmes within their social protection systems—e.g. pre-arranging a cash transfer programme that could expand coverage

or increase benefits in an emergency or set up dedicated budget lines or insurance mechanisms to fund these scale-ups. Still, there are important challenges to address, such as institutional fragmentation, fiscal constraints, and limitations in the collection and use of data.

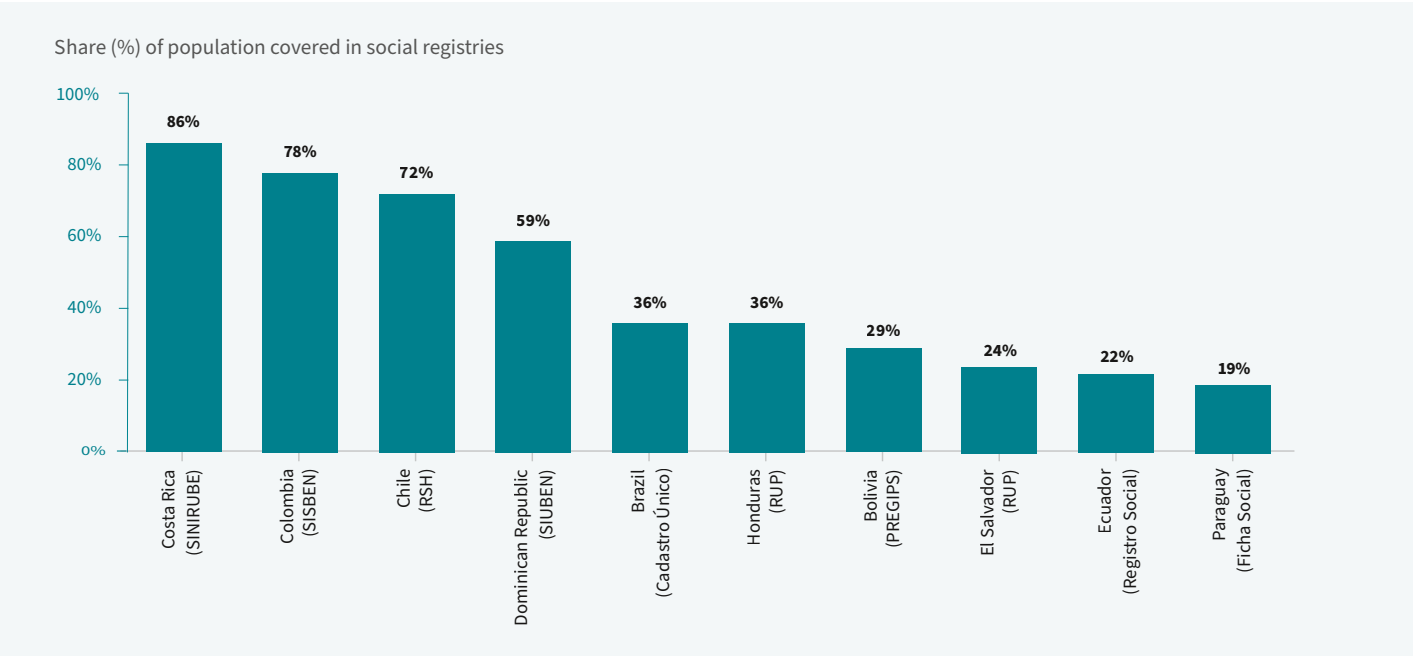
The COVID-19 pandemic provided an unprecedented stress test for LAC's social protection systems. Faced with a simultaneous shock affecting every country, governments rapidly expanded social protection programmes both vertically and horizontally—increasing benefit amounts and enrolling millions of new beneficiaries—to cushion the socio-economic impacts of lockdowns (Gentilini and others, 2022). This massive effort highlighted both the strengths and areas for improvement in LAC's systems (Tisei and Ed, 2023).

The pandemic response was largely reactive, but it clearly demonstrated the value of having adaptive capacity: countries with flexible delivery systems and comprehensive social registries were able to respond faster and cover more people. After the pandemic, many LAC governments moved to formalize adaptive measures—for example, updating social protection laws to include pandemic and disaster response protocols, and investing in stronger information systems for shock detection and beneficiary outreach (Tejerina and Bagolle, 2024). The concurrent shocks of the pandemic, global supply chain disruptions, and subsequent food and fuel price spikes in 2021 and 2022 further reinforced the urgency of move towards universality in social protection systems and the importance of adaptive social protection not only for climate events, but other types of shocks.

While this concept of adaptive social protection allows for social protection systems to respond to covariate risks, three considerations are important to ensure that it is an instrument for resilient human development.

First, it needs to go beyond reactive responses to mostly climate related risks, triggered only when certain markers are activated (for instance, when water levels rise above a certain threshold in flood prone areas). While these are important foundations to build on, these systems need to have the capacity to respond to a broader range of shocks. This will require the use of data and information systems available, including robust, interoperable information systems and social registries (Karippacheril and others, 2024; Cecchini and Martínez, 2011). This is particularly relevant since in several countries in the region, social registries have

Figure 6.6 Heterogeneity in coverage of social registries across LAC



Notes: Social registry coverage is calculated as the total number of individuals in social registries (latest data publicly available from country sources) divided by the total population (using 2020 data from the United Nations World Population Prospects).
Source: UNDP (2020a).

Table 6.2 Multidimensional indices to assess deprivations across dimensions

Index	Description
Global Multidimensional Poverty Index (MPI)	The MPI assesses poverty by measuring multiple deprivations at the household level across dimensions such as education, health, and living standards.
Livelihood Vulnerability Index (LVI)	The LVI evaluates household vulnerability to environmental and socio-economic stressors, incorporating factors like access to resources and coping strategies.
Climate Vulnerability Index (CVI)	The CVI assesses the susceptibility of communities to climate-related hazards, considering factors such as exposure, sensitivity, and adaptive capacity to climate change.
Multidimensional Vulnerability Index	The MVI examines various deprivations and vulnerabilities across different dimensions using methodologies like the Alkire and Foster approach to provide a comprehensive view of household vulnerabilities.

Source: Adapted from Hahn, Riederer, and Foster (2009); Gerlitz and others (2016); Alkire and Santos (2014); Jones and others (2022); Alkire and Moreno (2024).

been essential for the rapid scale up and delivery of benefits during crises. Where coverage of these systems is high and information is continuously updated, these information systems have the potential to also serve as powerful inclusion systems. However, there is wide heterogeneity across the region in terms of coverage of social registries as shown in figure 6.6.

Other relevant sources of information include geospatial technologies, such as Geographic Information Systems (GIS), that can map the geographical distribution of hazards and overlay them with socio-economic data, like georeferenced censuses and administrative records, to identify vulnerable populations, and target interventions effectively (Fekete, 2009). GIS tools can also be used to overlay information with

key public infrastructure, such as care facilities for children, elder persons or persons with disability. Additionally, several available indices can be used to assess vulnerability across multiple dimensions (table 6.2). By utilizing these methods, policymakers and practitioners can gain deeper insights into the specific challenges faced by different populations, leading to more targeted and effective social protection strategies.

Community-based assessments are also fundamental to ensure that local knowledge and perceptions of risks are incorporated into response mechanisms. Participatory approaches, such as community risk mapping and focus group discussions, provide valuable insights into the specific vulnerabilities and coping strategies of communities, ensuring that interventions align closely with community needs (Chambers, 1994).

Second, social protection systems need to have the agility and flexibility to expand and adjust as needed as multiple threats arise and evolve. This shift is crucial for addressing long-term vulnerabilities, ensuring communities receive support after a crisis, and preparing for and mitigating impact (Kuriakose and others, 2013). Flexibility in these systems involves the capacity to scale programmes based on the population's needs and the severity of the crisis, ensuring that adjustments can be made efficiently. This requires systems to be adaptable in key areas such as coverage, adequacy and duration of payments, enabling them to address evolving circumstances without delays or excessive procedural changes (Bowen and others, 2020; UNDP, 2025b).

Finally, the response capacity of social protection systems needs to be financially sustainable and budgeted in advance—not reactively. Sustainable social protection systems need

Box 6.3 Mapping care in Latin America and the Caribbean: Closing policy gaps at the local level

UNDP's Care Georeferencing Tool offers a systematic approach to mapping and analyzing care services by integrating diverse data sources—administrative records, census data, web scraping, AI-driven population projections and collaborative mapping. It compiles georeferenced data on public, private, and community care providers; estimates population care needs (e.g., children, persons with disabilities, or the elderly); and identifies underserved areas and “care deserts” by analyzing coverage, travel times, and accessibility gaps.

These insights are visualized through ‘Care Maps’—custom tools designed for national or local governments to identify gaps in care and priority areas of intervention. Figure 6.7 presents an example of care mapping by overlaying the distribution of care centres in Distrito Central in Honduras, making visible the areas with limited coverage.

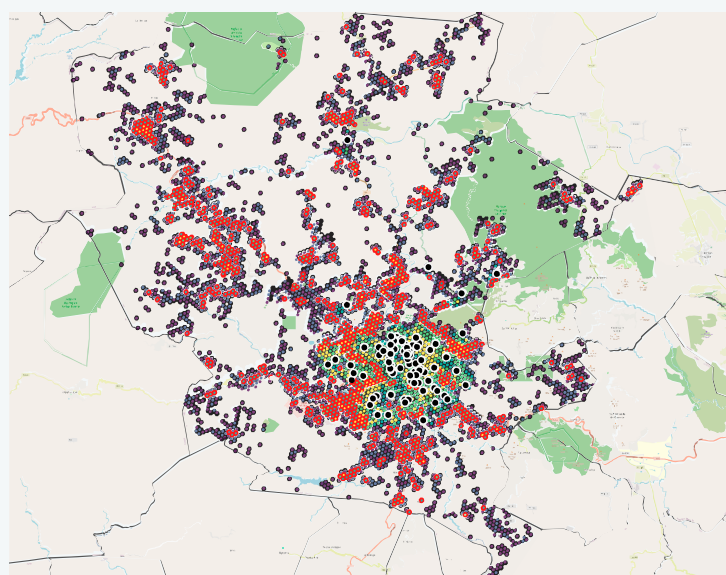
Figure 6.7 Identifying care deserts for older adults in Distrito Central, Honduras (2025)

Care services supply for older adults (aged 60 and over)

- 0-5
- 20
- 35
- 55
- 55+

Care deserts
Desert

Source: De los Santos (2022; 2025).



to be primarily rooted in national budgets, ensuring stable and predictable funding, and responding to emergencies should be part of the ordinary budget of social protection programmes, rather than an extraordinary expenditure. Here, coordination and cooperation with institutions in charge of disaster risk reduction, climate change adaptation and emergency response could prove several efficiencies. Temporary funding sources, such as international aid or private sector contributions, can complement these efforts, serving as transitional mechanisms towards full sustainability or as emergency support during crises (Bowen and others, 2020; World Bank, 2025a).

6.2.4 Instruments that enable individuals to rebound and flourish

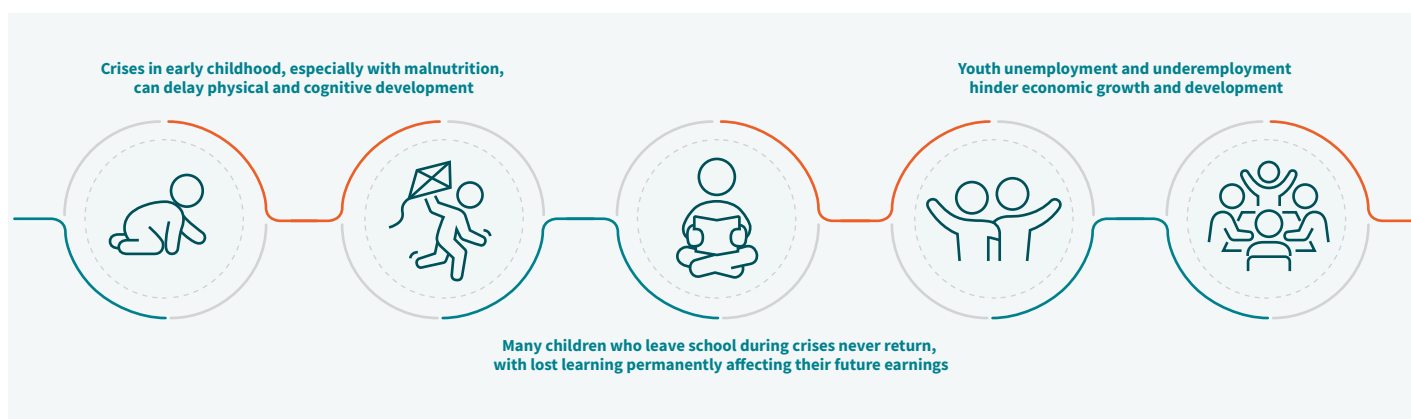
Ensuring that individuals can rebuild and thrive after experiencing shocks is a fundamental aspect of resilient human development. Often, emergencies leave people with diminished assets and capabilities, impacting both their present and future well-being. Public policy and interest usually moves on soon after the hazard is over, leaving behind those who suffer specific long-term harms. While well-being indicators may recover on average, individual freedoms and opportunities often do not rebound for specific groups and cohorts.

The impacts of adverse effects are particularly pronounced at specific stages of the life cycle. Children exposed to malnutrition during formative years can suffer from physical and cognitive developmental delays. Such early-life adversities have long-lasting impacts on health and human

capital accumulation. Additionally, income instability during childhood is associated with negative outcomes in cognitive development and overall well-being (Fernández and López-Calva, 2010; Hill and others, 2013; Rosales, 2014; Johnson and Schoeni, 2011). Not all children who leave schools during crisis will return, and the learning losses during periods of absence are not necessarily recovered, forever altering children's income generating trajectory and their chances of leading fulfilling lives (Fernández and López-Calva, 2010; Rosales, 2014). Young individuals entering the labour market during economic downturns are more likely to secure lower-paying jobs, adversely affecting their lifetime earnings. Research indicates that graduating in a recession can reduce earnings for up to 10 years, with the initial job quality playing a significant role in long-term career development. Moreover, youth unemployment and underemployment lead to missed opportunities for economic growth and development, increasing pressure on labour markets and potentially resulting in social unrest (Andrews and others, 2020; Gould and Kassa, 2020).

Part of building resilient human development is addressing this long-term loss of effective freedoms for specific groups. Rebounds should occur post-crisis, aiming to restore pre-existing conditions or even create opportunities for improved resilience. Among the asset losses due to negative shocks are both direct losses, such as the destruction of a house in the case of a fire, and indirect losses, such as the loss of learning among children caused by school closures during COVID-19, or the deterioration of physical and/or mental health following an earthquake. Public policy responses should aim for a comprehensive approach to

Figure 6.8 Permanent impacts of shocks across the life cycle



Source: Authors' elaboration.

asset loss, including long-term monitoring of the affected population. The rebuild and flourish phase focuses on sustainable recovery, addressing structural vulnerabilities exposed by crises, and implementing reforms for long-term benefits.

These instruments can include housing subsidies, access to grants or credits, productive land recovery programmes, preferential access to social services, tutoring or tailored learning programmes, or labour-market inclusion initiatives. Across the region, social protection systems often do not include a comprehensive strategy to address the direct and indirect long-term losses that households and individuals face, and tend to be limited to a series of fragmented responses.

The recovery process should not only focus on restoring what was lost but also in creating opportunities to improve pre-crisis conditions, particularly by addressing the structural gaps that contributed to vulnerability. For instance, in the education sector, a reform that promotes inclusive digitalization and enhanced access to technology could ensure long-term improvements in the quality of education, potentially surpassing pre-crisis levels. Also, to recover from learning losses caused by school closures, potential strategies include intensive tutoring programmes focused on core subjects to bridge knowledge gaps or hybrid learning platforms that combine online and in-person education to ensure continuity and flexibility. After a shock that exacerbates social fragmentation, measures to rebuild trust in institutions and solidarity among diverse social groups, such as integration programmes, could foster social cohesion.

To effectively implement these interventions following shocks, timely and accurate information is critical for identifying and tracking affected populations. Most countries rely on administrative data—such as social security records and tax information—to identify households in need. However, these sources of information have two major limitations during and in the aftermath of crises: the data collected is not available in real time, limiting its ability to contribute to assessing households' immediate impacts; and they often fail to adequately capture those that work in the informal sector, excluding a large segment of the vulnerable population. Consequently, administrative data is commonly complemented with self-reported information, which, despite its own challenges, can be essential for accurately identifying and monitoring affected populations over time.

6.2.5 Private insurance markets in LAC⁸

Private insurance markets can be complimentary instruments for spreading risk and providing financial tools for recovery, without risking asset depletion and, therefore, long-term human development reversals. The insurance industry represents 7 percent of global GDP. The scope of assets covered, and risks insured are highly diverse, but its focus is primarily on life insurance for individuals and operational risk coverage for firms.

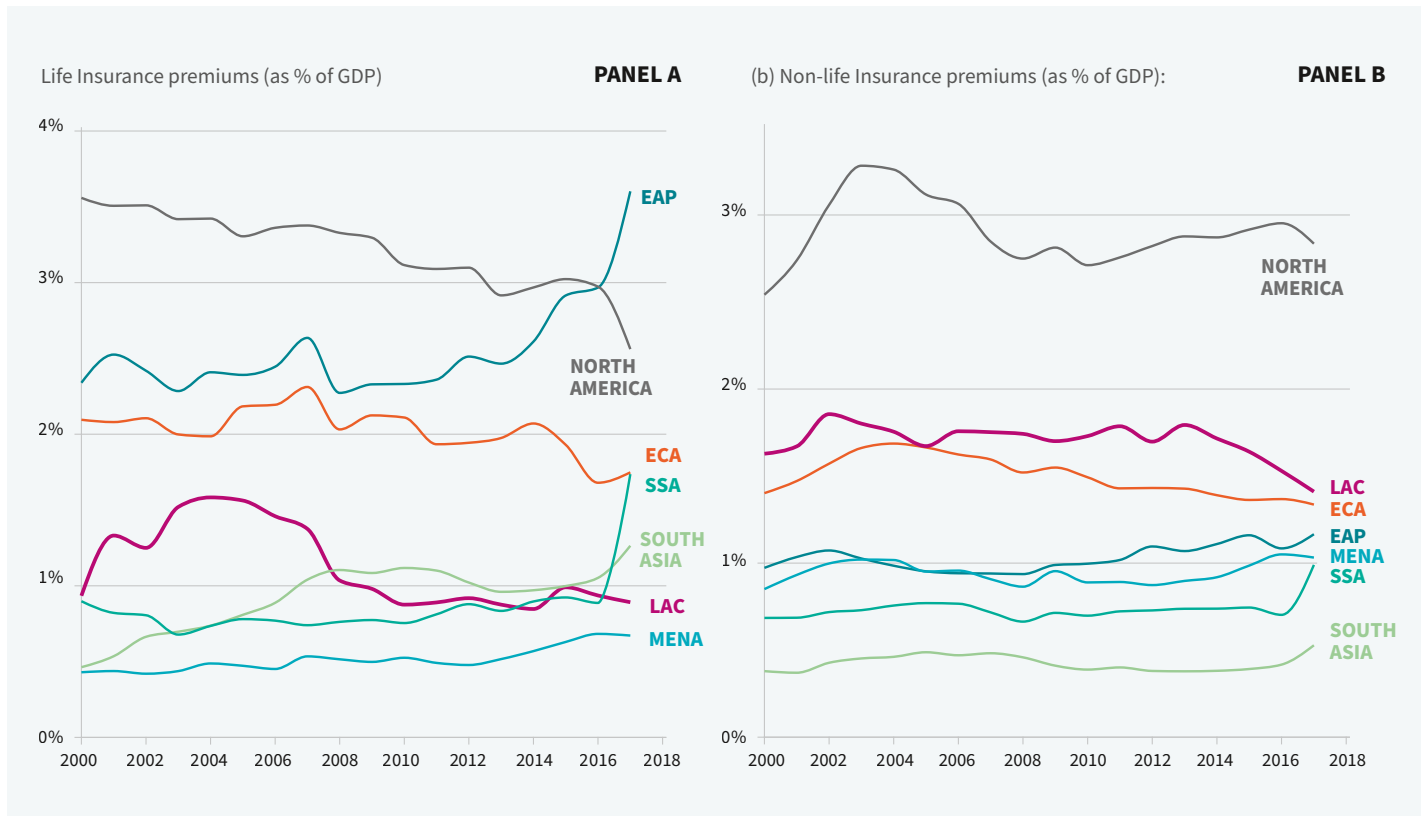
From a development standpoint, private insurance plays a vital role in strengthening resilience. By pooling and transferring risks, it directly protects businesses and workers. Insured firms covered against property damage, business interruption, or liability, can recover more quickly from shocks, helping preserve jobs and incomes, and keeping local markets functioning during crises. Insurance also supports governance resilience: many LAC governments are leveraging disaster risk financing tools—often in partnership with insurers—to secure rapid payouts after hazards, reducing the strain on public finances.

As shown in figure 6.9, life insurance penetration in LAC, measured as the ratio of premiums (regular payments made by insured parties to insurers) to GDP, is notably low compared to other regions. In 2017 it stood at approximately 1 percent, surpassing only the Middle East and North Africa and showing little growth since 2008 (Panel A). In contrast, non-life insurance penetration in LAC has been consistently higher than in other regions except North America since 2000, though it has experienced a slight decline since 2013 (Panel B). These patterns highlight the unequal distribution of risk protection between individuals and businesses in the region.

Insurance products in the region vary widely in scope and purpose, as summarized in table 6.3. Some products are designed exclusively for individuals, such as personal accident insurance, which provides coverage in cases of death or injury. Others cater solely to firms, such as cargo insurance, which protects shipments against loss, damage or theft during transit. Certain products, like fire insurance, serve both individuals and firms, offering protection against property damage caused by fire.

Private insurance coverage remains low across LAC, constrained by both demand and supply-side barriers. On the demand side, key factors influencing uptake include age, education and income. In Chile, for example, only 7.4 percent of households report having insurance. College-educated

Figure 6.9 Insurance penetration in LAC



Notes: Premium volume is the insurer's direct premiums earned (if property/casualty) or received (if life/health) during the previous calendar year.
Source: Morales Cerda (2025).

Table 6.3 Common types of insurance products in LAC

Insurance	Description	Target
Vehicles	Covers their loss in a crush	Individuals
Vehicle civil liability	Covers 3rd parties affected after an accident	Individuals
Civil liability	Lawsuits and similar claims	Firms' employees
Credit	Protects lender from borrower's insolvency	Firms
Fire	For the loss of use of the property as a result of a fire	Individuals
Cargo	Risks of transporting goods by sea, air, road, or rail	Firms
Personal accidents	Injuries or death as the result of an accident	Individuals
Health	Medical expenses	Individuals

Source: Morales Cerda (2025).

households are 5 percentage points more likely to hold insurance, and each percentage point of additional income increases uptake by 4 percentage points. In El Salvador, the cost of insurance is the primary reason for non-adoption (43 percent), followed by perceptions of irrelevance (22 percent) and mistrust of insurers (6 percent). Limited financial literacy further compounds these challenges, as few individuals can assess the benefits of insurance products effectively.

On the supply-side barriers, insurers face hurdles such as weak information systems, limited contract enforcement, and underdeveloped markets, making it difficult to offer affordable, inclusive products. Information coordination, such as centralized claims databases, could reduce adverse selection and moral hazard. Regulatory measures, including tailored capital requirements and support for insurtechs, can foster market development.

Governments in LAC can play a critical role in expanding insurance coverage. Well-targeted subsidies can make

insurance more affordable, though they must be carefully designed to avoid excessive risk taking. Mandatory insurance in areas like vehicle liability or disaster coverage in high-risk zones can boost uptake but require thoughtful regulation and enforcement. Education campaigns and transparency tools can build financial literacy and trust, addressing key barriers to adoption.

Additionally, insurance can be integrated into social protection systems through parametric insurances. Parametric insurance has gained importance in the last decade for addressing weather-related risks. Unlike traditional insurance, parametric contracts provide payouts based on a predefined index rather than actual losses. Once the index surpasses a specified threshold, such as an earthquake's magnitude or a flight delay time, the insured party receives compensation. This approach offers transparency and simplicity, minimizing disputes over claims, which is particularly valuable in settings with low institutional trust. However, its main limitation is the

Box 6.4 Predators versus producers: Can insurance save both?

Insurance can play a key role in easing tensions between environmental protection and economic growth by developing tools that protect both nature and people, as Argentina's experience shows.

The jaguar—locally known as *yaguareté*—is a powerful symbol of the wild. As the largest feline in the Americas and the third-largest in the world, it now teeters on the edge of extinction. The species has lost an estimated 95 percent of its original habitat due to agricultural expansion, livestock grazing, infrastructure development and urbanization. Despite legal protections, they are still frequently killed in retaliation for livestock predation, and without localized, concrete solutions, they could disappear entirely by 2050.

Building on this challenge, two UNDP initiatives—the Biodiversity Finance Initiative (BIOFIN) and the Insurance and Risk Finance Facility (IRFF)—are collaborating together in the world's first insurance scheme for the jaguar, designed to help communities living near wildlife reduce economic losses while protecting endangered species. This insurance provides rapid compensation to livestock producers and rural residents affected by predation from jaguars—whether of cattle, sheep, goats, pigs or pets. The dual objective is to prevent retaliatory killings of jaguars and to shield local livelihoods from economic harm that might otherwise be absorbed individually.

This solution was co-created by the Government of the Province of Misiones, a local insurance company, and civil society organizations specializing in biodiversity conservation. In this model, the provincial government acts as the policyholder, guaranteeing coverage for all those at risk. When a predation event occurs, a specialized NGO verifies the incident and, at no cost to the producer, develops a livestock management plan to help prevent future losses. At the same time, financial compensation is disbursed for the loss. As mentioned, insurance markets play a critical role in mitigating risks which become particularly relevant in the context of environmental conservation and climate change and extreme weather events as highlighted previously.

Source: Elaborated by M. Borre, M. Mottet, and N. Xanthopoulos, UNDP Argentina (2025).

potential for uninsured losses if the index threshold is not met. An example is *La Monumental de Seguros* in the Dominican Republic, offering storm coverage for individuals and SMEs based on wind speed brackets. Mexico's *Fondo de Desastres Naturales* (FONDEN) provides transfers to municipalities when rainfall exceeds specific thresholds, mimicking a parametric scheme. Evidence shows that eligible municipalities experienced 6 percent higher economic activity in one-year after disasters, as measured by night-light intensity (del Valle, de Janvry and Sadoulet, 2020).

6.3 Institutions that embrace complexity

Decision makers in LAC operate within a complex landscape of overlapping challenges and uncertainties that interact in unpredictable, systemic ways and often reinforce one another. In a world that has changed, so, too, must the institutions that guide it.

Embracing complexity is about acknowledging that threats are not necessarily predictable and cannot be managed through a siloed approach. Instead, threats require institutions that can anticipate and prepare for shocks, can adapt and coordinate across different levels of governments (horizontally and vertically), and are continuously present across the territory.

It also requires institutions that can function even when hazards occur. Institutional resilience refers to an institution's ability to prevent the breakdown of desirable societal outcomes, such as cooperation and stability, in the wake of a hazard. That is, the formal institution makes the informal institution of cooperation resilient to shocks. This definition does not necessarily imply that the institution itself remains unchanged, but that the outcome (cooperation) is sustained so that it can bounce back (Buchen, 2022). This includes maintaining core operations and adapting to changes without losing effectiveness, thereby ensuring that households can rely on institutional support during times of stress or shocks.

Institutional development in LAC has been uneven. As discussed in chapter 4, institutions still carry enduring legacies of inequality, which shape their functioning and outcomes. Powerful actors with vested interests in existing institutional arrangements often resist change, whereas others who seek meaningful reform frequently lack sufficient influence. As a result, many LAC countries exhibit a dual

institutional quality—combining relatively robust economic institutions that facilitate markets and investments with weaker political institutions responsible for upholding the rule of law, accountability and inclusiveness. This institutional duality creates conditions in which economic progress eventually hits a ceiling but stalls, constrained by political instability and governance shortcomings (Acemoglu and Robinson, 2012).

Unless these persistent challenges are addressed, achieving resilience will remain difficult. However, public administration frameworks contain an avenue that can be used to strengthen the state's capacity to respond to challenges by focusing on three critical areas: (i) anticipation and preparedness, ensuring institutions are risk-sensitive and capable of anticipating shocks; (ii) agility and coordination across sectors and levels, enhancing responsiveness to evolving crises through integrated and adaptive governance; and (iii) enhanced state presence, guaranteeing institutional presence and effectiveness across all regions, leaving no community behind.

6.3.1 Institutional anticipation and preparedness

Institutions today are ill equipped to anticipate new risks. Evidence shows that institutions primarily focus on familiar risks, that is, those that have been previously identified, even though their occurrence or exact timing is uncertain (Bao, Li and Wu, 2022).

Risk management is frequently based on historical data, which entails a high degree of hysteresis—where the state of a system depends on its past conditions. These approaches typically assume a degree of stationarity, expecting systems to revert to previous norms. However, such assumptions may no longer hold true. For instance, infrastructure designed around historical climate patterns may now be highly susceptible to increasingly frequent and severe weather events, if climate conditions have permanently shifted. Similarly, in a technological context, mismanagement of a large-scale public sector digital project or a serious data breach can result in enduring damage to institutional reputation and public trust, even after the issue itself has been resolved.

If institutions continue to rely on traditional models to identify risks based on historical norms, then the last couple decades could appear as one continuous, unprecedented event (UNDP, 2024c). To avoid becoming trapped in prolonged uncertainty institutions in LAC must adopt

more robust mechanisms for anticipating and preparing for contemporary shocks.

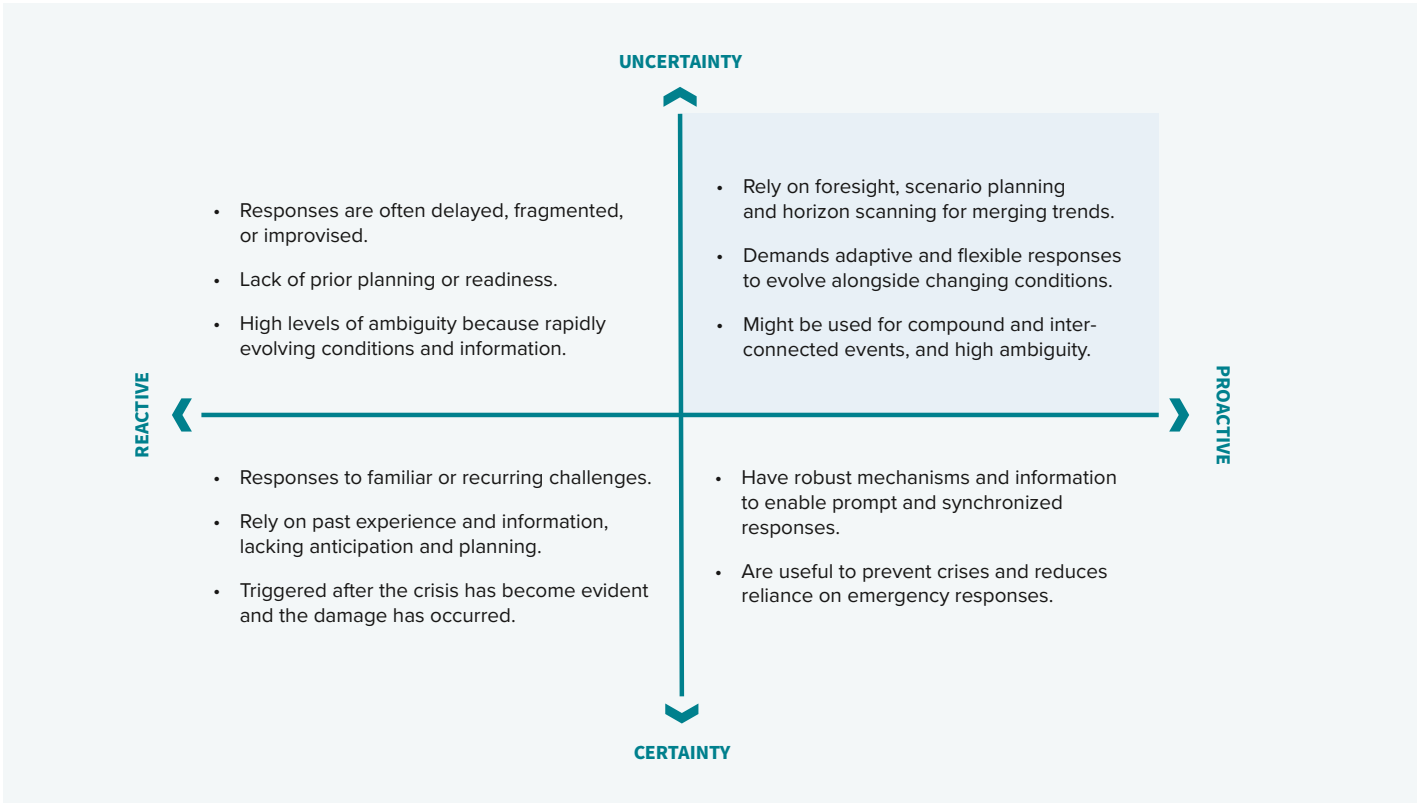
A new playbook for resilient human development calls for combining anticipation and preparedness for effective uncertainty management. Institutional anticipation refers to the capacity of public and governmental bodies to foresee and prepare for future challenges, trends, and disruptions rather than merely reacting to them. Preparedness refers to the capacity to effectively respond and recover from different types of adverse events, disruptions, or challenges. Many policy actions are examples of how these capacities are built. Using wildfires as analogy, anticipation means mapping high-risk zones and monitoring weather patterns in identified vulnerable zones, while preparedness is keeping firefighting equipment, training staff, and coordinated intervention plans. By combining anticipation and preparedness, better institutional outcomes for building resilience can be achieved.

Institutional preparedness cannot be one-size-fits-all. It must be calibrated according to the nature of the risk—whether predictable or uncertain—and the type of response required. Familiar and recurring hazards, for example, involve institutional preparedness with structured mechanisms, protocols, or financial buffers. In contrast, for emerging or unpredictable threats, preparedness must involve adaptive capacities, flexible institutional frameworks, and anticipatory planning tools like scenario planning.

Institutional responses can be broadly characterized by their timing, either proactive or reactive, depending on the nature of the threat. Reactive responses are direct reactions to crises that have already occurred. Examples include disaster relief, recession stimulus packages, product recalls, or public health responses to outbreaks. These actions are essential for addressing immediate needs, providing protection, and preventing further harm.

Proactive institutional responses involve anticipating future problems, needs, or changes and establish mechanisms

Figure 6.10 The need for a new playbook for achieving resilient human development



Source: Authors' elaboration.

that prepare for them. By integrating proactive and flexible strategies, it becomes possible to design policies that foster resilience. The rise of new and complex uncertainties—as highlighted throughout this Report—requires transformative policy approaches that go beyond traditional solutions.

The institutional preparedness dimension is rooted in disaster management literature (Paton and Johnston, 2001) and is a critical component of resilience across various sectors (Nelson, Adger and Brown, 2007; Khan and others, 2018). Institutional preparedness encompasses both the resources of an organization (e.g. staff, equipment, capital) and the processes it has established (e.g. standards and risk management procedures) to respond to it. Those capacities mean developing mechanisms for adjusting institutional practices as risks evolve, reconfiguring structures and mandates to better serve long-term development under uncertainty.

Regulatory frameworks and laws are by design rigid and the origin of many institutional designs and mandates and are essential for legitimacy and rule of law. However, they cannot be seen as prescriptive rules and inflexible mandates that inhibit timely decision-making or innovation in the face of complex, fast-evolving challenges. Strengthening institutional preparedness involves revisiting legal and procedural constraints to ensure that institutions retain the flexibility and responsiveness needed to operate effectively under uncertainty. It also requires a broader ecosystem of political actors to avoid decision-making gridlock and paralysis, especially in highly polarized political environments. Therefore, institutional preparedness is not exclusively for the executive branch or central government institutions and must be promoted across a broader ecosystem of political actors (see box 6.5).

Financing systems are particularly crucial components of institutional preparedness. There are three essential elements: diversification of funding sources; access to contingency funds; and financial risk management instruments. Chile's Transitory Emergency Fund and Mexico's catastrophe bonds provide examples of effective financial instruments (Holzmann and Jørgensen, 2000; Ministerio de Hacienda de Chile, 2021; World Bank, 2020). Additionally, international organizations play a crucial role in providing financial aid and risk management support across the region (UNDRR, 2024). Strengthening these financial systems can enhance the ability of institutions to be prepared to face hazards.

Another fundamental aspect of institutional preparedness is the design and maintenance of redundancies or back-up systems—mechanisms that ensure essential functions can continue even under stress. These redundancies are not signs of inefficiency but instead are deliberate features of resilient systems, allowing governments to absorb shocks and maintain continuity during crises (Brunnermeier, 2021). Whether in the form of multiple service delivery channels, decentralized data systems, or alternative supply chains, redundancy creates institutional flexibility and reduces the risk of systemic failure, ensuring uninterrupted access to services and safeguarding public trust.

Pre-established networks of regional cooperation and decentralized production are essential to increase supply security, including measures to improve the resilience of supply chains, and to expand stockpiling. CARICOM's stockpiles and logistics hubs, for example, are crucial investments to prevent disruptions. The new Caribbean Regional Logistics Hub in Barbados was decisive in the deployment of critical relief supplies in the aftermath of Hurricane Beryl that hit the Caribbean in 2024.

Continuous learning is another key aspect of preparedness, enabling institutions to analyse past shocks, identify gaps and apply best practices. Complexity-aware institutions treat shocks as a learning processes, and allow for experimentation, feedback, and course-correction. Policies are continuously reviewed, refined and adjusted based on new data and changing conditions. In practice, this might mean piloting programmes on a small scale, monitoring results and scaling up what works (or revising what does not). For example, Chile and Colombia implemented adaptive learning systems during COVID-19 to improve health care responses (Cabrol and Pombo, 2021). Finally, technological innovations, including mobile payment platforms, have transformed the response to crises by ensuring equitable aid distribution. For example, Brazil's *Auxílio Emergencial* successfully used digital tools for emergency cash transfers during the pandemic (Lara De Arruda and others, 2021).

Embracing complexity also means planning for uncertainty. By using strategic foresight, scenario planning and stress-testing of policies, governments prepare for multiple possible futures. Rather than assuming a single forecast, complexity-aware decision makers explore best-case, worst-case, and intermediate scenarios. This approach builds resilience—policies are designed with contingencies and “redundancy” (back-up measures) to withstand shocks.

Box 6.5 The future is a policy choice

The core idea behind foresight is understanding the future in order to influence it (Berger, 1964). This requires more than just tracking trends from the past and present, but navigating multiple possible paths, embracing uncertainty and spotting those rare and often subtle signals of change that may hint at what is to come. "The future is already here, it is just not very evenly distributed" (Gibson, 2018).

Embedding foresight and future thinking into decision-making within public institutions builds flexibility within governmental systems and strengthens policymakers' capacity to explore a broader range of strategies for preparing for the future and taking concrete actions to shape it (Galvin, 2025). This can be a game changer in a global context where complexity and uncertainty seem only to increase, which is why many governments have begun integrating foresight methodologies into their policymaking processes.

For instance, Germany's Federal Ministry for Economic Affairs and Energy (2017) has recurrently applied foresight methods to explore possibilities of transforming the country's energy supply in alignment with the country's long-term energy strategy. These efforts culminated in the Electricity 2030 report, which identifies 12 long-term trends to help transition to a low-cost electricity supply system. At a regional level, the European Strategy and Policy Analysis System (ESPAS)—an inter-institutional European Union collaboration bringing together nine European Union institutions and bodies, including the European Commission and the European Parliament—is committed to supporting policymakers in making better policy decisions using foresight (ESPAS, 2018).

In LAC, public institutions are also beginning to adopt foresight practices, although the field is still in its early stages (Bitar, 2019). In Chile, the Senate established a "Challenges of the Future" Committee, which has worked on law proposals to regulate neurorights and stands out in the region due to its treatment of issues related to AI. In Uruguay, a proposal to regulate deepfakes was developed using a future-focused approach and presented in the Parliament. Other countries, such as Brazil and Paraguay, have also applied foresight methodologies in some areas of policymaking (UNDP, 2024a).

To scale these efforts, public institutions need to move from a traditional, linear governance model, which focuses on reacting to past events or projecting the present into the future, towards an anticipatory governance approach that "brings the future into the present" by considering possible future implications of the decisions made today, seeking to expand the range of policy options through exploration of multiple possible futures (UNDP, 2024a). While this shift presents significant challenges, multilateral organizations have invested in developing practical tools to guide public institutions through this transition, such as the OECD's Strategic Foresight Toolkit for Resilient Public Policy and UNDP's Guide for the Use of Futures in Parliaments. As global challenges become more interconnected and unpredictable, the ability of public institutions to think and act with the future in mind will become essential to advancing resilient human development.

6.3.2 Institutions that respond with agility and coordination

Rigid institutional frameworks are ill-suited for navigating today's fast-changing and uncertain landscape. Resilience demands that institutions not only maintain stability and credibility but also adapt swiftly and effectively to emerging challenges. Importantly, agility does not require new institutions, but rather enhanced procedures, coordination and capacity within existing ones.

A core challenge is balancing stability and flexibility. While predictability fosters public trust and long-term

cooperation, excessive rigidity undermines innovation and slows crisis response. Some countries in LAC have made progress in embedding flexibility into governance. Colombia's decentralized disaster risk management system allows local autonomy with national support (UNISDR, 2011). CARICOM's CDEMA enables regional coordination and rapid response (CDEMA, 2014). Chile's dynamic water governance incorporates stakeholder engagement to address recurring droughts (Hurlbert and Gupta, 2015).

However, institutional design still tends to separate short-term emergency response from long-term resilience-building.

Risk management and social policy often operate in silos, leaving slow-onset risks—such as droughts and heatwaves—insufficiently addressed (Oseland, 2019). Fragmentation across climate, disaster and development policies reduces coherence and weakens adaptive capacity (Leiren and Jacobsen, 2018).

The COVID-19 pandemic highlighted the value of inter-sectoral collaboration. In countries like Colombia, Costa Rica, and Trinidad and Tobago, agile responses emerged from coordination across government, private sector, civil society, academia and international partners (Simeon and others, 2024). These networks enabled faster decision-making, resource mobilization and targeted support—from food security to psychosocial care.

Such experiences underscore the importance of embedding collaboration and flexibility into institutional frameworks—not just as emergency measures, but as permanent features of development governance. Agility and coordination should be systematically integrated into health, social and environmental policies, ensuring systems are prepared for both sudden shocks and long-term transformations.

Leadership plays a pivotal role in translating institutional potential into effective action. During shocks, leaders must interpret uncertainty, set priorities and mobilize resources while inspiring public confidence. Leadership also ensures that institutions remain responsive without compromising their integrity.

6.3.3 Institutions that are continuous across the territory—empowering the local

The State often operates with a discontinuous presence, unable to reach all individuals and regions under its purview with the same degree of capacity or effectiveness. In LAC, this fragmentation is deeply rooted in the region's State formation process. To maintain governance in their early stages, central states brokered agreements with local power structures rather than installing uniform institutions (Mazzuca and Munk, 2020). This compromise led to the emergence of enclaves where governance and service provision vary significantly, perpetuating disparities and hindering cohesive State-building.

These inconsistencies create pockets of exclusion, limiting the economic, social and political participation of marginalized groups (Ceriani, López-Calva and Restrepo-Oyola, 2025). As discussed in chapter 4, weak formal institutions fail to administer justice—whether civil, criminal

or social—exacerbate disputes and leave room for informal or even illicit mechanisms of conflict resolution and livelihood generation. Criminal organizations, for instance, have flourished along these social and territorial fault lines.

The *National Human Development Report of Colombia* (UNDP Colombia, 2024) and the *Poverty and Equity Assessment for Colombia* (Davalos, 2024) both adopt a territorial approach to development, emphasizing “territorial fractures” or “state discontinuity” as key challenges. Both reports highlight the importance of spatial data in identifying areas of state absence, providing a crucial tool for prioritizing policy interventions.

Local institutions in LAC are on the frontlines of both preparedness and response. Local governments and community-based organizations are uniquely positioned to understand context-specific risks, deliver timely support and engage directly with communities. They play a critical role in disseminating early warnings, providing targeted assistance and maintaining essential physical and social infrastructure. Crucially, where they are present, trust in local institutions often exceeds trust in national ones, making them essential for mobilizing collective action and ensuring effective policy implementation.

To harness their potential, local institutions must be equipped with predictable funding, technical capacity and decision-making authority. National frameworks should enable—not override—local action through clearly defined roles and vertical coordination. Strengthening participatory governance and accountability mechanisms, such as transparent budgeting and community monitoring, can further increase responsiveness and trust. Investments in local data systems, risk mapping and adaptive planning tools will enhance evidence-based decision-making. Moreover, local institutions should be central to crisis preparedness and recovery, with responsibilities in contingency planning, social protection delivery and infrastructure resilience—including redundancies like shelters and back-up systems (Brunnermeier, 2021). Ultimately, resilient development in LAC depends on empowering local actors—turning them into the backbone of communities that can anticipate, withstand and adapt to a future of increasing uncertainty.

6.4 Building infrastructure that unleashes the resilience of communities

LAC faces a pressing challenge: its existing infrastructure was not designed to withstand the pressures of a rapidly changing world. Whether it is digital ecosystems struggling to ensure inclusive access and interoperability, urban structures reinforcing social divides, or physical systems vulnerable to escalating climate risks, the region must urgently rethink the very foundations on which its future is built.

As discussed in the 2020 Human Development Report, infrastructure can directly expand people’s agency and choices, shaping how communities connect, how individuals access essential services and, ultimately, how people pursue their aspirations (UNDP, 2020b). When infrastructure is designed inclusively, it can become a powerful enabler, amplifying opportunities and empowering individuals and communities. Conversely, poorly planned infrastructure can deepen divides, heighten vulnerabilities to climate and economic shocks, and restrict access to vital resources; it can also exacerbate inequalities and undermine agency.

A way forward in terms of infrastructure for LAC includes confronting the pressing need for developing robust digital foundation, with digital public infrastructure (DPI) emerging as a critical pillar for future-ready innovation; leveraging infrastructure to bridge geographical divides and reduce inequality; and building climate-resilient infrastructure.

Together, these three dimensions form an intertwined and comprehensive vision of what resilient infrastructure could look like in LAC.

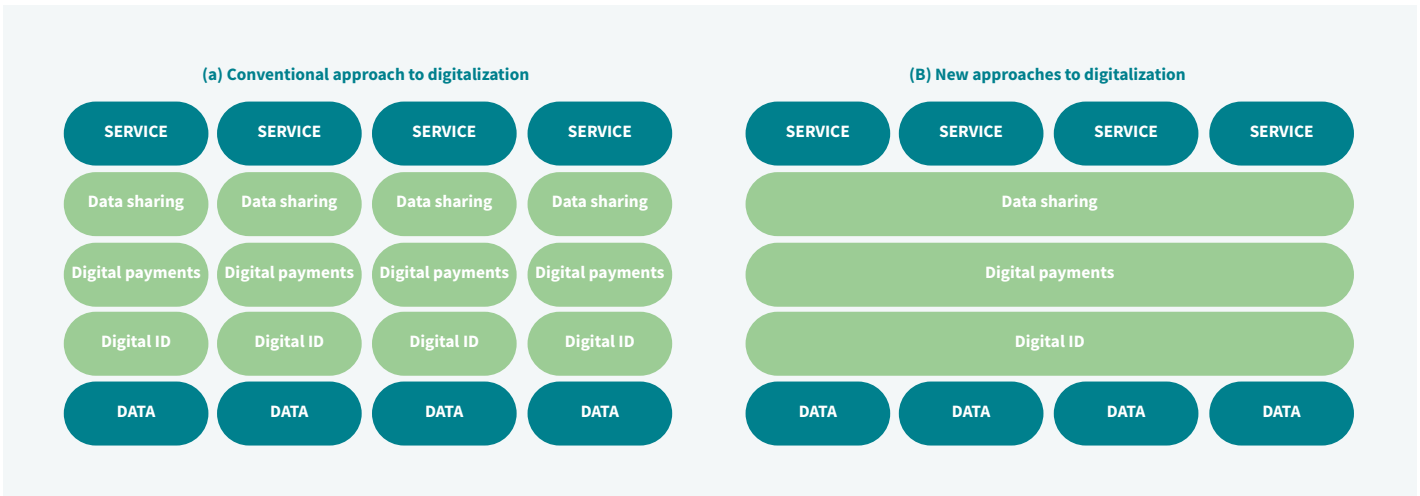
6.4.1 DPI: a pillar for future-ready innovation

DPI holds transformative potential for LAC, enabling a faster government response to hazards and advancing inclusive service delivery. As recognized in the 2024 Global Digital Compact, DPI encompasses foundational systems such as digital ID, payment platforms and data-sharing tools that support scalable, interoperable public services (UN, 2024).

Instead of developing siloed digital services, DPI enables shared architecture across sectors, acting as an intermediary layer between physical infrastructure and digital applications (OECD, 2024). For example, a secure digital ID system can streamline access to social protection, particularly for remote communities, while real-time digital payments improve the speed and efficiency of cash transfers. Interoperable health and education records ensure service continuity, especially during emergencies.

Many LAC countries have advanced in expanding connectivity and foundational digital services. National fibre-optic backbones and regional cables (e.g. EllaLink, Humboldt) are improving coverage and integration (García Zaballosa and others, 2023). However, the “last mile” remains a challenge, with a usage gap driven by affordability and

Figure 6.11 Digital Public Infrastructure framework



Source: World Bank (2024).

Box 6.6 Brazil's PIX—a scalable asset for regional Digital Public Infrastructure

Launched in 2020, Brazil's PIX has become one of the most successful examples of DPI for payments, not only in LAC but globally. Designed and operated by the Central Bank of Brazil, PIX represents a new generation of retail payment systems. The central bank assumes the triple role of overseer, scheme owner and operator, ensuring strong public governance and alignment with the public interest.

The platform has experienced remarkable growth. As of February 2024, PIX had over 147 million registered users, more than two-thirds of Brazil's 217 million residents, making it the country's most widely adopted payment system and one of the fastest-growing real-time payment systems in the world (World Bank, 2025c). Its rapid uptake reflects the effectiveness of PIX as a functional digital asset, enabling instant, low-cost, and accessible transfers across all sectors of society.

PIX allows governments to deliver social protection payments quickly and securely while individuals and businesses benefit from seamless, real-time transactions without intermediaries or high fees. The platform's open architecture and interoperability have enabled broad participation, from fintechs and banks to small merchants and rural users, demonstrating the potential of DPI to democratize access to essential financial services.

As countries across LAC develop their own DPI frameworks, PIX offers a proven model for regional adaptation through South-South cooperation. Brazil's experience can inform the region's design of inclusive, interoperable and people-centred payment systems. By drawing on PIX's architecture, regulatory framework and implementation lessons, LAC countries can accelerate their transitions towards resilient digital economies while avoiding costly the missteps that result from trial-and-error.

digital skills. Innovative models like community networks and public-private partnerships have shown success in bridging these divides.

To move from incremental to systemic impact, LAC must adopt a coordinated approach to DPI. Key priorities include expanding high-speed infrastructure, ensuring interoperability across platforms and investing in public governance. For example, Brazil's PIX payment system, managed by its central bank, illustrates how DPI can scale inclusively, with over 147 million users as of 2024 (World Bank, 2025c).

Robust, sovereign data infrastructure is essential to manage sensitive information. The private sector leads in most data center investments, raising concerns about reliance on foreign-controlled platforms. Hybrid models are emerging, where governments retain control over sensitive data sets but outsource computing to private cloud providers. But questions around data jurisdiction and cybersecurity persist (Avila, 2021). The next phase of DPI development in LAC could use a strategic rebalancing towards public and sovereign data infrastructure. Moreover, for small island states and countries with limited fiscal space, regional solutions—such as a distributed Caribbean data cloud—could offer a compelling

model to pool resources, share infrastructure costs and enhance resilience, particularly in disaster-prone areas.

Despite progress in data protection laws, gaps remain in enforcement, cybersecurity and cross-border data governance. Harmonizing legislation across LAC is vital for regional interoperability and trust. Countries like Brazil and Chile are setting important precedents (Badillo, 2025), but broader coordination is needed to ensure secure, rights-based digital ecosystems.

Expanding digital infrastructure must align with environmental sustainability. Data centers are energy- and water-intensive, but renewable-powered models are emerging, and the region has an opportunity to be at the forefront of innovation in these areas. Chile, for example, mandates that new data centers operate entirely on renewable energy by 2025, setting a benchmark for green digital infrastructure (Gooding, 2024).

Foundational systems like digital IDs and payment rails are critical enablers. Although nearly all countries in LAC report having digital ID registries, few offer IDs that are routinely usable for secure transactions (World Bank, 2025c).

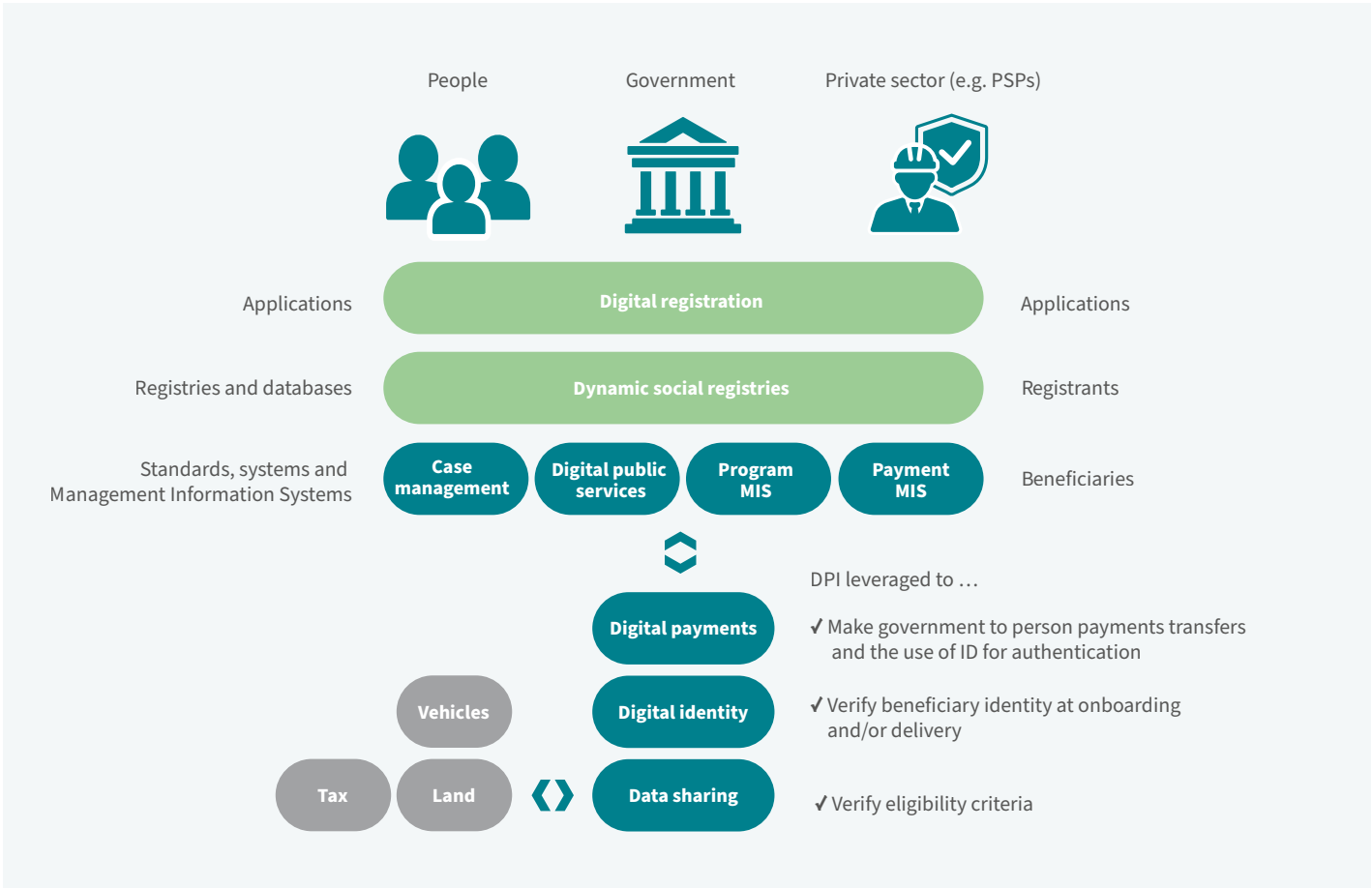
Expanding functional digital ID and payment systems is essential for inclusive, resilient digital economies. Initiatives like cross-border ID recognition by the regional trade bloc known as MERCOSUR further support regional integration.

The success of DPI depends not only on technology but on strong institutions and public trust. Many governments face capacity gaps in ICT talent, procurement and digital governance. Civil services need reform to attract skilled personnel and manage digital reforms effectively. Legal safeguards and participatory data governance models can help build public confidence. Countries should embed user rights, transparency and civic oversight into DPI design, ensuring infrastructure serves inclusive development goals. Modular DPI design enables scalability, futureproofing and flexibility, allowing states to build new services atop core infrastructure without locking into proprietary or siloed

solutions (World Bank, 2025c). By adopting digital public goods, such as open-source identity or data exchange platforms, governments can localize and adapt core systems while benefiting from shared global knowledge (Digital Public Goods Alliance, 2023). Interoperability also opens the door for regional collaboration. For instance, MERCOSUR's *Ciudadano Digital Mercosur* initiative includes recognition of digital IDs across member countries, enabling seamless access to services for citizens moving between Brazil, Uruguay, Argentina and Paraguay (IDB, 2024). Such efforts lay the groundwork for a broader framework of trust and cross-border digital services in health, education and trade.

The integration of digital ID with payment systems has also proven critical in times of crisis. During the COVID-19 pandemic, countries like Colombia and Brazil were able to rapidly deploy emergency cash transfers through digital

Figure 6.12 Building blocks of DPI



Source: World Bank (2025c).

Box 6.7 Digital innovations in the public sector in LAC

To enhance preparedness for future crises, governments must proactively identify risks and develop adaptive responses before these threats escalate. Social innovation and digitalization offer transformative pathways by emphasizing two critical areas:

a. Risk identification

Technologies such as big data analytics, GIS and predictive modelling significantly boost governments' capacities to anticipate and evaluate emerging risks. In the Dominican Republic, the SIUBEN+ system uses data analytics and the IVACC—which assesses housing characteristics, income levels and proximity to natural hazards—to map vulnerabilities and prioritize social policies effectively.

b. Adaptive solutions

Governments must develop agile and responsive solutions to address evolving community needs. Digitalization of public services has proven crucial, as seen during COVID-19: Brazil digitalized over 1,000 federal services, while Ecuador doubled its digital service availability. Platforms like The Bahamas' AccessAbility app provide tailored crises alerts, ensuring vulnerable populations, including persons with disabilities, receive timely information and assistance.

Technology further supports targeted interventions and real-time adjustments. Argentina's use of digital platforms for rapid cash transfers during COVID-19 exemplifies efficient resource distribution through self-targeting mechanisms. Additionally, collaboration among governments, academia and civil society can catalyse innovation, as demonstrated by Peru's AnemiaApp, a partnership-developed mobile technology tool enabling the rapid detection of anaemia among people living in remote regions.

channels, thanks to the alignment of social registries, digital identity systems and instant payments infrastructure (Porteous and others, 2024). These experiences demonstrate how foundational DPI not only enables more inclusive service delivery but also improves state responsiveness to economic shocks, climate disasters and public health emergencies.

6.4.2 Infrastructure for social cohesion

Equally important is the role of infrastructure in fostering social cohesion. Inequalities are deeply embedded in specific socio-spatial contexts, and it is in urban settings that the rapid increase in social and spatial disparities are most visible (Cassiers and Kesteloot, 2012). Unequal access to urban infrastructure continues to be a key driver of social fragmentation in LAC cities. Geographic location profoundly shapes an individual's access to quality public services, economic opportunities, social networks and even leisure time. That is, the opportunities available to individuals—to realize their potential—are closely linked to where they live.

LAC is one of the most urbanized yet unequal regions in the world (UN-Habitat, 2011). Urban growth has contributed to a restructuring of suburban areas along class, race, and ethnic lines, where residential segregation can act as “a poverty

trap” (Haddad, 2020). Such geographic separation can also encourage the formation of cultural enclaves, characterized by strong community networks with distinct lifestyles and cultural practices. Limited interaction across segregated spaces can reduce opportunities for cross-cultural exchange, reinforcing group-specific norms of speech, behaviour, and social presentation. As discussed in chapter 4, such divisions often result in communities characterized by distrust toward other groups, accompanied by a sense of exclusion and, at times, antagonism. Strengthening intergroup cohesion is therefore essential to enhancing collective resilience.

A key area of intervention in LAC cities is commuting infrastructure. A clear understanding of the consequences that residential segregation has on poor people's urban economic mobility is imperative to ensure that they move out of poverty. This is a pressing challenge for cities around LAC, urging policy makers to deliver alternative solutions about planning-related topics such as housing and transportation (Haddad, 2020). There is a self-reinforcing cycle of spatial and social exclusion that deepens social fragmentation. Urban commuting is hindered by congestion, inequitable and inefficient transport systems, urban sprawl, safety concerns, and environmental stressors (Brichetti and others, 2021).

Box 6.8 Beyond geography, community-based organizations play a crucial role in fostering social cohesion

In communities facing uncertainty, community-based organizations serve as a complement to social infrastructure, fostering collective resilience by providing networks of support, resource sharing and mechanisms to confront shared challenges. This communal approach often manifests through community-based organizations that collectively shoulder and distribute threats among their members. These entities, embedded within the community, provide an alternative to formal insurance and often focus on areas underserved by traditional financial services.

Community-based organizations can involve different types of entities such as churches, local NGOs, cooperatives, grass-roots activist groups or even informal community associations. These organizations often step in to provide essential services, support and resources in areas where formal institutions are absent or ineffective.

There are several types of threats that are typically managed at the community level. Communities often respond to climate change pressures through collective efforts in disaster preparedness, response and recovery. Economic shocks, including unemployment or market volatility, can also be managed at the community level. Here, cooperatives and other community organizations play a key role in providing financial services, including credit and savings, effectively creating a safety net for their members.

In LAC, there are over 108,000 cooperatives, with approximately 26 percent dedicated to agriculture and rural development, engaging over 6 million members. Agricultural cooperatives are integral to transforming agrifood systems by facilitating the integration of family farming into value chains. Cooperatives provide access to financing, markets, goods, services and inputs at competitive prices, promoting resilience and inclusive growth, even in the face of disruptions like inflation and pandemics (FAO, 2022).

Beyond their economic contributions, cooperatives address broader societal challenges. They safeguard strategic natural resources such as land, water, energy and fisheries, mitigating pressures from migration and biodiversity loss. For instance, Costa Rica leads globally in cooperative models for solar and wind energy management, with examples like *Coopesantos*, a cooperative managing a wind farm in southern San José province. Established during urban-focused development, its mission was to extend development progress to rural areas. Today, it provides clean energy to approximately 53,000 people across 1,300 square kilometres, ensuring stable rates, which has become increasingly important due to the price inflation of recent years (Quesada Webb, 2024). The cooperative model fosters social capital among farmers, reduces power asymmetries and promotes decent work. By broadening participation in value chains, cooperatives counterbalance market concentration and contribute to territorial governance through participatory and democratic practices, catalysing public-private partnerships (FAO, 2022).

The location and quality of schools—and by extension, the composition of their student populations—are also critical determinants of either social distance or cohesion. Schools serve as fundamental spaces for the formation of long-term social bonds and shared civic identities. School infrastructure is far more than an educational concern—it is a critical element of urban planning, social policy, and peacebuilding (Boys and Jeffery, 2023; Jaureguiberry, Duarte and Racimo, 2017). When equitably located and designed to be inclusive, schools can promote interaction, reduce division, and build resilient, cohesive communities.

Public spaces in LAC, such as markets, plazas, sidewalks, street corners and neighbourhood parks, can be designed

to facilitate social interaction. These everyday spaces are crucial for urban vitality and social capital, serving as places where cultural life unfolds, youth congregate, communities organize, and informal economies thrive (Carmona and others, 2019; Mehta and Bosson, 2018; Modie-Moroka and others, 2020; Aelbrecht and Stevens, 2019). In dense and contested urban environments, these spaces anchor inclusion, visibility and belonging. Lively, human-centered cities are particularly relevant in LAC, where reclaiming public spaces often represents a democratic act—resisting exclusion and asserting collective presence (Brown and others, 2009).

6.4.3 We were not built for this: Climate change demands resilient infrastructure

Adaptation actions are needed to avoid losses and damage in infrastructure and sectors that support well-being. The consistent rise in temperatures, the increasing number of climate-related disasters, and the compound and concurrent climatic events highlight the urgent need for accelerating adaptation to the current and expected impacts of climate change. Infrastructure is an enabler of development as it delivers goods and services that are essential for well-being, and if built properly and well planned, it can play a central role in building resilience to climate change. However, if poorly planned or if potential impacts are not properly addressed, the consequences of climate change can be extensive.

The way urban infrastructure, such as housing, transportation, energy systems, and basic services, is designed, built, and managed directly determines how effectively countries can adapt to climate change and can contribute to building resilience. Existing infrastructure systems are increasingly vulnerable to the physical consequences of climate change, which undermines economic productivity, public health, and overall well-

being, particularly in cities where infrastructure remains inadequate for meeting basic needs (UN-Habitat, 2024). In LAC, an estimated 90 percent of infrastructure projects (e.g., roads, buildings, bridges, and ports) are not designed to withstand climate risks, making them highly vulnerable to extreme weather events (Brichetti and others, 2021). This is exacerbated by aging infrastructure, a rapid urbanization process, and inadequate land use planning.

Adaptation can enhance resilience and shift the distribution of risks and impacts, potentially heightening them for certain regions or groups while reducing them for others. Strategies for building resilience through infrastructure are inherently shaped by the specific characteristics and conditions of each context. As illustrated in chapter 5, different areas across the region face distinct climatic pressures and threats—including urban heat islands, sea level rise, wildfire-prone zones, and areas affected by severe drought and water stress. This highlights the importance of systematically identifying hazards as a foundational step toward designing resilient infrastructure systems.

The international climate change and disaster risk reduction agenda includes several ongoing efforts that provide

Box 6.9 Digital tools for resilient infrastructure

Digital technologies hold significant promise for strengthening climate-resilient infrastructure in LAC, particularly through enhanced early warning systems (EWS). Given the region's high exposure to climate-related hazards—such as hurricanes, floods and droughts—integrating digital tools into disaster preparedness can substantially improve resilience (Giroto and others, 2024).

Technologies like satellite imaging, smart sensors and Internet of Things (IoT) devices enable real-time environmental monitoring and faster, more accurate disaster prediction. Portable IoT sensors, for example, can provide immediate hydrological data (e.g. water flow, rainfall, rising water levels), supporting rapid vulnerability assessments and targeted interventions (Singh and Ahmed 2021; Giroto and others, 2024).

Visualization tools such as virtual reality (VR), augmented reality (AR), and digital twins further enhance preparedness by simulating disaster scenarios, infrastructure stress points and disease pathways. AR can boost public awareness and local decision-making by making complex risks more understandable (Sermet and Demir, 2019; Haynes, Hehl-Lange and Lange, 2018).

When embedded in infrastructure planning, these technologies support real-time data collection, predictive maintenance and climate risk analytics, increasing long-term resilience and adaptive capacity (Ogie and others, 2017; Giroto and others, 2024). However, realizing this potential requires addressing challenges like data gaps, technological interoperability and limited institutional capacity. To fully leverage digital innovation, LAC countries must invest in regional collaboration, institutional strengthening and policy frameworks that prioritize inclusive, technology-enabled resilience-building.

guidance for building resilient infrastructure through adaptation strategies. Nationally Determined Contributions (NDCs) are instruments of the Paris Agreement that outline overall climate mitigation and adaptation commitments. National Adaptation Plans (NAPs) stem from the Cancun Adaptation Framework and provide guidelines on adaptation priorities. Both instruments are national commitments with strategies and guidance for building resilience across different sectors and levels. The Sendai Agenda has also resources for addressing resilience, through corrective disaster risk reduction (DRR) that aims to adapt pre-existing assets and infrastructure to ongoing climate change effects (Lavell, 2025). Combining both agendas can provide tools to build context specific resilience across sectors related to wellbeing (water, energy, transport, cities, health and food systems).

Despite the urgent need for adaptation measures there remains a significant financing gap at both global and regional level for reducing climate risks and delivering benefits for vulnerable populations. The adaptation finance gap reflects the difference between the estimate needs and the projected costs for implementing adaptation measures. Recent trends show that this gap has been widening globally, with LAC among the regions facing the highest modelled adaptation costs (UNEP, 2023). Without effective strategies to mobilize resources for adaptation, the risk of increasing damage and losses to infrastructure remains high. The challenge of financing adaptation presents the opportunity to build alliances, mobilize funding and promote community-based innovations.

Similarly, nature-based solutions (NbS) can offer complementary and cost-effective approaches to traditional engineering. For instance, watershed restoration helps regulate water supply and decreases sedimentation, ensuring the optimal functioning of hydroelectric dams. As well, the rehabilitation of coral reefs reduces flood risks by dissipating wave energy. These approaches often address multiple hazards, such as flood risks, landslides and water scarcity, while offering significant co-benefits like biodiversity conservation, income generation and recreational opportunities. Urban green infrastructure, including green roofs and urban forests, addresses specific challenges like heat islands and water management, making cities more liveable and resilient.

6.5 A call to action: advancing resilient human development in uncertain times

As we continue to strive towards achieving human development in LAC, it is fundamental to recognize that as times change, so must our strategies to achieve it. Economic and social progress has slowed and achievements from past decades are increasingly vulnerable to reversals. Traditional policy mechanisms that successfully reduced poverty and expanded opportunities are proving inadequate in addressing the complex, interconnected challenges of today's world. The region's persistent structural vulnerabilities: entrenched inequality—high labour informality, weak institutional capacity and exposure to climate-related hazards—demand a shift from reactive crisis management to proactive resilience-building.

In a world where threats are harder both to predict and prevent, societies need to have tools to navigate uncertainty. Currently, around one-third of the region's population lives in conditions of vulnerability, lacking formal mechanisms to withstand economic, social and environmental shocks, often relying instead on informal coping strategies. Traditional development policies that focus primarily on poverty reduction and economic growth have proven insufficient in protecting gains against systemic shocks, leading to frequent reversals in human development. Therefore, resilience must be deliberately embedded within development strategies—not as a by-product of poverty alleviation but as a central goal—to ensure that freedoms and capabilities are protected and enhanced, even in times of crisis. This involves establishing instruments, institutions and infrastructure that enable societies to prepare for, respond to, and rebound effectively from adversity. Exactly how those instruments, institutions and infrastructure look like, will depend on each country's context, and on the threats they face.

Despite formidable challenges, the region possesses significant opportunities to forge a more resilient development trajectory. By harnessing technological innovations, leveraging regional cooperation and embedding resilience thinking into policy design, LAC can transform pressure into a catalyst for progress. This requires a paradigm shift, from viewing resilience as an individual survival mechanism to understanding it as an opportunity for societies to thrive in the face of uncertainty. The decisions taken today will determine whether the region can safeguard development gains while continuing to advance towards its development objectives and ensure that all individuals, particularly the most vulnerable, have the capacity to navigate an unpredictable future with hope and agency.

Notes

1. As defined in chapter 1, section 1.4, people in vulnerability are above the \$6.85 per day (2017 PPP) poverty line, but below the \$14 per day threshold set for middle income.
2. This refers to the definition of resilient human development introduced in chapter 2, section 2.1.
3. For a more in-depth analysis of social protection systems in LAC and how to move towards universal systems see UNDP's Regional Human Development Report 2021.
4. Based on Ecker, Martínez-Aguilar and Ortiz-Juárez (2025), Regional Human Development Report 2025 Background Paper.
5. This is discussed in more detail in chapter 1, section 1.2.3.
6. An in-depth analysis on financial inclusions gaps in LAC can be found on chapter 1, section 1.2.3.
7. This section is based on UNDP's Adaptive Social Protection Offer (2025).
8. This section is based on Morales Cerda (2025), Regional Human Development Report 2025 Background Paper.

References

- Acemoglu, Daron, and James A. Robinson. 2012.** *Why Nations Fail: The Origins of Power, Prosperity and Poverty*. London: Profile Books.
- Aelbrecht, Patricia, and Quentin Stevens. 2019.** *Public Space Design and Social Cohesion*. Routledge.
- Alkire, Sabina, and Hector Moreno. 2024.** “A Locally-Disaggregated Multidimensional Vulnerability Index (MVI) for Bhutan.” Thimphu: GNHC and UNICEF Bhutan Country Office. <https://ophi.org.uk/publication/Bhutan-MVI-2021>.
- Alkire, Sabina, and Maria Emma Santos. 2014.** “Measuring Acute Poverty in the Developing World: Robustness and Scope of the Multidimensional Poverty Index.” *World Development* 59 (issue C): 251–74. <https://doi.org/10.1016/j.worlddev.2014.01.026>.
- Andrews, Dan, Nathan Deutscher, Jonathan Hambur, and David Hansell. 2020.** “The Career Effects of Labour Market Conditions at Entry.” Treasury Working Paper 2: Australian Government. <https://treasury.gov.au/sites/default/files/2020-06/p2020-85098-202006.pdf>.
- Avila, Renata. 2021.** “Towards a ‘Digital New Deal’ for Latin America: Regional Unity for a Stronger Recovery.” Heinrich-Böll-Stiftung. <https://us.boell.org/en/2021/06/16/towards-digital-new-deal-latin-america-regional-unity-stronger-recovery>.
- Badillo, Maria. 2025.** “Chile’s New Data Protection Law: Context, Overview, and Key Takeaways.” Future of Privacy Forum. <https://fpf.org/blog/chiles-new-data-protection-law-context-overview-and-key-takeaways/>.
- Bao, Chunbing, Jianping Li, and Dengsheng Wu. 2022.** *Risk Matrix*. Springer.
- Berger, Gaston. 1964.** *Phénoménologie Du Temps et Prospective*. Paris, Presses universitaires de France.
- Bitar, Sergio. 2019.** “How Foresight Could Strengthen Governance in Latin America – Inter-American Dialogue.” InterAmerican Dialogue. <https://thedialogue.org/analysis/how-foresight-could-strengthen-governance-in-latin-america>.
- Bolch, Kimberly, Luis F. López-Calva, and Eduardo Ortiz-Juarez. 2022.** “‘When Life Gives You Lemons’: Using Cross-Sectional Surveys to Identify Chronic Poverty in the Absence of Panel Data.” *Review of Income and Wealth* 69 (2). <https://doi.org/10.1111/roiw.12566>.
- Bowen, Thomas Vaughan, Carlo Del Ninno, Colin Andrews, Sarah Coll-Black, Ugo Gentilini, Kelly Johnson, Yasuhiro Kawasoe, Adea Kryeziu, Barry Patrick Maher, and Asha Monifa Williams. 2020.** “Adaptive Social Protection: Building Resilience to Shocks.” World Bank. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/579641590038388922/adaptive-social-protection-building-resilience-to-shocks>.
- Boys, Jos, and Anna Jeffer. 2023.** “Valuing Urban Schools as Social Infrastructure.” In *Schools as Community Hubs*, 113–30. Singapore: Springer. https://doi.org/10.1007/978-981-19-9972-7_8.
- Brichetti, Juan Pablo, Leonardo Mastronardi, María Eugenia Rivas, Tomás Serebrisky, and Ben Solís. 2021.** “The Infrastructure Gap in Latin America and the Caribbean: Investment Needed through 2030 to Meet the Sustainable Development Goals.” Inter-American Development Bank. <http://dx.doi.org/10.18235/0003759>.
- Brown, S. C., C. A. Mason, J. L. Lombard, F. Martinez, E. Plater-Zyberk, A. R. Spokane, F. L. Newman, H. Pantin, and J. Szapocznik. 2009.** “The Relationship of Built Environment to Perceived Social Support and Psychological Distress in Hispanic Elders: The Role of ‘Eyes on the Street.’” *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences* 64B (2): 234–46. <https://doi.org/10.1093/geronb/gbn011>.
- Brun Vergara, Marcela, Johnattan Garcia Ruiz, and Javier Guzman. 2023.** “The Evolution of Health Benefits Packages in Colombia: Thirty Years of Successes and Failures.” *Health Systems & Reform* 9 (3). <https://doi.org/10.1080/23288604.2024.2343174>.
- Brunnermeier, Markus K. 2021.** *The Resilient Society*. Colorado Springs, Co: Endeavor Literary Press.
- Buchen, Clemens. 2022.** “Institutional Resilience: How the Formal Legal System Sustains Informal Cooperation.” *Journal of Institutional Economics* 20 (e1): 1–15. <https://doi.org/10.1017/s1744137422000418>.
- Cabrol, Marcelo, and Cristina Pombo. 2021.** “How Digitalization Can Transform Health, Education and Work as Latin America and the Caribbean Emerge from the Pandemic.” Inter-American Development Bank. <https://doi.org/10.18235/0003726>.
- Carmona, Matthew, Gro Sandkjær Hanssen, Bettina Lamm, Katarina Nylund, Inger-Lise Saglie, and Anne Tietjen. 2019.** “Public Space in an Age of Austerity.” *URBAN DESIGN International* 24 (4): 241–59. <https://doi.org/10.1057/s41289-019-00082-w>.
- Cassiers, Tim, and Christian Kesteloot. 2012.** “Socio-Spatial Inequalities and Social Cohesion in European Cities.” *Urban Studies* 49 (9): 1909–24. <https://doi.org/10.1177/0042098012444888>.
- CDEMA (Caribbean Disaster Emergency Management Agency). 2014.** “Regional Comprehensive Disaster Management (CDM) Strategy and Results Framework 2014–2024.” https://www.cdema.org/CDM_Strategy_2014-2024.pdf.
- Cecchini, Simone, and Rodrigo Martínez. 2011.** “Protección Social Inclusiva En América Latina: Una Mirada Integral, Un Enfoque de Derechos.” Economic Commission for Latin America and the Caribbean. <https://hdl.handle.net/11362/2593>.

Cecchini, Simone, Pablo Villatoro, and Xavier Mancero. 2021. "The Impact of Non-Contributory Cash Transfers on Poverty in Latin America." *CEPAL Review*, no. 134 (August). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3985715.

Ceriani, Lidia, Luis F. López-Calva, and Samuel D. Restrepo-Oyola. 2025. "Territorial Inequalities: A Note on State Discontinuity." Policy Research Working Paper, 11139. World Bank. <http://hdl.handle.net/10986/43305>.

Chambers, Robert. 1994. "The Origins and Practice of Participatory Rural Appraisal." *World Development* 22 (7): 953–69. [https://doi.org/10.1016/0305-750x\(94\)90141-4](https://doi.org/10.1016/0305-750x(94)90141-4).

Colpensiones (Administradora Colombiana de Pensiones). 2022. "Cómo Funciona El Sistema Pensional Colombiano." Colpensiones. <https://www.colpensiones.gov.co/educacion/publicaciones/2841/como-funciona-el-sistema-pensional-colombiano/>.

Cruces, Guillermo, Pablo Glüzman, and Luis F. López-Calva. 2011. "Economic Crises, Maternal and Infant Mortality, Low Birth Weight and Enrollment Rates: Evidence from Argentina's Downturns," CEDLAS, Working Papers 0121, Universidad Nacional de La Plata.

Davalos, Maria Eugenia. 2024. "Colombia - Poverty and Equity Assessment: Trajectories - Prosperity and Poverty Reduction in the Colombian Territory." *World Bank*. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099112624224033958/p5006431a6a9530381b57e1e4918c28ee50>.

De los Santos, Daniela. 2022. "Mapping Care: Innovative Tools for Georeferencing Care Supply and Demand in Latin America and the Caribbean." UNDP Policy Notes No. 14. <https://www.undp.org/latin-america/publications/mapping-care-innovative-tools-georeferencing-care-supply-and-demand-latin-america-and-caribbean>.

———. 2025. "Cartografías Del Cuidado En América Latina Y El Caribe: Herramientas Digitales Para Diseñar Políticas de Cuidado Basadas En Evidencia." UNDP Policy Notes No. 35. <https://www.undp.org/es/latin-america/publicaciones/cartografias-del-cuidado-en-america-latina-y-el-caribe-herramientas-digitales-para-disenar-politicas-de-cuidado-basadas>.

De Simone, Martín, Federico Tiberti, Maria Barron-Rodriguez, Federico Manolio, Wuraola Mosuro, and Eliot Jolomi Dikoru. 2025. "From Chalkboards to Chatbots Evaluating the Impact of Generative AI on Learning Outcomes in Nigeria." Policy Research Working Paper 11125: World Bank. <https://documents.worldbank.org/curated/en/099548105192529324/pdf/IDU-c09f40d8-9ff8-42dc-b315-591157499be7.pdf>.

Dercon, Stefan. 2010. "Risk, Poverty, and Human Development: What Do We Know, What Do We Need to Know?". In: Fuentes-Nieva, R., Seck, P.A. (eds) Risk, Shocks, and Human Development. Palgrave Macmillan, London.

DPGA (Digital Public Goods Alliance). 2023. "Digital Public Infrastructure: A Practitioner's Guide to Building Digital Rails for Service Delivery." <https://www.digitalpublicgoods.net>.

Ecker, Salome, Sandra Martínez-Aguilar, and Eduardo Ortiz-Juárez. 2025. "Unequal Assets, Uneven Resilience: Mapping Poverty Quadrants and Opportunities." *Regional Human Development Report 2025 Background Paper. No. 51 UNDP LAC Working Paper Series*.

ESPAS (European Strategy and Policy Analysis System). 2018. "About ESPAS." <https://espas.eu/about.html>.

FAO (Food and Agriculture Organization). 2022. "Las Cooperativas En América Latina Y El Caribe Motor Para La Transformación de Los Sistemas Agroalimentarios." <https://openknowledge.fao.org/server/api/core/bitstreams/f707ef17-42f3-445a-bcfb-2d0fb09da03f/content>.

Federal Ministry for Economic Affairs and Energy. 2017. "Electricity 2030: Longterm Trends – Tasks for the Coming Years." https://www.bmwk.de/Redaktion/EN/Publikationen/electricity-2030-long-term-trends.pdf?__blob=publicationFile&v=1.

Fekete, A. 2009. "Validation of a Social Vulnerability Index in Context to River-Floods in Germany." *Natural Hazards and Earth System Sciences* 9 (2): 393–403. <https://doi.org/10.5194/nhess-9-393-2009>.

Fernández, Almudena, and Luis F. López-Calva. 2010. "Transitory Shocks, Permanent Effects: Impact of the Economic Crisis on the Well-Being of Households in Latin America and the Caribbean." *Estudios Económicos* 25 (1 (49)): 3–35. <https://doi.org/10.2307/25790013>.

Fernández, Almudena, Luis F. López-Calva, and Santiago Rodríguez. 2023. "Poverty, Trust, and Social Distance: A Self-Reinforcing 'Poverty Trap'?" *Social Philosophy and Policy/Social Philosophy & Policy* 40 (1): 129–49. <https://doi.org/10.1017/s0265052523000407>.

Galvin, Brian. 2025. "The Role of Foresight in Public Policy: Lessons from Deliberative Democracy and Perspectival Realism." *European Journal of Futures Research* 13 (1). <https://doi.org/10.1186/s40309-024-00246-0>.

García Zaballosa, Antonio, Sebastián Cabello, Pau Puig Gabarró, Enrique Iglesias Rodriguez, and Maribel Dalio. 2023. "Los Desafíos Del Crecimiento de La Fibra En América Latina Y El Caribe." Inter-American Development Bank. <https://doi.org/10.18235/0005153>.

Gentilini, Ugo, Mohamed Bubaker Alsafi Almenfi, uko Okamura, John Austin Downes, Pamela Dale, Michael Weber, David Locke Newhouse, Claudia P. Rodriguez Alas, Mareeha Kamran, Ingrid Veronica Mujica Canas et al., 2022. "Social Protection and Jobs Responses to COVID-19: A Real-Time Review of Country Measures." World Bank. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/110221643895832724/social-protection-and-jobs-responses-to-covid-19-a-real-time-review-of-country-measures>.

Gerlitz, Jean-Yves, Mirjam Macchi, Nick Brooks, Rajiv Pandey, Soumyadeep Banerjee, and Shashidhar Kumar Jha. 2016. “The Multidimensional Livelihood Vulnerability Index – an Instrument to Measure Livelihood Vulnerability to Change in the Hindu Kush Himalayas.” *Climate and Development* 9 (2): 124–40. <https://doi.org/10.1080/17565529.2016.1145099>.

Gibson, William. 2014. “Distrust That Particular Flavor”. London [U.A.] Penguin Books.

Giroto, Cristiane D., Farzad Piadeh, Vahid Bkhtiari, Kourosh Behzadian, Albert S. Chen, Luiza C. Campos, and Massoud Zolgharni. 2024. “A Critical Review of Digital Technology Innovations for Early Warning of Water-Related Disease Outbreaks Associated with Climatic Hazards.” *International Journal of Disaster Risk Reduction* 100 (—): 104151–51. <https://doi.org/10.1016/j.ijdr.2023.104151>.

Gooding, Matthew. 2024. “Gaia-X: Has Europe’s Grand Digital Infrastructure Project Hit the Buffers?” Data Center Dynamics. May 13, 2024. <https://www.datacenterdynamics.com/en/analysis/gaia-x-has-europes-grand-digital-infrastructure-project-hit-the-buffers/>.

Gould, Elise, and Melat Kassa. 2020. “Young Workers Hit Hard by the COVID-19 Economy Workers Ages 16–24 Face High Unemployment and an Uncertain Future.” Economic Policy Institution. <https://files.epi.org/pdf/203139.pdf>.

Haddad, Mônica A. 2020. “Residential Income Segregation and Commuting in a Latin American City.” *Applied Geography* 117 (April). <https://doi.org/10.1016/j.apgeog.2020.102186>.

Hahn, Micah B., Anne M. Riederer, and Stanley O. Foster. 2009. “The Livelihood Vulnerability Index: A Pragmatic Approach to Assessing Risks from Climate Variability and Change—a Case Study in Mozambique.” *Global Environmental Change* 19 (1): 74–88. <https://doi.org/10.1016/j.gloenvcha.2008.11.002>.

Han, Byung-Chul. 2024. “The Spirit of Hope”. Polity.

Haynes, Paul, Sigrid Hehl-Lange, and Eckart Lange. 2018. “Mobile Augmented Reality for Flood Visualisation.” *Environmental Modelling & Software* 109 (—): 380–89. <https://doi.org/10.1016/j.envsoft.2018.05.012>.

Hill, Heather D., Pamela Morris, Lisa A. Gennetian, Sharon Wolf, and Carly Tubbs. 2013. “The Consequences of Income Instability for Children’s Well-Being.” *Child Development Perspectives* 7 (2): 85–90. <https://doi.org/10.1111/cdep.12018>.

Holzmann, Robert, and Steen Jørgensen. 2000. “Social Risk Management a New Conceptual Framework for Social Protection and Beyond.” *World Bank Working Paper* 109 (21314). <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/932501468762357711/social-risk-management-a-new-conceptual-framework-for-social-protection-and-beyond>.

Hurlbert, Margot, and Joyeeta Gupta. 2015. “Adaptive Governance, Uncertainty, and Risk: Policy Framing and Responses to Climate Change, Drought, and Flood.” *Risk Analysis* 36 (2): 339–56. <https://doi.org/10.1111/risa.12510>.

IDB (Inter-American Development Bank). 2024. “Presentan ‘Ciudadano Digital Mercosur’, Iniciativa Para Mejorar La Prestación de Servicios Y Simplificar Trámites.” <https://www.iadb.org/es/noticias/presentan-ciudadano-digital-mercursos-iniciativa-para-mejorar-la-prestacion-de-servicios-y>.

Jaureguiberry, Florencia, Jesús Duarte, and Mariana Racimo. 2017. “Sufficiency, Equity and Effectiveness of School Infrastructure in Latin America according to TERCE.” *Inter-American Development Bank*. <https://doi.org/10.18235/0006344>.

Johnson, Rucker C, and Robert F Schoeni. 2011. “The Influence of Early-Life Events on Human Capital, Health Status, and Labor Market Outcomes over the Life Course.” *The B.E. Journal of Economic Analysis & Policy* 11 (3). <https://doi.org/10.2202/1935-1682.2521>.

Jones, Rebecca, Mairi Davies, Jon Day, and Scott Heron. 2022. “Developing Climate Risk Assessments for World Heritage: The Climate Vulnerability Index.” *Internet Archaeology* 60 (3). <https://doi.org/10.1114/ia.60.3>.

Karippacheril, Tina George, Luis Iñaki Alberro Encinas, Ana Lucia Cardenas Martinez, Conrad Daly, and Satyajit Suri. 2024. “Playbook on Digital Social Protection Delivery Systems: Towards Dynamic Inclusion and Interoperability.” World Bank. <http://hdl.handle.net/10986/41527>.

Khan, Yasmin, Tracey O’Sullivan, Adalsteinn Brown, Shannon Tracey, Jennifer Gibson, Mélissa Gagnéux, Bonnie Henry, and Brian Schwartz. 2018. “Public Health Emergency Preparedness: A Framework to Promote Resilience.” *BMC Public Health* 18 (1). <https://doi.org/10.1186/s12889-018-6250-7>.

Kuriakose, Anne T., Rasmus Heltberg, William Wiseman, Cecilia Costella, Rachel Cipryk, and Sabine Cornelius. 2013. “Climate-Responsive Social Protection.” *Development Policy Review* 31 (S2): o19–34. <https://doi.org/10.1111/dpr.12037>.

Lara De Arruda, Pedro, Marina Lazarotto De Andrade, Tiago Falcao Silva, Diana Teixeira Barbosa, and Matteo Morgandi. 2021. “The Payment System Used by Auxilio Emergencial: Introduction of the Digital Social Account, and the Banking of More than 100 Million People in 9 Months.” Washington, D.C.: World Bank. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099220001172241336/p17483605a26c50ed08d8308704d9b317a1>.

Lavell, Allan. 2025. “Redefining Socio-Natural Resilience within the Human Development Framework: Disaster, Risk and Resilience in Latin America and the Caribbean.” *Regional Human Development Report 2025 Background Paper. No. 47 UNDP LAC Working Paper Series*.

Leiren, Merethe Dotterud, and Jens Kr. Steen Jacobsen. 2018. “Silos as Barriers to Public Sector Climate Adaptation and Preparedness: Insights from Road Closures in Norway.” *Local Government Studies* 44 (4): 492–511. <https://doi.org/10.1080/03003930.2018.1465933>.

Levy, Santiago, and Guillermo Cruces. 2021. "Time for a New Course: An Essay on Social Protection and Growth in Latin America." United Nations Development Programme. 2021. <https://www.undp.org/latin-america/publications/time-new-course-essay-social-protection-and-growth-latin-america-0>.

Lupica, Carina, Maria Harker Roza, Cecilia Beatriz Martinez Gómez, and Daniela Brenes Morera. 2024. "Impulsando El Bienestar, La Equidad Y La Economía En América Latina Y El Caribe." Inter-American Development Bank. <https://doi.org/10.18235/0013336>.

Mazzuca, Sebastián L., and Gerardo L. Munck. 2020. "A Middle-Quality Institutional Trap: Democracy and State Capacity in Latin America." *Elements in Politics and Society in Latin America*, December. <https://doi.org/10.1017/9781108878449>.

Mehta, Vikas, and Jennifer K. Bosson. 2018. "Revisiting Lively Streets: Social Interactions in Public Space." *Journal of Planning Education and Research* 41 (2): 160–72. <https://doi.org/10.1177/0739456x18781453>.

Ministerio de Hacienda de Chile. 2021. "Fondo de Emergencia Transitorio." https://www.dipres.gob.cl/597/articles-250364_doc_.pdf.pdf.

Modie-Moroka, T., Musa W. Dube, S. D. Setume, M. Kgalemang, Mmapula D. Kebaneilwe, R. Gabaitse, E. Motswapong, and T. Madigela. 2020. "Pathways to Social Capital and the Botho/Ubuntu Ethic in the Urban Space in Gaborone, Botswana." *Global Social Welfare* 7 (3): 231–43. <https://doi.org/10.1007/s40609-019-00152-5>.

Morales Cerda, Matías. 2025. "Sharing Risks beyond Social Insurance in LAC." *Regional Human Development Report 2025 Background Paper. No. 48 UNDP LAC Working Paper Series*.

Nelson, Donald R., W. Neil Adger, and Katrina Brown. 2007. "Adaptation to Environmental Change: Contributions of a Resilience Framework." *Annual Review of Environment and Resources* 32 (1): 395–419. <https://doi.org/10.1146/annurev.energy.32.051807.090348>.

Ocampo, José Antonio, and Natalie Gómez-Arteaga. 2018. "Social Protection Systems, Redistribution and Growth in Latin America." *CEPAL Review* 2017 (122): 7–30. <https://doi.org/10.18356/6eb4de51-en>.

OECD (Organisation for Economic Co-operation and Development). 2024. "Digital Public Infrastructure for Digital Governments." OECD Public Governance Policy Papers, no. 68. <https://doi.org/10.1787/ff525dc8-en>.

Ogie, R.I., N. Shukla, F. Sedlar, and T. Holderness. 2017. "Optimal Placement of Water-Level Sensors to Facilitate Data-Driven Management of Hydrological Infrastructure Assets in Coastal Mega-Cities of Developing Nations." *Sustainable Cities and Society* 35 (Supplement C): 385–95. <https://doi.org/10.1016/j.scs.2017.08.019>.

Oseland, Stina Ellevseth. 2019. "Breaking Silos: Can Cities Break down Institutional Barriers in Climate Planning?" *Journal of Environmental Policy & Planning* 21 (4): 345–57. <https://doi.org/10.1080/1523908x.2019.1623657>.

Paton, Douglas, and David Johnston. 2001. "Disasters and Communities: Vulnerability, Resilience and Preparedness." *Disaster Prevention and Management: An International Journal* 10 (4): 270–77. <https://doi.org/10.1108/eum000000005930>.

Porteous, David John, Axel Rifon-Perez, Sharmista Appaya, Ricardo Martinezgarza, Nicolás Albornoz, and Antonio García Zaballos. 2024. "Unlocking the Potential of Digital Public Infrastructure (DPI) in Latin America and the Caribbean (LAC) : A Region-Specific Perspective - a World Bank-IADB Technical Note." World Bank. September 24, 2024. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099072524161522274/p1786161f166e904318ce516dc8d17f524b>.

Quesada Webb, Armando. 2024. "Costa Rica's Green Energy Miracle Is at a Critical Juncture." *El País*. January 19, 2024. <https://english.elpais.com/international/2024-01-19/costa-ricas-green-energy-miracle-is-at-a-critical-juncture.html>.

Rosales, María Fernanda. 2014. "Impact of Early Life Shocks on Human Capital Formation: El Niño Floods in Ecuador." *IDB Working Paper Series*, December. <https://doi.org/10.18235/0011668>.

Sermet, Yusuf, and Ibrahim Demir. 2019. "Flood Action VR: A Virtual Reality Framework for Disaster Awareness and Emergency Response Training." *ACM SIGGRAPH 2019 Posters* — (27). <https://doi.org/10.1145/3306214.3338550>.

Simeon, Donald T, Victor Cuba, Shelly-Ann Hunte, Kershelle Barker, and Midori de Habich. 2024. "Intersectoral Collaboration in the COVID-19 Response in Latin America and the Caribbean." *International Journal for Equity in Health* 23 (1). <https://doi.org/10.1186/s12939-024-02233-0>.

Singh, Manmeet, and Suhaib Ahmed. 2021. "IoT Based Smart Water Management Systems: A Systematic Review." *Materials Today: Proceedings* 46 (11): 5211–18. <https://doi.org/10.1016/j.matpr.2020.08.588>.

Stampini, Marco, Nadin Medellín, and Pablo Ibararán. 2025. "Cash Transfers, Poverty and Inequality in Latin America and the Caribbean." *Oxford Open Economics* 4 (Supplement 1): i481–509. <https://doi.org/10.1093/ooec/odae033>.

Stampini, Marco, and Leopoldo Tornarolli. 2012. "The Growth of Conditional Cash Transfers in Latin America and the Caribbean: Did They Go Too Far?" *IZA Policy Paper* — (49). <https://docs.iza.org/pp49.pdf>.

Tejerina, Luis, and Alexandre Bagolle. 2024. "Adaptive Social Protection: A Priority for the Region." Inter-American Development Bank. <https://blogs.iadb.org/salud/en/adaptive-social-protection-a-priority-for-the-region/>.

Tisei, Francesco, and Malin Ed. 2023. “Unleashing Adaptive Potential for Social Protection – Good Adaptive Social Protection Practices in the Latin America and Caribbean Region.” World Bank. <https://documents1.worldbank.org/curated/en/099032624235534457/pdf/P179137-51c0b3f2-bfc8-4e20-8b20-e171ee1a7b5a.pdf>.

Ullmann, Heidi, Bernardo Atuesta, Mónica Rubio, and Simone Cecchini. 2021. “Non-Contributory Cash Transfers: An Instrument to Promote the Rights and Well-Being of Children with Disabilities in Latin America and the Caribbean.” *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3987608>.

UN (United Nations). 2024. “Global Digital Compact.” https://www.un.org/global-digital-compact/sites/default/files/2024-09/Global%20Digital%20Compact%20-%20English_0.pdf.

UN-Habitat (United Nations Human Settlements Programme). 2011. “Affordable Land and Housing in Latin America and the Caribbean.” <https://unhabitat.org/affordable-land-and-housing-in-latin-america-and-the-caribbean-2>.

———. **2024.** “World Cities Report 2024: Cities and Climate Action.” <https://unhabitat.org/world-cities-report-2024-cities-and-climate-action>.

UNDP (United Nations Development Programme). 2020a. “Inclusion Requires Capacity: The Role of Social Registries in Expanding Cash Transfers in the Wake of COVID-19.” <https://www.undp.org/latin-america/blog/graph-for-thought/inclusion-requires-capacity-role-social-registries-expanding-cash-transfers-wake-covid-19>.

———. **2020b.** “Human Development Report 2020.” <https://hdr.undp.org/content/human-development-report-2020>.

———. **2021.** “Regional Human Development Report 2021.” <https://www.undp.org/latin-america/publications/regional-human-development-report-2021-trapped-high-inequality-and-low-growth-latin-america-and-caribbean>.

———. **2024a.** “The Use of Futures in Parliaments.” <https://www.undp.org/latin-america/publications/use-futures-parliaments>.

———. **2024b.** “The Missing Piece: Valuing Women’s Unrecognized Contribution to the Economy.” <https://www.undp.org/latin-america/blog/missing-piece-valuing-womens-unrecognized-contribution-economy>.

———. **2024c.** “Human Development Report 2023/2024.” <https://hdr.undp.org/content/human-development-report-2023-24>.

———. **2025.** “Social Protection Offer for Latin America and the Caribbean.” <https://www.undp.org/latin-america/publications/social-protection-offer-latin-america-and-caribbean>.

UNDP Colombia (United Nations Development Programme). 2024. “Colombia at a Crossroad: Navigating Regional Divides and Embracing Opportunities.” https://www.undp.org/sites/g/files/zskgke326/files/2025-03/undp_co_pub_national_human_development_report_2024.pdf.

UNDRR (United Nations Office for Disaster Risk Reduction). 2024. “Annual Report 2023 Accelerating Resilience for All.” <https://www.undrr.org/annual-report/2023>.

UNEP (United Nations Environment Programme). 2023. “Adaptation Gap Report 2023.” <https://www.unep.org/resources/adaptation-gap-report-2023>.

UNISDR (United Nations Office for Disaster Risk Reduction). 2011. “Global Assessment Report on Disaster Risk Reduction 2011.” <https://www.preventionweb.net/english/hyogo/gar/2011/en/how/governance3.html>.

Valle, Alejandro del, Alain de Janvry, and Elisabeth Sadoulet. 2020. “Rules for Recovery: Impact of Indexed Disaster Funds on Shock Coping in Mexico.” *American Economic Journal: Applied Economics* 12 (4): 164–95. <https://doi.org/10.1257/app.20190002>.

Williams, Asha Monifa, and Sarah Berger Gonzalez. 2020. “Towards Adaptive Social Protection Systems in Latin America and the Caribbean: A Synthesis Note on Using Social Protection to Mitigate and Respond to Disaster Risk.” World Bank. <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/265481593592677937>.

World Bank. 2020. “World Bank Catastrophe Bond Provides Financial Protection to Mexico for Earthquakes and Named Storms.” <https://www.worldbank.org/en/news/press-release/2020/03/09/world-bank-catastrophe-bond-provides-financial-protection-to-mexico-for-earthquakes-and-named-storms>

———. **2024.** “Digital Progress and Trends Report 2023.” <https://www.worldbank.org/en/publication/digital-progress-and-trends-report>.

———. **2025a.** “State of Social Protection Report 2025: The 2-Billion-Person Challenge.” Washington, D.C. <http://hdl.handle.net/10986/42842>.

———. **2025b.** “Women, Business and the Law 2024.” World Bank. 2025. <https://openknowledge.worldbank.org/bitstreams/9bc44005-2490-41f8-b975-af35cbae8b9a/download>.

———. **2025c.** “Unlocking the Potential of Digital Public Infrastructure (DPI) in Latin America and the Caribbean: A Region-Specific Perspective - a World Bank-IADB Technical Note.” <https://hdl.handle.net/10986/42017>.

ISBN: 9789211592979



www.undp.org/latin-america

With the generous support of the Spanish Cooperation



x.com/PNUDLAC



www.facebook.com/pnudlac



www.instagram.com/pnudlac



www.linkedin.com/company/pnudlac



www.youtube.com/PNUDLAC