

# Overview

This year's Report focuses on the challenge of sustainable and equitable progress. A joint lens shows how environmental degradation intensifies inequality through adverse impacts on already disadvantaged people and how inequalities in human development amplify environmental degradation.

Human development, which is about expanding people's choices, builds on shared natural resources. Promoting human development requires addressing sustainability—locally, nationally and globally—and this can and should be done in ways that are equitable and empowering.

We seek to ensure that poor people's aspirations for better lives are fully taken into account in moving towards greater environmental sustainability. And we point to pathways that enable people, communities, countries and the international community to promote sustainability and equity so that they are mutually reinforcing.

## **Why sustainability and equity?**

The human development approach has enduring relevance in making sense of our world and addressing challenges now and in the future. Last year's 20th anniversary *Human Development Report (HDR)* celebrated the concept of human development, emphasizing how equity, empowerment and sustainability expand people's choices. At the same time it highlighted inherent challenges, showing that these key aspects of human development do not always come together.

### **The case for considering sustainability and equity together**

This year we explore the intersections between environmental sustainability and equity, which are fundamentally similar in their

concern for distributive justice. We value sustainability because future generations should have at least the same possibilities as people today. Similarly, all inequitable processes are unjust: people's chances at better lives should not be constrained by factors outside their control. Inequalities are especially unjust when particular groups, whether because of gender, race or birthplace, are systematically disadvantaged.

More than a decade ago Sudhir Anand and Amartya Sen made the case for jointly considering sustainability and equity. "It would be a gross violation of the universalist principle," they argued, "if we were to be obsessed about *intergenerational* equity without at the same time seizing the problem of *intragenerational* equity" (emphasis in original). Similar themes emerged from the Brundtland Commission's 1987 report and a series of international declarations from Stockholm in 1972 through Johannesburg in 2002. Yet today many debates about sustainability neglect equality, treating it as a separate and unrelated concern. This perspective is incomplete and counterproductive.

### **Some key definitions**

Human development is the expansion of people's freedoms and capabilities to lead lives that they value and have reason to value. It is about expanding choices. Freedoms and capabilities are a more expansive notion than basic needs. Many ends are necessary for a "good life," ends that can be intrinsically as well as instrumentally valuable—we may value biodiversity, for example, or natural beauty, independently of its contribution to our living standards.

Disadvantaged people are a central focus of human development. This includes people in the future who will suffer the most severe consequences of the risks arising from our activities today. We are concerned not only with

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what happens on average or in the most probable scenario but also with what happens in the less likely but still possible scenarios, particularly when the events are catastrophic for poor and vulnerable people.

Debates over what environmental sustainability means often focus on whether human-made capital can substitute for natural resources—whether human ingenuity will relax natural resource constraints, as in the past. Whether this will be possible in the future is unknown and, coupled with the risk of catastrophe, favours the position of preserving basic natural assets and the associated flow of ecological services. This perspective also aligns with human rights-based approaches to development. *Sustainable human development is the expansion of the substantive freedoms of people today while making reasonable efforts to avoid seriously compromising those of future generations.* Reasoned public deliberation, vital to defining the risks a society is willing to accept, is crucial to this idea.

The joint pursuit of environmental sustainability and equity does not require that the two always be mutually reinforcing. In many instances there will be trade-offs. Measures to improve the environment can have adverse effects on equity—for example, if they constrain economic growth in developing countries. This Report illustrates the types of joint impacts that policies could have, while acknowledging that they do not hold universally and underlining that context is critical.

The framework encourages special attention to identifying positive synergies and to considering trade-offs. We investigate how societies can implement win-win-win solutions that favour sustainability, equity and human development.

## **Patterns and trends, progress and prospects**

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Increasing evidence points to widespread environmental degradation around the world and potential future deterioration. Because the extent of future changes is uncertain, we explore a range of predictions and consider the insights for human development.

Our starting point, and a key theme of the 2010 *HDR*, is the enormous progress in human development over the past several decades—with three caveats:

- Income growth has been associated with deterioration in such key environmental indicators as carbon dioxide emissions, soil and water quality and forest cover.
- The distribution of income has worsened at the country level in much of the world, even with the narrowing of gaps in health and education achievement.
- While empowerment on average tends to accompany a rising Human Development Index (HDI), there is considerable variation around the relationship.

Simulations for this Report suggest that by 2050 the global HDI would be 8 percent lower than in the baseline in an “environmental challenge” scenario that captures the adverse effects of global warming on agricultural production, on access to clean water and improved sanitation and on pollution (and 12 percent lower in South Asia and Sub-Saharan Africa). Under an even more adverse “environmental disaster” scenario, which envisions vast deforestation and land degradation, dramatic declines in biodiversity and accelerated extreme weather events, the global HDI would be some 15 percent below the projected baseline.

If we do nothing to halt or reverse current trends, the environmental disaster scenario leads to a turning point before 2050 in developing countries—their convergence with rich countries in HDI achievements begins to reverse.

These projections suggest that in many cases the most disadvantaged people bear and will continue to bear the repercussions of environmental deterioration, even if they contribute little to the problem. For example, low HDI countries have contributed the least to global climate change, but they have experienced the greatest loss in rainfall and the greatest increase in its variability, with implications for agricultural production and livelihoods.

Emissions per capita are much greater in very high HDI countries than in low, medium and high HDI countries combined because of more energy-intensive activities—driving cars,

cooling and heating homes and businesses, consuming processed and packaged food. The average person in a very high HDI country accounts for more than four times the carbon dioxide emissions and about twice the methane and nitrous oxide emissions of a person in a low, medium or high HDI country—and about 30 times the carbon dioxide emissions of a person in a low HDI country. The average UK citizen accounts for as much greenhouse gas emissions in two months as a person in a low HDI country generates in a year. And the average Qatari—living in the country with the highest per capita emissions—does so in only 10 days, although that value reflects consumption as well as production that is consumed elsewhere.

While three-quarters of the growth in emissions since 1970 comes from low, medium and high HDI countries, overall levels of greenhouse gases remain much greater in very high HDI countries. And this stands without accounting for the relocation of carbon-intensive production to poorer countries, whose output is largely exported to rich countries.

Around the world rising HDI has been associated with environmental degradation—though the damage can be traced largely to economic growth. Countries with higher incomes generally have higher carbon dioxide emissions per capita. But our analysis finds no association between emissions and the health and education components of the HDI. This result is intuitive: activities that emit carbon dioxide into the atmosphere are those linked to the production of goods, not to the provision of health and education. These results also show the nonlinear nature of the relationship between carbon dioxide emissions per capita and HDI components: little or no relationship at low HDI, but as the HDI rises a “tipping point” is reached, beyond which appears a strong positive correlation between carbon dioxide emissions and income.

Countries with faster improvements in the HDI have also experienced faster increases in carbon dioxide emissions per capita. These changes over time—rather than the snapshot relationship—highlight what to expect

tomorrow as a result of development today. Again, income changes drive the trend.

But these relationships do not hold for all environmental indicators. Our analysis finds only a weak positive correlation between the HDI and deforestation, for example. Why do carbon dioxide emissions differ from other environmental threats? We suggest that where the link between the environment and quality of life is direct, as with pollution, environmental achievements are often greater in developed countries; where the links are more diffuse, performance is much weaker. Looking at the relationship between environmental risks and the HDI, we observe three general findings:

- Household environmental deprivations—indoor air pollution, inadequate access to clean water and improved sanitation—are more severe at low HDI levels and decline as the HDI rises.
- Environmental risks with community effects—such as urban air pollution—seem to rise and then fall with development; some suggest that an inverted U-shaped curve describes the relationship.
- Environmental risks with global effects—namely greenhouse gas emissions—typically rise with the HDI.

The HDI itself is not the true driver of these transitions. Incomes and economic growth have an important explanatory role for emissions—but the relationship is not deterministic either. And complex interactions of broader forces change the risk patterns. For example, international trade allows countries to outsource the production of goods that degrade the environment; large-scale commercial use of natural resources has different impacts than subsistence exploitation; and urban and rural environmental profiles differ. And as we will see, policies and the political context matter greatly.

It follows that the patterns are not inevitable. Several countries have achieved significant progress both in the HDI and in equity and environmental sustainability. In line with our focus on positive synergies, we propose a multidimensional strategy to identify countries that have done better than regional peers in promoting equity, raising the HDI,

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reducing household indoor air pollution and increasing access to clean water and that are top regional and global performers in environmental sustainability. Environmental sustainability is judged on greenhouse gas emissions, water use and deforestation. The results are illustrative rather than indicative because of patchy data and other comparability issues. Just one country, Costa Rica, outperforms its regional median on all the criteria, while the three other top performers display unevenness across dimensions. Sweden is notable for its high reforestation rate compared with regional and global averages.

Our list shows that across regions, development stages and structural characteristics countries can enact policies conducive to environmental sustainability, equity and the key facets of human development captured in the HDI. We review the types of policies and programmes associated with success while underlining the importance of local conditions and context.

More generally, however, environmental trends over recent decades show deterioration on several fronts, with adverse repercussions for human development, especially for the millions of people who depend directly on natural resources for their livelihoods.

- Globally, nearly 40 percent of land is degraded due to soil erosion, reduced fertility and overgrazing. Land productivity is declining, with estimated yield loss as high as 50 percent in the most adverse scenarios.
- Agriculture accounts for 70–85 percent of water use, and an estimated 20 percent of global grain production uses water unsustainably, imperilling future agricultural growth.
- Deforestation is a major challenge. Between 1990 and 2010 Latin America and the Caribbean and Sub-Saharan Africa experienced the greatest forest losses, followed by the Arab States. The other regions have seen minor gains in forest cover.
- Desertification threatens the drylands that are home to about a third of the world's people. Some areas are particularly vulnerable—notably Sub-Saharan Africa,

where the drylands are highly sensitive and adaptive capacity is low.

Adverse environmental factors are expected to boost world food prices 30–50 percent in real terms in the coming decades and to increase price volatility, with harsh repercussions for poor households. The largest risks are faced by the 1.3 billion people involved in agriculture, fishing, forestry, hunting and gathering. The burden of environmental degradation and climate change is likely to be disequalizing across groups—for several reasons:

- Many rural poor people depend overwhelmingly on natural resources for their income. Even people who do not normally engage in such activities may do so as a coping strategy during hardship.
- How environmental degradation will affect people depends on whether they are net producers or net consumers of natural resources, whether they produce for subsistence or for the market and how readily they can shift between these activities and diversify their livelihoods with other occupations.
- Today, around 350 million people, many of them poor, live in or near forests on which they rely for subsistence and incomes. Both deforestation and restrictions on access to natural resources can hurt the poor. Evidence from a range of countries suggests that women typically rely on forests more than men do because women tend to have fewer occupational options, be less mobile and bear most of the responsibility for collecting fuelwood.
- Around 45 million people—at least 6 million of them women—fish for a living and are threatened by overfishing and climate change. The vulnerability is twofold: the countries most at risk also rely the most on fish for dietary protein, livelihoods and exports. Climate change is expected to lead to major declines in fish stocks in the Pacific Islands, while benefits are predicted at some northern latitudes, including around Alaska, Greenland, Norway and the Russian Federation.

To the extent that women in poor countries are disproportionately involved in

subsistence farming and water collection, they face greater adverse consequences of environmental degradation. Many indigenous peoples also rely heavily on natural resources and live in ecosystems especially vulnerable to the effects of climate change, such as small island developing states, arctic regions and high altitudes. Evidence suggests that traditional practices can protect natural resources, yet such knowledge is often overlooked or downplayed.

The effects of climate change on farmers' livelihoods depend on the crop, region and season, underlining the importance of in-depth, local analysis. Impacts will also differ depending on household production and consumption patterns, access to resources, poverty levels and ability to cope. Taken together, however, the net biophysical impacts of climate change on irrigated and rainfed crops by 2050 will likely be negative—and worst in low HDI countries.

## Understanding the links

Drawing on the important intersections between the environment and equity at the global level, we explore the links at the community and household levels. We also highlight countries and groups that have broken the pattern, emphasizing transformations in gender roles and in empowerment.

A key theme: the most disadvantaged people carry a double burden of deprivation. More vulnerable to the wider effects of environmental degradation, they must also cope with threats to their immediate environment posed by indoor air pollution, dirty water and unimproved sanitation. Our Multidimensional Poverty Index (MPI), introduced in the 2010 *HDR* and estimated this year for 109 countries, provides a closer look at these deprivations to see where they are most acute.

The MPI measures serious deficits in health, education and living standards, looking at both the number of deprived people and the intensity of their deprivations. This year we explore the pervasiveness of environmental deprivations among the multidimensionally poor and their overlaps at the household level, an innovation in the MPI.

The poverty-focused lens allows us to examine environmental deprivations in access to modern cooking fuel, clean water and basic sanitation. These absolute deprivations, important in themselves, are major violations of human rights. Ending these deprivations could increase higher order capabilities, expanding people's choices and advancing human development.

In developing countries at least 6 people in 10 experience one of these environmental deprivations, and 4 in 10 experience two or more. These deprivations are especially acute among multidimensionally poor people, more than 9 in 10 of whom experience at least one. Most suffer overlapping deprivations: 8 in 10 multidimensionally poor people have two or more, and nearly 1 in 3 (29 percent) is deprived in all three. These environmental deprivations disproportionately contribute to multidimensional poverty, accounting for 20 percent of the MPI—above their 17 percent weight in the index. Across most developing countries deprivations are highest in access to cooking fuel, though lack of water is paramount in several Arab States.

To better understand environmental deprivations, we analysed the patterns for given poverty levels. Countries were ordered by the share of multidimensionally poor people facing one environmental deprivation and the share facing all three. The analysis shows that the shares of the population with environmental deprivations rise with the MPI, but with much variation around the trend. Countries with the lowest share of poor people facing at least one deprivation are mainly in the Arab States and Latin American and the Caribbean (7 of the top 10).

Of the countries with the fewest multidimensionally poor people with all three environmental deprivations, better performers are concentrated in South Asia—5 of the top 10. Several South Asian countries have reduced some environmental deprivations, notably access to potable water, even as other deprivations have remained severe. And five countries are in both top 10 lists—not only is their environmental poverty relatively low, it is also less intense.

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Performance on these indicators does not necessarily identify environmental risks and degradation more broadly, for example, in terms of exposure to floods. At the same time the poor, more subject to direct environmental threats, are also more exposed to environmental degradation writ large.

We investigate this pattern further by looking at the relationship between the MPI and stresses posed by climate change. For 130 nationally defined administrative regions in 15 countries, we compare area-specific MPIs with changes in precipitation and temperature. Overall, the poorest regions and locales in these countries seem to have gotten hotter but not much wetter or drier—change that is consistent with evidence exploring the effects of climate change on income poverty.

### **Environmental threats to selected aspects of human development**

Environmental degradation stunts people's capabilities in many ways, going beyond incomes and livelihoods to include impacts on health, education and other dimensions of well-being.

#### **Bad environments and health—overlapping deprivations**

The disease burden arising from indoor and outdoor air pollution, dirty water and unimproved sanitation is greatest for people in poor countries, especially for deprived groups. Indoor air pollution kills 11 times more people living in low HDI countries than people elsewhere. Disadvantaged groups in low, medium and high HDI countries face greater risk from outdoor air pollution because of both higher exposure and greater vulnerability. In low HDI countries more than 6 people in 10 lack ready access to improved water, while nearly 4 in 10 lack sanitary toilets, contributing to both disease and malnourishment. Climate change threatens to worsen these disparities through the spread of tropical diseases such as malaria and dengue fever and through declining crop yields.

The World Health Organization's Global Burden of Disease database provides some striking findings on the repercussions of

environmental factors, including that unclean water and inadequate sanitation and hygiene are among the 10 leading causes of disease worldwide. Each year environment-related diseases, including acute respiratory infections and diarrhoea, kill at least 3 million children under age 5—more than the entire under-five populations of Austria, Belgium, the Netherlands, Portugal and Switzerland combined.

Environmental degradation and climate change affect physical and social environments, knowledge, assets and behaviours. Dimensions of disadvantage can interact, compounding adverse impacts—for example, the intensity of health risks is highest where water and sanitation are inadequate, deprivations that often coincide. Of the 10 countries with the highest rates of death from environmental disasters, 6 are also in the top 10 in the MPI, including Niger, Mali and Angola.

#### **Impeding education advances for disadvantaged children, especially girls**

Despite near universal primary school enrolment in many parts of the world, gaps remain. Nearly 3 in 10 children of primary school age in low HDI countries are not even enrolled in primary school, and multiple constraints, some environmental, persist even for enrolled children. Lack of electricity, for example, has both direct and indirect effects. Electricity access can enable better lighting, allowing increased study time, as well as the use of modern stoves, reducing time spent collecting fuelwood and water, activities shown to slow education progress and lower school enrolment. Girls are more often adversely affected because they are more likely to combine resource collection and schooling. Access to clean water and improved sanitation is also especially important for girls' education, affording them health gains, time savings and privacy.

#### **Other repercussions**

Household environmental deprivations can coincide with wider environmental stresses, constricting people's choices in a wide range of contexts and making it harder to earn a living from natural resources: people have to work more to achieve the same returns or may

even have to migrate to escape environmental degradation.

Resource-dependent livelihoods are time consuming, especially where households face a lack of modern cooking fuel and clean water. And time-use surveys offer a window into the associated gender-based inequalities. Women typically spend many more hours than men do fetching wood and water, and girls often spend more time than boys do. Women's heavy involvement in these activities has also been shown to prevent them from engaging in higher return activities.

As argued in the 2009 *HDR*, mobility—allowing people to choose where they live—is important for expanding people's freedoms and achieving better outcomes. But legal constraints make migration risky. Estimating how many people move to escape environmental stresses is difficult because other factors are in play, notably poverty. Nevertheless, some estimates are very high.

Environmental stress has also been linked to an increased likelihood of conflict. The link is not direct, however, and is influenced by the broader political economy and contextual factors that make individuals, communities and society vulnerable to the effects of environmental degradation.

### **Disqualifying effects of extreme weather events**

Alongside pernicious chronic threats, environmental degradation can amplify the likelihood of acute threats, with disqualifying impacts. Our analysis suggests that a 10 percent increase in the number of people affected by an extreme weather event reduces a country's HDI almost 2 percent, with larger effects on incomes and in medium HDI countries.

And the burden is not borne equally: the risk of injury and death from floods, high winds and landslides is higher among children, women and the elderly, especially for the poor. The striking gender inequality of natural disasters suggests that inequalities in exposure—as well as in access to resources, capabilities and opportunities—systematically disadvantage some women by making them more vulnerable.

Children disproportionately suffer from weather shocks because the lasting effects of malnourishment and missing school limit their prospects. Evidence from many developing countries shows how transitory income shocks can cause households to pull children out of school. More generally, several factors condition households' exposure to adverse shocks and their capacity to cope, including the type of shock, socioeconomic status, social capital and informal support, and the equity and effectiveness of relief and reconstruction efforts.

### **Empowerment—reproductive choice and political imbalances**

Transformations in gender roles and empowerment have enabled some countries and groups to improve environmental sustainability and equity, advancing human development.

#### **Gender inequality**

Our Gender Inequality Index (GII), updated this year for 145 countries, shows how reproductive health constraints contribute to gender inequality. This is important because in countries where effective control of reproduction is universal, women have fewer children, with attendant gains for maternal and child health and reduced greenhouse gas emissions. For instance, in Cuba, Mauritius, Thailand and Tunisia, where reproductive healthcare and contraceptives are readily available, fertility rates are below two births per woman. But substantial unmet need persists worldwide, and evidence suggests that if all women could exercise reproductive choice, population growth would slow enough to bring greenhouse gas emissions below current levels. Meeting unmet need for family planning by 2050 would lower the world's carbon emissions an estimated 17 percent below what they are today.

The GII also focuses on women's participation in political decision-making, highlighting that women lag behind men across the world, especially in Sub-Saharan Africa, South Asia and the Arab States. This has important implications for sustainability and equity. Because women often shoulder the heaviest burden of resource collection and are

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the most exposed to indoor air pollution, they are often more affected than men by decisions related to natural resources. Recent studies reveal that not only is women's participation important but also how they participate—and how much. And because women often show more concern for the environment, support proenvironmental policies and vote for proenvironmental leaders, their greater involvement in politics and in nongovernmental organizations could result in environmental gains, with multiplier effects across all the Millennium Development Goals.

These arguments are not new, but they reaffirm the value of expanding women's effective freedoms. Thus, women's participation in decision-making has both intrinsic value and instrumental importance in addressing equity and environmental degradation.

#### **Power disparities**

As argued in the 2010 *HDR*, empowerment has many aspects, including formal, procedural democracy at the national level and participatory processes at the local level. Political empowerment at the national and subnational levels has been shown to improve environmental sustainability. And while context is important, studies show that democracies are typically more accountable to voters and more likely to support civil liberties. A key challenge everywhere, however, is that even in democratic systems, the people most adversely affected by environmental degradation are often the worst off and least empowered, so policy priorities do not reflect their interests and needs.

Evidence is accumulating that power inequalities, mediated through political institutions, affect environmental outcomes in a range of countries and contexts. This means that poor people and other disadvantaged groups disproportionately suffer the effects of environmental degradation. New analysis for this Report covering some 100 countries confirms that greater equity in power distribution, broadly defined, is positively associated with better environmental outcomes, including better access to water, less land degradation and fewer deaths due to indoor and outdoor

air pollution and dirty water—suggesting an important scope for positive synergies.

### **Positive synergies—winning strategies for the environment, equity and human development**

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In facing the challenges elaborated here, a range of governments, civil society, private sector actors and development partners have created approaches that integrate environmental sustainability and equity and promote human development—win-win-win strategies. Effective solutions must be context-specific. But it is important, nonetheless, to consider local and national experiences that show potential and to recognize principles that apply across contexts. At the local level we stress the need for inclusive institutions; and at the national level, the scope for the scaling up of successful innovations and policy reform.

The policy agenda is vast. This Report cannot do it full justice—but the value added is in identifying win-win-win strategies that demonstrate success in addressing our social, economic and environmental challenges by managing, or even bypassing, trade-offs through approaches that are good not only for the environment but also for equity and human development more broadly. To inspire debate and action, we offer concrete examples showing how the strategy of overcoming potential trade-offs and identifying positive synergies has worked in practice. Here, we present the example of modern energy.

#### **Access to modern energy**

Energy is central to human development, yet some 1.5 billion people worldwide—more than one in five—lack electricity. Among the multidimensionally poor the deprivations are much greater—one in three lacks access.

Is there a trade-off between expanding energy provision and carbon emissions? Not necessarily. We argue that this relationship is wrongly characterized. There are many promising prospects for expanding access without a heavy environmental toll:

- Off-grid decentralized options are technically feasible for delivering energy services

to poor households and can be financed and delivered with minimal impact on the climate.

- Providing basic modern energy services for all would increase carbon dioxide emissions by only an estimated 0.8 percent—taking into account broad policy commitments already announced.

Global energy supply reached a tipping point in 2010, with renewables accounting for 25 percent of global power capacity and delivering more than 18 percent of global electricity. The challenge is to expand access at a scale and speed that will improve the lives of poor women and men now and in the future.

### **Averting environmental degradation**

A broader menu of measures to avert environmental degradation ranges from expanding reproductive choice to promoting community forest management and adaptive disaster responses.

Reproductive rights, including access to reproductive health services, are a precondition for women's empowerment and could avert environmental degradation. Major improvements are feasible. Many examples attest to the opportunities for using the existing health infrastructure to deliver reproductive health services at little additional cost and to the importance of community involvement. Consider Bangladesh, where the fertility rate plunged from 6.6 births per woman in 1975 to 2.4 in 2009. The government used outreach and subsidies to make contraceptives more easily available and influenced social norms through discussions with opinion leaders of both sexes, including religious leaders, teachers and nongovernmental organizations.

Community forest management could redress local environmental degradation and mitigate carbon emissions, but experience shows that it also risks excluding and disadvantaging already marginalized groups. To avoid these risks, we underline the importance of broad participation in designing and implementing forest management, especially for women, and of ensuring that poor groups and those who rely on forest resources are not made worse-off.

Promising avenues are also emerging to reduce the adverse impacts of disasters through equitable and adaptive disaster responses and innovative social protection schemes. Disaster responses include community-based risk-mapping and more progressive distribution of reconstructed assets. Experience has spurred a shift to decentralized models of risk reduction. Such efforts can empower local communities, particularly women, by emphasizing participation in design and decision-making. Communities can rebuild in ways that redress existing inequalities.

### **Rethinking our development model—levers for change**

The large disparities across people, groups and countries that add to the large and growing environmental threats pose massive policy challenges. But there is cause for optimism. In many respects the conditions today are more conducive to progress than ever—given innovative policies and initiatives in some parts of the world. Taking the debate further entails bold thinking, especially on the eve of the UN Conference on Sustainable Development (Rio+20) and the dawn of the post-2015 era. This Report advances a new vision for promoting human development through the joint lens of sustainability and equity. At the local and national levels we stress the need to bring equity to the forefront of policy and programme design and to exploit the potential multiplier effects of greater empowerment in legal and political arenas. At the global level we highlight the need to devote more resources to pressing environmental threats and to boost the equity and representation of disadvantaged countries and groups in accessing finance.

### **Integrating equity concerns into green economy policies**

A key theme of this Report is the need to fully integrate equity concerns into policies that affect the environment. Traditional methods of assessing environmental policies fall short. They might expose the impacts on the path of future emissions, for example, but they are

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Traditional methods of assessing environmental policies are often silent on distribution issues. While the importance of equity and inclusion is already explicit in the objectives of green economy policies, we propose taking the agenda further

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often silent on distributive issues. Even when the effects on different groups are considered, attention is typically restricted to people's incomes. The importance of equity and inclusion is already explicit in the objectives of green economy policies. We propose taking the agenda further.

Several key principles could bring broader equity concerns into policy-making through stakeholder involvement in analysis that considers:

- Nonincome dimensions of well-being, through such tools as the MPI.
- Indirect and direct effects of policy.
- Compensation mechanisms for adversely affected people.
- Risk of extreme weather events that, however unlikely, could prove catastrophic.

Early analysis of the distributional and environmental consequences of policies is critical.

#### **A clean and safe environment— a right, not a privilege**

Embedding environmental rights in national constitutions and legislation can be effective, not least by empowering citizens to protect such rights. At least 120 countries have constitutions that address environmental norms. And many countries without explicit environmental rights interpret general constitutional provisions for individual rights to include a fundamental right to a healthy environment.

Constitutionally recognizing equal rights to a healthy environment promotes equity by no longer limiting access to those who can afford it. And embodying this right in the legal framework can affect government priorities and resource allocations.

Alongside legal recognition of equal rights to a healthy, well functioning environment is the need for enabling institutions, including a fair and independent judiciary, and the right to information from governments and corporations. The international community, too, increasingly recognizes a right to environmental information.

#### **Participation and accountability**

Process freedoms are central to human development and, as discussed in last year's *HDR*,

have both intrinsic and instrumental value. Major disparities in power translate into large disparities in environmental outcomes. But the converse is that greater empowerment can bring about positive environmental outcomes equitably. Democracy is important, but beyond that, national institutions need to be accountable and inclusive—especially with respect to affected groups, including women—to enable civil society and foster popular access to information.

A prerequisite for participation is open, transparent and inclusive deliberative processes—but in practice, barriers to effective participation persist. Despite positive change, further efforts are needed to strengthen the possibilities for some traditionally excluded groups, such as indigenous peoples, to play a more active role. And increasing evidence points to the importance of enabling women's involvement, both in itself and because it has been linked to more sustainable outcomes.

Where governments are responsive to popular concerns, change is more likely. An environment in which civil society thrives also engenders accountability at the local, national and global levels, while freedom of press is vital in raising awareness and facilitating public participation.

#### **Financing investments: where do we stand?**

Sustainability debates raise major questions of costs and financing, including who should finance what—and how. Equity principles argue for large transfers of resources to poor countries, both to achieve more equitable access to water and energy and to pay for adapting to climate change and mitigating its effects.

Four important messages emerge from our financing analysis:

- Investment needs are large, but they do not exceed current spending on other sectors such as the military. The estimated annual investment to achieve universal access to modern sources of energy is less than an eighth of annual subsidies for fossil fuels.
- Public sector commitments are important (the generosity of some donors stands out), and the private sector is a major—and

critical—source of finance. Public efforts can catalyse private investment, emphasizing the importance of increasing public funds and supporting a positive investment climate and local capacity.

- Data constraints make it hard to monitor private and domestic public sector spending on environmental sustainability. Available information allows only official development assistance flows to be examined.
- Funding architecture is complex and fragmented, reducing its effectiveness and making spending hard to monitor. There is much to learn from earlier commitments to aid effectiveness made in Paris and Accra.

Although the evidence on needs, commitments and disbursements is patchy and the magnitudes uncertain, the picture is clear. The gaps between official development assistance spending and the investments needed to address climate change, low-carbon energy, and water and sanitation are huge—even larger than the gap between commitments and investment needs. Spending on low-carbon energy sources is only 1.6 percent of the lower bound estimate of needs, while spending on climate change adaptation and mitigation is around 11 percent of the lower bound of estimated need. For water and sanitation the amounts are much smaller, and official development assistance commitments are closer to the estimated costs.

### **Closing the funding gap: currency transaction tax—from great idea to practical policy**

The funding gap in resources available to address the deprivations and challenges documented in this Report could be substantially narrowed by taking advantage of new opportunities. The prime candidate is a currency transaction tax. Argued for by the 1994 *HDR*, the idea is increasingly being accepted as a practical policy option. The recent financial crisis has revived interest in the proposal, underscoring its relevance and timeliness.

Today's foreign exchange settlement infrastructure is more organized, centralized and standardized, so the feasibility of

implementing the tax is something new to highlight. It has high-level endorsement, including from the Leading Group on Innovative Financing, with some 63 countries, among them China, France, Germany, Japan and the United Kingdom. And the UN High-Level Advisory Group on Climate Change Financing recently proposed that 25–50 percent of the proceeds from such a tax be directed to climate change adaptation and mitigation in developing countries.

Our updated analysis shows that at a very minimal rate (0.005 percent) and without any additional administrative costs, the currency transaction tax could yield additional annual revenues of about \$40 billion. Not many other options at the required scale could satisfy the new and additional funding needs that have been stressed in international debates.

A broader financial transaction tax also promises large revenue potential. Most G-20 countries have already implemented a financial transaction tax, and the International Monetary Fund (IMF) has confirmed the administrative feasibility of a broader tax. One version of the tax, a levy of 0.05 percent on domestic and international financial transactions, could raise an estimated \$600–\$700 billion.

Monetizing part of the IMF's surplus Special Drawing Rights has also attracted interest. This could raise up to \$75 billion at little or no budgetary cost to contributing governments. The SDRs have the added appeal of acting as a monetary rebalancing instrument; demand is expected to come from emerging market economies looking to diversify their reserves.

### **Reforms for greater equity and voice**

Bridging the gap that separates policy-makers, negotiators and decision-makers from the citizens most vulnerable to environmental degradation requires closing the accountability gap in global environmental governance. Accountability alone cannot meet the challenge, but it is fundamental for building a socially and environmentally effective global governance system that delivers for people.

We call for measures to improve equity and voice in access to financial flows directed

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**Any truly transformational effort to scale up efforts to slow or halt climate change will require blending domestic and international, private and public, and grant and loan resources**

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at supporting efforts to combat environmental degradation.

Private resources are critical, but because most of the financial flows into the energy sector, for example, come from private hands, the greater risks and lower returns of some regions in the eyes of private investors affect the patterns of flows. Without reform, access to financing will remain unevenly distributed across countries and, indeed, exacerbate existing inequalities. This underlines the importance of ensuring that flows of public investments are equitable and help create conditions to attract future private flows.

The implications are clear—principles of equity are needed to guide and encourage international financial flows. Support for institution building is needed so that developing countries can establish appropriate policies and incentives. The associated governance mechanisms for international public financing must allow for voice and social accountability.

Any truly transformational effort to scale up efforts to slow or halt climate change will require blending domestic and international, private and public, and grant and loan resources. To facilitate both equitable access and efficient use of international financial flows, this Report advocates empowering national stakeholders to blend climate finance at the country level. National climate funds can facilitate the operational blending and monitoring of domestic and international, private and public, and grant and loan resources. This is essential to ensure domestic accountability and positive distributional effects.

The Report proposes an emphasis on four country-level sets of tools to take this agenda forward:

- *Low-emission, climate-resilient strategies*—to align human development, equity and climate change goals.
- *Public-private partnerships*—to catalyse capital from businesses and households.
- *Climate deal-flow facilities*—to bring about equitable access to international public finance.
- *Coordinated implementation and monitoring, reporting and verification systems*—to bring about long-term, efficient results and accountability to local populations as well as partners.

Finally, we call for a high-profile, global Universal Energy Access Initiative with advocacy and awareness and dedicated support to developing clean energy at the country level. Such an initiative could kickstart efforts to shift from incremental to transformative change.

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This Report casts light on the links between sustainability and equity and shows how human development can become more sustainable and more equitable. It reveals how environmental degradation hurts poor and vulnerable groups more than others. We propose a policy agenda that will redress these imbalances, framing a strategy for tackling current environmental problems in a way that promotes equity and human development. And we show practical ways to promote jointly these complementary goals, expanding people's choices while protecting our environment.