



MEASURING HUMAN DEVELOPMENT

A PRIMER

GUIDELINES AND TOOLS FOR
STATISTICAL RESEARCH, ANALYSIS AND ADVOCACY



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COVER ARTWORK:

The cover image for this primer has been designed to reflect both the standard principles upon which rigorous measurement of human development depends, and the more innovative tools and out-of-the-box thinking that can be tapped for research, analysis and advocacy of human development issues. The spiral pattern suggests the cyclical nature of evidence-based policy-making.

POSTER ARTWORK:

The poster series on inequality featured throughout this primer was conceived by Tom Geismar and prepared by AIGA, the professional association for design, as part of the launch strategy of the 2005 global Human Development Report.

FOREWORD

The human development approach represents a simple yet powerful idea: putting people at the centre of development. It is about enlarging people's choices and freedoms to live a long and healthy life, have access to knowledge and a decent standard of living, and participate in communities with dignity and self-respect.

Since the human development approach was introduced by the first global Human Development Report in 1990, more than 600 regional, national and sub-national human development reports (HDRs) have been launched by 143 countries. These reports are dynamic advocacy tools created through a process of active engagement within countries and across regions. Taking on cutting-edge issues, and articulating people's priorities, these reports are seen as important sources of innovation.

Sound statistical analysis provides the foundation for all work supported by the United Nations Development Programme (UNDP), the UN family and our partners. It is what allows us to identify and respond to local development needs, to advocate for change, and to track our progress as we work to help people build a better life.

Measuring Human Development: A Primer offers a timely set of guidelines and tools to support empirically based research, analysis and advocacy, drawing on the combined experience of leading development scholars, statisticians and policy makers from around the globe. As such, this primer complements the set of materials already made available to the human development community, including the HDR Network and the HDR Statistics Network, and the HDR Toolkit, Timeline and thematic guidance notes.

The primer is intended to strengthen the efforts of HDR teams, as well as other practitioners working together to achieve the Millennium Development Goals (MDGs), human rights and broader human development objectives.

I hope you find the primer useful and wish you every success in our common efforts to fight poverty and to enlarge people's choices and freedoms.



Kemal Derviş
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Kevin Watkins
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HUMAN DEVELOPMENT REPORT RESOURCES

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General Resources

UNDP Corporate Policy on NHDRs

HDR Toolkit

HDR Timeline

Minimum Standards

Support Package for HDR Focal Points

*Issues, Innovation, Impact: How Human Development Reports Influence Change
HD Insights*

Knowledge Networks: HDR-Net and HDR Stats-Net

Environment Thematic Guidance Note

Gender Thematic Guidance Note

Conflict Prevention Thematic Guidance Note

HIV/AIDS and Human Development Thematic Guidance Note

The Human Security Framework and National Human Development Reports

Decentralization and National Human Development Reports

Global Reports

Human Development Report 1990: *Concept and measurement of human development*

Human Development Report 1991: *Financing Human Development*

Human Development Report 1993: *People's Participation*

Human Development Report 1994: *New dimensions of human security*

Human Development Report 1995: *Gender and human development*

Human Development Report 1996: *Economic growth and human development*

Human Development Report 1997: *Human Development to Eradicate Poverty*

Human Development Report 1999: *Globalization with a Human Face*

Human Development Report 2005: *International cooperation at a crossroads: Aid, trade and security in an unequal world*

Human Development Report 2006: *Beyond scarcity: Power, poverty and the global water crisis*

Regional Reports

2003 Arab States: *Building a Knowledge Society*

2003 Report on the Roma: *Avoiding the Dependency Trap*

1999 South Asia: *The Crisis of Governance*

2001 South Asia: *Globalization and Human Development*

2002 South Asia: *Agriculture and Rural Development*

National Reports

- 2004 Afghanistan: *Security with a Human Face*
- 2002 Albania: *Challenges of Local Governance and Regional Development*
- 2005 Albania: *Pro-Poor and Pro-Woman Policies: Operationalizing the MDGs in Albania*
- 2002 Argentina: *Contributions to Human Development in Argentina*
- 2005 Argentina: *Argentina post crisis: a time of opportunities*
- 1996 Armenia: *Poverty*
- 2003 Bolivia: *Gender*
- 2004 Bolivia: *Bolivia's Potential*
- 2005 Brazil: *Racism, poverty and violence*
- 1998 Cambodia: *Women's Contribution to Development*
- 2002 Chile: *We the Chileans: A cultural challenge*
- 2002 China: *Making Green Development a Choice*
- 2005 China: *Towards Human Development with Equity*
- 2005 Costa Rica: *Overcoming Fear: Citizen (In)Security and Human Development in Costa Rica*
- 2004 Egypt: *Choosing Decentralization for Good Governance* (plus seven sub-national governorate reports)
- 2005 Gabon: *External Debt and HD*
- 1997 Gambia: *General Human Development Report*
- 2005 Guatemala: *Ethnic and Cultural Diversity: Citizenship in a plural state*
- 2004 Indonesia: *The Economics of Democracy: Financing Human Development in Indonesia*
- 2004 Jordan: *Building sustainable livelihoods*
- 2000 Kazakhstan: *Fighting Poverty for a Better Future*
- 1999 Kenya: *Gender and Human Development*
- 2003 Latvia: *Human Security and Human Development*
- 2006 Liberia: *Building and Mobilizing Capacities for Reconstruction and Development*
- 2001 Macedonia: *Social Exclusion and Human Insecurity in the FYR Macedonia*
- 2006 Moldova: *Quality of Economic Growth and Its Impact on Human Development*
- 2004 Mexico: *The Local Human Development Challenge*
- 1997 Namibia: *General Human Development Report*
- 2004 Nepal: *Empowerment and Poverty Reduction*
- 1998 Nigeria: *Poverty: Towards a Holistic Sustainable Development Framework*
- 2004 Nigeria: *HIV/AIDS: A Challenge to Sustainable Human Development*
- 1997 Philippines: *Women and Gender in Development*
- 2007 Rwanda: *Turning Vision 2020 Into Reality: From Recovery to Sustainable Human Development*
- 2003 South Africa: *The Challenge of Sustainable Development*
- 2002 Tanzania: *The Poverty and Human Development Report*
- 2005 Tanzania: *The Poverty and Human Development Report*
- 2006 Timor-Leste: *The Path Out of Poverty*
- 2002 Uganda: *The Challenge of HIV/AIDS: Maintaining the Momentum of Success*
- 2005 Uganda: *Linking Environment to Human Development: A Deliberate Choice*
- 1999 Venezuela: *Public Investment, Human Development and Decentralization*

Sub-national Reports

- 2005 Chhattisgarh (India): *Human Development Report*
- 2004 West Bengal (India): *Human Development Report*

ACRONYMS

ARV	Antiretroviral
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women
DAC	Development Assistance Committee
DOTS	Directly observed treatment short course
DPT	Diphtheria, pertussis and tetanus
ECLAC	Economic Commission for Latin America and the Caribbean
ESCAP	Economic and Social Commission for Asia and the Pacific
ESCWA	Economic and Social Commission for West Asia
FAO	Food and Agriculture Organization
GDI	Gender-related development index
GDP	Gross domestic product
GEM	Gender empowerment measure
GIS	Geographic information system
HDI	Human development index
HDR	Human development report
HDR-Net	HDR Network
HDRStats-Net	HDR Statistics Network
HIPC	Heavily Indebted Poor Countries Initiative
HPI	Human poverty index
ILO	International Labour Organization
ISCED	International Standard Classification of Education
ISCO-88	International Standard Classification of Occupations
ITU	International Telecommunication Union
LDC	Least developed country
MDGs	Millennium Development Goals
NGO	Non-governmental organization
NHDR	National human development report
ODA	Official development assistance
OECD	Organisation for Economic Co-operation and Development
PPA	Participatory poverty assessment
PPP	Purchasing power parity
PRSP	Poverty reduction strategy paper
UBA	Unmet basic needs approach
UNAIDS	Joint UN Programme on HIV/AIDS

ACRONYMS

UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNHCR	United Nations High Commission for Refugees
UNICEF	United Nations Children's Fund
UNIDO	United Nations Office on Drugs and Crime
USAID	US Agency for International Development
WHO	World Health Organization

INTRODUCTION

WHY MEASURE HUMAN DEVELOPMENT?

As Aristotle argued, “Wealth is evidently not the good we are seeking; for it is merely useful and for the sake of something else.” That “something else” is the opportunity of people to realize their potential as human beings. Real opportunity is about having real choices—the choices that come with a sufficient income, an education, good health and living in a country that is not governed by tyranny.

—2006 global HDR

Human development is about the realization of human potential. It is about what people can do and become—their capabilities—and about the freedom they have to exercise real choices in their lives. This framework is based on what economist and Nobel laureate Amartya Sen calls the capabilities and functionings approach. Not only is it important to achieve more “functionings,” but it is essential for people to have the “capabilities” or the freedom to achieve these.

Critical to progress in human development is the ability to measure and closely monitor it. The capability approach emphasizes what a person can do and not just what she or he can purchase as the metric of development. The collection of human development data lends itself to evidence-based policy-making that helps reduce the forms of social, political and economic exclusion that otherwise keep people from realizing their capabilities.

Evidence-based policy-making may be defined as using statistics and other sources of information systematically to highlight issues (see box 0.1), inform programme design and policy choice, forecast the future, monitor policy implementation and evaluate policy

BOX
0.1

A VILLAGE OF 100 PEOPLE

Peace Child International used statistics in a striking way to illustrate global disparities.



Illustration by Grupo Psimo, Argentina

...what would the indicators of human development be?

There are 52 women and 48 men: 57 Asians, 21 Europeans, 8 Africans and 14 from the Americas. Only 30 are white. 89 are heterosexual. 15 of the inhabitants live in an affluent area of the village and about 78 in poorer districts. The other 7 live in a neighbourhood that is partially developed.

The average income per person is \$6,000 a year, but in reality nearly half of the inhabitants survive on less than \$2 per day. 22 villagers, two thirds of whom are women, are illiterate. Of the 39 people under 20 years of age, 75% live in poorer districts and many of them are looking for jobs that do not exist.

Six people own a computer but only two of them have access to the Internet. More than half the population of the village have never made or received a telephone call.

In the affluent district, people live for nearly 78 years; in poorer areas 64 years and in the poorest neighbourhoods only 52 years. Infectious diseases, malnutrition and a lack of access to safe water, sanitation, health care, adequate housing, education and work all combine to create a higher incidence of fatal diseases to create harsher conditions and shorter life spans in the poor districts.

Naysun Aloe-Carew, 14, Scotland

(with some help from The Millennium Report by Kofi Annan, Secretary General of the United Nations)

Source: Peace Child International 2002.

Mahatma Gandhi once commented that “the difference between what we do and what we are capable of doing would suffice to solve most of the world’s problems.”

2006 GLOBAL HUMAN DEVELOPMENT REPORT

impact. Understanding the importance of evidence-based analysis and using it to measure human development is critical not only for policy makers, but also for civil society at large. In the absence of this evidence, other forces fill the vacuum. These include power-

ful and sectional interests, corruption, political ideology and arbitrary practices based on anecdote. Evidence-based policy-making is the only form of policy-making that is fully consistent with a transparent and accountable democratic political process.

The human development framework underpins and guides the analysis presented in the global Human Development Report, which was founded by the visionary economist Mahbub ul Haq and has been published annually since 1990. In 1992, the first national HDR was published, essentially mirroring the global publication in approach, but adapted to a national context. Since then, over 600 sub-national, national and regional HDRs have been disseminated in more than 140 countries and regions.

The global HDR has created and developed four main composite human development indices to assess measurable dimensions of human development. These are the human development index (HDI), the human poverty index (HPI), the gender-related development index (GDI) and the gender empowerment measure (GEM). The indices help to focus attention on critical issues, and incite debate and further research. Many national HDR teams have not only adapted the indices to national needs, but have also come up with innovative methodologies and indicators

Tom Geismar, AIGA www.aiga.org/inequality-matters



to measure local human development inequities. Complementing composite indicators with other forms of statistical analysis, which many HDRs do, helps to strengthen the messages of reports.

What Does the Human Development Report Process Offer?

Evidence of need, the illustration of deprivation and the demonstration of achievement are all important parts of the struggle for human development. The most important objective of an HDR is to influence and advocate policy so that deprivation is eliminated.

As is the case in the global HDRs—which have explored themes including human security, technology, human rights, culture, democratic governance and access to water—national HDRs analyse varying aspects of human development by choosing themes that are distinct, timely and locally relevant. Many national HDR teams employ participatory research methodologies such as perception surveys, along with innovative analysis to capture as many aspects of human development as are widely perceived to be valuable. HDR analysis has revealed inequalities otherwise concealed by national figures, captured the effects of short-term policy changes and contributed to stronger definitions of national priorities.

HDRs are meant to be more than just publications. They serve as processes that enlarge capacities, bring diverse stakeholders together and focus attention on policies to improve people's lives. In 2001, UNDP issued its Corporate Policy on NHDRs, which draws on the experiences of HDR teams that have

produced reports across the globe. Together, they formulated six core principles that characterize excellence (see box 0.2).

Generally, the hallmark of an HDR is its quest for public debate on national human development challenges and their magnitude, and further research and advocacy for policies to eliminate deprivation, especially among the most disadvantaged. Statistics and solid evidence help fulfil these objectives. HDRs often contain data that have not been previously published. They can help meet the demand for the collection, analysis and dissemination of statistics needed to monitor the Millennium Development Goals (MDGs) and other human development objectives. In disaggregating statistics, HDRs highlight the distribution of human development so that disparities can be identified for immediate policy action.

The quality of data available to HDR teams varies with local capacity, the political situation in a country, its attention to data collection and harmonization, and the accuracy and timeliness of the questions used to collect data. Many reports supplement their findings with qualitative data collection and analysis, which helps to validate findings and puts a compelling human face on the numbers. The key human development principles of participation, transparency and accountability should be applied to all aspects of data collection, analysis and dissemination.

SIX CORE PRINCIPLES THAT GOVERN HDRs

An integral part of the HDR process is its ability to bring different, sometimes dissonant, groups together, to enhance local capacities and to support the formulation of policies that reflect the needs of diverse stakeholders. HDR report teams use the following corporate policy guidelines to produce high-quality reports that aim to achieve:

National/regional ownership through a process that draws on national/regional actors and capabilities throughout the preparation, yielding a product firmly grounded in the country's past and existing development plans. *Ensures relevance.*

Participatory and inclusive preparation that gathers together diverse actors as active partners. These include government, non-governmental, academic and non-academic players, both men and women, different ethnic groups, and so on. *Builds consensus.*

Independence of analysis through objective assessments based on reliable analysis and data. Reports are not consensus documents; they are independent publications in which the authors take ultimate responsibility for the points of view. *Generates respect.*

Quality of analysis that centres on people and makes global, regional and local connections. It uses quantitative and qualitative data to support policy arguments, and to measure and monitor human advances. *Promotes human development strategies.*

Flexibility and creativity in presentation through attractive visuals, fluid language and a creative style that will engage the interest of the target audience. *Maximizes impact.*

Sustained follow up that generates awareness and dialogue, and influences national development actions. *Makes the report's voice heard.*

Source: *Issues, Innovation, Impact: How Human Development Reports Influence Change.*

The Purpose of This Primer

This primer on measuring human development is intended as a reference tool that provides guidance on statistical principles for producing evidence-based policy recommendations and quality HDRs. HDR teams and other users may employ it as a general reference, and/or refer to key issues most relevant to their needs.

A detailed discussion on core statistical principles related to data collection and analysis opens the primer, followed by an examination of innovative ways to measure various dimensions of human development. The

primer concludes with suggestions on how to advocate for change using various instruments to communicate and disseminate the results of analysis and research. While the primer describes the human development indices typically found in the global HDR, the emphasis is on using national data to measure human development. References to some of the pitfalls in statistical analysis are accompanied by descriptions of ways to address them. Rounding off each chapter are country illustrations, checklists, tools and resources.

BOX
0.3

THE HUMAN DEVELOPMENT REPORT NETWORKS

The global **HDR Network** (HDR-Net) is a dynamic forum for professional knowledge sharing and learning on human development issues. To delve more deeply into statistical issues, and to draw more widely on the pioneering research of the larger social science and statistics communities, the Human Development Report Office created the **HDR Statistics Network** (HDRStats-Net). It is a more focused expert network that provides a specialized forum for measurement discussions.

HDRStats-Net covers technical discussions related to composite indices, data collection, and disparities between national and international data, among other issues. This community consists of over 800 global members from national statistics offices, academia, regional statistics commissions and members of the UN family.

Source: NHDR Workspace.

The primer complements a number of other initiatives from UNDP's Human Development Report Office, such as the HDR Toolkit (which provides guidance on achieving the six core principles), the HDR Networks (HDR-Net and HDRStats-Net—see box 0.3) and the HDR Timeline. All of these are available online (<http://hdr.undp.org/nhdr/>).

UNDP has produced complementary resources such as the Bureau of Development Policy's *Indicators for Policy Management* (a United Nations Development Group project), the Regional Bureau of Europe and the CIS' *Tracking Human Development: The Use of Statistics in Monitoring Social Conditions*, the Virtual School of the Regional Bureau for Latin America and the Caribbean (Escuela Virtual, Programa Regional para América Latina y Caribe, PNUD, www.esuela.pnud.org/public/index.php) and the online courses on human development done by UNDP's Learning Resource Centre (<http://learning.undp.org/>), among others.

International statistical capacity development efforts include the 2004 Marrakech Action Plan for Statistics, Paris 21, and the work undertaken by the United Nations Statistics Division and other international data agencies. Readers are encouraged to take advantage of all these resources in the pursuit of high quality, compelling reports that can contribute to policies advancing human development.

CHAPTER 1:

STATISTICAL PRINCIPLES IN
HUMAN DEVELOPMENT ANALYSIS

CHAPTER 1: STATISTICAL PRINCIPLES IN HUMAN DEVELOPMENT ANALYSIS

This primer offers guidance for the preparatory, research and analysis, and advocacy stages of producing sub-national, national and regional HDRs (see figure 1.1). Chapter 1 looks at the first two stages, in which a number of steps help ensure quality reports, including appropriate data collection, analysis and interpretation (for a more detailed discussion on achieving quality of analysis, see the HDR Toolkit).

Producing quality data and analysis has implications for budgeting, timing and team selection. The dimensions of indicators for new themes may not be easily measurable. Issues such as social capital, safety, justice and crime may not be quantifiable without innovative proxy indicators. Innovations can require fresh efforts to collect data or new methods to construct them. Issues such as these should be thoroughly considered as report preparation commences.

Quality Assurance from the Start

From the beginning, it is essential to incorporate quality control mechanisms for the data used in HDRs. This generally involves creating a statistics advisory group to provide intellectual and technical advice and guidance to the writing team during the preparatory stage. The group should meet at the beginning and final stages of report production, and offer feedback on inconsistencies in methodologies, data sources or presentation. To ensure credibility and influence, it should consist of key experts from national statistics agencies, the relevant regional statistics commissions, academia and policy think tanks.

Statistical peer reviews provide additional support. Peer reviews are a common practice in the academic and scientific communities

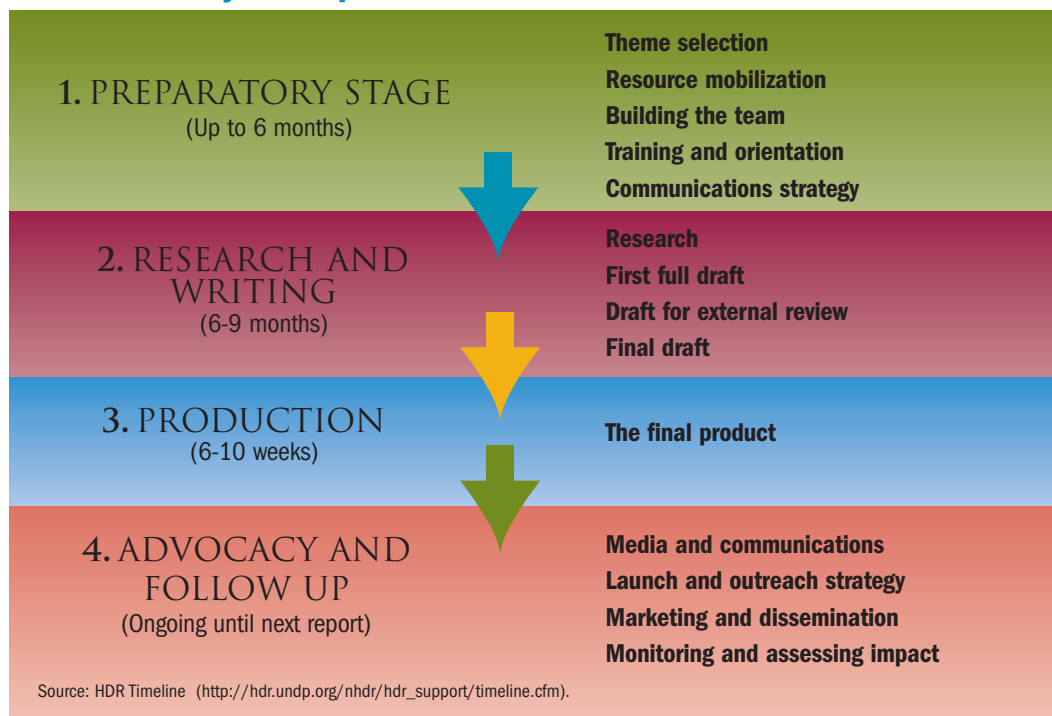
to assure objectivity and quality in research and publications. The statistical peer review should involve reviewers sensitive to the country's context and be carried out once the entire draft of the report is complete. It should not interfere with the key objective of national ownership. The national HDR team is then responsible for evaluating and adopting the relevant recommendations (see annex 1 for guidelines on undertaking statistical peer reviews).

Involving national statistics organizations from the initial stage of selecting the report's theme is recommended, although there may

“Not everything that can be counted counts; and not everything that counts can be counted.”

—ALBERT EINSTEIN (WWW.QUOTEDB.COM/QUOTES/1348)

FIGURE 1.1: Major Steps of the HDR Process



be a diverse range of other data sources for primary or secondary data. To the extent possible, these sources should be included in providing data and analytical expertise/advice to the HDR team.

Subsequent HDRs in a country will benefit from broad input, since the periodicity and the type of data collected will be influenced by the participation of officials from different organizations. In addition, their involvement will lead to increased understanding of the need to measure human development, a demand for new data, and a greater understanding of how HDRs use and interpret data. Participation also helps raise awareness within a country's statistics community on future needs for monitoring and describing the state of human development.

Data Collection

Finding Quality Data

Typically, there are a number of national, regional and international sources that can provide data to HDR teams. Many types of quantitative and qualitative data can be used to assess human development progress. In order to provide a comprehensive picture, HDR teams should generally draw upon a combination of quantitative and qualitative data from varied sources.

Since the principles of participation and transparency are at the core of the human development approach, they should be applied to data collection for HDRs. The people providing data should be engaged not merely as respondents, but as participants.

“Every number is guilty unless proved innocent.”

—C. R. RAO (RAO 1997)

They should contribute to identifying the most pertinent issues facing their communities, and in turn to making decisions based on the data gathered.

Some of the most important potential data sources for national HDRs include censuses on population and housing, household surveys and administrative sources. Other sources could be national and international non-governmental data; and data from bilateral, regional and multilateral development agencies. A more detailed description of both national and international data sources is provided in annex 2.

Generally, national statistics organizations and government ministries are the most prolific collectors of data and statistics. They typically coordinate data collection and statistics within a government. Depending on capacity, they may also collate data and check them for quality and consistency. National statistics officials may provide information about other available data sources and agencies. Most national statistics organizations can provide special data on request, which can be quite useful for HDRs. These organizations are usually responsible for some or all of the main national household surveys, such as the household budget survey, the labour force survey, and the national census on population and housing. In some cases, data can be hard to get, especially in countries struck by conflict or catastrophe, or where the capacity to collect and manage data is extremely limited.

Once relevant data sources have been identified, HDR teams need to assess the quality of

the data. Quality data, depending on what you want to measure, typically have the following attributes (see also annex 3):

- The source of the data should be known. Usually, someone at the agency that collected the data should be available to clarify and explain details.
- The reason for collecting quantitative data should be known and documented. This is important because it helps to understand if, for example, there were any biases in responses, or if there is a need to account for interviewer/response biases/errors (respondents may over-report the number of pupils attending school in order to avoid investigations from the central authorities, for instance).
- Codified responses should be carefully documented. Frequently, responses are ranks or ordinal responses.
- The date of collection, scale, frequency, sampling unit, enumeration units, selection process and coverage of data should be known. For instance: The number (scale) of households (sampling unit) covered on a certain date should be recorded; the number of times data were collected (frequency) and what region of the country they cover (coverage) should be apparent; the units of measurement should be known; and if the data do not include all the observations initially planned, the reason(s) should be explained.
- The method to identify respondents should be known. There are many methods to collect data and identify respondents. If data were collected randomly, or to reflect the proportionate representation of ethnic groups, or in an interview format, or in a rapid rural assessment, then the specifics should be documented. The method for identifying respondents helps to understand the extent to which data can be scaled down

or disaggregated (see the following section on sampling).

- Spatially explicit data that are either derived from satellite images or collected on the ground require additional knowledge about scale and format.
- Errors in data collection (there are seldom none) should be recorded.
- People working with the data should be very familiar with the statistical software they use to extract, transform and construct data. Many errors in analysis occur because researchers are not familiar with how their software handles data.

Collecting New Data

In addition to using diverse sources for both qualitative and quantitative data, HDR teams can consider collecting their own data, especially if the report explores issues with significant data gaps. There may be particular difficulty in using available data to assess social, political and economic forms of exclusion, which may be reflected in existing data collection practices.

Some questions to help teams identify the need to collect new data include:

- Has the analysis required from the data been defined?
- What questions should be asked?
- Have the questions been framed and the questionnaire designed to provide the right

data for analysis?

- What methodology will be used to collect the data?
- What form of analysis or tabulations will be required?
- Have all existing sources been exhausted? Baseline data may exist, which the team may want to build on to monitor progress. Data collection requires time, money and expertise. Existing national and international sources should be assiduously explored before the team ventures down this route.

If the team should proceed to collect data, they should do so with the help of a specialized agency (see box 1.1).

Although data are routinely differentiated into qualitative and quantitative forms, the distinction is not exact, since most qualitative information can be coded into numbers, while most quantitative information can be explained. By some accounts, the difference between the two is the *method* employed for collection. Some methods, such as surveys and automated counting, are more quantitative. Other methods, such as in-depth interviews and focus group discussions, are more qualitative. A good rule of thumb is that quantitative data should enumerate, and qualitative data should explain and describe.

Qualitative methods for data collection should be used when most of the following conditions apply:

- There are very few or no existing data on the indicator or topic;
- The HDR team is not certain about the unit of measurement—individual? household? organization?;
- The team is exploring reasons for why people do or believe something;

“I have no data yet. It is a capital mistake to theorize before one has data. Insensibly one begins to twist facts to suit theories instead of theories to suit facts.”

—SHERLOCK HOLMES
([HTTP://SHERLOCKHOLMES.CLASSICLITERATURE.CO.UK/ASC/ANDALINBOHEMIA/EBOOKPAGE-02.ASP](http://sherlockholmes.classicliterature.co.uk/asc/andalinbohemia/ebookpage-02.asp))

BOX
 1.1

CHILE AND THE ROMA: NEW DATA TRACE CULTURAL TRENDS AND EXCLUSION

Over the last decade, Chile has undergone dramatic changes. Most of these have been driven by globalization, which has fuelled the increased monetization of the economy, and a shift in issues related to religion and culture. The **2002 Chile HDR's** overall premise was that these changes have weakened the national sense of identity and had a damaging effect on social cohesion. In order to address this theme, however, the team could not use much pre-existing data.

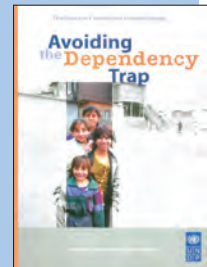


The HDR team devised a methodology and a questionnaire to study the issue. Along with a professional

survey firm, it conducted a public opinion poll of 3,700 men and women, 20 discussion groups, 40 in-depth interviews, 12 life stories, and 9 monographs by experts in education, literature and ethnicity. The interviewees were representative of all classes and geographic regions. Many of the indicators collected through these techniques were used for the computation of two new culture-related indices: the cultural dynamics index (*índice de dinámica cultural*) and the cultural resources index (*índice de recursos culturales*). They were used extensively throughout the report to address new conceptual issues.

For the **2003 Roma regional report**, data on minorities were collected for 800-1,000 households per country (over 5,000 interviews) in southeast, central and eastern

European countries. The report presented the first-ever household study of the Roma, and the first disaggregation of MDG indicators—making the case that national averages bury disparities. The survey followed the logic of conventional household budget surveys and labour force surveys, permitting comparison between different countries. It required “status registration” and not “attitudes” to be recorded, respecting the privacy of respondents. Nine countries have since adopted MDG targets for the Roma that include baseline data from the report.



Sources: 2002 Chile HDR and 2003 Roma HDR.

- The concept is assessed on a nominal scale with no clear demarcation points;
 - Information is mainly collected via direct observation, interviews and/or focus group discussions;
 - The objective is to form some conclusions about a particular group of people subjected to focus group discussions; and/or
 - “Iterative” analysis is required to unearth and interpret information that leads to a better understanding of the material and new rounds of information gathering.
- More detailed descriptions of common qualitative techniques are described in annex 4.
- Quantitative methods for collecting data and constructing indicators should be applied when most of the following conditions apply:
 - Indicators seek to be confirmatory, i.e., the area is well researched and numerical data from various sources are easily available;
 - The HDR team is trying to measure a trend, which is almost impossible with qualitative data;
 - There is very little ambiguity in the concepts being measured, and there is only one way to measure the indicator;
 - The indicator being measured is a ratio or is on the ordinal scale;
 - Information is mainly collected in the form of data using questionnaires, tests and databases; and/or

- The objective is to generalize over a larger (rather than just the sampled) group of observations.

Whether the HDR team is collecting qualitative or quantitative data, the process of data collection requires trained researchers. Frequently, international organizations can also provide guidance.

In most cases, researchers need to generalize from smaller samples for the entire population. Samples are a useful tool in that they include a smaller set of observations and are more efficient, less costly and potentially more

accurate (since it is feasible to maintain control over a smaller set of observations). As the next section suggests, however, a sound methodology should be used to minimize potential bias, particularly in the selection of observations, which may lead to error in the interpretation of results and a reduced ability to generalize beyond the studied observations.

Should the HDR team decide to have a new survey conducted by trained researchers, it is essential that this process be guided by statistical principles for survey design and implementation. The following pages provide guidance on these principles.

Why Sample?

A researcher has to make sure that data allow accurate statistical inferences about a population. In other words, before making a statement about the population's characteristics, the researcher must ensure that the information she or he has collected accurately represents and captures these characteristics. Normally, the cost of studying an entire population is prohibitive in terms of money and time, so a smaller subset of the population—a sample—is analysed.

A sample should “represent” the population and be of sufficient size. Unfortunately, all samples deviate from the true overall population, due to chance variations in drawing the sample's few cases from the population's many members. This is called chance variation or *sampling error*. It differs from non-chance variation,



which introduces errors in samples due to other determining factors. In principle, the sample size should be small enough to be affordable and manageable, while also being large enough to provide acceptably reliable estimates of whatever is being measured.

Before sampling, the eventual analysis should be planned and the findings envisaged. The first two questions that must then be answered are: i) How many people should the study survey? and ii) How will they be selected? These issues are discussed briefly here. Please refer to a statistics textbook, such as Hogg and Tanis (1997) for more details and nuances of the problems of which a research team must be aware.

How many in a sample? The larger the sample, the more likely it is that it will be *representative* of the population. Analysts and researchers should avoid making conclusions about a sub-section of a population from a survey unless it represents the sub-section. For example, suppose a population has 30 percent women and the rest are men. A simple random sample of 10 is unlikely to choose exactly three women and seven men. Conclusions about the two genders are likely to be incorrect, unless a deliberate effort is made to ensure that the sample represents both sexes. Similarly, suppose an ethnic group constitutes only one percent of a population of 250 million. A sample of 100 is unlikely to select even one person from the ethnic group. A naïve researcher could then conclude that there are no members of that ethnic group in the population!

The size of a sample dictates cost, therefore judging the minimum possible sample size to provide good estimates for the population is important. The sample size is usually a com-

promise between what can be afforded and data requirements. Often, the specific populations to be surveyed are not new to researchers. The attributes of the population and the variance of its attributes can determine sample size.

How should a sample be collected? Since it is not possible to include everyone in a sample, it is necessary to define a sample that is a subset of the total population with the same specific characteristics with respect to age, gender, socioeconomic status, geographic distribution, etc. The characteristics of this sample should be the same as the larger population, so that conclusions about the specific subgroup are valid. Procedures for sampling are discussed in annex 5.

Issues to consider when designing a sample:

- How heterogeneous is the population?
- Is the sampling frame adequate to ensure the sample will be representative?
- What level of analysis is desired?
- What level of accuracy is required?
- What resources (financial, human and time) are available for the study?

A good sample will take the analysis in an HDR a long way. But a misused sample will result in wrong conclusions and policy recommendations. Understanding what information can be drawn from a sample is thus of extreme importance before embarking on statistical analysis.

1. Define the problem

- The problem should be framed in terms of deficit and excess.
- There should be a description rather than a diagnosis of the causes.
- The definition should not include an implicit solution (it must be evaluated empirically).

2. Assemble the evidence

- Information is factual data that has meaning; evidence is the presentation of this information in a manner that influences existing beliefs.

3. Construct the alternatives

- Address the problem starting with the benchmark, the alternative that assumes all present trends continue undisturbed.
- Each alternative must address not only the basic intervention strategy, but also must introduce the agencies that will implement the strategy and various methods of financing.
- Do not assume that alternative policy options are mutually exclusive.

4. Select the criteria

- Evaluative criteria are used to judge the best outcomes.

- Criteria should be sorted into values that are to be maximized, those that are constraints and those where more is better.

5. Project the outcomes

- Determine as far as possible the benefits and costs of the policy options.
- Identify unanticipated consequences.
- Indicate the values and the dimensions of the indicator to assess the outcomes.

6. Confront the trade-offs

- As trade-offs occur at the margin, ask if “spending an extra X dollars for an extra unit of service Y will lead to an extra Z units of good outcome.”
- Measure trade-offs across outcomes rather than alternatives.
- Compare benchmarks with other alternatives.

7. Decide

- Select the best alternatives given the analysis.

8. Tell your story

- After many redefinitions of the problem, re-conceptualizations of the alternatives, etc., tell the story to the defined target group.

Source: Adapted from Bardach 2000.

Data Analysis and Interpretation: Some Tips

The overall framework for data analysis and interpretation is to support policy analysis and the formulation of evidence-based policy recommendations. Sound policies are grounded in sound data. Box 1.2 describes the main steps, from defining the problem or the research question, to using the evidence to formulate alternatives, to identifying and assessing the best policy alternatives.

What Type of Analysis Is Most Strategic?

A combination of qualitative and quantitative methods of analysis often yields richer insights into human development (see box 1.3). The following are some of the advantages of adopting mixed methods:

- Mixed methods can help to triangulate results, since more than one method is being used to study the same phenomenon. Despite controversial debates about “objectivity” vs. “subjectivity,” “fixed” vs. “emergent” categories, “facts” vs. “values,” “explanation” vs. “understanding,” “single” vs. “multiple” realities, researchers are increasingly proposing

creative triangulation solutions to a broad set of problems.

- Mixed methods can help uncover and explain inconsistencies and discrepancies that can cause the researcher to re-examine data and analysis procedures.
- Qualitative information can help to sharpen the researcher’s insights about findings, the focus of further research and which results need to be emphasized. This comple-

ments the strength of quantitative analysis, which can help to measure magnitudes and trade-offs between different policy options.

Some Guidelines on Methods of Analysis

There are several steps in analysing information derived from qualitative information gathering (see box 1.4). These include reducing the data and information to a few focused points, displaying them in a manner that allows the

**BOX
1.3**

ARGENTINA AND LATVIA: INNOVATIVE MIXED METHODS IDENTIFY SUBJECTIVE BELIEFS

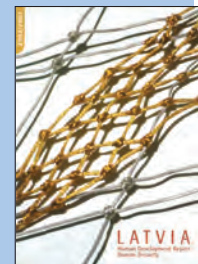
The challenge of the **2005 Argentine HDR** was to explore points of view after the dramatic 2001 socio-economic and institutional crisis. The report raised some of the following questions: How do Argentine men and women perceive public institutions? How do they experience politics? What is their commitment to the law? The HDR team attempted to capture the orientations and beliefs underlying these questions through qualitative methods including focus groups, representative opinion polls and in-depth interviews.

The report developed an innovative selection criterion for the organization of the focus groups. The goal was to achieve a “balanced” (and more parsimonious) distribution by using a systematic procedure. A quantitative matrix of three macro-indicators—the HDI, geographic location and city size—and three individual indicators—gender, age and socioeconomic status—was also created. Fourteen focus groups were selected. Although this was a relatively small (and affordable) number, a high dispersion of all six variables characterized its distribution.

The mixed methodologies facilitated the identification of a set of paradoxes in Argentina: Widespread distrust towards public institutions and weak attachment to the law, on one hand, and a demand to transform public power into public service, on the other. There was increasing individualism in certain sectors, but higher participation in community organizations in others. Harsh criticism of governmental officials and legislators was matched by increasing interest in politics.

Latvia’s 2003 HDR on human security went beyond determining objective factors contributing to a lack of human security. The HDR team, in collaboration with psychologists, developed a methodology for a survey analysing subjective aspects. Two sets of indicators were developed. Objective indicators were based on the seven realms of human security outlined in the 1994 global HDR and modified to reflect the specifics of the Latvian human security situation. The subjective indicators measured people’s degree or intensity of concern about 64 separate issues.

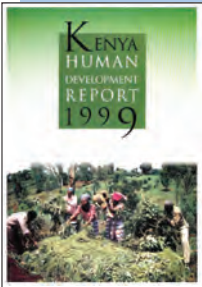
The survey questionnaire investigated individuals’ strategies for increasing their own security, their perception of strategies most useful in dealing with difficulties, and the factors that they felt increased or decreased their sense of security. In sum, the researchers identified five major security factors in Latvia, and disaggregated the data by gender, age, region and level of income. The then-newly formed Government included many report recommendations in its declaration of intended initiatives, including for improved public health financing and stronger laws to protect victims of domestic violence.



Sources: 2005 Argentina HDR and 2003 Latvia HDR.

**BOX
1.4****KENYA: USING QUALITATIVE
DATA FROM PARTICIPATORY
POVERTY ASSESSMENTS**

The 1999 Kenya HDR clearly illustrates the use of qualitative information. Two participatory poverty assessments were conducted to collect data on poverty. These revealed that “men and women view and experience poverty differently. Often, women have lesser access to and control over



assets such as land and economic and social services and more limited participation in decision making.” The HDR also paid attention to the role that traditions play in exacerbating the inequalities that women face. It averred that in general, “traditional beliefs, taboos and cultural practices

in the field of health and tradition have a negative impact on women.”

Source: 1999 Kenya HDR.

researcher to see the messages clearly, and drawing conclusions. Throughout the course of qualitative analysis, the researcher should be asking and re-asking the following questions:

- What patterns and common themes are emerging in response to specific topics? How do these help to illuminate the broader study question?
- Are there any deviations from these patterns? If yes, are there any factors that might explain these atypical responses?
- What interesting stories emerge from these responses? How can these stories help to illuminate the broader study question?
- Do any of these patterns and findings suggest that additional data need to be collected? Do any of the study questions need to be revised?
- Do the patterns that are emerging corroborate the findings of any corresponding quantitative analysis that has been done? If not, what can help explain these discrepancies?

The use of qualitative data and indicators is generally crucial for HDR analysis. Attitudes and opinions, survival strategies, the personal costs of discrimination, self-esteem, perceptions of stereotypes and discriminatory attitudes are all best reflected via qualitative data. They can be presented in terms of case studies, personal testimonies, excerpts from transcripts of round tables or community forums, interviews with community members and prominent personalities, excerpts and analysis of media reports and stories, etc..

Quantitative data can more easily measure magnitudes (see box 1.5), but quantitative analysis must be undertaken carefully and with full awareness of the potential for error in the data (see annex 6). Once appropriate datasets have been collected, the process of data validation begins, based on the research question or theoretical model to be assessed. This process involves, among other steps, data cleaning, data mining, the identification of visual/numeric relationships (correlation, scatter plots), and the use of descriptive statistics to understand the basic data.

**BOX
1.5****CAMBODIA: QUANTITATIVE
DATA DEFINES RETURNS ON
WOMEN'S EDUCATION**

The 1998 Cambodia HDR used quantitative data to advocate for eliminating gender stereotypes. It noted that girl children are often taken out of school because it is assumed that educating girls is not a “good economic investment.” But by analysing the financial returns to education for both men and women, the report revealed that they are in fact higher for women.



Source: 1998 Cambodia HDR.

Using Econometrics

Econometric methods can be a very powerful tool in analysing quantitative data (see box 1.6). Econometric tools such as regression analysis can measure the magnitude of impacts, forecast what may happen in the future, assess the relative impact of variables and calculate the extent to which data are biased. Diagnostic tools within the discipline can also help to fill in data gaps via extrapolation (or interpolation), and determine sampling error.

Econometrics methods can be useful for HDR analysis, including for identifying various causal links with important policy implications. Without the use of statistical models, isolating the impact of individual factors is virtually impossible. Econometric models can help policy makers judge the relative merits and costs of different policy options. They provide a route for determining the most cost-effective options.

But while econometrics can be very powerful, it must be used carefully. Problems in data collection methods, outliers in data, unspecified models, endogenous variables, incorrect-

ly specified variables, colinearity, and many other problems can produce results that are erroneous and hard to detect unless the researcher goes back to the data to check. Furthermore, since most econometric models are estimated using software that relies on “black boxes” for estimating models, only skilled researchers should practice econometrics. They should have spent an adequate amount of time familiarizing themselves with the data.

An interesting use of econometric modelling is illustrated by an exercise undertaken for the 2006 global HDR. The team used statistical techniques from econometrics and health research to estimate the effect of access to water and sanitation infrastructure (along with other determinants) on infant mortality, using demographic and health survey data for 18 countries. Some of the results of the exercise concluded that in Uganda, access to an improved water source reduces the risk of infant mortality by 23 percent; in Egypt, access to a flush toilet reduces the risk of infant mortality by 57 percent; and in Peru, access to a flush toilet reduces the risk of infant mortality by 59 percent.

BOX
1.6

THE ECONOMETRICS METHODOLOGY

Econometrics may be defined as the social science in which the tools of economic theory, mathematics and statistical inference are applied to the analysis of economic phenomena. This technique is often used by social scientists to analyse human development trends and the impacts of policy options. It employs the following general methodology:

1. Create a statement of theory or hypothesis;
2. Collect data;
3. Specify the mathematical model of theory;
4. Specify the statistical, or econometric, model of theory;
5. Estimate the parameters of the chosen econometric model;
6. Check for model adequacy and model specification testing;
7. Test the hypothesis derived from the model; and
8. Use the model for prediction or forecasting.

Source: Gujarati 1999.

Econometric models should only be used once the team has assessed the quality of data. The following tips may help HDR teams that want to use these tools:

- Econometric exercises are only a complement to the broader analysis.
- HDR teams that want to use econometrics should employ professional econometricians as part of their team.
- A peer review process, similar to a process for academic paper review, is essential when a team works with econometrics. The statistics advisory group should contain academics with a good understanding of the topic of the analysis.
- Authors of reports should carefully go through the assumptions made by analysts so that they do not overstate their case.
- Frequently, econometric models employ many assumptions. These, along with the econometric methodology employed, should be carefully documented in the report.
- Researchers use software to analyse their data. They should be aware of the “hidden” assumptions that econometric software can make. For example, some statistical software packages will replace missing values by zeros. This leads to erroneous results. It is important to define and code your missing values.

Tools and recommended readings on econometrics are presented in the primer’s references, such as Damodar Gujarati’s *Essentials of Econometrics*.

Common Pitfalls in Comparing Data

HDRs always attract attention and may include surprising results, due to a variety of reasons. HDR teams should always annotate their results and explain any discrepancies based on data sources. Some of the possible reasons for data discrepancies are explained below.

Methods for data collection or definitions have changed over space and time: The definitions of variables contained in a dataset or the questions asked in a survey might change. This means data collected over different points in time cannot be compared. Errors often creep in because analysts do not account for a change in definitions across geographic territories (because of different local needs) or over time (as analysts and policy makers have different needs for information).

Time series data are commonly flawed. Usually data for years between censuses are interpolated, which presumes that the rate of growth of the indicator remains constant (see box 1.7).

Discrepancies between national and international data sources. Different HDRs use different data sources. Global reports generally turn to international sources such as the United Nations Educational, Cultural and Scientific Organization (UNESCO), the World Bank, the United Nations Statistics Division, the United Nations Department of Economic and Social Affairs, the United Nations Population Division and the United Nations Children’s Fund (UNICEF), among others. International data agencies, to the extent possible, use internationally agreed standards and definitions to compile international data series based on national data sources. When necessary, some agencies use

**BOX
1.7**

COMPARING DATA OVER TIME

Ideally, inter-temporal comparison of two or more surveys should be possible, but in practice this is not always the case. HDR teams should be wary of changes in survey designs that might make survey results less comparable. Survey designs change because of new data needs and lessons learned from previous surveys. While such improvements may yield better estimates, any inter-temporal comparison should take differences into account.

Bangladesh provides a case study of the methodological issues associated with poverty measurement. Similar to many countries, Bangladesh makes poverty comparisons using household expenditure surveys. There were six such surveys in the 1980s and early 1990 (1980, 1981/1982, 1983/1984, 1985/1986, 1988/1989 and 1991/1992). Different analysts observed declining levels of poverty.

For example, government estimates indicated that the prevalence of urban poverty declined from 66 percent in 1981/1982 to 44 percent in 1988/1989, and from 74 percent to 48 percent in rural areas. There was considerable controversy over the claim that poverty had declined.

The different estimates reflected a number of differences in methodological issues. Of particular importance was the change in survey design between the 1981/1982 and 1983/1984 surveys, which rendered the results incomparable. One major difference was a switch from a single interview reporting the seven-day recall of food consumption to the use of daily interviews reporting food consumption over the last 24 hours, spread over 14 days. The number of food items in the questionnaire also increased, doubling the number of items in the 1981/1982 food basket.

Obviously, the new surveys would yield better poverty estimates.

The data from the 1983/1984 survey onward were reasonably standardized. Ravallion and Sen (1994) observed an overall increase in poverty after 1985/1986:

Headcount	
Urban	
1983/1984	40.9
1985/1986	30.8
1988/1989	35.9
1991/1992	33.6
Rural	
1983/1984	53.8
1985/1986	45.9
1988/1989	49.7
1991/1992	52.9

Their analysis indicated that the differences in headcount between the different survey years were largely accounted for by the differences in survey design.

Source: Ravallion and Sen 1994.

their own estimation methods to fill data gaps and make data comparable across countries.

National statistics organizations, a primary source for many national and sub-national HDRs, sometimes do not standardize or harmonize their data with international standards given their intended national use. The definition of literacy, for example, changes by country (see box 1.8). In some cases, better coordination within national statistics agencies and between national and international data agencies would strengthen the quality of data overall.

Why Use Composite Indices in Human Development Analysis?

Once the process of data mining and analysis has begun, HDR teams may want to consider using composite indices to highlight a particular dimension of human development or as an advocacy tool. The impressive story of the human development index (HDI), as a major part of the global HDR, illustrates how powerful one composite index can be in bringing attention to critical policy issues. Composite

**BOX
1.8****THE MANY DEFINITIONS OF LITERACY**

Literacy is one of the only dimensions of life skills that can be and is systematically measured across the majority of countries in the world, and is also used as a measure of the sustainability of basic education skills through adulthood.

Countries collect literacy data for many reasons, but in particular to help direct national literacy policy, making literacy data closely related to the structure of the education system and the institutions involved in literacy training. Countries' definitions of "literacy" can vary considerably:

- Morocco: An individual is considered literate if she or he is able to read and write a short statement related to her or his daily life. The reference population is those aged 10 years and above.
- Thailand: Literate individuals are defined as persons aged five and

over who are able to read and write simple statements with understanding, in any language.

- Macedonia: An individual who has completed more than three grades of primary school shall be considered literate.

UNESCO's Institute for Statistics defines the adult literacy rate as the number of literate persons aged 15 and above, expressed as a percentage of the total population in that age group. The institute considers a person to be literate if she or he can read and write well enough to understand a simple statement related to her or his daily life. The role of the institute is to produce literacy data that are globally comparable and as consistent as possible. It requires that data submitted be "observed data" from an officially recognized source. Adjustments to achieve international comparability

may result in figures that are different than those used at the national level, however. This adjustment responds to the statistical principle that data should be fit for their purpose—in this case, international data for international comparisons, rather than national data for country level policy changes.

There is a growing realization that literacy implies a whole range of skills, from basic word recognition to higher order analytical skills. The UNESCO Institute for Statistics is implementing the Literacy Assessment and Monitoring Project, which will give a much more comparable and nuanced view of literacy skills, using innovative survey techniques to establish literacy along a continuum of five levels. Data from this exercise will start to become available in 2008.

Sources: Adapted from Ellis 2006 and www.uis.unesco.org.

indices have their limitations, but they can still be used with care to advocate policies and promote accountability. They should be simple to interpret, transparent in methodology, able to display complex and multidimensional issues, and useful in benchmarking performance and assessing policies.

In general, a composite index is a unit-less number that combines various indicators or statistics to convey a larger picture. A composite index is formed when individual indicators are compiled into a single index on the basis of some underlying model. Ideally, a composite index should measure a multidimensional

concept that cannot be captured by a single indicator alone—such as poverty, competitiveness, sustainability, market integration, etc.. For human development, the main composite index is the HDI, which combines attributes of health, education and income.

Since its launch in 1990, the global HDR has created and developed three additional human development composite indices to measure various aspects of human development: the human poverty index (HPI), the gender-related development index (GDI) and the gender empowerment measure (GEM). These indices and others are described in

“No index can be better than the data it uses. But this is an argument for improving the data, not abandoning the index.”
 —1992 GLOBAL HDR

more detail in Chapter 2. As in the case of the HDI, they can facilitate the task of ranking countries in a benchmarking exercise. What may be useful and measurable at the global level, however, may not be so nationally.

Therefore, HDR teams over the years have used and adapted composite indices to reflect many different national issues. Most fall into two broad categories: achievement indices and deprivation indices. The following section provides some principles and guidelines on creating new composite indices.

Constructing Composite Indices

Composite indices should not be seen as an end in themselves. Given that many are easier to interpret than a set of indicators, they should be seen as opportunities to initiate discussion and debate on policy (see box 1.9), keeping in mind that they display only part of the picture and cannot show causality.

Constructing a composite index requires great care (see box 1.10). Usually, composite indices have a lot of data behind them, at times leading to complaints that data are “hidden” or “wasted.” These issues should be explained, and the individual indicators comprising the composite index discussed. Combining output and input indicators is incorrect. Using individual indicators that are positive and negative can lead to confusion—life expectancy and poverty in the same composite index can be hard to interpret, for

BOX
1.9

COSTA RICA: MEASURING HUMAN SECURITY

Costa Rica’s HDR 2005 explored objective and subjective aspects of citizen security.

The HDR team gathered quantitative and qualitative data to assess the impact of insecurity on human development. Data were drawn from a National Security Survey administered to 2,400 households.

The survey included questions on a wide range of security concerns, and asked respondents about the threats they perceived to different dimensions of their personal security—from their “wealth” security (e.g., the perceived risk of being robbed or becoming a victim of a burglary), to their physical, emotional and “sexual” security (e.g., the perceived risk of being sexually harassed or abused). The survey also asked respondents about their perception of the performance of the public law enforcement forces, the judiciary and the penitentiary system, as well as of other actors like

private security. Other questions referred to the level of the respondent’s integration in their neighbourhood (e.g., participation in neighborhood organizations of any kind) and the level of trust in their neighbours.

A new cantonal human security index was calculated for all of the country’s 81 cantons. Further, a cantonal HDI was discounted using each canton’s human security index. The cantonal human security index enabled local governments and communities to analyse their situation, identify challenges, and develop strategies and plans of action. Partly as a result of the report’s innovative data work and advocacy, new initiatives are being proposed to regulate firearms and reduce violence against women.

Source: Costa Rica HDR 2005.



Composite indices can send misleading policy messages if they are poorly constructed or misinterpreted. They may:

- Invite simplistic policy conclusions;
- Be misused, for example, to support a desired policy, but without a transparent construction process, and sound statistical or conceptual principles;
- Be the target of political challenge over the selection of indicators and weights;
- Disguise serious failings in some dimensions and increase the difficulty of identifying proper remedial action; or
- Lead to inappropriate policies if dimensions of performance that are difficult to measure are ignored.

Source: Adapted from Nardo et al. 2005.

example. An increase in life expectancy, all else being equal, implies an increase in human development. An increase in poverty implies the reverse. Combining achievement and deprivation indicators makes the interpretation of a composite index especially difficult if it is being used for comparisons.

The following steps are important in constructing and explaining composite indices (Nardo et al. 2005a).

Step 1: Using a Theoretical Model

Composite indices should be based on a theoretical model that helps to guide the selection of components and the overall interpretation. This also helps to deconstruct composite indices so that the underlying values of the components can be understood and discussed. A composite index should also be divided into

subgroups that may not be statistically independent of each other. This step should involve experts and stakeholders as much as possible, so that multiple viewpoints are acknowledged and the conceptual framework and set of indicators gain in robustness. It can also be important to brainstorm around identifying the selection criteria for the underlying indicators.

Step 2: Selecting Variables

Composite indices are only as strong as the underlying variables. These variables should be selected, ideally, on the basis of their relevance, analytical soundness, timeliness, accessibility and other related factors. Proxy indicators should be used when the desired data are unavailable. The accuracy of indicators should be checked via correlation and sensitivity analysis. The quality and accuracy of composite indices should evolve with improvements in data collection and as indicators become more refined.

Step 3: Analysing the Components

Composite indices are often developed with a lot of components that are inadequately explained, including in terms of their interrelationships. Different analytical approaches such as principal components analysis, factor analysis and cluster analysis can be used to explore whether or not the dimensions of a composite index are statistically well balanced. Multivariate analysis, or procedures involving more than one variable at a time, is important, although multivariate analysis of small samples will not have known statistical properties. The components should not be highly correlated with each other, and the index should not be highly correlated with any single component. In addition, the monotonicity condition should apply, where an increase in the attribute leads to an increase in the index value.

Step 4: Imputing Missing Data

It is important to explain why data are missing. Selectivity biases in missing data can confound results, so usually analysts either delete the case in the dataset completely or impute data. There are various techniques to do this. Analysts should employ robust methods.

Step 5: Normalizing Data

Indicators constituting a composite index often have different measurement units, so they have to be normalized before they are aggregated. Most HDRs use the following normalization technique to construct an indicator to measure development or achievement:

$$\text{Standardized value} = \frac{\text{Value for region} - \text{minimum value}}{\text{Range (maximum - minimum)}}$$

The indicator above has no unit and lies between 0 and 1. When constructing composite indices for different years, the minimum and maximum values used in the normalization should be fixed so that progress can be monitored.

In composite indices that include measures of deprivation and measures of achievement, the indicator should be subtracted from one (all indicators calculated will lie between 0 and 1). The standardized value of the deprivation indicator = 1 – deprivation indicator.

Step 6: Weighting and Aggregation

It is important to be clear about the weights used to construct composite indices, implicitly or explicitly. Weights reflect value judgments. In some cases, they may reflect the “value” a region or country has arrived at via national debate or rigorous participatory processes. Nonetheless, they need to be explicitly explained and justified in all cases.

Most composite indices use equal weighting,

giving all indicators the same weight. This can be justified, such as in the HDI, but it may also reflect insufficient knowledge of “true” weights or a lack of consensus on alternatives.

There are many ways in which indicators may be combined. HDRs frequently use linear methods for adding them up. But other methods, such as employing geometric and multiple criteria, are particularly useful if indicators do not have the same units. For example, the HDI uses arithmetic averaging, while the HPI uses power averaging. These two averaging methods produce different results. Arithmetic averaging implies perfect substitutability between the index components. Power averaging places greater weight on components with higher values, and is usually used in deprivation indices, as the largest deprivation will have a more significant impact on the index and will not be offset by small deprivations in other components. The method chosen should be consistent with the theoretical model that has been developed for the composite index. Weighting and aggregation procedures should always be well documented and explained.

Step 7: Sensitivity and Uncertainty Analysis

Sensitivity and uncertainty analysis is especially important. While constructing composite indices, assumptions and choices have to be made regarding the selection of indicators, data normalization, weights and aggregation methods, etc.. These choices may not be universally accepted. Since composite indices are being constructed to send out policy messages, however, their significance should not be contested simply on the basis of these choices. “A combination of uncertainty and

sensitivity analysis can help gauge the robustness of the composite indicator and improve transparency” (ibid., p. 81). The approach to assess uncertainty should include an analysis of how the following affect the value of the composite index: i) inclusion and exclusion of sub-indicators, ii) errors in data and variance estimation, iii) imputation schemes, iv) normalization techniques, v) different weighting schemes, vi) different aggregation schemes and vii) using different values for weights.

Sensitivity and uncertainty analysis have two other uses. First, they can help to set bounds of uncertainty, so that readers know how much

confidence to place in indicators and their plausibility. Second, each source of uncertainty can be examined. If the greatest source of uncertainty is the absence of data, then this can help to develop a case for better information. Sensitivity measures represent how much uncertainty in the composite indicator would be reduced if the source of uncertainty were reduced. The results of uncertainty analysis can best be shown on a scatter plot, with values of the composite index on the vertical axis and each source of uncertainty on the horizontal axis.

Step 8: Links to Other Variables

Composite indices are usually constructed to measure concepts that can be linked to well-known phenomena. A good practice is to examine the correlation between variables to measure the explanatory power of the index. Cross plots are often the best way to show the correlation.

Step 9: Deconstructing Composite Indices

Deconstructing composite indices helps to extend the analysis and get back to basics, including through determining the contribution of each of the constituent indicators.

Again, the process to construct composite indices should be well documented. Chapter 2 features further discussion of the HDI and other composite indices.



Scott Spector, AIGA www.aiga.org/inequality-matters

Why Disaggregation Is Recommended

HDRs make important contributions to highlighting inequalities through disaggregated analysis. National level indicators are only useful for international comparisons. They can indicate the specific problems and priorities of a country. But disaggregation is important for all reports to reveal the kind of intra-national distribution that is critical for domestic policy-making.

The global HDR attributes one average value of a composite index for all individuals living within a country. It indicates the “representative” individual (Kirman 1992). This average is with respect to education, life expectancy at birth and an average income independent of age. Since the individual has an income, she or he must be an adult. This representative adult, however, has no occupation, no sex and lives everywhere in the country. The reality is that individuals within a country are not all identical.

Disaggregation allocates indicators for different geographic sub-regions, ethnic groups and minorities, genders and income classes, among other classifications (see table 1.1). A comparison across ethnic groups can suggest, for example, which group requires most attention. Disaggregation also helps in comparing countries. Two countries may have the same HDI, but the distribution likely varies within each. Temporal comparisons of disaggregated data can show how the demographic profile has evolved.

The 2005 Brazil HDR analysed racial inequalities in income, education, health, employment, housing and violence, and con-

“I abhor averages. I like the individual case. A man may have six meals one day and none the next, making an average of three meals per day, but that is not a good way to live.”

—LOUIS D. BRANDEIS (MASON 1946, P. 145)

cluded that blacks in Brazil face harsher human development conditions in all of these areas. The analysis included disaggregated data on university enrolment rates by race, and made comparisons with the United States. The report concluded that the percentage of blacks with a college degree in Brazil in 2001 (2.5 percent) is the same as the rate achieved by blacks in the United States in 1947. The proportion of whites in Brazil with a college degree in 2001 (10.2 percent) was

Table 1.1: DIMENSIONS OF DISAGGREGATION

Spatial dimensions	Individual characteristics
National	Sex
Regional	Age group
Provincial	Ethnic group
District level	Children
Urban/rural	The elderly
Urban slum/non-slum	Migrant/non-migrant
Income	Education
Wealth quintile	Attainment (primary school, secondary school, university)
Poverty line (above poverty line/below poverty line)	Literacy
Employment	Other possible dimensions
Sector (agriculture, industry, services)	Other minority groups
Status (formal, informal)	Conflict-prone areas
	Other economic classes requiring special policy guidance

Source: Adapted from United Nations Development Group 2005.

SOME LIMITATIONS ON DISAGGREGATION

Disaggregation requires skill and data. Some general considerations to help avoid error are:

- Are the figures real? The message delivered by the figures may be different from everyday experience. It is important to validate the figures in reality.
- Are indices internationally comparable? Do the indices use similar indicators as the global indices? If not, have the differences been explained? The same definitions of indices may have a different meaning across countries or across smaller territorial units, depending on the data used.
- What is the optimal territorial unit for disaggregation, given that the lower the level the higher the error?
- Data availability is a critical determinant of how far disaggregation can go.
- Avoid national rankings if the data are very coarse.
- Clearly explain the methodology for disaggregation.

achieved by whites in the United States by the mid-1960s.

In Egypt, a series of sub-national governorate reports have presented the first comprehensive picture of current local development. A searchable database generates maps to easily highlight varying levels of development based on a number of human development indicators. The inequalities highlighted by this database now guide resource allocation decisions for 58 sub-administrative units.

Examining certain types of disparities depends on the national context. In small countries, for example, exploring regional or rural-urban differences may not be of great interest. Other disparities, such as those related to ethnicity or gender, may emanate from cultural ideologies and shed more light on the human development challenges at hand.

Some Cautions on Disaggregated Indices

In working with disaggregated data, it is important to be cautious about several issues (see box 1.11). These apply in general to the process of disaggregation, but they are particularly important in disaggregating composite indices.

Nationally adapted and disaggregated composite indices are calculated by using data for the components at the required dimension and treating each disaggregated group as if it were a separate country (1993 global HDR), much like the global HDR does with the HDI on a global scale. This process first requires that data are representative of the group. Disaggregated indicators may use a sub-section of the data otherwise employed to produce national or global indicators, which often come from surveys that might not be representative. If a study is using, for example, the World Bank's living standards measurement study, the data are usually representative at the level of regions, urban/rural sectors and gender. Using this data to devise indicators for ethnic groups located in remote regions of the country is erroneous, however, since the data are likely to under-represent these groups. As another example illustrates, if survey data have been collected by phone but are being used to infer something about the entire country, under-representation and errors will likely result. In many developing countries, people in rural areas, women and the poor are less likely to have telephone access.

Knowing the optimal sub-population size to calculate the index is an important factor. The

lower the level of disaggregation, the higher the errors are likely to be. Disaggregated data are obviously smaller than the datasets from which they are extracted. As a consequence, if one is dealing with a sample, the sampling error will be larger and it will be more difficult to assess differences and trends.

Second, while disaggregation reveals disparities, this may not be the complete picture. In China, for example, provinces are very large. On a provincial level, the entire extent of disparities may not be captured.

Third, it is important to know how far disaggregation can go. Disaggregation of any index implies that the components have to be present at the disaggregated level. Disaggregation of the HDI, for instance, requires data on income, education and life expectancy. Data on education are often available and representative at levels such as urban/rural, gender, ethnic dimensions, etc.. But income and life expectancy are not usually available. In many subsistence economies, income data for females in agriculture can only be estimated or assumed.

Mapping Poverty: A Disaggregation Technique

Poverty maps, pioneered by the Development Economics Research Group at the World Bank, are extremely useful tools for presenting data and making policy advocacy effective and targeted.

In many countries, data on poverty are available only from household surveys. These are generally designed to be representative at the national level and only occasionally at any sub-national level. Rarely do such surveys permit disaggregation by place of residence, for example.

Alternative data sources may have expanded geographic coverage, but usually lack the detailed information about living conditions needed to make statements about the extent and depth of poverty.

Poverty mapping allows for better poverty estimations by drawing on the detailed information available in household survey data alongside the comprehensive coverage of population census data. To do this, poverty mapping relies on small-area estimation techniques. These techniques are used to produce poverty estimates for small communities—from 1,000 households to 5,000 households (see box 1.12). The advantage of such techniques is that they produce confidence intervals for estimated welfare measures. These can be examined to gauge the reliability of the estimates.

The data can then be showcased in maps highlighting where poverty is concentrated and where poverty reduction policies might have the greatest impact (see figure 1.2). Through this graphic display, policy makers will be able to quickly see the conclusions drawn from the data.

Poverty maps have been developed or are underway in more than 30 developing countries. The Center for International Earth Science Information Network brings much of the work on poverty maps together (see www.ciesin.columbia.edu/povmap/index.html).

It is important to combine consumption-based poverty maps, given the limitations of this kind of analysis, with other indicators of well-being, opportunity and access. Various exercises can be undertaken for a wide range of indicators, including health and education levels, ethnicity, access to infrastructure and other public services, and

SOME METHODS FOR SMALL-AREA ESTIMATION FOR POVERTY MAPS

Constructing a poverty map requires detailed analysis of two sources of data: a household survey and the population census.

In the first stage of the analysis, the two data sources are subjected to very close scrutiny. A set of common variables is identified. The purpose is to identify variables at the household level defined in the same way in both the household survey and the census.

In the second stage, survey data are used to develop a series of statistical models that relate per capita consumption to the set of common variables identified in the preceding step. This stage involves estimating econometric models of consumption while using household-level and community variables. Different models are usually estimated for each stratum in the household survey dataset, possibly separately for rural and urban areas. Diagnostic tests are carried out, and a large number of different specifications are subjected to experimentation.

In the final stage, parameter esti-

mates from the previous stage are applied to the population census and used to predict consumption for each household in the population census. The POVMAP2 software has been developed for this phase by Qinghua Zhao of the Development Economics Research Group of the World Bank (see <http://research.worldbank.org> for free downloads).

Once a predicted consumption measure is available for each household in the census, summary measures of poverty (and/or inequality) can be estimated for a set of households in the census. When the poverty map exercise has been completed for all regions in the country, the resulting databases, which provide estimates of poverty and inequality (and their standard errors) at a variety of levels of geographic disaggregation, can be projected onto geographic maps using GIS (geographic information systems) mapping techniques. This involves using GIS software (such as ARCVIEW), which merges information on the geo-

graphic coordinates of localities, such as districts or sub-districts, with the poverty and inequality estimates produced by the poverty mapping methodology.

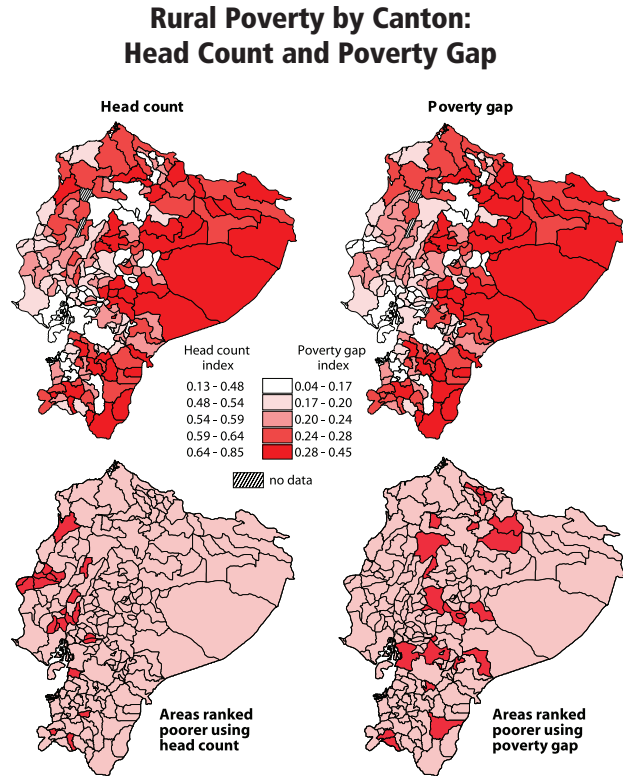
One of the methodological concerns in the poverty mapping exercise is that the common pool of household variables will not suffice to capture unobserved geographic effects, such as agro-climatic conditions, the quality of local government administration, etc.. These might still be very important in predicting household level consumption. In an effort to provide proxies for these unobserved factors, it is often useful to merge, for example, district or sub-district data that have been compiled separately into both the census and the household survey. These sub-district level data may comprise a wide range of variables (for example, the construction of schools, public spending figures, infrastructure availability, population estimates, etc.).

Source: Peter Lanjouw,
Development Economics Research Group, The
World Bank.

land quality and ecology. A map documenting regional patterns of access to primary health care centres, for instance, could be paired with a consumption-based poverty map. The combination might help policy makers decide how to prioritize efforts to expand access to primary health care centres, perhaps by targeting the poorest areas with the lowest health care coverage.

FIGURE 1.2: Ecuador: Mapping Rural Poverty

In Ecuador, poverty maps showed that among its 400 cantons, those in the east were poorer than the rest. When a team of experts compared the results of basic needs indicators with those from a comprehensive consumption indicator (computed from the living standards measurement study), they found that the basic needs indicators that used coarse qualitative data were not very accurate (Hentschel et al. 2000). They concluded that if the objective is to reach the poor as defined by consumption levels, the leakage of resources due to coarse targeting from using only basic needs indicators could be quite high—and therefore quite expensive for the Government.



Source: Elbers et al. 2002, p. 44.

Conclusion

Chapter 1 of this primer has provided an orientation on statistical principles and set out some practical steps that should be considered in the HDR process—from ensuring that statistical quality assurance mechanisms are in place, to undertaking rigorous data collection and analysis. Composite indices and disaggregation techniques provide HDR teams with tools to reveal inequalities masked by national averages, and objective evidence on which to base sound policy options and advocacy messages.

Once the data collection process and analysis are underway, the next step is to focus on measurement issues related to specific HDR themes. Chapter 2 provides guidance on the use of data and indicators for select dimensions of human development measurement.

CHECKLIST: A QUICK REFERENCE

The following checklist covers the key issues of Chapter 1.

Data Collection

- Has the HDR team contacted the national statistics organization and other statistics agencies in the country/region?
- Have the relevant members of these agencies been included in the analysis team?
- Have adequate budgetary, human resources and time been allocated to the process?
- Does the selected team have the relevant statistical expertise required?
- Has a statistical advisory group been created to provide technical guidance to the HDR team?
- Have statistical peer reviews been undertaken?
- Has the team considered drawing on the experience of other countries?
- Does the country have a recent census? Has this been used?
- Have differences between statistics and indicators computed by national and international sources been explained?
- If doing comparisons over time, has the team ensured that data can actually be compared?
- If employing poverty maps using estimation techniques, has the team consulted experts? Has the team taken the requisite measures to ensure data are comparable between sources?
- Has the team, throughout the process, tried to advocate for more transparent methodology in data collection, better documentation and harmonized standards across data collection agencies?

If the team is using pre-existing sources of data:

- Has the team referred to the meta-data of the dataset?
- Are the responses in the data codified carefully?
- Are the frequency, scale, enumeration units, selection process and coverage of data known?
- Is there clarity on the data collection method and the level at which data has been collected?
- Has the team accounted for potential biases in data collection/enumeration? Have these been explained?

If the team is collecting its own data for the report:

- Have the statistical experts on the team exhausted pre-existing sources of data?
- Are the objectives for collecting data clearly defined?
- Have these reasons been communicated to the data collection team/agency and the national statistics agencies?
- Depending on the type of data, has the methodology been explained in the report?
- Depending on the type of data, have the requisite caveats to results been included?

Data Analysis and Interpretation

- Has the team used a mix of qualitative and quantitative methods to guide and inform the report?
- If using econometric methods, has the team used trained researchers?
- Have sources of error been accounted for/explained clearly?
- Has the team ensured correlation is not interpreted as causality?
- Do data and analysis highlight issues affecting economically, politically and socially excluded groups?

Constructing Composite Indices

- For constructing new composite indices, has a theoretical model been set up?
- Is the objective of the composite index clear?
- Are the constituent indicators well defined, relevant and accessible?
- Have the inter-relationships between constituent indicators been analysed?
- Has the weighting and aggregation scheme been adequately explained?
- Have sensitivity and uncertainty analyses been conducted?
- Have the components of the composite indicator been discussed and analysed?
- Is the team using composite indices to generate discussion and attract public attention?

Disaggregating Data

- Where the availability of reliable data makes it possible, are data disaggregated by gender and other parameters of exclusion?
- Are the data underlying these disaggregated indicators appropriately representative of the subgroup they are describing?
- Is it possible to spatially compare these disaggregated statistics? Has this been done?
- Is it possible to temporally compare these disaggregated statistics? Has this been done?
- Has the need for more disaggregated data and research been recognized and included as a policy recommendation?

CHAPTER 2:

SELECT DIMENSIONS OF MEASURING
HUMAN DEVELOPMENT

CHAPTER 2: SELECT DIMENSIONS OF MEASURING HUMAN DEVELOPMENT

For decades, countries' levels of welfare were measured in terms of economic growth or an increase in per capita gross domestic product (GDP). While this approach has the advantage of being straightforward and easy to use, the failure of economic growth to improve the well-being of a significant proportion of people in many countries has underscored the need for a more encompassing measure that also captures human development.

As a people-centred approach that focuses on the expansion of people's capabilities and freedoms, the human development paradigm does not underestimate the importance of rising incomes and outputs. These are deemed only as the "means" and not the "ends" of development, however. Human development concerns itself with the creation of an environment in which people can develop their full potential, and lead productive, creative lives in accord with their needs and interests.

Chapter 1 of this primer focused on the statistical principles and data needs for HDRs. This chapter presents approaches to measuring select aspects of human development. It specifically discusses the following:

- The human development approach and its measurement;
- Multidimensional poverty;
- The economic dimensions of human development;
- Gender aspects of human development;
- The environment and human development; and
- Other dimensions of human development related to HIV/AIDS, human security and governance.

While these issues are all important to human development, they are by no means exhaustive. HDR teams are therefore encouraged to analyse other dimensions pertinent to national development plans and programmes, using a combination of measurements.

The History and Evolution of the Human Development Paradigm

As noted in Chapter 1, people-centred development dates back to at least Aristotle (384-322 BC), who argued that wealth is only a means to something else. What is important, therefore, is how income is used to improve human development (Fukuda-Parr et al. 2004). The successes and failures of political arrangements should be judged on whether they enable people to lead lives they value.

Since then, many other scholars, notably political economist Adam Smith, have reiterated this notion, even though economic growth came to dominate the development discourse. The emphasis on growth was based on the assumption that its benefits will automatically "trickle down" to poor and marginalized people. The focus of development was

on industrialization and investments as means of achieving growth, while the role of people in change was undervalued. This led many countries to achieve economic growth, although the well-being of a majority of people did not improve.

The economic growth paradigm neglected important aspects of development, such as income inequalities, unemployment, and disparities in access to public goods and services such as health and education. Especially in the 1980s, as unemployment levels escalated and access to social services deteriorated in some industrialized countries, development

thinkers began to question the legitimacy of economic growth as the only measure of a nation's level of development. The development discourse has since shifted from the basic needs approach—which focused mainly on incomes, public services and participation—to an emphasis on human capabilities.

The basic needs approach falls short because it is shaped around commodity evaluation. Important elements of life, such as the position of poor and marginalized people and their ability to voice their views, gender power relations, the freedom to choose, etc.—do not receive adequate attention.

The capability approach, a conceptual framework developed by Amartya Sen, emphasizes human achievements and freedoms. It challenges the common view that poverty is purely a deprivation of income, and underscores that human beings are both agents and beneficiaries of development, without downplaying their role as the primary means of economic productivity.

The capability approach evaluates the various “functionings” in human life (what people want to do and what they aspire to be) and their capabilities to achieve these “functionings”. These include but are not limited to the ability to be well-nourished, escape avoidable death, be knowledgeable and be equipped to participate in the life of one's community.



In 1990, human development was given a firmer conceptual, quantitative and policy focus through the publication of the first global HDR. Human development combines the capabilities and basic needs approaches with a greater emphasis on the ability of human beings to lead the lives that they aspire to and the enhancement of the substantive choices that they have. The human development framework is anchored in the idea that while economic prosperity may help people lead freer and more fulfilling lives, education and health, among other factors, influence the quality of people's freedoms. Human development helps people to lead more healthy, lengthy and knowledgeable lives.

Against this background, the main preoccupation of sub-national, national and regional HDRs should be analysing social, economic, political, cultural and other factors that influence human development.

Human Development and the MDGs

In 2000, representatives of 191 nations attended the Millennium Summit and unanimously adopted the Millennium Declaration, which called on the world community to achieve certain fundamental goals related to global peace, security and sustainable human development. The eight Millennium Development Goals (MDGs) include eradicating extreme levels of poverty and hunger, ensuring gender equality and women's empowerment, combating HIV/AIDS, ensuring environmental sustainability and improving global partnerships for development.

One of the direct outcomes of the Millennium Summit was the realization that

simple pronouncements of what steps are needed to achieve the Millennium Declaration and the MDGs would not be enough. Targets to monitor the MDGs were set. Indicators were developed to track progress at national levels (see annex 7).

While the MDGs do not reflect all dimensions of human development, they represent the most comprehensive set of human development goals and targets ever adopted by UN member states. Progress towards achieving the MDGs is progress towards human development (2005 global HDR). The targets and indicators provide a good framework for analysing and assessing this progress. HDRs can undertake in-depth analysis of constraints, and propose specific strategies and policy actions for reaching the goals.

“ Our Gross National Product counts air pollution...and television programs which glorify violence in order to sell toys to our children. Yet the Gross National Product does not allow for the health of our children, the quality of their education, or the joy of their play... it measures everything, in short, except that which makes life worthwhile.”

—US PRESIDENTIAL CANDIDATE
ROBERT F. KENNEDY (WWW.JFKLIBRARY.ORG)

The Human Development Index

The inadequacy of GDP as a yardstick for a country's development meant that a more comprehensive measure capturing socioeconomic progress and human well-being was needed. Human development has many

dimensions, with some easier to measure than others. The HDI, as an aggregate measure of basic dimensions of human development, compares human development progress across countries. The formulation of the HDI as a measure of human development was based on many objectives, with the following of paramount importance:

- Develop indicators that measure the basic dimensions of human development and the enlargement of people's choices;
- Make use of a limited number of indicators to keep the measure simple;
- Devise a composite index rather than an excessive number of separate indices;
- Create a measure that covers both economic and social choices;
- Ensure a flexible measure subject to gradual refinement as analytical critiques emerge; and
- Rank countries with the index to advocate for data relevant to human development policies, and investments in data collection and analysis.

The centrality of the HDI in the global HDR does not imply, however, that it represents the best measure of human development. The index as it is currently measured is very basic, consisting of the following dimensions:

- A long and healthy life, measured by life expectancy at birth;
- Knowledge, measured by the adult literacy rate and the combined gross enrolment ratio at primary, secondary and tertiary levels; and
- A decent standard of living, measured by GDP per capita in purchasing power parity (PPP) US dollar terms (see annex 8 for details on how the HDI is calculated).

In bringing together income with health and

education, the HDI draws attention to the fact that some low-income countries do better on human development than some high-income countries. It is useful to compare a country's GDP per capita with its HDI ranking.

What Are the HDI's Limitations?

Like any composite index, the HDI has its limitations. Realizing these helps avoid the misuse or exaggeration of the index. HDR teams should bear in mind that at the national level, other dimensions of human development may be more relevant for national development planning purposes. Where data availability and reliability permit, these dimensions should be examined. The limitations of the HDI should also be used to advocate for resources to improve data availability and reliability, and to better monitor progress in human development.

The HDI's limitations include:

- The index is not a comprehensive measure of human development. It only focuses on three dimensions of capabilities. Other aspects of human development that could be captured with available data include the degree of people's self-respect and political freedom, and environmental concerns, among others.
- The HDI is not designed to assess progress in human development over a short-term period because two of its component indicators—adult literacy and life expectancy at birth—are not responsive to short-term policy changes.
- Like any average country measure, the HDI does not account for variations in human development within the country. Countries with the same HDI may be very different in how human development is distributed, either from region to region, or from social group to social group.

The HDI has been thoroughly researched and refined over the years. That is why it has gained broad acceptability as a good differentiator of human development levels across countries. Even so, it is not the epitome of a composite measure of human development. Different and perhaps equally acceptable methodologies, even if the differences are quite small, may lead to variable results. In spite of these limitations, the HDI has been a good instrument for human development debate, mainly for the following reasons:

- It has simplified a complex concept to three basic and measurable dimensions.
- It has helped shift the perception of measuring development from an exclusive concentration on GDP per capita.
- Its focus on basic capabilities relevant to both developing and developed countries

makes it a universal tool.

- It stimulates human development debate.
- It has motivated healthy competition among countries, with governments looking at the HDI to assess their performance against that of their neighbours.

The Evolution of the HDI

The HDI's analytical framework, methodology and data use have been rigorously scrutinized, and the index has evolved since 1990. When it was first introduced, for example, the HDI was constructed from a deprivation perspective. The educational attainment component had adult literacy as the only variable, while income was logged at all levels. An observed maximum and minimum for each variable were used as goalposts, but changes in the goalposts made comparisons across time impossible. With better under-

Table 2.1: MAJOR REFINEMENTS IN THE HDI

REFINEMENT	YEAR
1. The method of calculation was revised to give the index a positive twist.	1991
2. Mean years of schooling was added as a second component to form educational attainment. Adult literacy was given two-thirds weight and mean years of schooling one-third.	1991
3. A cut-off income of US \$5,000 per capita per year, based on the world average, was introduced. This decision was based on the assumption that each person as a member of the global community requires at least that income to build basic capabilities. Income above the cut-off point was adjusted using a highly regressive formula.	1991
4. Fixed minima and maxima were introduced based on the trends of variables and their probable values in the next 25 years.	1994
5. Mean years of schooling was replaced with combined gross enrolment at the primary, secondary and tertiary levels because the data on the former did not necessarily reflect reality.	1995
6. The formulation of logging income throughout was reintroduced because the adjustment introduced in 1991 was so drastic that middle-income countries were unjustifiably penalized. The treatment of income in the HDI now emphasizes that people do not need an infinite amount of income for a decent standard of living. As income increases, its value is adjusted downwards through mathematical treatment before it enters the HDI.	1999

Source: Adapted from Jahan in Fukuda-Parr et al. 2004.

standing, the index has undergone some major refinements. Table 2.1 chronologically shows the changes that have taken place.

Adjusting the HDI to National Contexts

Globally, it is important to use standard indicators to calculate the HDI for cross-country comparisons. At the national level, available sub-national data should guide the choice of indicators. Per capita income from household surveys can be used instead of GDP per capita, for instance. Combined gross enrolment ratios could be replaced with net enrolment rates, or school survival rates to account for drop outs, especially in countries where school drop out is high. Countries benefiting from the pilot phase of the UNESCO Institute for Statistics' Literacy Assessment and Monitoring Programme could use the new literacy assessment measure in place of the conventional adult literacy rate as this becomes available (see box 1.8). Goalposts for

selected indicators should be set within the national development context.

The choice of indicators can extend beyond just data availability—some HDR teams have used creative but rigorous analysis to devise indices that capture important alternative or additional aspects of national or regional development. See box 2.1 for examples of adapted indices.

Adjusting the HDI should not compromise data quality, especially during the process of disaggregation (box 2.2 gives an example of how one HDR team creatively solved data problems). The estimation of GDP and life expectancy/infant mortality at lower levels can be tricky, for example, and needs to be done by experts. Some countries have substituted life expectancy at birth with infant mortality rates estimated from vital registration systems. But this has a limitation because in most developing countries, these systems are

BOX
2.1

EXAMPLES OF ADAPTED INDICES

1. Argentina's 2002 report

constructed an extended human development index that included infant mortality rates, unemployment and education quality.

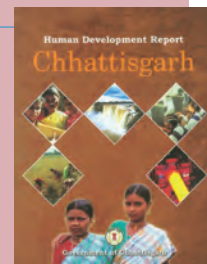
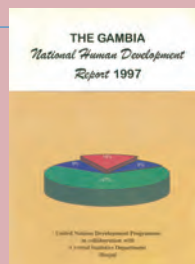
2. The **2003 Arab regional report** devised an innovative approach to measuring knowledge. In addition to

the quality and quantity of education, the measure incorporates data on the numbers of daily newspapers, radios, television sets, scientists and engineers, patent applications, book titles, telephone lines, cellular phone subscribers and Internet hosts.

3. The **2005 Chhattisgarh State (India) HDR** used a health index instead of life expectancy to calculate its HDI. The health index was derived from infant mortality rates.

4. The **Gambia's 1997 HDR** incorporated adult literacy rates and school life expectancy to account for high school drop-out rates in computing the educational attainment index of the HDI.

Sources: 2002 Argentina HDR, 2003 Arab regional HDR, 2005 Chhattisgarh State HDR and 1997 The Gambia HDR.



BOX 2.2

NEPAL: ESTIMATING PER CAPITA INCOME AT LOWER LEVELS



Nepal's 2004 HDR disaggregated the HDI by district. Since the direct estimation of income at the district level was not possible due to a lack of data, an indirect technique was adopted.

First, indicators were developed for

service sectors and sub-sectors. This step was largely based on a production or supply-side approach, and generated suitable indicators for different sources of income. The indicators were sectoral outputs wherever available. In some cases, proxies of outputs were used. These indicators formed the basis for the estimation.

It was assumed that the relative

weights of sectoral GDP by district would be equal to the relative weights of the corresponding indicators by district. The disaggregation took the sectors one at a time and apportioned GDP to the district. The sum of all the sectors resulted in the GDP at the district level. Population data per district came from the 2001 Population Census.

Source: 2004 Nepal HDR.

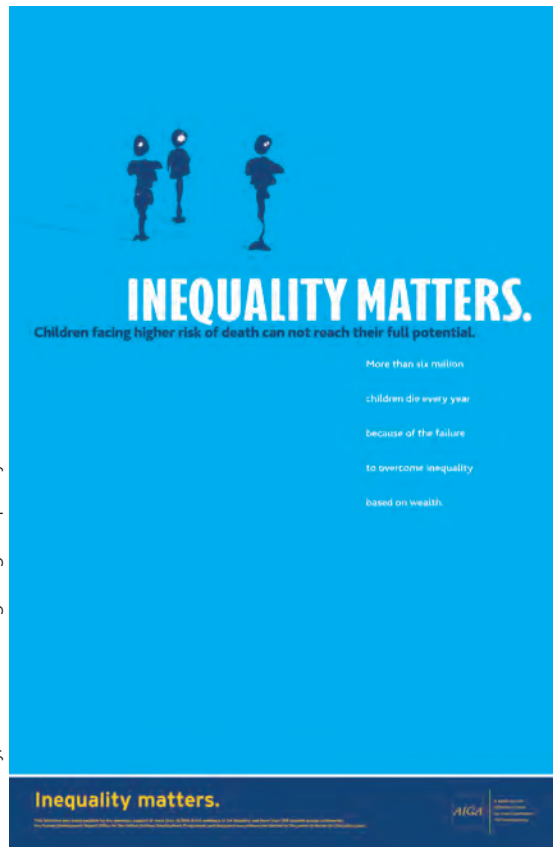
incomplete and of poor quality. The estimates may not reflect the actual situation on the ground and need to be treated with care. In all cases, adjustments made to the traditional HDI component indicators and estimation procedures should be documented in a technical note, including any data limitations.

Highlighting Inequalities and Marginalization

HDR teams may be able to disaggregate the HDI by different geographical locations and population subgroups to reveal development disparities masked by national averages. This can shed light on hidden forms of discrimination, guide more effective and far-reaching policies, and help to monitor the implementation of international treaties and conventions.

The 2006 global HDR shows how the HDI can highlight inequalities. It presents the HDI separately for the poorest 20 percent and the richest 20 percent of the popula-

tion in 13 developing and two developed countries, revealing wide disparities in some



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cases. In Burkina Faso for example, the HDI value for the richest 20 percent of the population is more than twice that of the poorest 20 percent. There are also significant differences in capabilities and life chances linked to income inequalities. Children born to the poorest 20 percent of the population are more likely to die before their fifth birthday (see figure 2.1).

In most countries, however, the lack of data poses a major challenge to disaggregating the HDI, in particular given constraints on data on income and life expectancy at birth, two of the index's three components. Data tend to be adequate mainly in larger countries with developed statistical capacities (see the section "Some Cautions on Disaggregated Indices" in Chapter 1).

FIGURE 2.1: Distribution of HDI and Under-Five Mortality Rates by Income Quintiles

The 2006 global HDR used the HDI and under-five mortality to highlight inequalities between the richest and poorest citizens in different countries.



Source: 2006 global HDR.

BOX
2.3

GUATEMALA AND NAMIBIA: DISAGGREGATED DATA BY ETHNIC GROUPS

Guatemala's 2005 HDR

addressed ethnic and cultural diversity. The report asserted that while inter-ethnic relations in Guatemala have evolved over the years, racism is still very much alive and deeply



rooted in the attitudes and practices of society as well as public and private institutions. The analysis was based on disaggregated data on

indigenous and non-indigenous

groups across a number of indicators, such as labour market participation, participation in the informal sector, access to credit, use of and demand for health and education services, political participation and access to justice. The report found that there is discrimination in access to human development opportunities, especially for indigenous populations.

Namibia's 1997 HDR disaggregated the HDI by linguistic groups.

While the data used had some limitations, they showed that the country's colonial history continues to

manifest itself in wide variations in human development between Namibians of European descent and the indigenous population. Afrikaans-, English- and German-speaking Namibians had an HDI more than double that of San-speaking Namibians.



Sources: 2005 Guatemala HDR and 1997 Namibia HDR.

If a disaggregated HDI is possible, attention should be focused not only on the differences in the index, but also on the underlying indicators and the factors influencing differences. Variations may result from intended or unintended discrimination against certain cultural and religious groups (see box 2.3). They may also stem from people's values and belief systems. For example, food taboos may lead to malnutrition among children. Members of poor households may not have access to health or potable water not because these are not available, but because they cannot afford to pay. Triangulating information using different measurement approaches, such as perception surveys, can help to analyse actual and perceived marginalization.

Mexico's 2004 HDR took another approach by adding an inequality measurement to the HDI, which it called the refined development index with generalized means. The method integrates inequality into the HDI without

affecting the index's basic properties. It is not a new index, but a new way of aggregating data, and part of a family of indices in which the traditional HDI is included as a special case. The index stresses the relationship between individual development and human development in general. If two people in a relatively unequal society have an HDI of 0.5 and 0.25, respectively, and both increase their level of development by 0.25, they will affect general development in the same magnitude. In a more equal society, however, an increase in the HDI of the poorer person should count more. The Mexico index is also innovative in that it reveals the weaknesses of a development process centred only on "income," without giving simultaneous attention to health and education.

From Money Metric Poverty Measures to Multidimensional Poverty

HDRs can use a variety of approaches to measure and monitor different aspects of poverty and human development in general, keeping in mind that poverty is a multidimensional phenomenon that cannot be measured by any one approach or captured in a single indicator. It means different things to different people (see figure 2.2). To some people, poverty is not having enough food to eat; to others it is being unemployed. Some people see it as being isolated in a remote rural area with no basic services. Being powerless or not having the opportunity to participate in decisions affecting one's life also constitute poverty.

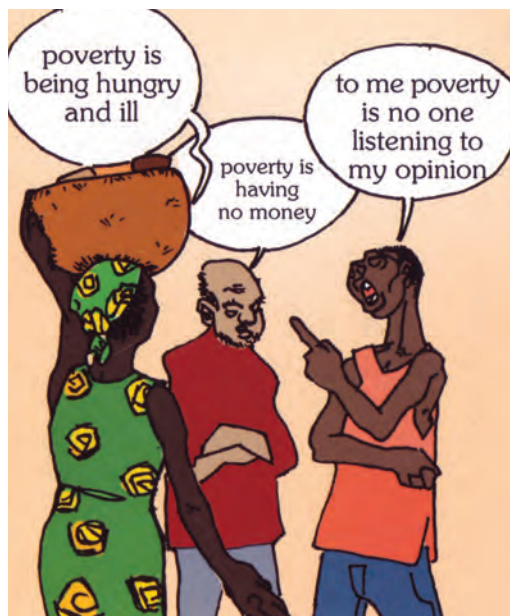
The Money Metric Measure

Traditionally, poverty is measured with a monetary measure of welfare. Despite the inadequacy of this approach, the money metric poverty measure is the first building block for differentiating the poor from the non-poor. Money is seen as the means for purchasing some of the basics of well-being, such as food, health, education, clothing and shelter. A threshold amount can be estimated that serves as a poverty line separating the poor from the non-poor. The MDGs, which include reducing the proportion of people living in "extreme" poverty by half between 1990 and 2015, define extreme poverty as living on less than \$1 per day (adjusted for PPP).

It is important for HDRs to measure and analyse both monetary and non-monetary aspects of poverty in order to advocate for a comprehensive strategy to address it and

FIGURE 2.2: People's Perception of Poverty

Since the meaning of poverty varies widely, it cannot be completely captured by a single measure.



Source: Government of Namibia, National Planning Commission 2005a.

enhance human development. To show the multidimensional nature of poverty, Nigeria's 1998 HDR constructed a poverty index that included economic indicators (income, employment, household expenditure profile, access to credit and propensity to save), social indicators (size of household, fertility and mortality rate, access to educational and health facilities, and ownership of durable items), and environmental and institutional indicators.

The Poverty Line Approach

The poverty line defines a level of income or expenditure that is presumed to provide people with some basic level of consumption.

There are two main types:

- **Relative poverty line:** This is defined directly in relation to income distribution

in a particular society without taking into account basic needs. This approach interprets poverty in relation to prevailing living standards. It stresses economic inequality as the primary indicator of poverty, and may be set at some percentage of a median or mean of household per capita income or expenditure.

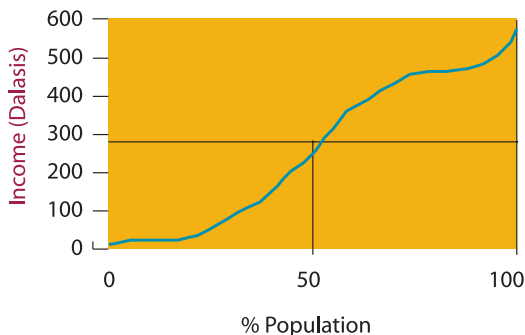
- **Absolute poverty line:** This uses the basic needs approach and classifies households as poor if their earnings/consumption expenditures are insufficient to buy the minimum necessities for the maintenance of physical efficiency.

Most experts agree that people should at least get food, since that is the most basic necessity for survival. To establish a food poverty line, the cost of minimum required daily calories is usually calculated. To arrive at the overall poverty line, the food poverty line is scaled up to account for basic non-food items such as housing, education and health.

Assuming that the monetary value of a bundle of basic food and non-food commodities

FIGURE 2.3: The Gambia: A Hypothetical Poverty Line

People below the line cannot afford basic food and non-food commodities.



for The Gambia was D300 per capita per month in 2005, for example, this represents the absolute poverty line. All individuals with per capita incomes or expenditures below D300 in 2005 will be classified as poor, as illustrated in figure 2.3. This is what is called the headcount ratio.

Poverty Indices

The Foster-Greer-Thorbecke indicators comprise the most basic indicators of absolute poverty. The headcount ratio measures the proportion of the population or individuals below the poverty line and is given by:

$$P_{\alpha} = \frac{1}{n} \sum_{i=1}^q \left[\frac{z - y_i}{z} \right]^{\alpha}$$

Where q is the number of poor households, z is the poverty line (which may be absolute or relative), y_i is the standard of living indicator (i.e., expenditure or income) of the i -th household, and α is an “aversion to poverty” parameter.

When $\alpha = 0$, the *headcount ratio* is produced.

Measuring the Depth and Severity of Poverty

The headcount ratio provides information on the number of poor people, but it gives no indication of the depth and severity of their poverty. Information on how far the poor are from the poverty line and how resources are distributed among them is relevant for policy decisions; HDRs should include these measures.

The depth of poverty or the *poverty gap* is given when $\alpha = 1$. When $\alpha = 2$, the poverty severity index or *squared poverty gap* is attained (for more details on poverty lines, refer to Lanjouw 1998 or World Bank 1990).

**BOX
2.4**

MEXICO: IDENTIFYING THE MOST MARGINALIZED GROUPS

Although the HDI for Mexico puts it at a middle level in human development, this aggregate measure hides distributional issues. There is much social and economic exclusion in Mexico: The southern part of the country has a large percentage of indigenous groups who have not progressed as far as the population in the north.

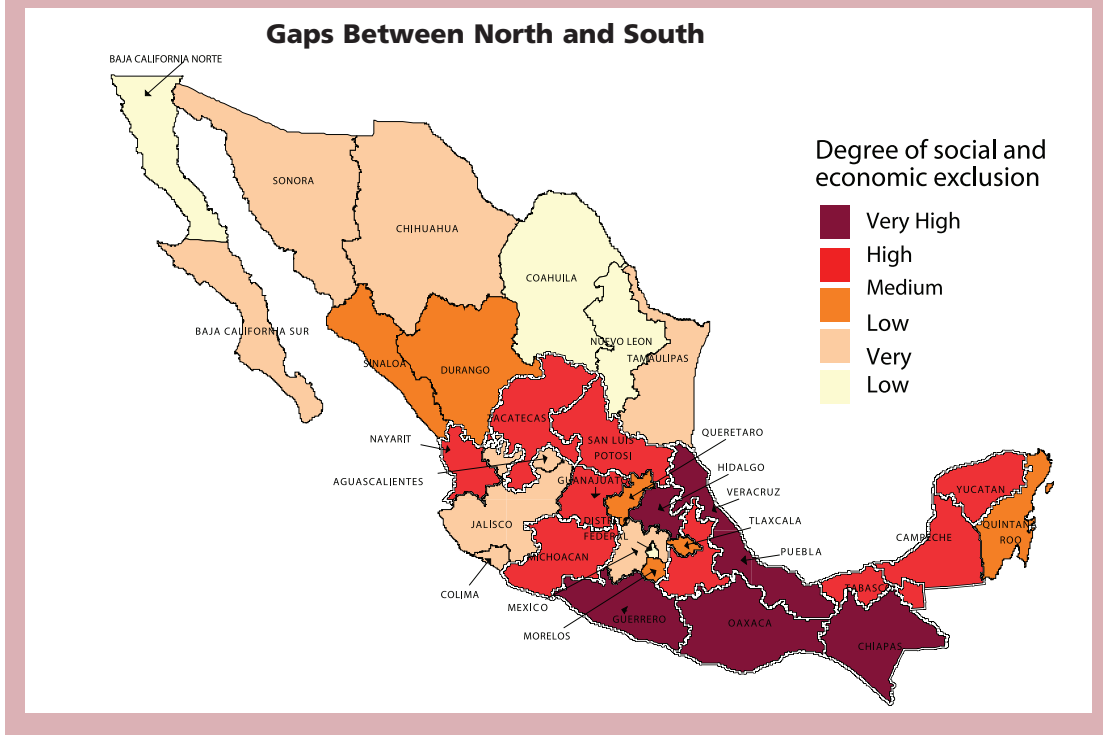
Fuentes and Montes (2004) used the marginalization index created by the National Population Council to describe non-monetary poverty in

Mexico. There are five components of the index: the percentage of illiterate individuals over 15 years of age; the percentage of individuals with no drainage service, drinking water or electricity; the percentage of private houses that are overcrowded; the percentage of individuals living in private houses with dirt floors; and the percentage of the working population earning less than two minimum wages.

The study showed that despite country-level averages depicting

falling food poverty, these were driven by decreases in urban areas. By contrast, in rural areas, food poverty during the period of the study had increased. The study also revealed that there is a wide gap between the north, where the non-indigenous groups are located, and the south where the indigenous groups live. The latter were much worse off in terms of monetary poverty, illiteracy levels, and gender equity and basic infrastructure, although this gap has been falling over time.

Source: Fuentes and Montes 2004.



In generating poverty-related information to guide policy decisions, it is also important to identify who the poor are, where they are located and what makes them poor. Box 2.4 shows

how a research study and a map highlighted areas of poverty concentration in Mexico.

Table 2.2: JORDAN: THE IMPACTS OF SHOCKS ON LIVELIHOODS

The 2004 Jordan HDR used participatory methodologies to chronicle the impacts of shocks on livelihoods in poor communities. The consultations revealed that an accumulation of related shocks have undermined livelihood options.

Events	Impacts and coping strategies adopted
Gulf War and UN sanctions on Iraq	<ul style="list-style-type: none"> • High rate of unemployment • Some people sold gold and cars to buy Iraqi dinars after the invasion of Kuwait, hoping to make a profit on the currency, but lost their savings.
Removal of fodder subsidy	<ul style="list-style-type: none"> • Increased demand on scarce cash resources • Selling some of the livestock to pay for fodder for the remainder • Some farmers sold all their livestock, abandoning it as an unprofitable business. • Currently, very few people depend on livestock as a main source of income.
Fuel price rise (diesel and gas)	<ul style="list-style-type: none"> • Increasing indebtedness, especially in winter • Cutting back consumption of fuel for the gas heater in winter (from 2 litres to 1.5 litres per week) and as a result suffering from cold
Utilities price rise (electricity and water)	<ul style="list-style-type: none"> • Delaying paying the bills and indebtedness • Cutting back consumption of water and electricity – leading to lowered living standards • Building wells to catch more rainfall
September 11, 2001	<ul style="list-style-type: none"> • Some young men from Sakhra were offered the opportunity to be trained in a factory in Europe. They were supposed to get their passports and visas on 12 September 2001. They were informed by the relevant embassy in Amman that their application had been rejected. These young men, most of them university graduates, are still unemployed.
Army reform: applicants need to pass high school certificate (<i>tawjihi</i>) to enter the military	<ul style="list-style-type: none"> • Increased pressure on household resources and incomes • Families will have to choose whether to invest in additional schooling for their sons in order to meet the new entry requirements.

Source: 2004 Jordan HDR.



Transient and Chronic Poverty

Poverty is a dynamic phenomenon. Its nature and characteristics change over time. While some households or individuals live in chronic poverty, others employ complex strategies to move in and out of poverty. This is particularly so for those who are resource poor. Understanding the factors that influence movement in and out of poverty and differentiating between households in transient

poverty and those in chronic poverty helps in designing targeted policies linked to specific risk factors.

Data availability poses a major challenge to monitoring poverty dynamics. More objective monitoring uses panel data to monitor the same households over a period, but panel data are hard to come by in developing countries. HDRs may need to advocate for resources for longitudinal studies. In the

meantime, HDR teams may want to use participatory research methodologies for risk and vulnerability analysis.

Risk and Vulnerability Analysis

Shocks or crises can have significant implications for human development, especially for households with limited asset bases (see figure 2.4). Other adverse consequences stem from the failure of markets, environmental changes and the lack of public risk management strategies. HDRs should highlight these where appropriate.

Perception surveys can generate information on how households cope with risks, their responses to shocks, and measures undertaken to recover (see table 2.2). Though some coping strategies adopted by households and individuals might address immediate needs, they can also increase vulnerability over the longer term; HDR analysis should bring these issues out. For example, vulnerable households often resort to coping strategies that deplete or slow their accumulation of assets and human capabilities, such as taking children out of school, food rationing

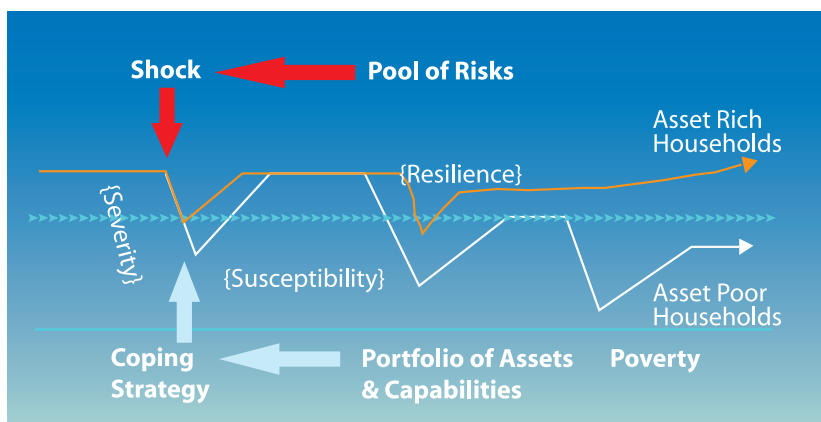
with serious nutritional and health implications, over-harvesting of natural resources or selling productive assets to meet immediate needs.

Although such behaviour can lessen the immediate impacts of risk, it can also result in inefficiencies that subsequently lower mean incomes (and possibly increase the variability of incomes), thereby perpetuating a vicious cycle of poverty. HDRs can pinpoint coping strategies with negative effects and advocate for early warning systems, as well as effective and efficient risk management strategies. Particular attention should be paid to positive indigenous coping strategies that need strengthening.

Despite their usefulness, perception surveys are difficult to analyse and require special expertise. Being clear about what is being measured will help the HDR team avoid accumulating information that cannot be analysed or used.

FIGURE 2.4: Wealth Determines Preparedness for Crisis

Better-off households with strong asset bases may suffer transient poverty, but manage to recover quickly from shocks. Asset-poor households may suffer further impoverishment.



Source: Adapted from Carter et al. 2005.

The Unmet Basic Needs Approach

The unmet basic needs approach (UBA) seeks to establish whether households or individuals are satisfying basic needs with the products or services they actually consume. A household or individual is classified as poor if it does not reach the threshold for all or some basic needs. The most commonly selected products and services and their indicators are:

- Housing with three indicators—construction materials for walls, roofs and floors;
- Health with two indicators—safe drinking water and sanitary facilities; and
- Education with one indicator—literacy status.

Basic education and economic capacity are sometimes included in an expanded UBA.

There are variations in how the UBA is implemented in practice. The commonly used co-realization approach classifies households as poor if they fail to meet the threshold of any of the component indicators.

The context of a specific country can influence the premise of the basic needs approach (see box 2.5). For instance, literacy is a basic requirement for human development, but in societies where literacy is almost universal, illiteracy is not a good indicator of poverty. A better criterion may be educational attainment, such as the completion of primary or secondary education. In the case of shelter, cultural and climatic realities have to be considered as well.

HDRs can combine the UBA and the money metric measure to develop a profile of poor households. This can be done by looking at household and housing characteristics of

BOX 2.5

SOUTH AFRICA: BASIC SERVICE DEPRIVATION

South Africa's 2003 HDR focused on the provision of public services and constructed a service deprivation index. The index measured the distribution of progress in reducing the deprivation of basic services such as housing, water sources, adequate toilet facilities, electricity, heating and energy for cooking. It was based on the notion that human welfare is dependent partly on access to “decent” basic services.

Source: 2003 South Africa HDR.



households below the poverty line: For example, what are the main sources of water, energy for cooking and lighting; what is the type of toilet; etc..

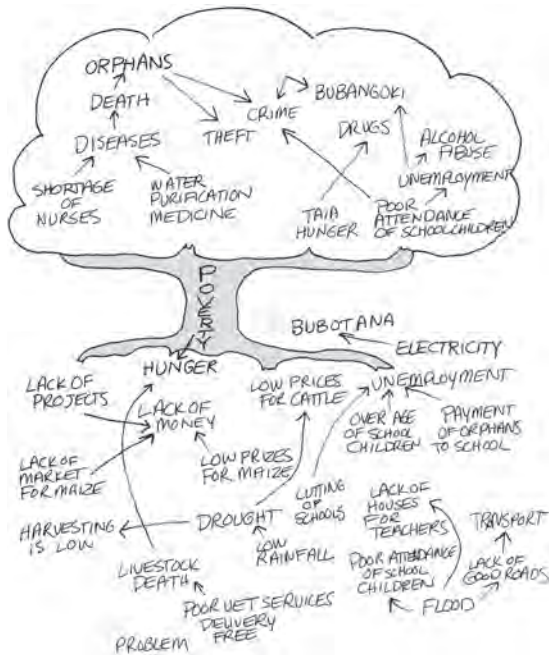
Participatory Poverty Assessments

HDRs can use participatory poverty assessments (PPAs) to capture qualitative dimensions of poverty, such as people's perceptions of powerlessness and social exclusion.

PPAs are useful tools for involving poor people and their institutions in defining and analysing what constitutes poverty and what should be done to address it (see box 2.6). The assessments provide an opportunity for developing a broader and more effective range of poverty reduction policies and actions tailored to the specific concerns of the poor, and can bring to light issues usually missed by conventional household surveys. They may contribute to understanding how people fall in and out of poverty, the complex coping and survival strategies adopted by poor people, and the perceived underlying

FIGURE 2.5: A Sample Problem Tree

A problem tree developed by a community in one of Namibia's northern regions indicates that the causes and effects of poverty are interlinked in an ongoing cycle.



Source: Government of Namibia, National Planning Commission 2005a.

causes of poverty. Using tools such as the village resource map and a problem tree (see figure 2.5) can help HDR teams analyse the interrelated economic, social, institutional and environmental causes and effects of poverty.

It is a good practice to make use of personal stories and direct quotes from PPA participants. These are a subjective measure of poverty, however. While anecdotes can provide evidence of a general problem, policy decisions cannot be based on a few isolated cases. Quantitative data, where they exist, should be used to complement PPA information.

Beyond tracking perceptions of poverty and its causes, PPAs can also be used to solicit information on coping strategies, food security paths, access to services and the perceived quality of service delivery. This information can enrich the analysis in HDRs and the policy recommendations emerging from it.

The Human Poverty Index

The HPI is another measure of poverty. It was introduced in the 1997 global HDR as one of the human development indices. The aim was to create a composite index bringing together the different dimensions of deprivation in the quality of life, which would indicate the extent of poverty. The HPI is premised on the understanding that if human development is about enlarging choices, then poverty means the denial of opportunities and choices most basic to human development.

The most fundamental difference between the HDI and the HPI is that the former measures progress in a country or defined geographical location or for a population group, while the latter focuses on the most deprived people in a country or defined geographical location.

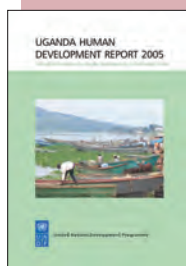
The index incorporates four dimensions of human life—longevity, knowledge, economic condition and social inclusion—and measures deprivation in the three dimensions of human development, a long and healthy life, knowledge and a decent standard of living. (See Fukuda-Parr et al. 2004, pp. 114-127, for a discussion on the “conglomerative” and “deprivative” attributes of the HDI and HPI, as well as annex 8 on the calculation of the indices.)

The HPI draws on both the income and basic needs perspectives of poverty, but focuses more

BOX
 2.6

UGANDA: COMMUNITIES DEFINE THEIR PROBLEMS

Uganda's 2005 HDR examined human development from an environmental perspective and paired quantitative information with PPA findings. During the assessment, participants stressed that declining soil fertility, deforestation, pasture degradation, and decreasing fish stocks constrain their incomes and make them more vulnerable to poverty. Communities complained that they were walking longer distances to more isolated places to collect firewood, thatching grass and wild fruits. This was increasing their workload and exposing particularly women to risks of assault in isolated areas.



These findings were backed by data from the 2002-2003 National Household Survey, which found that a combination of these factors resulted in poor performance in crop farming and a surge in rural poverty from 39 percent in 1999/2000 to 50 percent in 2002/2003.

Source: 2005 Uganda HDR.

tions of the HPI—HPI-1 and HPI-2—reflect some of these considerations, with the former calculated for developing countries and the latter for developed countries.

Indicators for HPI-1

The HPI-1 uses deprivation in the following three dimensions (see annex 8 for details on the calculation):

- A long and healthy life—vulnerability to death at a relatively early age as measured by the probability at birth of not surviving to the age of 40;
- Knowledge—exclusion from the world of reading and communication as measured by the adult illiteracy rate; and
- A decent standard of living—lack of access to overall economic provisioning as measured by the unweighted average of the percentage of the population without sustainable access to an improved water source and the percentage of children underweight for age.

Indicators for HPI-2

These include:

- A long and healthy life—vulnerability to death at a relatively early age as measured by the probability at birth of not surviving to the age of 60;
- Knowledge—exclusion from the world of reading and communication as measured by the percentage of adults (16-65) lacking functional literacy skills;
- A decent standard of living—measured by the percentage of the population living below the income poverty line (50 percent of the median adjusted household disposable income); and
- Social exclusion—as measured by the rate of long-term unemployment (12 months or more).

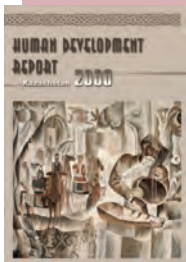
on the capability perspective. The emphasis is on the lack of opportunities due to social constraints as well as personal circumstances.

Two Approaches: HPI-1 and HPI-2

Human poverty is specific to locations, with the nature of deprivation varying with social and economic conditions. The choice of indicators for the HPI has to be sensitive to the contexts of specific countries. An index concentrating on illiteracy and premature death may not capture the link between social exclusion and poverty in developed countries such as Norway and Sweden, for example, where literacy is almost universal and life expectancy at birth is high. The two formula-

**BOX
2.7****KAZAKHSTAN: ADJUSTING THE HPI TO REFLECT NATIONAL REALITIES**

Kazakhstan's 2000 HDR used the HPI-1 to track the past, present and future levels of human poverty. The report spelled out the need for recognizing the multidimensional nature of human poverty as the underpinning of the poverty definition in Kazakhstan, and had a strong focus on the gender dimensions of poverty, including in terms of women's unemployment.



The report made adjustments in the indicators of the HPI to better reflect the legacy of the Soviet period. The Kazakhstan HPI was therefore based on the percentage of people not expected to survive to age 60, the percentage of uneducated youth aged 16, the share of the population whose consumption level is below the subsistence minimum and the officially registered unemployment rate.

Source: 2000 Kazakhstan HDR.

The indicators for HPI-1 and HPI-2 can be further adapted. For example, countries may choose to include the percentage of the population without access to modern health facilities or any other relevant indicators. Box 2.7 describes how the 2000 Kazakhstan HDR adjusted the indicators.

HPI Limitations and Good Practices

A single composite index cannot reflect all the aspects of human poverty, even aside from the fact that many dimensions still lack data and go unmeasured. Critical issues excluded from the HPI are the lack of political freedom, the inability to participate in decisions that affect one's life, the lack of personal security and the inability to participate in the life of a community. Threats to sustainability and intergenerational equity are also not covered. Unlike the headcount ratio, the HPI does not associate the incidence of human poverty with a specific number of people.

Anand and Sen (1997) have chronicled another limitation. They give the following example. "Consider a case in which in each of the three categories of deprivation, 30 per cent of the people fail to meet the minimum requirement. This can be because the same 30 per cent fail in all the three dimensions or a

different 30 per cent fail in each category. Or there may be some combination of the two extremes. In the first extreme case, only 30 per cent are affected by poverty but they are deprived in all three dimensions. In the second extreme case, as much as 90 per cent of the population is deprived altogether, although each group is inadequate only in one dimension. These distinctions are important to understand and are also crucial for causal analysis and for targeting policy."

Notwithstanding its limitations, the HPI can be used in at least three ways.

- As a tool for advocacy, the HPI can help summarize the extent of poverty along several dimensions, the distance to be traversed and the progress made up to the assessment period.
- As a planning tool, the HPI can help identify areas most seriously affected by human poverty. Although ranking areas by any one dimension is possible and useful, the HPI allows for a ranking of areas based on a combination of basic deprivations, many of which are correlated.
- As a research tool, the HPI can be extended to cover other dimensions of human poverty, and is a useful complement to income measures of poverty. It helps to underscore the

fact that eradicating poverty requires more than just increasing the income of the poorest segment of society (for more details see Anand and Sen in Fukuda-Parr et al. 2004).

Aspects of Economic Analysis

HDRs should consider the different ways a country's economic policies affect poverty and human development. Growth-oriented policies may increase a nation's total wealth and are critical for human development, for example, but whether or not growth enhances human development depends on how it is generated (see box 2.8). The 1996 global HDR identifies five ways in which economic growth can be problematic: jobless growth, or economic growth that does not expand opportunities for employment; ruth-

less growth, where growth benefits only the rich; voiceless growth, where economic growth is not accompanied by the extension of democracy or empowerment; rootless growth, which causes minority cultures to be swamped by the dominant culture; and futureless growth, where resources needed for future growth are over-exploited.

Sustainable economic growth enhances human development through improvements in workers' knowledge and skills along with opportunities for their efficient use, provides better job opportunities, creates an enabling environment for new businesses to grow and supports greater democracy at all levels of decision-making. Data can capture many of these issues.

It is also important for HDRs to explore the impact of global trends on national human development (see box 2.9). In the era of globalization, events in one part of the world are often felt elsewhere. The 1997 Asian financial crisis caused a significant decline in global trade, for example. Commodity prices collapsed, leading to losses for commodity-exporting countries around the world (Government of The Gambia 2000).

This section of the primer touches upon some aspects of economic analysis that may be relevant in gathering and analysing human development data, including fiscal and monetary policies, the informal economy, debt servicing, trade policies and agriculture. It suggests sample indicators and some general areas of analysis.

Fiscal and Monetary Policies

Fiscal policy describes the actions of a government in setting the level and funding of public expenditures. This includes the size of gov-

BOX 2.8 MOLDOVA: GROWTH BY REMITTANCES

Moldova's 2006 HDR observed that while economic growth averaged 6.1 percent annually between 2000 and 2005, it was mainly driven by remittances from emigrants rather than the expansion of job opportunities in the country. This kind of growth is flawed because it is accompanied by the separation of families, leading to social problems. Women were more likely to abandon their low-paid jobs in the agriculture and education sectors and emigrate, often leaving behind their children. A lack of well-paid jobs can also hamper the formation of young families as youth choose emigration as the best option. The report advocated a growth path that provides employment opportunities, especially for youth.



Source: 2006 Moldova HDR.

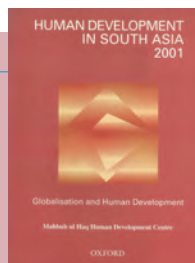
BOX
2.9

HDRS LOOK AT GLOBALIZATION

Bolivia's 2004 HDR examined the links between culture and globalization. The report used data from a perception survey covering 3,600 people in nine departments. The survey measured people's perceptions of globalization and introduced new indices to assess cultural tolerance and attitudes towards opening the economy to external markets.

The report explored whether Bolivia, a poor and underdeveloped country, is ready to engage itself in the information society and globalization. It proposed a Bolivian way to techno-informatism with human development, meaning a society where wealth creation is increasingly based on the ability to produce, process and disseminate knowledge, and in which this wealth is widely distributed among all citizens. The country should have a policy environment conducive to enabling Bolivia to operate autonomously under the international trade rules.

The **South Asia 2001 regional HDR** analysed fallout from globalization in Bangladesh, India, Nepal, Pakistan and Sri Lanka. The report found that globalization in South Asia has focused on integrating markets without improving the condition of the vast majority of South Asians. It has not been accompanied by a



reduction in poverty or an

improvement in overall human well-being. The report used indicators such as total to specific trade blocs outside the region as a percentage of total world exports. It compared exports in 1980 against 1999 to assess the region's position in the global market.

The report argued that for the positive effects of globalization and economic growth to be felt more equitably, the process has to be well managed. It made several recommendations, ranging from enhancing the role of civil society in guarding the poor against the disproportionate burden placed on them, to embarking on regional efforts to prepare the labour force to face global competition. The report concluded with an interesting discussion of possible mechanisms to manage globalization, such as implementing the Tobin Tax or reforming some institutions of global governance.



Sources: 2004 Bolivia HDR and 2001 South Asia HDR.

ernment debts, tax policies and the sectoral allocation of resources. Monetary policy is used to influence a nation's money supply. Various combinations of these two policies are used to direct a country's economy in ways that can hurt or improve people's well-being. HDRs should look for data that support advocacy for a policy balance that enhances human development.

Indonesia's 2004 HDR calculated how much it would cost to guarantee the basic socioeconomic rights of all Indonesians, for example. The estimates concluded that three to four per cent of the country's GDP should be dedicated to meeting people's rights to food,

health, education and physical security. Public expenditure ratios alone do not guarantee improved public service delivery, however. Surveys that track public expenditures in terms of output and efficiency can be very useful for a deeper level of analysis, although the best way to assess efficiency is through participatory research methodologies.

The following indicators are relevant for analysing fiscal and monetary policies in HDRs:

- The public expenditure ratio—the percentage of national income that goes into public expenditure;
- The social allocation ratio—the percentage

of public expenditure earmarked for social services;

- The social priority ratio—the percentage of social expenditure devoted to human priority concerns; and
- The human expenditure ratio—the percentage of national income devoted to human priority concerns.

The human expenditure ratio is the product of the first three ratios. It is a powerful operational tool that allows policy makers who want to restructure their budgets to see existing imbalances and the available options. If public expenditure is already high (as in many developing countries), but the social allocation ratio is low, the budget will need to be reassessed to see which areas of expenditure could be reduced. Military spending, debt servicing and loss-making public enterprises are often the likely candidates. If the first two ratios are high, but the ultimate human development impact, as reflected in human development indicators, is low, the social priority ratio must be increased. For the poorest countries, this is likely to involve seeking a better balance between expensive curative hospitals and preventive primary health care, between tertiary and primary education, and between attention focused on cities and on rural areas where most poor people live.

Other important economic indicators that HDRs could analyse in terms of human development are:

- Unemployment rates by subgroups (such as women and youth, who may be more affected because they lack skills or face cultural barriers; HDRs should also assess the reliability of unemployment data, given that traditional measure do not cover groups such as discouraged workers who

have given up looking for jobs);

- Income distribution as measured by the Gini coefficient (see box 2.10);
- The total stock of debt and debt servicing as a percentage of GDP, and how this impacts social service provision;
- The overall budget deficit as a percentage of GDP;
- The current account deficit as a percentage of GDP;
- The ratio of the official to the parallel exchange rate; and
- The consumer price index.

The Informal Sector

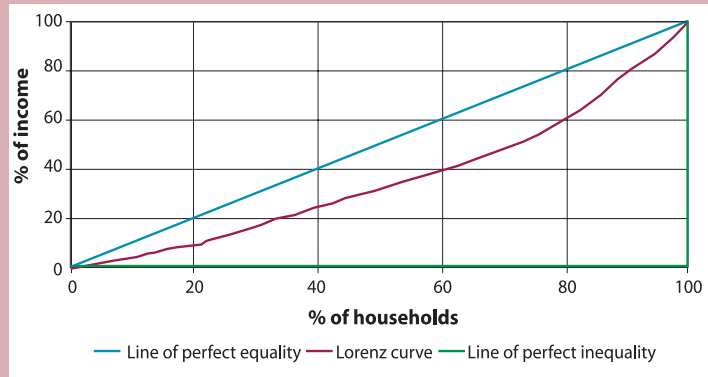
Most developing countries' economies are dualistic, with a formal or regulated economy dominated by urban educated people, and an informal or unregulated economy employing a majority of poor urban women and men with limited formal education. The informal sector can constitute as much as 47 percent of GDP in low-income countries (High Level Commission for Legal Empowerment of the Poor 2006, p. 4).

In spite of the informal economy's importance, its contribution to GDP is often underestimated. A major reason for this used to be the lack of data, but in recent years progress has been made on capturing the size, composition, characteristics and contributions of the informal sector. The work of the International Expert Group on Informal Sector Statistics; Women in Informal Employment: Globalising and Organizing; and the Bureau of Statistics of the International Labour Organization (ILO) has led to an employment-based definition of the informal economy that captures all dimensions of informal employment. Data on the size of the informal sector and its contribution to GDP, however, are still lacking in many countries.

**BOX
2.10****MEASURING INCOME INEQUALITY**

While income is only one aspect of human development, the Gini coefficient is one of the clearest ways to measure income distribution. HDR teams should consider analysing factors that contribute to a high or low Gini value for a country, along with the human development implications. Data indicating wide disparities may call attention to the need for policy options that encourage more equitable distribution. Each policy scenario should present what is feasible in the short, medium and long term.

To compute the Gini coefficient, a graph is constructed. The horizontal axis represents the cumulative population share. The vertical axis represents the cumulative income share. A line of equality is plotted that assumes that everyone has an equal share of national (or regional) income. Then the Lorenz curve is traced to plot the cumulative share of the population against the corre-



sponding cumulative actual share of income. The Lorenz curve always lies to the right of the line of equality. The Gini coefficient is the ratio of the area between the line of equality and the Lorenz curve (in the numerator) and the total area below the line of equality (in the denominator). If income is distributed equally, the numerator would be zero and the Gini would equal zero. In the case of extreme inequality, the numerator and the denominator would be equal and the Gini would be equal to 1. Thus, the Gini coefficient lies

between 0 and 1, where 0 shows perfect equality (everyone has the same income) and 1 shows perfect inequality (one person has all the income). The further to the right of the Lorenz curve, the higher are inequality and the Gini coefficient. One disadvantage of the Gini coefficient is that it is not additive across subgroups. So the Gini coefficient for a society is not equal to the sum of the Gini coefficients for its subgroups.

Source: Deaton 1997.

HDR processes can include advocacy for specialized informal sector surveys or for the integration of questions on the informal sector into population census or household survey questionnaires. Additional data on the informal sector will deepen understanding of the relationship between the informal sector and poverty, and could guide the development of better policies rooted in protecting people's rights. The sector generally absorbs more women than men, so improved data availability will also help to estimate women's full contribution to national economies.

Internationally, the Economic and Social Commission for Asia and the Pacific (ESCAP), the Economic Commission for Latin America and the Caribbean (ECLAC), the Economic and Social Commission for West Asia (ESCWA), the United Nations Statistics Division, the ILO and others are working to further improve informal sector measurements and the availability of data.

Debt Servicing

High debt servicing rates affect the resources a government can invest in social and other sectors. Gabon's 2005 HDR, for example, looked at the nature of the country's external debt and its impact on human development progress. In 2002, debt was about 130 percent of total exports and nearly 70 percent of GDP. Debt servicing absorbed 35.5 percent of total government revenues, limiting the resources for social services.

HDR teams might consider the following indicators and their implications on human development resources across different sectors:

- Total stock of debt for the country;
- Debt as a percentage of GDP;
- Debt as a percentage of total exports;
- Percentage of debt invested in productive sectors (disaggregated by sector); and
- Debt servicing as a percentage of total government expenditure.

Trade Policies

Trade has major impacts on livelihood strategies and human development, both positive and negative, and with potentially varying fallout on women and men. Data on trends in the volume of main exports against actual revenues earned can shed light on how price volatility is influencing the economy, household incomes and people's well-being.

A case in point is the adverse effect of declining coffee prices on small-scale coffee growers in a number of developing countries. Many farmers have been forced to sell assets such as cattle and cut down on essential expenditures such as food and school fees for their children. In Ethiopia, coffee accounts for two-thirds of the country's export revenues. A

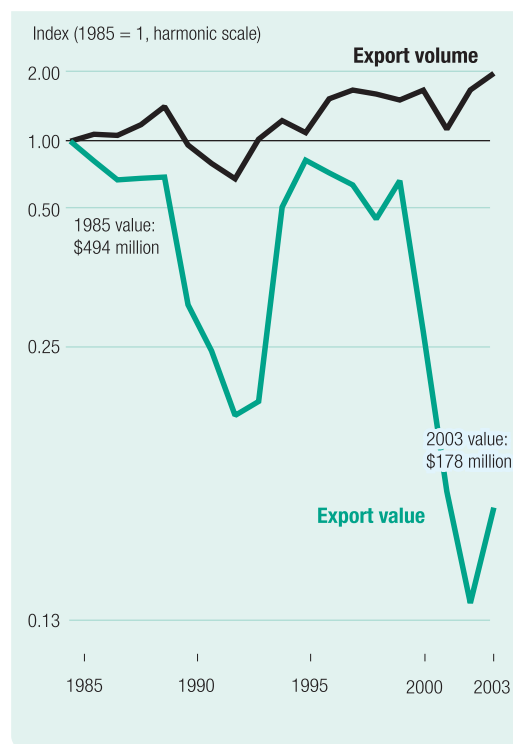
slump in prices resulting from oversupply cost the country \$400 million in 2003 (see figure 2.6). This translates into an average of \$200 lost per household (2005 global HDR).

Small-hold farmers and micro-entrepreneurs, with their limited resources, can be among those most vulnerable to trade shifts. HDRs could look at data for the following indicators to track trade and human development links:

- Process indicators such as programmes aimed at linking small-hold farmers and micro-entrepreneurs to external markets,

FIGURE 2.6: Ethiopia: More Coffee Exports, Fewer Earnings

While the volume of coffee exported has increased by two-thirds since the mid-1990s, earnings from coffee have declined considerably.



Source: 2005 global HDR.

which may include training in food processing and packaging, export rules and procedures, farm gate price regimes, etc.;

- The percentage of micro-entrepreneurs with access to external markets;
- Trends in the percentage of exports accounted for by small-hold farmers and micro-entrepreneurs; or
- Trends in income levels of micro-entrepreneurs and small-hold farmers.

A particular trade issue for farmers in many developing countries is agricultural subsidies in wealthy countries. These depress prices

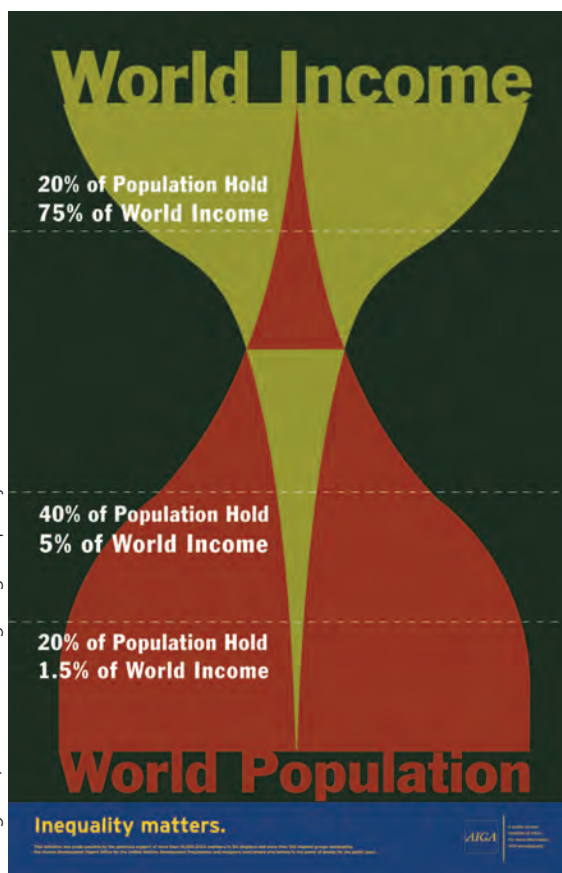
and restrict market access. HDR teams may want to use data to analyse the implications of these subsidies on the sustainability of rural livelihoods. The European Union, for example, is one of the highest-cost sugar producers in the world, but its subsidies mean that it is the second largest sugar exporter. In Mozambique, the sugar sector is the country's largest employer, with about 23,000 workers in 2001. Greater access to the international market could boost the number of jobs to 40,000 (Oxfam 2006).

Agricultural Policies

Given the continuing importance of agriculture in many developing economies, HDRs should consider looking at data on the impact of agricultural policies on household incomes, food security and overall human development. Timor-Leste's 2006 HDR noted that following independence in 2002, support to farmers was discontinued, without any provision for off-farm income generation. This has resulted in increased vulnerability to poverty, especially for small-hold farmers. Before independence, small landholders were provided with agro-processing, storage and marketing facilities. They had access to credit with an option to repay in cash or kind.

Some indicators that HDRs analysing agricultural policies can look at include:

- The agricultural budget as a percentage of the total government budget;
- Investment in agricultural research;



- The percentage of small-hold farmers with title deeds to their land;
- The percentage of small landholders with access to microcredit (in the forms of cash and/or agricultural inputs);
- The ratio of agricultural extension technicians to farming households;
- The percentage of crop fields cultivated with improved seeds;
- Crop yields per hectare;
- Average annual income from subsistence agriculture; and
- The percentage of farmers with access to agro-processing and marketing facilities.

While the HDI, multidimensional poverty measurements and several economic measures are crucial, other dimensions of human development, including those that cut across many segments of life, are equally important to underscore. The remainder of Chapter 2 discusses measurement recommendations in the human development fields of gender, environment, HIV/AIDS, human security and governance.

The Gender Dimensions of Human Development

Gender equality means women and men have equal opportunities to realize their individual potential, contribute to their country's economic and social development, and benefit from their participation in society. In most societies, however, distinct gender roles and responsibilities restrict the opportunities and resources available to women and men, frequently in ways that contradict women's basic human rights and threaten overall human development. Many countries have agreed to

redress these inequalities through commitments made by signing or ratifying the Convention on All Forms of Discrimination against Women (CEDAW). Many also took part in the international negotiations that produced the Beijing Platform for Action of the 1995 UN Fourth World Conference on Women.

Every HDR should consistently reflect gender concerns in its analysis. Opportunities to monitor commitment to and progress towards gender equality include presenting trend data on bridging gender gaps. Reports should underscore the fact that the elimination of gender discrimination will improve the well-being of women and men as well as the overall human development profile of a country. There should be explicit recommendations on strategies that will enhance gender equality.

Ways to Address Gender Concerns

Gender issues can be highlighted in an HDR in two ways: either by mainstreaming gender throughout the report or by making gender the main theme. In all cases, stating facts such as males' average earned income being twice that of females is only presenting half the story. The analysis should go beyond merely disaggregating indicators by sex and examine the underlying causes of gender inequalities, as well as the impact of gender inequalities on women and men, and on society as a whole.

In addition, HDRs should make use of indicators that capture negative biases towards women. Time-use data, for example, can track women's time poverty and how this influences their material poverty. HDR teams should be aware that gender discrimination is not always obvious from numbers. Complementing quantitative data with case studies and other

qualitative information can draw out hidden problems.

The HDR Gender Thematic Guidance Note is a useful resource document for examining these and other gender and human development issues. A manual by Beck (1999) provides guidance on selecting, using and disseminating gender-sensitive indicators at the national level.

Gender Indicators

While it is important to mainstream gender in all HDRs, the following sub-sections focus on specific gender issues that have implication for women's labour force participation,

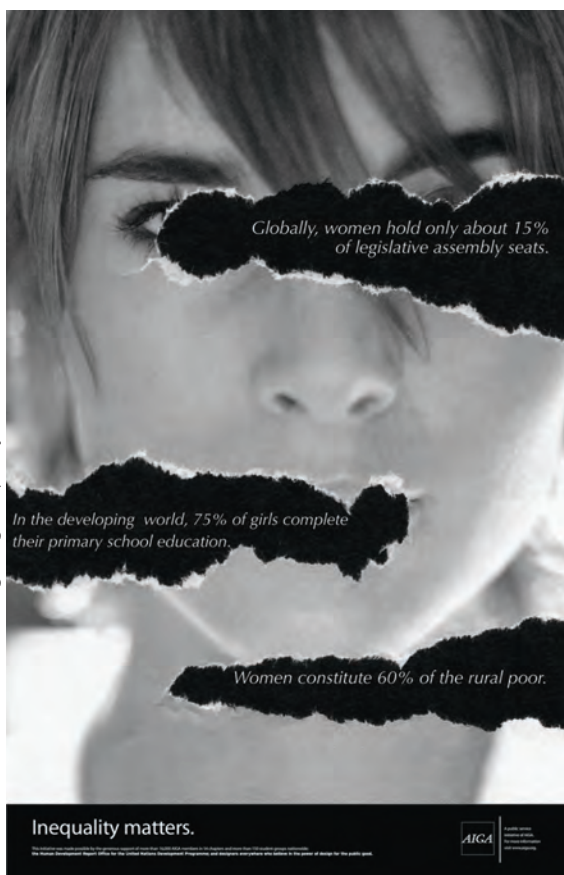
health and ability to improve their lives. Where data permit, HDRs can analyse the specific impacts of these issues on the well-being of women and their children.

Gender and the care economy

Unpaid work is perhaps the biggest contribution that women make to the economy, even though their access to the paid labour market continues to rise. Accounting for the contribution of women's unpaid work in national accounts remains a major challenge (see box 2.11). Analysing how women's market and non-market work affects their personal and family well-being can be useful for policy decisions, however. A combination of care and market work, for example, can mean long working hours with implications for women's health.

Time-use data can be important for analysing women's and men's labour intensity, including as it relates to well-being. HDRs can make use of these data for assessing how women and men distribute their time over productive and reproductive activities. In addition to examining who does what, it is important also to look at resources employed by women and men to undertake reproductive activities such as fetching fuel wood and water, sweeping, laundry, etc..

Women's access to income may improve the nutrition and health status of the family, increase school enrolment for girls and enhance their decision-making power. It may also result in men



BOX 2.11 STATISTICALLY, SHE IS NOT
"EMPLOYED"**Tendai**

Consider Tendai, a young girl in the Lowveld, in Zimbabwe. Her day starts at 4 a.m. when, to fetch water, she carries a thirty litre tin to a borehole about 11 kilometres from her home. She walks barefoot and is home by 9 a.m. She eats a little and proceeds to fetch firewood until midday. She cleans the utensils from the family's morning meal and starts preparing a lunch of *sadza* for the family. After lunch and the cleaning of the dishes, she wanders in the hot sun until early evening, fetching wild vegetables for supper before making the evening trip for water. Her day ends at 9 p.m., after she has prepared supper and put her younger brothers and sisters to sleep. Tendai is considered unproductive, unoccupied, and economically inactive. According to the international economic system, Tendai does not work and is not part of the labour force. —*Marilyn Waring*

Source: Women and the Economy
(www.unpac.ca/economy/unpaidwork.html#1).

shifting their family responsibilities to women. Two other questions worth considering are: Does a woman's entrance into the labour market intensify demands on her money? Does a woman's monetary contribution to the home increase her decision-making power?

Other important indicators are ownership of productive assets and mean age at marriage. Asset ownership has implications for sustainable livelihoods. Most household budget surveys collect information on asset ownership and are useful for gender analysis. Information on mean age at marriage is available in many population census data.

Wage discrimination

Wage discrimination is another aspect of gender inequality. Careful analysis at the national level is necessary, as wage discrimination may be linked to a series of factors, including women's employment structure and wage-fixing mechanisms.

Wage discrimination is not always obvious. In some organizations a female employee's medical benefits may not be extended to her spouse and children, for example, while a male employee's benefits cover his family.

Data availability may again be a problem. HDR teams may have to commission special studies to support their arguments, if there is a reason to believe that some form of wage discrimination exists.

Gender-based violence

Gender-based violence is a critical concern for women's well-being and rights, with many implications for human development. Violence affects women's autonomy, productivity, ability to care for themselves and the quality of their lives. It increases a wide range of negative health outcomes and may even result in death. HDRs should analyse how gender-based violence affects human development achievements. They might estimate the social and economic costs of gender-based violence to victims and society as a whole.

In general, there are often problems with the reliability and availability of the data on gender-based violence. These stem partly from a lack of standardized methods and instruments for data collection, as well as people's attitudes towards gender-based violence and the lack of commitment to dealing with the problem.

Data availability is improving, however, especially on intimate partner violence and female genital cutting. Data are now available from some demographic and health surveys, and multiple indicator cluster surveys. Qualitative methodologies such as focus group discussions and key informants surveys can be used to generate new data.

HDR teams should bear in mind that data collection approaches determine the quality of statistics on gender-based violence. In a face-to-face interview, for example, privacy and the number of times respondents are given the opportunity to answer questions on their

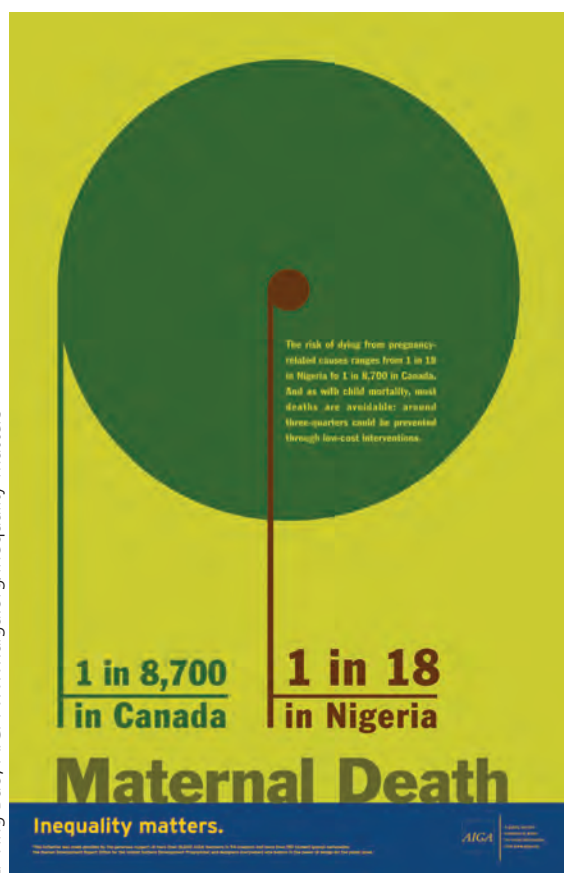
experiences with violence influence the responses. Women interviewees generally feel more comfortable recounting their experiences to female interviewers. Presenting cards depicting different forms of abuse to respondents and asking them to pick those they have gone through can further improve disclosure and the quality of data. It can also help to triangulate responses using other means.

Despite improvements in data on some aspects of gender-based violence, little attention has been paid to others, such as prenatal sex-selective abortions, neglect of the girl child, economic violence, and “honour” and dowry-related violence. Because these forms of violence occur less frequently or in specific populations, they are difficult to study with population-based methods. HDR teams can commission specialized surveys in areas where such practices are known to exist.

Health

The health of women and men is influenced by biological factors, including their reproductive characteristics. Socially constructed gender characteristics shape the capacity of both to realize their potential for a healthy life. For example, women’s limited access to income influences their ability to seek health care, while men face particular problems because of the relation between masculine identities and risk-taking. Women’s age at marriage has implications for their education, maternal mortality and child survival prospects.

HDRs should look at such issues



when analysing human development from a gender perspective. Attention should also be focused on how health policies either address or exacerbate gender gaps in access to health care.

Some of the health-related questions that HDRs can help to answer include the following:

- How do gender differences in access to health care affect women's health and wider opportunities and capabilities?
- How do existing policies and practices in reproductive and sexual health care impact women and men?
- What are the consequences of poor reproductive and sexual health?

Where data availability permits, HDR teams can consider analysing trends in the following indicators:

- Maternal mortality rates;
- Contraceptive prevalence rates;
- Morbidity incidence rate for women and men;
- Women's and men's access to and use of health facilities; etc..

Perception surveys can be used to analyse women's and men's health-seeking behaviours and the factors underlying them.

Gender budgeting

Gender budgeting helps to assess whether a government's gender commitments are translated into the allocation of resources to bridge gender gaps (see box 2.12). The ways in which national budgets are formulated often ignores the different socially determined roles, responsibilities and capabilities of women and men.

Gender budgeting is not about devising a separate budget for women and men, but about using tools and processes to analyse the formulation of national budgets and the allocation of resources through a gender lens. This helps reveal different impacts on women and men.

A gender budget analysis might reveal that cuts in health spending fall most heavily on poor rural women, for example. Increasing health allocations could bolster access to health services, improve rural women's health, raise agricultural production and household incomes, and improve the quality of life for all rural villagers.

The GDI and the GEM

The global HDR introduced the GDI and GEM in 1995. The aim was to add a more distribution sensitive measure to the HDI. The GDI is a measure of human development that adjusts the HDI for disparities between men and women. It is therefore not a measure of gender inequality, although it is often mistakenly seen as such. Like the HDI, the GDI is very basic in measuring how gender inequalities in knowledge, long and healthy lives, and a decent standard of living affect human development. HDRs should make use of other relevant indicators to fully analyse gender inequalities and their impacts. For example, analysis could look at how differentiated access to higher education by women and men affects their participation in the job market, their earned income and the choices they make.

The GEM seeks to measure gender equity in political and economic power through relative female representation. It considers gender gaps in political representation, professional and management positions, and earned incomes.

BOX
2.12

SOUTH AFRICA: WOMEN'S BUDGET INITIATIVE PINPOINTS GAPS

South Africa's Women's Budget Initiative examines the national budget and the budgets of the country's nine provinces to assess their impacts on women and men. In many instances, the analysis has identified gender bias and inefficiency in public spending. In 1995, for example, the initiative found that, although 20 percent of adult South African women and 16 percent of the men were illiterate, just one percent of that year's education budget was allocated to adult basic education. Analysts argued that this level of funding was inadequate and disadvantaged both men and women.

A review of the 1997 budget for public works found that a rural jobs creation and skills training programme run by the Department of Water Affairs and Forestry hired women for slightly more than half the new jobs created. A similar programme administered by the same ministry in another part of the country, however, hired women for just 14 percent of the vacancies. Analysts showed how the programme tended to hire women for the lowest-paid and least-skilled positions.

Source: Africa Recovery (www.africarecovery.org).

In 1999, the formula for the estimated earned income component of the GDI was corrected, which led to a significant change in the values and rankings of the index. The GDI is not comparable before and after 1999. Generally, GDIs in successive HDRs are also not comparable because of data revisions. The global HDR does not calculate historical GDIs when new data become available because there is no sufficient trend data on female-male wage ratios. Changes in the GDI over time may be due only to improved data (see annex 8 on the calculation of these indices).

Limitations of the GDI and the GEM

There are two major problems associated with the GDI. First, since it is often seen as a measure of gender inequality, it is interpreted incorrectly. This is largely due to its complexity and the way it has been communicated in some instances. Second, there are some issues related to its construction, especially with respect to the way gender gaps in incomes are calculated. The estimation of the earned income component is based on a crude assumption that a relationship exists between the female share of economic activity and female/male wage ratios in non-agricultural employment.

Inclusion of earned income in the index tends to suggest that gender differences in earned income represent gender differences in human development in access to adequate nutrition, housing and clothing, among other things. Women living in households where men earn income may not be constrained in purchasing these amenities, however. It is also incorrect to assume that only earned incomes generate human development and that unpaid work done by women does not contribute to human development.

The GEM is probably conceptually clearer and easier to interpret, but it also has its limitations. The most important shortcoming relates to the earned income component. Instead of simply considering the gap in earned incomes (which would be a good measure of female economic empowerment), it includes a measure that uses absolute incomes adjusted downward by gender gaps in earned incomes.

Some bias exists in the indicators used to calculate the GEM, however. The participation of women in grass-roots organizations or at the local level is not reflected, nor is overall labour

force participation, which captures the experience of many more people. Cueva (2006) suggests including indicators that measure women's physical autonomy at the household level. Another proposal is to use the contraceptive prevalence rate among women as a proxy to assess women's freedom to delay motherhood.

For the indicators on women's political power, the percentage of seats held by females at local government level has been suggested. This is particularly relevant for disaggregation of the GEM. Rather than advancing the course of women in parliament, it is often argued that female parliamentarians are co-opted into political party agendas. HDR teams should use innovative measurement approaches to assess the link between female parliamentary representation and the formulation of gender-sensitive development policies and programmes.

Data scarcity for some of the component indicators makes it difficult for countries to calculate the GEM. HDR teams are urged to make use of other empowerment-related data, including those measuring ownership of and control over productive assets. Box 2.13 shows how Cambodia used alternative indicators.

Given the limitations of the GDI and GEM, efforts are being made to improve the indices in the global HDR. The Human Development Report Office held a 2006 technical workshop on reviewing the GDI and GEM. It made long- and short-term recommendations. One of the long-term proposals is to develop a new composite measure of gender equality that would become the flagship gender indicator and relegate the GDI to being one of several distribution-sensitive measures of human development. In the short term, the workshop suggested

changing the current treatment of earned incomes in the calculation of the GEM to consider only gender gaps in earned income. Over the medium term, the measure could be simplified by using average gender gaps in the three components. The Human Development Report Office will consider the short-term recommendations in future reports as research progresses.

How can the GDI and GEM be used?

The correct way to use the GDI is to compare the GDI value of a country to its HDI. The comparison (either the difference or the ratio) indicates how much gender inequality in longevity, education or earned incomes lowers the HDI, given the assumption about inequality aversion (see annex 8 for technical details on inequality aversion). This represents the penalty due to gender inequality, and the share of the penalty due to gender gaps in the three dimensions. This gender inequality penalty still says nothing about the gender gaps that have led to it, however.

Before drawing conclusions from the comparison between the GDI and HDI, a detailed descriptive analysis of the data used to compute the indices is important, as is an analysis of the individual factors contributing to gender inequality.

The GEM, to a limited extent, can be used to gauge the level of women's empowerment with regards to their political representation and the level of economic participation.

**BOX
2.13****CAMBODIA: UNCOVERING THE “TRUE” FACE OF POVERTY**

Cambodia calculates per capita consumption levels for rural households. The 1998 HDR showed that although female-headed households are not disadvantaged in comparison to male-headed households in terms of per capita consumption, this is a limited view of well-being. As in most traditional societies, female-headed households are lower in social status than male-headed households. The Cambodia

HDR, while noting the methodological difficulties of measuring the intra-household distribution of resources, used proxies to relate variations in household consumption expenditures to variations in household composition.

The results suggested that males receive a significantly higher allocation of discretionary food items compared to females, and men who are 25 years or older make signifi-

cantly larger demands on the household

clothing budget than comparably aged women. The HDR used this information to show the “true” face of poverty that would otherwise not show in household-level income and consumption surveys.



Source: 1998 Cambodia HDR.

The Environment and Human Development

The importance of the two-way relationship between the environment and human development cannot be overemphasized. The environment is a fundamental source of resources on which human development depends, affecting this generation and those to come. At the same time, human activities can destroy ecosystems with serious implications for human development and poor people in particular. Changes in climate, especially warmer regional temperatures, have already had significant impacts, including an increase in the frequency of disease outbreaks. These are expected to continue.

Despite clear connections to the environment, the human development paradigm has not been exhaustively examined from this perspective. In the past, the environment was perceived as a “non-human green” issue and was associated with being anti-development. The debate around the link between natural resources and economic growth, however, has led to the concept of sustainable development,

which bridges the human, social, environmental and economic dimensions of development. Recent work by Amartya Sen suggests poverty and environmental concerns be integrated into the idea of “sustainable freedom”—preserving and expanding the substantive freedoms of people today without compromising the ability of future generations to have similar, or more, freedoms (Sen 2004).

Why Examine Environmental Dimensions?

HDRs provide opportunities to integrate environmental concerns into human development, and bring to the attention of policy makers environmental issues requiring urgent action. All HDRs are encouraged to mainstream environment concerns in their analysis or to choose the environment as a primary main theme (see box 2.14).

HDR analysis should focus on the linkages between various environmental issues and their impacts on health, education, poverty and human development in general. For example, the time and distance required for women to collect fuel wood, which may have

increased through desertification or the loss of forests, has implications for their health, the time they have for productive activities, their level of poverty and general well-being.

Another key concern is livelihood and food security. The 2002 South Asia HDR, for example, discusses how even though the Green Revolution increased food production, it has achieved relatively little for small farmers, the poor and other marginalized members of society. The distribution of food, land and resources remains highly unequal.

Uganda's 2005 HDR links the environment to human development by showing that acute respiratory infection caused by air pollution is the principal cause of absenteeism in school, accounting for more than one-third of school time. In rural areas, children below age five get one to three episodes annually, with each episode lasting from seven to nine days.

Data availability and reliability challenge analysis linking the environment and human development. HDRs should highlight this and advocate for improvement in environment-related data. Vulnerability mapping to assess fallout from environmental shocks on different population groups can be done using participatory tools such as the problem tree (refer to figure 2.5 and ActionAid's Manual on Participatory Vulnerability Mapping at www.actionaid.org.uk/content/documents/pdf).

Environmental Indices

Environmental indices can be constructed depending on data availability and the focus of an HDR. Armenia's 1996 HDR computes a sustainable human development index, for example, which adapts the HDI to include the environmental costs of development. The environmental component incorporates elements of the biosphere and basic indicators defining aspects of natural resource use.

A number of composite indices recently have been constructed to measure environmental



quality. While some of these have obvious limitations, some are useful for analysing the environment's impact on human development.

The International Energy Agency has devised the energy development index (EDI), first published in World Energy Outlook 2004. Its calculation methodology is similar to that of the HDI. The index is a simple measure of a country's or region's progress in its transition to modern fuels and the degree of maturity of its energy end-use. To capture the quality and quantity of energy services, the components of the index are:

- Per capita commercial energy,
- Share of commercial energy use in total energy, and
- Electrification rate.

The goalposts are the observed minimum and maximum values of each component indicator, which impedes monitoring. But the index could be analysed within the context of the HDI.

In addition to making use of these composite indices, HDR teams can commission special surveys to generate environmental indicators where these are lacking.

Table 2.3 presents the World Bank's poverty and natural resource indicators. Other agencies such as the UK's Department for International Development have also developed environmental indicators (see the HDR Environment Thematic Guidance Note).

BOX
2.14

CHINA: MAKING GREEN DEVELOPMENT A CHOICE



China's 2002 HDR raised two important issues. First, the general public views environmental protection as the government's responsibility.

Second, people tend to accept the argument that environmental problems are an inevitable result of economic development and can be cleaned up later on.

According to the report, economic development in China has resulted

in a new pattern of consumption generating a lot of solid waste that the country is finding difficult to manage. Municipal waste reached almost 150 million tons in 1998, a daily waste generation of one kilogram per urban citizen. Industrial waste is said to be five times more than municipal waste, and has polluted both surface and ground water.

The report asserted that at least 270 million urban residents breathe air with a quality below acceptable standards. Each year, there are 1.5 million cases of bronchitis, 23,000 deaths from

respiratory diseases and 13,000 deaths from heart disease. In 2000 alone, there were 600,000 premature deaths, 5.5 million cases of chronic bronchitis and 20 million cases of respiratory diseases due to air pollution. Deaths from lung cancer are said to be 4.7 to 8.8 times higher in highly polluted areas.

The report recommended that for China to sustain its growth, it has to make a firm choice to continue and deepen reforms that support green development.

Source: 2002 China HDR.

Table 2.3: THE WORLD BANK'S POVERTY AND NATURAL RESOURCE INDICATORS

POVERTY ISSUE	POVERTY-ENVIRONMENT INDICATORS	NATURAL RESOURCE PROBLEMS THAT COULD INFLUENCE THE INDICATORS
Income and opportunity	Time spent by household members to collect water and fuel wood	Deforestation, water scarcity and over-fishing
	Distance walked by household members to collect water and fuel wood	
	Quantity of annual household consumption derived from communal land	
	Quantity of annual household consumption derived from forest products and fisheries	
Food security	Rural per capita cereal production	Land degradation, water scarcity, pest outbreak, natural disasters, deforestation, over-fishing
	Percentage of farmers growing drought resistant crops by income/wealth quintiles	
	Quantity of annual household consumption derived from forest products and fisheries	
	Percentage of rural children under five who are underweight	
	Percentage of rural children under five who are stunted	
	Percentage of rural children under five who are wasted	
Vulnerability to natural disaster	Percentage/number of households rendered homeless from floods/cyclones/hurricanes by income/wealth quintiles	Source: HDR Environment Thematic Guidance Note.
	Number of deaths from natural disasters by income/wealth quintiles	
	Percentage of farmers with land on slopes by income/wealth quintiles	

HIV/AIDS and Human Development

By the end of 2004, an estimated 40 million people globally were living with HIV, with devastating impacts on human development. The pandemic is felt at all levels, from individuals and households to communities and societies.

HIV/AIDS disproportionately affects young adults, who are the most productive segment of the population and fulfil important functions as workers, breadwinners, parents, educators, health care providers, etc.. Women face extra vulnerabilities because their rights are not upheld, they have a low status in many societies and they are economically dependent on men. In southern Africa, overall life expectancy at birth declined by 15 years between 1990 and 2004. It is estimated that by 2023, females will on average live two years less than men (see figure 2.7).

HDRs should be used to make a strong case for HIV/AIDS as a critical development issue (see box 2.15), either by selecting HIV/AIDS as a primary theme or by mainstreaming it into reports, especially in countries with high prevalence rates.

Linking human rights to access to health and essential medicines is important. Governments and other duty bearers have a responsibility to promote and protect the health rights of their citizens. Current drug prices and the intellectual property rights regime, however, can hurt people, especially the poor. HDRs could provide statistics on access to drugs, pricing, number of patents and health status. HIV/AIDS may have an

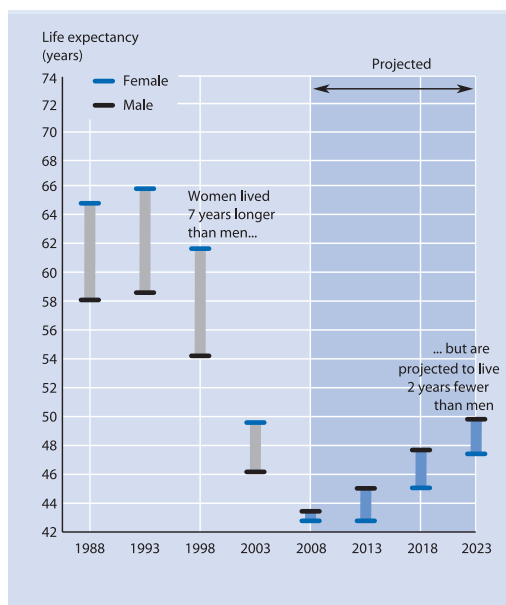
impact on aggregate indicators, such as the quality-adjusted life years and the disability-adjusted life years indicators (for details, see www.who.int/healthinfo/bod/en/index.html).

Reports might analyse costs associated with inaction against costs of providing treatment, care and support to those infected and affected by the virus. In China, the Joint UN Programme on HIV/AIDS (UNAIDS) and the World Health Organization project that the number of persons infected with HIV could rise from 650,000 people in 2006 to over 10 million people by 2010 if no action is taken. The cost of reduced productivity and loss of skilled personnel, among other issues, would be very high.

HDRs can also delve into the contribution of

FIGURE 2.7: Male and Female Life Expectancy in Southern Africa

Women's vulnerability to HIV/AIDS means that soon they may live fewer years than men.



Source: 2006 global HDR.

BOX 2.15

HDRS FOCUS ON HIV/AIDS

Nigeria's 2004 HDR focused on HIV and AIDS, pointing out that one in seven Africans living with HIV is a Nigerian, with an estimated 3.2 million to 3.8 million people infected. The report asserted that Nigeria has a generalized epidemic no longer confined to populations at higher risk. HIV and AIDS are exacerbating poverty, malnutrition, low educational attainment and gender disparities. This threatens the attainment of the MDGs, and slows growth and other development objectives. The report looked at the achieve-

ments and constraints of the country's response to HIV and AIDS, and offered concrete policy messages aimed at mobilizing actors and institutions in a more coordinated way to halt the spread of the virus.

Uganda's 2002 HDR reviewed 20 years of HIV/AIDS in the country, assessing the impact of the disease on the population in terms of the population structure, fertility and mortality, and detailing the effects on households, families, health, educa-

tion, agriculture, the labour force, businesses, women and the economy. The report described how the HIV/AIDS epidemic has been fought and attempted to explain Uganda's successful strategies.

Sources: 2004 Nigeria HDR and 2002 Uganda HDR.



cultural practices and stigma to the spread of HIV. Practices such as levirate (obligation to marry a brother's widow), polygyny (having more than one wife) and female genital cutting may speed transmission, while stigma discourages self-disclosure and positive living.

Successful responses to the epidemic require multisectoral strategies touching many aspects of development policy, and involving the public and private sectors, civil society, women, men, and people infected or affected by HIV/AIDS. A 2005-2006 participatory poverty assessment conducted in Namibia, for example, found that even when some poor households understand HIV/AIDS messages, there are few incentives for them to adopt responsible sexual behaviour, in part because of

Nine out of ten children born with HIV live in Africa. Many die before they reach the age of 2 due to limited treatments, specifically made for children. Since there is little profit in researching and developing HIV/AIDS tests and medicines for children in poor countries, few companies are investing in this area.

Inequality matters.

AIGA

Laurie Cummings, AIGA www.aiga.org/inequality-matters

Table 2.4: EXAMPLES OF HIV/AIDS INDICATORS

INDICATOR	LEVEL OF DISAGGREGATION
Proportion of national budget allocated to HIV/AIDS	Region/district, urban and rural
HIV budget as a percentage of total health budget	Region/district, urban and rural
HIV prevalence rate among 15-49 year-olds	Region/district, age groups
Condom use rate at last high-risk sex act among 15-49 year-olds	Sex, age group, region/district, urban and rural
Proportion of people with advanced HIV receiving ARV combination therapy	Sex, age group, region/district, urban and rural
Proportion of HIV-positive pregnant women receiving a complete course of ARV combination therapy	Region/district, urban and rural
Proportion of orphans enrolled in primary and secondary schools	Sex, urban and rural, region/district Compare with enrolment among children whose parents are alive
Proportion of households headed by children	Sex, survival status of parents, region/district, urban and rural
Health and funeral expenditures as a percentage of total household expenditures	Sex of household head, urban and rural, income quintiles
Percentage of organizations/agencies with HIV/AIDS workplace policies	Region/district, urban and rural, public and private

the lack of opportunities to improve their socioeconomic conditions.

Report recommendations might present integrated strategies for prevention, care and treatment, vulnerability reduction and mitigation of socioeconomic impact. They can also highlight the likely impact of HIV/AIDS on the achievement of the MDGs, and measure progress on achieving the set of comprehensive, time-bound targets for treatment, care and support that world leaders agreed on at the 2001 UN General Assembly Special Session on HIV/AIDS.

Table 2.4 lists selected indicators for analysing HIV/AIDS as a human development issue. These are not exhaustive. The extent of the problem differs from country to country, and HDR teams should make use of the most relevant indicators available. The HDR HIV/AIDS and Human Development Thematic Guidance Note is an additional resource.

Human Security and Human Development

Like poverty, human security is a broad concept. It is also crosscutting and may include all the issues discussed in other sections of this chapter. Human security concerns should therefore be mainstreamed into HDRs. See box 2.16 for an example.

The 1994 global HDR identifies seven areas of human security: economic, food, health, environmental, personal, community and political. These dimensions shift the focus from the security of the state to the security of the individual. Factors that pose a threat to human security differ from country to country, with the needs of a country in conflict likely to be different from those of one hit by a natural disaster like drought. HDRs provide an opportunity to situate human security in a specific country context. What all situations have in common, however, is that the drive to eliminate human insecurity should be informed by human development and human rights considerations (2006 global HDR).

The starting point for human security analysis is to undertake surveys to identify factors

“Human security as an idea fruitfully supplements the expansionist perspective of human development by directly paying attention to what are sometimes called ‘downside risks’... Human security demands protection from these dangers and the empowerment of people so that they can cope with—and when possible overcome—these hazards.”

—AMARTYA SEN (COMMISSION ON HUMAN SECURITY 2004, P. 6)

that threaten human security in a particular country or region. Perception surveys are ideal to generate data.

Governance and Human Development

Good governance is critical for human development, but a lack of data has limited analysis of the links between the two. In the last few years, growing recognition of the centrality of good governance to human development has spurred research efforts aimed at measuring the impact of governance on development. Governance for human development is not just about effective institutions and rules, but also about ensuring that resources reach their intended beneficiaries. HDRs can focus on one or more aspects of governance as themes in themselves or as part of economic analysis.

UNDP’s Governance Indicators Project provides support to nationally owned processes for assessing and monitoring democratic governance—HDR teams could advocate that national statistics offices use this resource to develop a national database on governance indicators (see www.undp.org/oslocentre/

BOX
2.16

MACEDONIA: EXPLORING THE SCOPE OF HUMAN SECURITY

In Macedonia, the 2001 report looked at human security from economic, political and institutional angles. Through a survey that asked respondents to rank threats that made them feel insecure, unemployment, low incomes and access to medical services emerged as major sources of concern.



Source: 2001 Macedonia HDR.

Table 2.5: AGGREGATE INDICATORS OF GOVERNANCE

The World Bank's Worldwide Governance Indicators Project annually publishes aggregate indicators on six dimensions of governance, along with the underlying data.

Voice and Accountability the extent to which a country's citizens are able to participate in selecting their government, as well as freedom of expression, freedom of associations, and free media 1	Political Stability and Absence of Violence perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional or violent means, including domestic violence and terrorism 2	Government Effectiveness the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies 3
Regulatory Quality the ability of the government to formulate and implement sound policies and regulations that permit sector development 4	Rule of Law the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, the police, and the courts, as well as the likelihood of crime and violence 5	Control of Corruption the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests 6

Source: Worldwide Governance Indicators, World Bank (www.govindicators.org).

flagship/governance_indicators_project.html). The World Bank's Worldwide Governance Indicators Project, which covers 213 countries and territories, can help in identifying specific governance challenges (see table 2.5).

The HDR Occasional Paper on Decentralization and National Human Development Reports and the Conflict Prevention Thematic Guidance Note are more general reference documents for governance and human development analysis.

Corruption

One important aspect of governance, though by no means the only one, is corruption. With corruption being a major threat to governance and human development, reports may need to delve into how it further impoverishes the poor (see box 2.17). The results of the 2003 Global Corruption Barometer confirmed that corruption hits the poor most,

with about 40 percent of low-income respondents believing that corruption has a significant impact on their lives. A report by the African Union stated that corruption costs African economies over \$148 billion a year, or 25 percent of regional GDP. The figure includes both direct and indirect costs of corruption, including resources diverted by corrupt actions or withheld to deter corruption.

Transparency International's Corruption Index is a common reference point for measuring and comparing country-level corruption. It assesses the degree to which corruption is perceived to exist among a country's public officials and politicians. UNDP's Oslo Governance Centre has produced Corruption and Governance Measurement Tools in Latin American Countries, a report that profiles nearly 100 different corruption measurement tools for 17 countries (see www.undp.org/oslocentre/flagship/governance_indicators_project.html).

BOX 2.17

SOUTH ASIA • MEASURING “HUMANE GOVERNANCE”

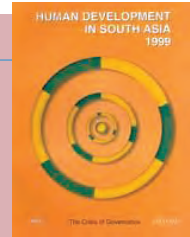
The theme for South Asia’s 1999 regional HDR was the crisis of governance. According to the report, South Asia’s governments claim to represent the poor but aid the rich; taxation is insufficient and regressive; and expenditures are misdirected and ineffective. Millions of dollars are transferred out of the region every

year through corruption. The report analysed issues of governance from political, economic, social and civic perspectives. It provided in-depth analysis on the phenomenon of corruption, and advocated a concrete and realistic reform agenda for promoting “humane governance.”

The report introduced a new index,

the humane governance index. The index was a simple average of indices measuring economic, political and civic governance, and followed a methodology similar to that of the HDI.

Source: 1999 South Asia regional HDR.



Human Rights

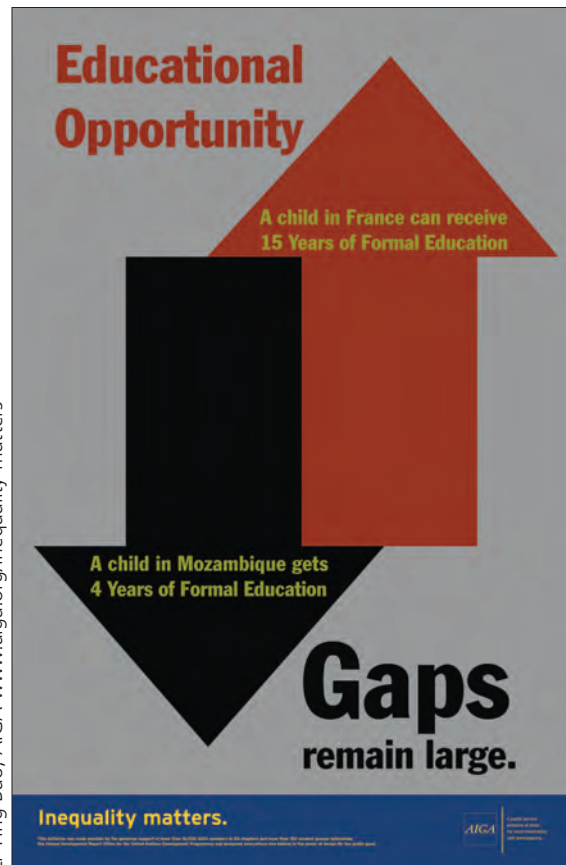
Another important aspect of human development closely correlated with governance is human rights. HDR teams can look at data that highlight and explain human rights abuses and the ability of the state and other actors to ensure basic human rights. This includes data from national reporting on the various human rights conventions, where it is important to balance governments’ reporting with alternative reports by non-governmental organizations (NGOs).

Relevant data can sometimes be found through the work of such international organizations as the United Nations High Commission for Refugees (UNHCR), UNICEF and the United Nations Office on Drugs and Crime (UNIDO), as well as Amnesty International.

The following indicators could be considered:

- Intentional homicide per thousand population;

- Backlog of court cases;
- Number of people detained without trial as a percentage of the prison population;



Li-Ying Bao, AIGA www.aiga.org/inequality-matters

**BOX
2.18****WEST BENGAL AND VENEZUELA: DATA ASSESSING THE IMPACTS OF DECENTRALIZATION**

The **2004 West Bengal State (India) HDR** examined the human development implications of divergent state and federal development paths, using a range of qualitative and quantitative data. The report noted that even though West Bengal is enjoying a high degree of autonomy and impressive progress on some fronts, India's rapidly changing macroeconomic environment coupled with declining central gov-

ernment resources and the need to deliver universal high quality social services pose major challenges. The report urged adoption of innovative mechanisms and delivery systems to address these, rather than reverting to a centralized development approach.

Venezuela's 1999 HDR analysed the provision of public resources to states for social sectors, and the relationship to progress and deprivations in

human development. The report calculated a disparity reduction rate that tracked relative progress made through decentralized social spending.

Sources: 2004 West Bengal State HDR and 1999 Venezuela HDR.



- Political detainees as a percentage of total detainees;
- Number of independent newspapers; and
- Existing policies to implement human rights objectives.

Decentralization

HDRs may need to consider decentralization and local self-governance. If the provision of basic social services is decentralized to local governments but is not accompanied by strengthened institutional capacities, devolution of authority and adequate resources, human development progress can deteriorate. A well-managed decentralization programme, by contrast, can improve the quality of service delivery and reduce geographical disparities in access to and quality of services.

HDRs can make a case for decentralization, while at the same time stressing that it does not imply the disappearance of the state. There must be a balance between the roles and responsibilities of the central government and decentralized structures (see box 2.18). If quantitative data assessing decentralization

and the quality of service delivery is not available, perception surveys can reflect how decentralization has influenced people's well-being.

An HDR can also be a chance to advocate for allocating resources to improve sub-national data as an essential aspect of decentralizing development planning based on sound evidence. A positive example of progress in this area already exists in Uganda, where the planning framework of the Poverty Eradication Action Plan requires districts to produce quarterly reports monitoring priority poverty-related interventions. Both quantitative and qualitative data are collected at all levels of local government—from the village, through the parish, sub-county and county levels, and up to the districts. Information is fed into the Ministry of Local Government's Information and Communication System, with data focusing on inputs, outputs and process indicators. Data in quarterly reports are triangulated by yearly assessments of local government programmes and information from line ministries. District profiles inform the allocation of central government grants.

Conclusion

This chapter has brought out key human development issues that HDR teams can consider. It has provided some indication of how to measure different aspects. The subjects discussed are not exhaustive and only serve as a guide to what can be done. HDR teams should continue to use different approaches and creativity in working with data to measure other aspects of human development, without compromising statistical quality.

The research and analysis phase of preparing a report—the focus of this chapter—is a primary part of the HDR process. An equally important and challenging phase involves ensuring the report succeeds in advocating for policies and plans grounded in human development principles. Chapter 3 will provide guidance and good practices on effective ways to advocate for change, including through sustained follow up after the report has been produced.

CHECKLIST: A QUICK REFERENCE

The following checklist covers the key issues of Chapter 2.

Using the HDI

- Are linkages between the MDG indicators and broader human development data issues explored?
- Has the HDI been used correctly to support a broader analysis of human development?
- Have the limitations of the HDI been acknowledged?
- If the HDI has been adapted to the local context, have the rationale and underlying theoretical framework for this work been defined?

Measuring Multidimensional Poverty

- Has a full range of data and indicators been considered to allow for a multidimensional analysis of poverty that goes beyond monetary-based poverty?
- Do the data and analysis look at nationally relevant poverty lines, differences and trends in transient and chronic poverty, and issues of risk and vulnerability over time?
- Has the use of participatory poverty assessments been considered?
- Has the calculation of the HPI been considered as part of a larger analysis of multidimensional poverty, including a discussion of HPI limitations?

Using Economic Data and Analysis

- Have links between human development and different economic growth scenarios been explored?
- Have fiscal and monetary policies been analysed for consistency with human development objectives?
- Have data on the informal sector been analysed, with any limitations discussed?
- Have the Gini coefficient, quintile or decile ratios, and other data been used to explore income inequalities?
- Have data been used to analyse human development implications of regional and global economic policies?

Mainstreaming Gender Data and Analysis

- Does the team include people with experience in gender issues and data?
- Have gender-sensitive techniques been used in gathering data?
- Are data disaggregated through the HDR by sex and other parameters of exclusion?
- Have gender-disaggregated and other data been used to analyse the underlying causes of gender inequalities, as well as the impact of gender inequalities on women and men, and on society as a whole?

- Where relevant, have data related to reporting on CEDAW and the Beijing Platform for Action been considered?
- Have gender-based violence data been explored and their limitations discussed?
- Have data related to employment, wage discrimination, the care economy, time use, consumption patterns, asset ownership and gender budgeting been considered?
- Have the GDI and GEM been used to support analysis, with a discussion of their limitations?
- Have data been used to support specific recommendations for addressing gender issues?

Mainstreaming Environmental Data and Analysis

- Does the team include people with experience in environmental issues and data?
- Are data used to explore specific links between human development, inequality and the environment in such areas as health, education, economic growth, employment, livelihoods, gender and security?
- Are data used for trends and projections involving climate change shocks and other natural disasters, and their impacts on livelihoods and coping strategies?
- Does the report analyse the long-term implications of coping strategies on human development progress?
- Have environmental indices been used with a discussion of their limitations?

- Have data been used for specific recommendations to address environmental issues?

Measuring Other Human Development Dimensions

- Have a full set of quantitative and qualitative data been used to explore the cross-cutting root causes and consequences of, and policy options for dealing with HIV/AIDS?
- Is a full range of data used to assess such crosscutting themes as human security?
- Is a full range of governance indicators used to cover such topics as: civil voice and accountability, political stability, human rights, rule-of-law, corruption and regulatory quality, government effectiveness, the quality of public service, and policy planning and its implementation?

CHAPTER 3:

ADVOCATING FOR CHANGE
WITH HUMAN DEVELOPMENT DATA

CHAPTER 3: ADVOCATING FOR CHANGE WITH HUMAN DEVELOPMENT DATA

Advocacy is about supporting or arguing for a cause, policy or idea. It involves ongoing, long-term efforts to influence public opinion and societal attitudes, while bringing about changes in government, community and institutional policies. With a focus on educating people and raising awareness of what is necessary to achieve a particular goal, human development advocacy targets specific audiences through communication techniques guided by well-crafted strategies. It draws upon participatory processes, and offers concrete solutions and plans of action.

The link between the need for human development data and efforts to increase the impacts of human development policies is clear. Comprehensive, rigorous, relevant and timely data are essential to successfully advocating and achieving human development policy goals. Empirical evidence makes it possible to formulate and implement better and more targeted policies. Data shape more informed decisions, increase awareness and foster constructive debate.

The ultimate objective of regional, national and sub-national HDR processes is to use data to sensitize policy makers and other partners on key human development issues, in support of broader advocacy and policy goals that lead to positive changes in people's lives.

HDR teams should aim to make clear data and advocacy, outreach and communications links throughout the four stages of an HDR process, as described by the HDR Timeline and in support of all six HDR corporate principles (see box 0.2). The four timeline stages

include: the preparatory stage, the actual research and writing phase, production of the report, and the report's launch and follow up. At each point, a variety of advocacy instruments should be used to foster awareness that leads to ownership and action. Lobbying, public debate, campaigning and the systematic use of communication tools are all essential to advocacy efforts.

Sufficient planning, expertise and financial resources for advocacy, outreach and communications should be secured from the beginning of the report process. Preparations should involve participation and consultation with all stakeholders, including government, civil society and other groups. HDR statistics experts should work closely with these partners and with HDR advocacy specialists.

This chapter offers HDR teams suggestions for linking data and advocacy, outreach and communications with recommendations and examples of ways to:

- Keep advocacy goals in mind from the first day of preparation;

- Strengthen data skills among all partners;
- Communicate with statistics;
- Use data for a more effective launch and outreach strategy;
- Leverage longer term advocacy opportunities with data;
- Advocate for better human development measurement; and
- Monitor and assess HDR data and advocacy impacts.

The following pages describe some HDR advocacy activities through a human development data lens. For more information on advocacy in general, HDR teams and their partners are encouraged to review Chapter 6

of the HDR Toolkit, the UNDP Communications Toolkit and the Millennium Campaign Toolkit.

Why Keep Advocacy Goals in Mind from the First Day of Preparation?

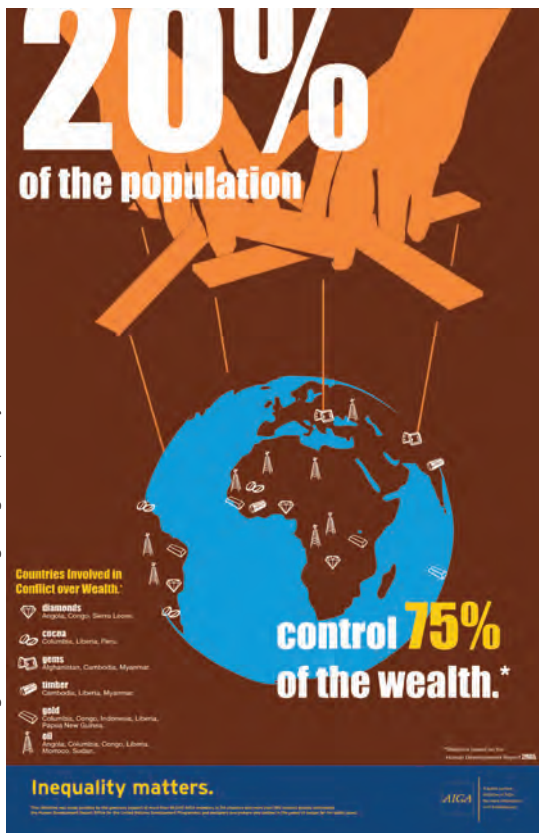
The HDR Timeline suggests that one of the key activities during the preparatory stage of a report should be the design of an advocacy, outreach and communications strategy. As part of overall HDR planning, careful decisions should be made about choices of human development measurement data and how they can be linked to specific advocacy objectives. A range of practical, strategic and political factors influence data and advocacy decisions related to:

- Human development themes and conceptual approaches;
- Types, sources, methods and timing of data collection; and
- Corresponding decisions related to required expertise and HDR budgeting.

Many of these issues have already been discussed in Chapter 1. The next few pages summarize key points in the context of advocacy.

New Human Development Topics and Approaches

In deciding at the beginning of an HDR process to present a conceptual approach with new data and analysis, an HDR team can also begin crafting advocacy campaigns that will attract interest and spark new debates



and action—even if the campaigns target “old” issues. In many countries and regions, the most timely and relevant topics requiring advocacy are those that could also benefit from new conceptual approaches supported by data and research. The crosscutting development themes discussed in Chapter 2—including gender, the environment, HIV/AIDS and human security—can offer new ways of looking at some traditional sectors from a human development perspective.

A Variety of Data Sources

With the selection of an HDR theme and conceptual approach comes a range of other decisions, described in Chapter 1, related to the types, sources, methods and timing of data collection and use. These decisions guide the selection of relevant, accurate, timely, objective and comprehensive data. In addition, the HDR team may need to consider other practical, strategic and political factors related to advocacy goals. Using data from a variety of sources, especially if they support similar recommendations, can bolster the credibility of data and the success of an advocacy campaign. Even in the case of conflicting data, HDR advocacy can be stronger if it comes from a process that draws on multiple sources, rather than presenting what might be perceived as one-sided analysis. Considerations related to the quality of the data should also be kept in mind.

Combining Quantitative and Qualitative Data

Chapter 1 calls for HDR teams to gather both quantitative and qualitative data to produce better analysis, support different advocacy objectives and reach target groups. Some advocacy campaigns are more effective if they couple powerful statistics with human-interest stories and case studies.

These appeal especially to the media and the general public. Other groups targeted by HDR advocacy, such as policy makers within ministries of finance and economy, may respond better to arguments based on more traditional economic data and analysis assessing, for example, the macro-effect of policy trade-offs.

Data, Timing and Politics

Using data to advocate for human development policy often involves suggesting policy trade-offs and priorities that affect financial, institutional and human resources. It can mean discussing possible changes in the status quo, and shifts in power and influence. Even if government policies are not directly targeted, HDR advocacy and politics are closely linked, so HDR teams should consider the timing of events related to both data and politics. This might mean planning data collection around the availability of other major research being conducted, such as a national census or household survey. Teams should also consider the timing of other reports being prepared by the government, UN agencies and other partners, and of major political events, such as elections, budget processes, donor consultations and national strategy preparations. All of these are excellent opportunities for advocacy.

“Statistics are no substitute for judgment.”

—HENRY CLAY ([HTTP://WWW.LEEDS.AC.UK/EDUCOL/DOCUMENTS/00003760.HTM](http://www.leeds.ac.uk/educol/documents/00003760.htm))

Reaching Target Audiences

Determining at the beginning of the process which audiences the report should reach to achieve advocacy objectives can influence the content of the report, the choice of data and the framing of an advocacy strategy. Each piece should build on the others, so that the key messages of the report are consistently reinforced and disseminated. Broadly speaking, an advocacy strategy should include objectives (such as influencing particular policies), potential threats to and opportunities for achieving these goals, a well-defined sense of target audiences, an understanding of

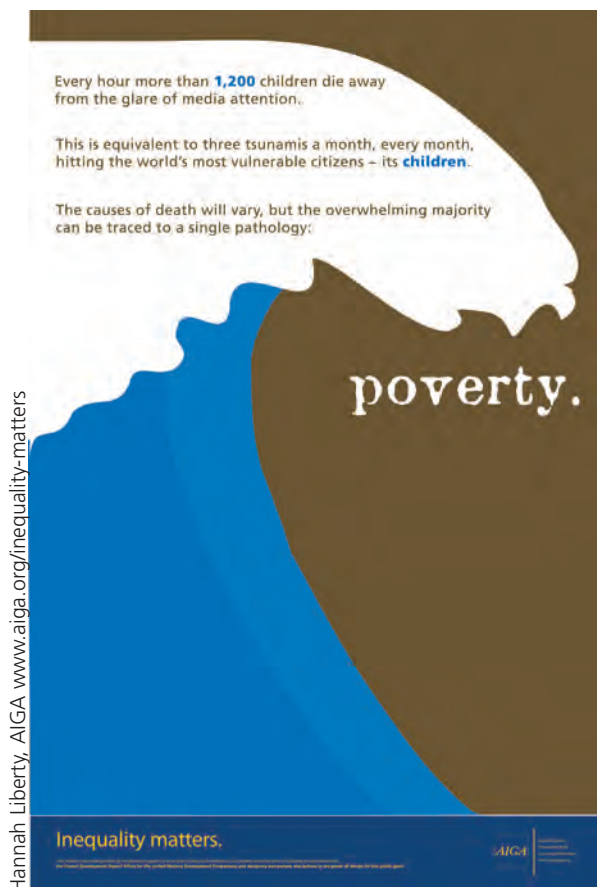
which messages they can be persuaded to hear and take action on, and a set of communications vehicles that can reach them (beyond the report itself, these could include meetings and other stakeholder events, collaboration on statistical analysis, media coverage or short policy summaries accompanying the report).

Strengthening Data Skills

As part of advocating for human development policies, HDR teams can target a range of stakeholders for capacity development, helping them strengthen their skills in understanding and using human development data. These groups include national and international statistics communities; policy makers; journalists; academia and civil society groups, including marginalized groups; and other parts of UNDP, the UN and the broader international development community. Each group can help support human development policies in different ways, while benefiting from a participatory process that engages key partners. Many of these partners play critical roles in other national development processes, such as poverty reduction strategy papers (PRSPs), and related advocacy reports, such as the MDG reports.

National and International Statistics Communities

Members of national and international statistics communities have different roles to play throughout an HDR process. Depending on



local contexts, representatives of national statistics offices, research and academic institutes, and other public and private bodies working with statistics can be part of an HDR team, and/or its statistical advisory and peer review groups. Their involvement helps in sharing and reviewing data, and in developing ownership and skills needed for advocacy and other goals. They can participate through one-on-one meetings, informal briefings, specialized trainings, and larger events with capacity development and related agendas.

In Indonesia, for example, as part of the 2004 HDR process, a one-day technical workshop on the reliability and validity of composite and single human development indicators was organized by the national statistics agency, the national development planning agency and UNDP. Over 100 people attended, representing the central and local governments and statistics offices, universities, NGOs and donors. In addition to raising awareness of various data challenges, the workshop produced recommendations related to data sources, definitions, methodologies, accuracy and bias in such areas as health, education, development financing, employment, and the calculation and adaptation of the HDI, GDI, GEM and HPI composite indices.

HDR processes can also help national statistics organizations and broader statistics communities understand and deal better with differences in datasets used for local, national, regional and international comparisons. Often these differences arise in the calculation of such highly visible composite indices as the HDI. Although it may not be possible to reach consensus on some data issues, due to different data and statistical requirements and objectives, it is essential that all parties

understand the constraints and key issues. The HDR process offers a good opportunity to bring national and international data users and producers together to improve understanding and cooperation.

In preparing the 2004 Afghanistan HDR on human security, the HDR team faced the challenge of limited national statistical capacity and data. In the absence of a national census for 25 years, the report team brought in a specialist from the Government of India to assist in compiling human development indicators. To help develop national capacities to produce the report, workshops to train report team members on human development concepts took place before research began. Lectures were held for scholars and students at three major universities in Kabul and in four provinces. The high degree of national ownership of the entire process meant that for the first time in modern history, objective observers were allowed to gather and tabulate hard data on living conditions among everyday Afghans.

National and Regional Policy Makers

For HDR advocacy to succeed, the people responsible for considering, approving, funding and implementing improved human development policies must be on board from the beginning. Data and recommendations that come across a policy maker's desk for the first time only after an HDR is published are much less likely to be considered, if even read. Policy makers must not only be able to understand the data and analysis, but they must also be willing to serve as advocates to persuade colleagues of the merits of new or improved policies. This is particularly the case in development areas that involve complex policy trade-offs, where data and analysis

**BOX
3.1****BOLIVIA: INCLUSIVE ADVOCACY TO ADDRESS GENDER DISCRIMINATION**

The 2003 Bolivia HDR looked at national gender mainstreaming efforts from the perspective of power relationships. Through analysis based on quantitative and qualitative data—including the calculation of a new municipal gender equity index—it found that despite reforms, gender discrimination still permeates political and social institutions at all levels.

To help ensure that its politically sensitive messages and recommen-

dations would be considered by some of the structures under scrutiny, the HDR team employed an inclusive advocacy strategy throughout the preparation, launch and follow-up processes. This involved the participation of representatives of the National Institute for Statistics; the General Director for Sectoral Strategies; the Ministry of Education and Culture; the Ministry of Health; the National Electoral Court; the Vice-Ministry of Strategic Planning and Popular Participation; the Vice-Ministry for Gender, Generation and Family; the Coordinator for Women and the Association of Women Councilors of Bolivia.

As a result, the report could openly analyse challenges such as a fragmentation of gender strategies, institutional weaknesses blocking implementation, the excessive rotation of authorities, a lack of systematized and transparent information, limited financial resources and outright resistance. Successful policy initiatives were also explored, including the Law against Intra-Family and Domestic Violence, and the Quota Law. The report's recommendations were shared widely throughout the country and at a major regional workshop on gender mainstreaming after the launch.

Source: 2003 Bolivia HDR.

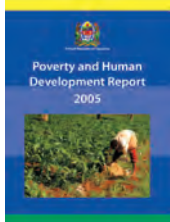
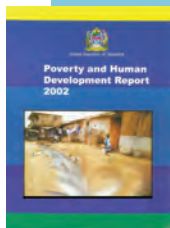
show policies need improvement, or where the issues have a new policy focus, such as migration or globalization.

HDR teams can help sensitize policy makers to a range of data-related issues throughout the process. Policy makers should be part of steering and advisory committees to review report outlines, data, research and drafts. People from central and local governments, parliament and other public offices can be involved in broader consultations, training and participatory events (see box 3.1). On sensitive topics, it can be useful to organize smaller, less public meetings with key officials.

Journalists and Other Media Partners

Local, national, regional and international journalists are key communications partners, coming from television, print, radio and

Internet media outlets. To help them report accurately on human development issues, it can be useful to offer journalists specialized training on human development concepts, data, the HDI and other composite indices, and related topics. Journalists and opinion leaders should not be seen only as responsible for covering the news angles of an HDR, but also as important stakeholders in guiding public debate and drawing attention to human development issues. HDR teams can work with them to cover key steps in the HDR process before and after the launch, including the release of major data and findings as they become available. Journalists may also follow up on recommendations for longer term public awareness campaigns. The better the media understands human development, the better the chances that a report's data and analysis will reach a larger audience.

BOX
3.2**TANZANIA:
BROAD INVOLVEMENT MAKES
LINKS TO A PRSP**

For Tanzania's 2002 and 2005 HDRs, broad involvement directly fed into the work of the UN Country Team and the PRSP process. The 2002 report drew on various data, including a benefit incidence study on water; research papers on governance, vulnerability and agriculture; household budget surveys; and participatory poverty assessments. Analysing budgets in priority sectors such as health, the report argued for new resources that explicitly benefit the poor and highlighted the vulnerability of overlooked social groups. It was produced

by a working group that is part of the Poverty Monitoring System mandated by Tanzania's Poverty Reduction Strategy. A well-coordinated UN Country Team backed the report, with agencies such as UNICEF involved as principal contributors. Chapter 2, on the status of poverty, was used in updating Tanzania's Poverty Reduction Strategy, while the Poverty Monitoring System now includes the report's proposed indicators to measure poverty and environmental issues.

Tanzania's 2005 report presented data on poverty trends with comparisons to targets from the MDGs and Mkukuta (the National Strategy for Growth and Reduction of Poverty). New survey data were analysed for agriculture, health, education, vulnerable children, water and sanitation. Estimates of household income at the district level were also included, marking the first time such poverty mapping data have been published in Tanzania.

Sources: 2002 and 2005 Tanzania HDRs.

Training for journalists can help ensure the media understand not only the data and recommendations specific to an HDR, but also the larger scope of human development initiatives in which UNDP and the UN com-

munity are engaged. In Albania, a UN Press Club brings together members of the national and international print and electronic media. The club aims to improve the quality of reporting about development issues in Albania, including coverage of the MDGs and related human development data. The club has organized workshops to train journalists on specialized themes, including topics targeted by Albania's 2002 HDR on decentralization and local governance, and the 2005 HDR on gender.

Academia and Members of Civil Society

Other important advocacy partners include a variety of academic and civil society groups, including those facing the forms of social, economic and political exclusion elaborated by many HDRs. As with other partners, there are many ways to include these groups in the HDR process to increase their awareness of human development data and related issues, and to encourage local ownership and informed debates. Groups facing exclusion can participate in capacity development activities as a core component of larger empowerment objectives. In many cases, it is not enough for HDR teams to collect data on marginalized groups—they should also involve these groups in the report preparation.

The International Development Community

Various members of the international community, including donors, the World Bank and regional development banks, international NGOs, foundations, UN agencies and other parts of UNDP itself can be involved in HDR advocacy and capacity development activities (see box 3.2), in addition to complementary roles as members of steering committees, statistics advisory groups, statistical peer

**BOX
3.3****JORDAN: HUMANIZING STATISTICS THROUGH PEOPLE'S REFLECTIONS**

Livestock constitutes a major form of savings and livelihood source in Jordan. In Day-al Kahf and Badia, it accounts for 80 to 90% of household income. Between 1995 and 2002, the combined stock of goats and sheep in the country decreased from 3.54 million to 2.47 million animals. Contribution of livestock to household income is reported to have dropped significantly. There is a growing awareness among communities that livestock rearing is no longer a viable source of livelihood. Communities are struggling for a more reliable livelihood strategy but are not sure about which alterna-

tive opportunities exist. Older people are reluctant to sell their livestock for fear that they might end up with no jobs, no income and no livestock.

A woman in Feynan in Dana summed up the dilemma in these words:

“We are tortured by the goats. They have turned our hair grey. But if the goats die, we will have to live on charity.”



Source: 2004 Jordan HDR.

reviews, etc.. This is especially the case when HDRs draw on and/or produce new and innovative data. Each partner can make unique contributions that support advocacy. International partners can sometimes also use HDR data and analysis for their own development reporting and analysis.

The HDR Toolkit offers more detailed suggestions for working with development partners to improve the effectiveness of human development data and advocacy activities.

Communicating with Statistics

One of the most powerful HDR advocacy tools is the report itself. Since communicating key messages persuasively is essential for advocacy, the careful presentation and positioning of data in the report is an essential exercise. This helps maintain credibility, and advances a lucid and forceful analysis. Several considerations are required.

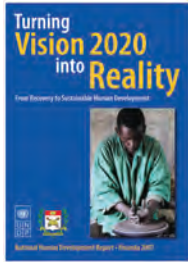
Expanding on Measurements with Qualitative Descriptions

Ideally, reports should use both quantitative and qualitative evidence. Qualitative data—including quotes and excerpts from case studies, perception studies, etc.—can help reveal the human story behind the statistics (see box 3.3). Gender-focused analysis, for example, could begin with a quantitative indicator such as female enrolment in secondary education. A description of discrimination against women in the labour market could follow, or a narrative on traditions that prevent women from controlling and inheriting land. There could be some comment on why inadequate attention has been paid to these issues, including the observation that the official indicator on women's share of paid employment in non-agricultural activities is inaccurate.

“It is proven that the celebration of birthdays is healthy. Statistics show that those people who celebrate the most birthdays become the oldest.”

—WWW.AMSTAT.ORG/PUBLICATIONS/USE/V10N3/FRIEDMAN.HTML

FIGURE 3.1: Rwanda: Varying Presentation to Highlight MDG Challenges



The 2007 Rwanda HDR used pie charts and line graphics to illustrate data on human and economic development.

explained. HDR teams should make sure that data are accurate through peer reviews and editing. Incorrect data, even a small error, can discredit the overall messages of a report and destroy opportunities for advocacy.

HDR teams should also be careful in attributing causality where only a correlation has been established. Sometimes, in efforts to bolster advocacy messages, there can be a temptation to exaggerate casual links. One of the greatest strengths of the HDRs has always been their use of objective data. This image must be preserved through rigorous measurement and reporting practices.

Presenting Statistical Information

Too many numbers and statistical terms in HDR text can overwhelm even the most enthusiastic readers. The text should be mostly devoted to words, with data used meaningfully and sparingly to support the points being made. References in the text can direct readers to tables and charts so the data contained there does not need to be reproduced (see box 3.4 and figure 3.1).

In order to reach as many target advocacy audiences as possible, overly technical statistical terms should be avoided. A reader is unlikely to want to go through numerous references to “means” and “confidence intervals.” Better options are terms such as “average” and “probability” or “most likely” or “less likely.” Wherever possible within the text, words should replace numbers. For

Figure 21: MDG Based (Outer Circle) Versus Actual (Inner Circle) Distribution of Aid

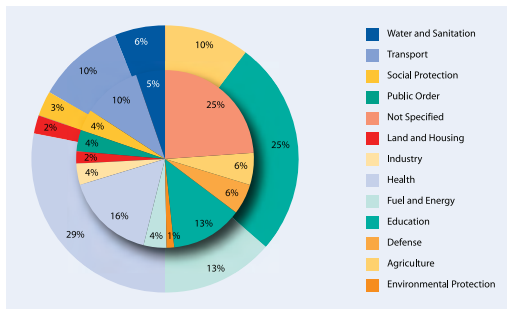
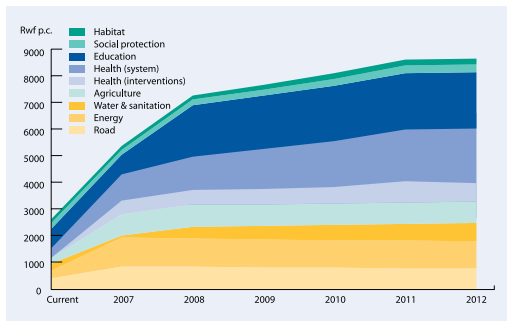


Figure 16: Per Capita Investments Needed to Achieve the MDGs (2007-2012)



Source: 2007 Rwanda HDR.

Representative Data, Standard Errors and Causality

Data that support advocacy goals must be representative. It is otherwise incorrect to draw conclusions for sub-populations. Where possible, standard statistical errors should be reported, and assumptions and caveats

“What is the use of a book,” thought Alice, “without pictures or conversations?”

—CAROLL 1977, P. 1

**BOX
3.4****ILLUSTRATING MESSAGES**

Maps generally chart disparities with the immediacy of few other devices. A succession of small maps can track changes over time. Geographic information systems and other cartographic software programmes can display complex social phenomena geographically.

Tables present data in a form that can be easier to grasp than a horizontal succession of figures. But they call for clear headings and sub-headings.

Pie-charts vividly illustrate who shares what.

For illuminating progress (or regression), time trends and future scenarios, **bar charts** and **line graphics** offer more options than most other visual devices.

Diagrams can capture the dynamics between varied processes and/or their phases, but can confuse as well as clarify these relationships. Keep them simple.

Text boxes allow additional organizations and individuals to contribute to the HDR process, and can draw attention to the drama of development by providing verbal snapshots of a proposal in practice. They might highlight a case study, or draw from a country's treasury of folklore in the form of proverbs, parables and legends. At times, rooting the HDR in national tradition can be a way of making complex ideas more familiar to certain readers, who will then also find them easier to grasp. As a general rule, boxes should not exceed 300-500 words.

Source: HDR Toolkit, Chapter 5.

example, instead of saying that the “IMR is 50/1,000,” the text can describe how “50 out of every 1,000 infants are likely to die in their first year of life.” This strengthens the message by making it easy to understand and grounding it in the reality of people's everyday lives.

The HDR team will likely prepare two types of tables at the drafting stage. The first group

involves the reporting tables, or the graphics used in the report to convey key messages. The other set includes the investigative tables. These are used by the writing team to inform their writing, but are not necessarily included in the report. Some may be part of the report's technical annex.

For the reporting tables, which include tables, charts, graphs and maps, striking visual presentation draws attention to key messages and improves accessibility to material that can otherwise be overly dense. Graphics should be easy to read, contain the right years and units of measurement, and be titled and annotated well. They should not be too cluttered or reproduce all the numbers in the text. Caveats should go in footnotes.

Maps can be a particularly powerful information tool since they are easier to interpret than many statistical graphs, and can contribute to transparency and greater access to data conclusions. In particular, maps can vividly illustrate disparities (see figure 3.2). They can be combined with statistical graphs, tables and exploratory texts.

Data in Launch and Outreach Strategies

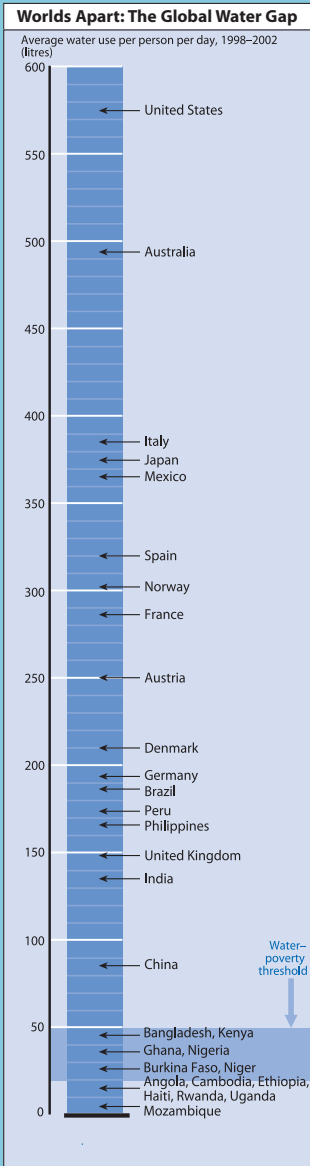
Chapter 6 of the HDR Toolkit and the UNDP Communications Toolkit describe in detail methods and tools to employ data as part of outreach and advocacy. As a starting point, HDR team members familiar with the report's data should work closely with HDR outreach specialists to ensure the most effective advocacy strategy possible (see box 3.5 and annex 9 for details on incorporating a strategy into the HDR process). This work

BOX 3.5

A POWERFUL ADVOCACY STRATEGY FOR THE GLOBAL HDR

The 2006 global HDR, *Beyond scarcity: Power, poverty and the global water crisis*, provides a good example of using human development data for a carefully orchestrated advocacy campaign (see also annex 9 on the report's outreach, communications and advocacy strategy).

The data that led to the development of the "At least 20" public campaign are captured in the following statement



from the report:

Today, some 1.1 billion people in developing countries have inadequate access to water, and 2.6 billion lack basic sanitation. Those twin deficits are rooted in institutions and political choices, not in water's availability (p. 2).

This fact was subsequently put into context in the text below and represented visually in the figure on the left (figure 1.2 in the report, p. 34):

Simple comparisons between rich and poor countries highlight the scale of global inequality... Average water use ranges from 200-300 litres a person a day in most countries in Europe to 575 in the United States... By contrast, average use in countries such

Mozambique is less than 10 litres. National averages inevitably mask very large variations...

The combination of this information and recommendations on the "social minimum" of water required for all people can be seen in this extract from the report:

Apart from the highly visible destructive impacts on people, water insecurity violates some of the most basic principles of social justice.

(..) All citizens should have access to resources sufficient to meet their basic needs and live a dignified life. Clean water is part of the social minimum, with 20 litres per person each day as the minimum threshold requirement.

(...) Most of the 1.1 billion people categorized as lacking access to clean water use about 5 litres a day—one tenth of the average daily amount used in rich countries to flush toilets (pp. 3-4).

Threading together the report's main ideas, a press release was developed and given an attention-grabbing headline:

World water and sanitation crisis urgently needs a Global Action Plan
 The 2006 Human Development Report calls for 20 litres of clean water a day for all as a human right

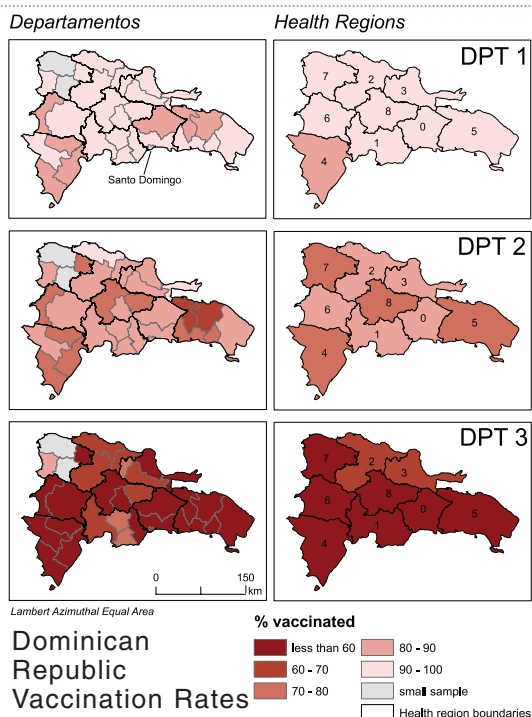
The release became just one part of the "At least 20" campaign. Other elements included but-

tons with the "At least 20" message. Cards that reflected the cover design of the report and summarized the key message were produced in English, French and Spanish. They were distributed to all UNDP country offices and donor countries, and were used at the main global launch of the report as well as at parallel launches in over a dozen cities.



**FIGURE 3.2:
The Dominican Republic:
Mapping Differences in
Vaccination Rates**

To send a clear message about disparities, a map of DPT (diphtheria, pertussis and tetanus) vaccination rates shows regions and more detailed, sub-national *departamentos*. All but one region is achieving at least 90 percent coverage for DPT1. But the picture shifts on the sub-regional level. Regions 1 and 3, for example, have a wide range of sub-regional vaccination rates, suggesting greater success in some areas than others.



Source: Provided by Deborah Balk (Columbia University), Uwe Deichmann (World Bank) and Maria Muniz (Columbia University).

should be reflected in launch, post-launch and related outreach activities, particularly the following aspects.

Developing Key Messages

HDR data experts should support efforts to tailor key messages to all target audiences and partners. These partners can include representatives of national and international statistics communities; policy makers; journalists; academia and civil society groups, including marginalized groups; and other parts of UNDP, the UN and the broader international development community. Just as for the text of the HDR itself, care should be taken to ensure the careful selection of relevant human development data and their clear, accurate presentation to strengthen advocacy messages.

Formulating a Media Plan

A media plan guides the introduction of key messages and data to the general public. One of its most important components is a press kit, prepared before the report launch (see annex 10 for a sample press release from China’s 2005 HDR). Press kits should present easily accessible messages and data that quickly explain the HDR’s policy recommendations. A typical press kit includes a summary of the report, press releases targeting different audiences and detailing different HDR messages (inserted in the kit depending on where it is being sent or distributed), frequently asked questions and answers, a fact sheet profiling data and findings, and/or CD-ROMs or DVDs.

Although the contents of each press kit will differ, some of the specific data issues that

they can highlight include the results of innovative research and surveys, trends analysis, composite indices and their components, data discrepancies and disaggregated data reflecting disparities. As discussed in Chapter 1 and Chapter 2, HDR teams should include qualitative data showing the human side of issues: excerpts and quotes from case studies, perception surveys, etc..

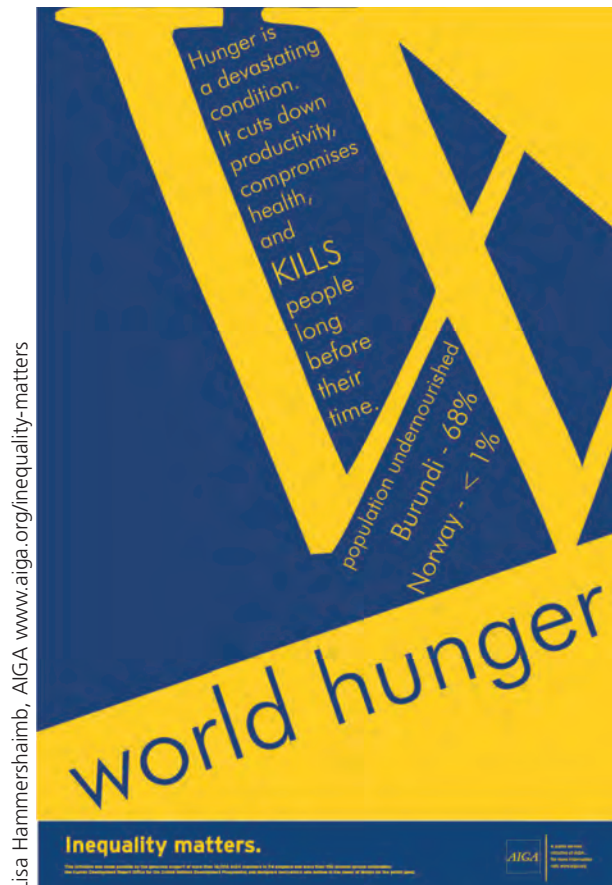
Some of the most powerful data underscoring the urgency of human development are those produced by projections—these can be especially appealing to the media, which are always searching for different angles and arresting stories. The 2006 global HDR included projections on the numbers of children’s lives that could be saved if additional steps were taken to guarantee better access to safe water and sanitation. It described how some 1.8 million children die each year from diarrhoea, an under-five population equivalent in size to that of London and New York combined. Together, unclean water and poor sanitation are the world’s second biggest killer of children.

Being Ready for Politically Sensitive Issues

Throughout the report process, and particularly during the peaks of media coverage that usually surround an HDR launch and follow up, HDR teams should be prepared to handle politically sensitive issues related to data. Often this means being ready to

explain the HDI, its upward and downward trends, and any differences between national and international data. Other commonly sensitive topics might include the results of trends analysis, data showing high degrees of inequality, and disaggregated data revealing inadequacies in past or ongoing policies.

There are many ways for HDR teams to prepare themselves for these issues. HDR teams should meet with relevant policy makers and other partners well before potentially controversial materials become public. They should make sure that all their potential spokespeo-



ple, including data experts, are trained and ready to handle challenging questions and comments that may come from the media, politicians, and others during launch and follow-up events. Press kits can include brief and easy-to-follow descriptions of the most sensitive topics. To reduce misinterpretations of data, HDR teams can also plan follow-up seminars and discussions.

Longer Term Advocacy Opportunities

In addition to ongoing capacity development, and launch and post-launch activities, HDR teams should also consider longer term advocacy, outreach and communications initiatives, including the design and maintenance of websites, databases, human development networks, support for human development curricula and any other potential opportunities for advocacy that draw on data.

“If you have knowledge, let others light their candle at it.”

—MARGARET FULLER ([HTTP://IWOMENSHISTORY.ABOUT.COM/OD/QUOTES/A/MARGARET_FULLER.HTM](http://iwomenhistory.about.com/od/quotes/a/margaret_fuller.htm))

Supporting Interactive Websites and Databases

Some of the most useful outreach tools are interactive websites and databases. When well maintained, they support the dissemination of information and advocacy within and across borders. Not all people have access to online resources. Still, they can reach thousands, sometimes millions, of people who might otherwise not be able to obtain hard copies of a report and its supporting materi-

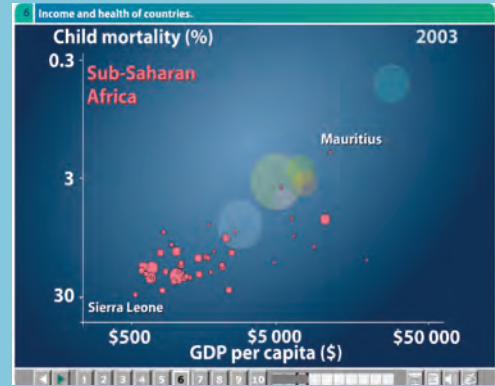
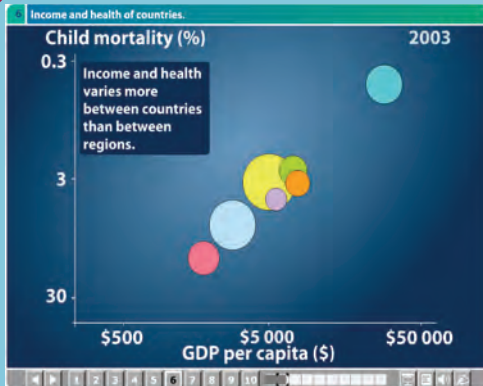
als. The media and other advocacy groups can use these sites to continue reporting and monitoring efforts beyond the direct advocacy work of HDR teams.

HDR teams can help link human development data to websites maintained by national statistics offices, other government partners, civil society groups, UNDP, and other UN and international partners. The most effective sites are well designed and regularly updated. They make use of various interactive features such as online discussion forums, email and other feedback mechanisms, “clickable” maps, multiple-choice and true/false quizzes, and flexible software that allows users to view and generate reports across a variety of data parameters (see box 3.6).

Another way to make full use of the advocacy potential of human development data sites is to link them to major human development databases. HDR teams and their partners can use or adapt existing national databases, use more globally available databases, develop their own new databases or pursue a combination of these options. Often this means planning a longer term process that might extend beyond the scope of some HDR cycles (see box 3.7).

DevInfo is one example of a globally available, general-purpose database system designed for collating, disseminating and presenting human development indicators. It is used to support governments in monitoring the MDGs and other human development goals, while providing a platform to disseminate findings and advocate policy changes. The system can also be adapted to include user-defined indicators and goal frameworks linked to national development priorities in instruments such as PRSPs and HDRs. The

GAP-MINDER SOFTWARE BRINGS DATA TO LIFE



A good example of interactive data software is the gap-minder software used by the global HDR website (<http://hdr.undp.org/hdr2006/statistics/data/animation.cfm>). Through a combination of visually striking graphics and interactive options, various types of human development information can be easily found and understood by users. National and regional HDR teams can also use this software (see www.gapminder.org).

DevInfo database can run on individual computers, intranets or the Internet.

The system easily adjusts to complement HDRs with an electronic repository of datasets. Specialized versions offer data users and advocates new approaches to national data management and dissemination, alongside narrative and quantitative information to support their analysis of human development (see box 3.8, and for more information, see www.devinfo.org).

Developing Human Development Networks

One of the most effective ways to communicate human development policies within and across countries and regions involves local, national and regional networks that share data and analysis. These networks are more than the virtual communication and knowledge exchange tools they often employ; they embrace the full range of HDR development partners, and their real life work experiences

and good practices. There are several examples of such networks, including the regional Revista network of Latin America, the Philippines' HD Network, and the global HDRStats-Net and the HDR-Net.

Providing Data and Materials for Education

As part of long-term efforts to increase national and regional capacities to support human development, HDR teams should consider advocating for mainstreaming human development data and messages into the curricula and textbooks of schools and other training institutes (see box 3.9). Many countries have supported educational initiatives in high schools and colleges, graduate courses in human development, and training at civil service and military academies. In Colombia, UNDP and its HDR partners have supported the successful Virtual School on Human Development. In Jordan, an MA programme in human development, human rights and related measurement issues is being set up in

**BOX
3.7****BRAZIL: AN ATLAS
DEMOCRATIZES INFORMATION**

An excellent example of a nationally developed human development database is the Atlas of Human Development in Brazil, launched in 1998. In 2003, a new edition was released with data from the 2000 Demographic Census. The Atlas allows a multidimensional approach to human development measurement by providing a host of indicators on access to basic services, educational attainment, social vulnerability and other issues.



It is not enough to compile a large database, however. Tools should be available to help people better understand and use

the data for advocacy and other purposes. Special geo-referenced software allows for the easy manipulation of the Atlas database, which now comprises over 200 indicators for more than 5,500 Brazilian municipalities. The software has played a key role in the success of the Atlas by supporting elaborate queries and generating thematic maps, fact sheets, histograms, correlation plots and descriptive statistics.

The impact of the Atlas has been enormous. The first release was considered a landmark in the democratization of information in Brazil. Today, the Atlas is widely used by all levels of government, academia, the private sector (General Motors turned to the Atlas to aid in the selection of a site for its new manufacturing plant) and civil society. The Atlas has now evolved into a family of products focusing on the metropolitan areas of Brazil, where the largest contingents of vulnerable populations live. Municipal-level Atlases, depicting human development conditions in neighbourhoods, have been prepared for Recife, Manaus, Belo Horizonte and Salvador, with others in preparation, including one for São Paulo, Brazil's largest city.

Source: www.pnud.org.br/atlas/instalacao/index.php.

cooperation with Italy's University of Pavia.

Other Options

HDR teams and partners have much room to be innovative and creative in the ways they use human development data in advocacy, outreach and communications. Given enough time, human and financial resources, there is no limit to the kinds of human development data-related advocacy work that can be considered. Other options include:

- Separate publications of background studies and data too detailed for inclusion in the HDR;
- Policy briefs for national and regional partners;
- Posters and other visual art forms (see box 3.10);
- Simple summaries of key messages, including those targeting youth; and
- Support for the production of plays, cross-country advocacy "caravans," radio and TV programmes, and videos that target the general public, including groups that may be illiterate.

The advocacy and communications strategy for Guatemala's 2005 HDR offers a good example of diverse advocacy work. The strategy had a four-year timeframe. Besides a series of pre-launch conferences and workshops, post-launch activities were planned until the start of the 2007 HDR. A national and two regional launchings were conducted, followed by presentations in all 22 districts. A special song on human development was created for the launch; it refers to concepts such as equity, diversity, unity and inclusion.

Copies of the report were sent to all 331 municipalities for use in local planning units, and it was delivered to all public and private libraries and 20 private bookstores in differ-

BOX 3.8

UGANDAINFO: ADAPTING DEVINFO TO NATIONAL NEEDS

Like many countries, Uganda has adapted DevInfo to track national development data and priorities. An information exchange helped the 2005 Uganda HDR and UgandaInfo strengthen data resources.

Source: www.ugandainfo.co.ug.



ent cities. In addition to executive summaries produced in Spanish, English and four Mayan languages, a set of wall maps was created showing the HDI, and ethnic and demographic data for each district. Bookmarks were printed with basic social indicators, the national HDI and the formu-

la to calculate it. The report team prepared three booklets based on specialized studies conducted for the report, along with CDs containing the report, the presentation from

BOX 3.9

KAZAKHSTAN: REACHING THE NEXT GENERATION OF POLICY MAKERS

In 2002, UNDP Kazakhstan initiated a project to introduce a human development course at Kazakh Economy University. The project sought to develop national capacities through new knowledge and skills in measuring, analysing and implementing human-centred public policy.

The project started with the training of university trainers at Moscow State University in Russia, the elaboration of a human development curriculum and textbook, and the piloting of a model for the course. The textbook was produced in Kazakh (the state language) and Russian (the language of interethnic communication). (See www.undp.kz/library_of_publications/start.html.)

The project then organized annual summer schools for other universities, covering all regions of

Kazakhstan. In 2004, the Ministry of Education approved the course as an elective. It is now being taught in almost 60 universities at different levels (bachelor's and master's) and in different specialities (economics, social issues, environmental topics, technical fields, etc.).

Recognizing the lack of human development materials in local languages, lecturers from different universities compiled a human development reader and test manual in Russian. The reader includes translations of conceptual papers on human development; general measurement issues; and more specific data and policy issues related to human development in Kazakhstan and the surrounding region, covering topics such as economic growth, poverty reduction, the

MDGs, human rights, gender issues, the environment, migration, disaster and globalization.

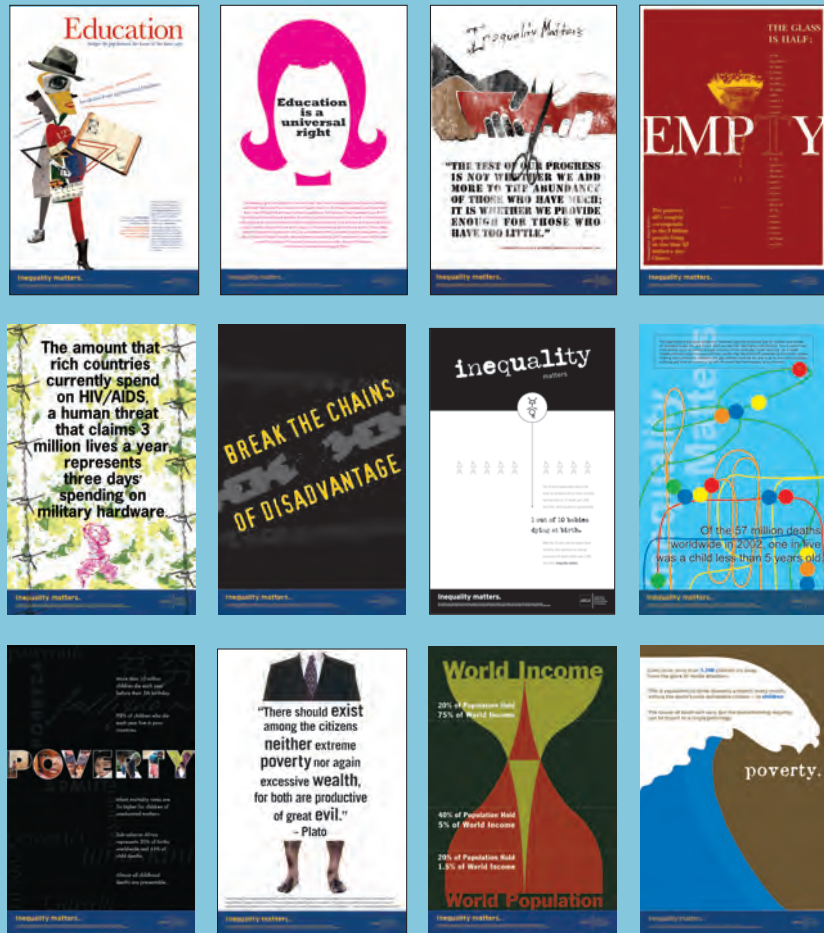
A website on human development is being finalized to provide access to all the materials of the project, including course curricula, summer school presentations, the textbook, reader and test manual. It will feature a platform for interaction between human development lecturers, experts and practitioners. UNDP Kazakhstan has also supported the establishment of a Human Development Centre under the Academy of State Management. It trains governmental officials and will eventually coordinate human development courses in Kazakhstan.

Source: UNDP Kazakhstan.

BOX 3.10**POSTERS WITH POWERFUL MESSAGES**

Posters can grab attention by conveying complex issues through simple and moving visual images. This original poster series was conceived by Tom Geismar through AIGA, the professional association for design, for the Human Development Report Office in anticipation of the 2005 World Summit and the launch of that year's global HDR. The posters in the "Inequality Matters" series illustrate how much disparity there is in the world. The initiative was made possible by over 16,000 AIGA members and over 150 student groups worldwide. (Posters from the series are featured throughout this primer as illustrations of effective data advocacy.)

Source: www.aiga.org.



the official launch and other HDRs. Navigation guidelines, disseminated through local development councils, helped people easily move through the many layers of the report. At San Carlos University, which offers a master's degree in human development, the HDR has become a standard text.

companies and other reputable organizations that might offer services for free or at reduced costs in support of larger development goals.

Given the limited resources of many HDR teams, it can be useful to explore pro bono partnerships with design firms, marketing

Advocating for Better Human Development Measurement

HDR teams should ensure that policy recommendations include proposals for improvements in local, national or regional data collection, analysis and policy use. There might be recommendations to: revise strategies such as PRSPs, policies and budget allocations based on indices and other data showing inequalities; collect additional data to fill gaps; increase statistical capacity and financing; improve laws and regulations addressing the need for mandatory reporting and information disclosure; incorporate human development data into academic and other training curricula; and use data to support major public awareness campaigns and complementary human development reporting processes, such as the MDG reports (see box 3.11).

Since HDRs offer unique means to make the case for better statistics and statistical capacity needs, HDR teams should explicitly advocate for these (see box 3.12). As discussed in Chapter 2, for example, an HDR can help stimulate demand for new and more comprehensive human development data through the use of proxy indicators when disaggregating composite indices. As part of these efforts, UN country teams have a special strategic role in promoting national statistical capacity development and coordinating donor efforts.

“Measure what is measurable, and make measurable what is not so.”

—GALILEO GALILEI (WEYL 1959)

Through the longer term advocacy and outreach tools described above, such as the use of web pages and networks, effective human development measurement practices and lessons learned within a country or region can be shared with partners across borders. Other

BOX
3.11

BUILDING ON SYNERGIES WITH THE MDG REPORTS

Although related and complementary, HDRs and MDG reports have different functions and respond to different development needs. MDG reports are designed primarily to raise awareness and report progress on nationally tailored MDGs and targets. HDRs can be used for this same purpose, but ideally meet a larger and different set of development needs for data, analysis, policy debate and advocacy for the MDGs, as well as a range of other nationally relevant human development challenges, including those addressed by PRSPs and other sectoral and crosscutting strategies.

Both reports are meant to trigger debate and stimulate action. Therefore, the timing for launching and promoting the messages of each report, especially when they are both available in the same time period, must be planned carefully. In some cases, joint campaigns may be effective. In others, it may be best to have two opportunities to draw attention to human development and poverty reduction issues through the use of human development data and advocacy.

There are many ways to achieve the objectives of both reports while building on their complementary nature in terms of common conceptual underpinnings, preparation, data, communications, outreach and advocacy, and other ongoing and post-launch follow-up activities.

Taking advantage of these synergies can help report teams deal with the practical challenges of limited resources (financial, human and institutional) and other constraints, while increasing the effectiveness of development partnerships and opportunities for stronger policy impacts.

Source: UNDP 2002.

BOX
3.12

LIBERIA: EXPANDING CAPACITIES TO MEASURE HUMAN DEVELOPMENT

Liberia's 2006 HDR explored a range of national capacity development needs. Many of its recommendations were related to data collection and use. The report called on development partners to:

- Strengthen the national capacity to produce, analyse and use reliable statistics;
- Increase financial allocations for the capacity development of the national statistics office and other statistics agencies, while directing development assistance towards monitoring human development progress;
- Increase coordination between differ-



ent agencies and collaboration with the national statistics office at the local, regional and international levels in accordance with the 2004 Marrakech Action Plan for Statistics;

- Identify and map data gaps, and prepare an action plan to fill them, including through synchronized efforts across departments involved in similar social statistics; and
- Standardize definitions and methodologies across data collection sources.

Through various follow-up advocacy and programming activities, the Liberia HDR team and partners are working to monitor efforts to implement these recommendations.

Source: 2006 Liberia HDR.

countries and regions looking to improve data collection, analysis and policy use can benefit by developing similar measures.

Monitoring and Assessing HDR Data and Advocacy

Due in part to the HDRs, many human development initiatives are helping to expand people's choices and capabilities. Regional, national and local strategies and policies are being revised to involve and better reflect the needs of the poor and excluded. Budget priorities are being shifted, with corresponding changes in allocation and redistribution systems, and legislation. Donor funds are targeting more relevant human development priorities. Prominent media coverage and civil society campaigns are advocating for policy changes as well as changes in thinking.

As part of the ongoing HDR cycle, HDR teams should monitor the impacts of current

and previous HDR advocacy campaigns and follow up. Through these efforts, HDR teams should look at results made possible by the use of human development data. As monitoring identifies new results and policy responses, continuing advocacy and related follow-up work can be revised accordingly, eventually feeding into the next HDR process.

The 2003 Roma HDR used extensive data and advocacy work to highlight disparities plaguing the Roma minority group in Central Eastern Europe. The report subsequently served as a springboard for launching a web-based forum for addressing and monitoring the Roma situation in the region (<http://roma.undp.sk/>). As the introduction to the site states, "(T)he broader and more ambitious objective is to encourage the debate and exchange of information on the issue, to publish quantitative data, to merge different organizations' efforts where possible, such as the Decade of Roma Inclusion, and to bring about real change in human development opportunities for marginalized communities of which Roma are the most numerous."

The report in various languages, report summaries and press kits are available for downloading. The site also contains an extensive database of media coverage by *The New York Times*, the BBC, the *International Herald Tribune* and many newspapers across Western and Eastern Europe. There are links to human development datasets, donor resources, an experiences portal and an archive of materials on the Roma situation.

Given the vast differences in local development contexts and HDR themes across and within regions, it is difficult to offer a single matrix and list of indicators by which to measure the results of any one HDR. In general, HDR teams should attempt to measure the impact on every group targeted by the report and at every relevant level (regional, federal, provincial and local). HDR teams should establish impact targets early in the preparation process, and assess results at short-, medium- and long-term intervals after the launch. Both qualitative and quantitative data should be collected. Sample indicators include:

- Changes in the results of perception surveys over time;
- Legislation proposed and/or adopted at any level;
- Use of HDR findings in parliamentary and other public debates;
- Shifts in resource allocations;
- Establishment of new institutional bodies and/or changes in those that exist;
- Emergence of new partnerships and/or enhancement of those that exist;
- Number of students in human development courses or programmes;
- Survey or focus groups to determine exposure to and/or use and influence of the HDR process;

- Media coverage over time, domestically and abroad;
- Use of the HDR in MDG reports, common country assessments, the UNDP results-oriented annual report, PRSPs, or comparable instruments at sub-national and regional levels;
- Number of persons visiting the HDR online; and
- The outcome of evaluation using the strategic results framework that tracks and reports on the outputs and outcomes of UNDP's work.

Conclusion

Making the link between human development data and advocacy is key to maximizing the high-impact potential of any HDR. This primer has stressed the importance of these links throughout the HDR process—from initial preparation and efforts to build national and regional ownership; through data collection, research and analysis, participatory consultations and capacity development activities; to publication, launch, outreach, communications and advocacy; and finally in results tracking and assessment.

These different stages represent just one part of a larger cycle of objective, empirical research to fuel public debate and policy reviews that support the achievement of the MDGs and the broader human development goals of a country or region.

Overall, this primer has offered many different examples and good practices for HDR

teams to consider and adapt to their local development contexts. There is much room for innovation while still maintaining adherence to the standard requirements for statistical and other measurement work.

The creation of the primer drew upon a widely participatory process, incorporating the experience and expertise of development practitioners, policy makers, researchers and statisticians from across the globe. It is hoped that people using it will continue to share their knowledge and insights through global and local human development networks.

Efforts to measure human development, like the human development paradigm itself, are evolving. By supporting the kind of empowering dialogue that has made this publication possible, our collective efforts to make a positive difference in the lives of all people can achieve ever greater momentum.

CHECKLIST: A QUICK REFERENCE

The following checklist covers the key issues of Chapter 3.

Advocating for Change with Human Development Data

- Have human development data and advocacy, outreach and communications links been considered throughout the report process, beginning with the preparatory stage?
- Have sufficient financial resources and expertise been secured so that the most relevant data work is conducted in support of short-, medium- and longer term advocacy goals?
- Are activities for developing capacities and raising awareness planned for all HDR partners?
- Are data and analysis presented effectively in the report (a mix of quantitative and qualitative data showing the human face of issues; the consideration of representative data, standard errors, accuracy and causality; and an appropriate selection of maps, charts, graphs and tables)?
- Are human development data used to support launch, post-launch and outreach strategies?
- Are the data specialists working with communications experts to help prepare key messages and press kits?
- Are team members trained to deal with politically sensitive data issues and questions?
- Have longer term human development data and advocacy, outreach and communications initiatives been planned, including the design and maintenance of websites, databases, human development networks and support for human development curricula?
- Have other creative data-related advocacy ideas been considered, including separate publications of background studies and data not included in the HDR; policy briefs for national and regional partners; simple summaries of key messages, including those targeting youth; or plays, cross-country advocacy “caravans,” radio and TV programmes, videos and posters that target the general public?
- Does the HDR process support advocacy for better human development data?
- Are plans and resources in place to track and assess the impact of the human development data included in the report and related advocacy?

ANNEXES

REFERENCES

GLOSSARY

ANNEXES

ANNEX 1: Guidelines for HDR Statistical Peer Reviews

ANNEX 2: An Overview of Data Sources

ANNEX 3: Writing Meta-Data

ANNEX 4: Methods of Qualitative Data Collection

ANNEX 5: Sampling Methods

ANNEX 6: Sampling and Other Measurement Errors

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ANNEX 8: Calculating the Human Development Indices

ANNEX 9: Sample Outreach, Communications and Advocacy Strategy
for the 2006 Global HDR

ANNEX 10: Using Data to Support Advocacy: A Press Release for the
2005 China HDR

ANNEX 1: GUIDELINES FOR HDR STATISTICAL PEER REVIEWS

As of November 2002, UNDP has adopted a policy that each HDR must undergo a formal process of peer review prior to publication (see http://hdr.undp.org/docs/nhdr/Peer_Review_System.pdf). The statistical peer review complements this process by focusing on the measurement aspects of the reports, so HDR teams should remember to establish a multidisciplinary statistical peer review as part of the report preparation process. The main task of statistical peer reviewers is to assess the quality of statistics in HDRs in terms of their sources, relevance to the report's main thematic focus, methodological soundness, accuracy, objectivity and reliability, clarity in interpretation and the precision of conclusions drawn. It is the responsibility of the UNDP country office and/or the HDR team to manage the peer review process.

Who should be a statistical peer reviewer?

The statistical peer review should consist of two to three reviewers. Reviewers may include national or international experts from national statistics offices and related government agencies, policy think tanks, regional statistics commissions and academia, among others. It is important that peer reviewers are external to the HDR preparation process. The Human Development Report Office has compiled a list of potential statistical peer reviewers that is accessible on the HDR website (<http://hdr.undp.org/>).

When should the statistical peer review be done?

At the initial stages of the report, it is useful to create and then consult a statistical advisory panel, which could provide guidance to help set the HDR on the right path. This consultation may include decisions on appropriate indicators and cost-effective ways of filling data gaps. The panel can also offer advice throughout the HDR process. Members should be different from the people selected to be statistical peer reviewers. The statistical peer review should be carried out when a draft of the whole report is available, which is usually two to three months before it is printed.

What to look for?

In addition to the previous chapters of this primer, which outline the key statistical principles that guide HDR teams, the following matrix offers guidelines specifically for statistical peer reviewers.

HDR Statistical Peer Review Matrix

	ISSUES TO CONSIDER	SCORE (1-5)	COMMENTS
Team composition	The team is multidisciplinary and includes representatives of the national statistics offices and other statistical agencies.		
	The team has relevant quantitative and qualitative expertise.		
Data collection	The report makes use of a diverse set of data sources.		
	Data are clearly sourced and the meta-data are explained in the annexes.		
	The report makes use of both quantitative and qualitative data.		
	Sampling procedures are well documented.		
	Appropriate procedure(s) are used to estimate missing data.		
Data quality	Data support the theme of the report.		
	Indicators measure what they intend to measure.		
	Data effectively back policy recommendations.		
	Statements on limitations and errors are provided.		
	Estimation procedures are well documented and conform to sound statistical procedures.		
	The authors have used adequate caution while making geographic and temporal comparisons.		
Data analysis	Data are correctly interpreted (e.g., avoid spurious relationships).		
	Gender dimensions are presented.		
	Links to the environment are well analysed.		
	Analysis is relevant to a country's policy debates.		
	Logical conclusions are drawn.		
	Synergy exists between analysis, data and policy options.		
	The report advocates for improved quality and availability of data.		
Composite indicators	Where appropriate, a new composite index has been constructed.		
	The theoretical framework underlying the composite index is well defined.		
	Data availability allows for disaggregation of composite indicators at sub-national and sub-group levels.		
	Limitation(s) of the composite index are presented in the report.		
Disaggregation	Data are disaggregated by sub-groups to highlight issues affecting economically, politically and socially excluded groups.		
	Data are representative at the disaggregated level.		
Communicating with statistics	Data are presented in user-friendly ways; tables, graphs, figures, charts, maps and pictures highlight the messages of the report.		
	Data are presented in varied ways—tables, graphs, maps and personal interest stories.		
	The text avoids the use of too many numbers.		
	Technical statistical jargon is reduced to the extent possible; a glossary is provided to help the reader.		

ANNEX 2: AN OVERVIEW OF DATA SOURCES

National Sources

This section summarizes and describes some key national data sources.

Censuses of Population and Housing

Censuses are unique among surveys in that they cover the whole country and collect data on every household. Most countries today have had at least one census, making these sources a good place to start. They often include groups that are otherwise ignored by most other surveys. These include minority groups such as small communities and households living in remote regions of a country. A census can also be used to provide descriptive information for various sections of the population, differentiated by, for example, age and gender. Demographic data of the kind found in a census are often used as denominators in calculations of many statistics, such as indicators for school enrolment and GDP per head.

Obviously, a recent census is most useful. Dated censuses are not so relevant, especially if the country has undergone a lot of changes. Censuses, however, are expensive and are typically done only once every 10 years—more infrequently in many other cases. Because population estimates have to be updated between censuses, national methods and standards can differ, which can cause confusion. In a limited number of countries, intercensal surveys are conducted every five years. These are usually of large sample size to aid population and other demographic estimates.

Many international agencies use UN esti-

mates of population as denominators for ratios in order to be consistent between countries. UN population estimates are often different from the national estimates mainly because of international standardization, and they are revised every two years. Report teams should explain differences in indicators and statistics from different sources. They should also try and communicate with international agencies when new national data become available, in order to enhance the harmonization of data. Some agencies (including the World Bank) use their own estimates of population for some purposes. In HDRs, whenever population estimates are used, they should be consistent as far as possible throughout the report.

Household Budget Surveys

Household budget surveys are intended for various purposes, including poverty measurement, and the measurement of household consumption of goods and services for weighting consumer prices. They also include a lot of other data. This makes it possible to cross-classify data contained in household budget surveys against many other variables, including income and urban/rural location as well as common classifiers such as age and sex.

These surveys are complex and expensive and so are not very frequent in developing countries. But they are undertaken often enough (perhaps every five years or so) in many countries. They can be useful sources of fairly up-to-date and frequent data.

Labour Force Surveys

Labour force surveys have become common in industrialized countries, but are often incomplete in developing countries because they do not capture the informal sector. This is because their main aim is to collect data on

labour—employed and unemployed. In many developing countries, labour is often informal, so that systematic and comprehensive data collection is not possible. These surveys always have information on education and training, and sometimes other variables. In developing countries they are generally undertaken only in urban areas where there is a “labour market.”

Other Surveys

Countries conduct many other household surveys of varying frequency. Some fairly widely used surveys, in addition to those above, are:

- HIV/AIDS, various epidemiological surveys (UNAIDS)
- TB/DOTS (directly observed treatment short course notification programme);
- Roll Back Malaria (WHO)
- Pilot surveys in selected countries to test/improve methodologies of data collection on the labour force, although their use to support analysis must recognize their limitations as pilots (ILO)
- Pilot surveys in selected countries to test/improve methodologies for collecting data on nutrition (FAO)
- Pilot small-scale studies on education/literacy (UNESCO)
- Access to PCs and the Internet (International Telecommunication Union, ITU)
- Secure tenure and slum improvement (United Nations Habitat)

National ministries, national statistics offices and international agencies provide information on these surveys in individual countries.

Surveys with an Institutional Component

Report teams often need data for institutions. It is generally collected using qualitative methods, but there are several examples of quantitative data on institutions.

The Zimbabwe Sentinel Surveillance Survey, for example, includes institutional components related to schools and health establishments, which yield data on facilities serving households. Several living standards measurement study (see below) datasets now contain data on community level services and infrastructure.

Administrative Sources

The most commonly used sources of data for education and health are administrative sources. Ministries and national statistics offices sometimes make these data available.

Administrative sources can potentially provide data for very small areas, and they may have the benefit of being consistent with international questionnaires that they are asked to complete. Their disadvantages include frequent bias, national (as opposed to international) standards and definitions (with which they may not be consistent), and bias towards those with access to services. Frequently, for example, data on vital statistics, such as births and deaths, are incomplete due to non-reporting. Users of these data need to be aware of these constraints.

International Sources

This section presents some selected international data sources.

Multiple Indicator Cluster Surveys

To provide data for assessing progress towards the World Summit for Children goals, UNICEF developed the multiple indicator cluster surveys (MICS) in 1995 to obtain data on a small subset of the goals, particularly related to health and education. Experience gained from this work was used in developing a revised and expanded MICS (MICS-2) for assessing progress at the end of the decade. These surveys have been conducted in over 70 countries since 1999, primarily by national government ministries with support from a variety of partners. The survey can be customized to national needs and is not identical across countries.

The most recent version is MICS-3, which includes the MDGs and other internationally agreed development goals (see www.unicef.org/siteguide/resources_development.html and www.childinfo.org/mics/mics3/). The following table gives a brief overview of data available.

MICS-3

Child survival and health

Child nutrition

Maternal health

Water and sanitation

Education

Child protection

HIV/AIDS

Immunization

Demographic and Health Surveys

These surveys are sponsored by the US Agency for International Development (USAID) and undertaken by Macro International. They began in 1984 as successors to the International Statistical Institute's world fertility surveys, with the abbreviated name changed in 1997 to DHS+. The surveys are now in their fourth series and have been undertaken in more than 60 countries. Some countries have had only one DHS+, but others have had several. They are conducted in 10 countries a year, with most surveying about 5,000 households.

Most questions refer to demography and health, including nutrition, but they also include other topics such as education, domestic violence, malaria, etc.. The following table shows the topics likely to be covered by the DHS+ (see also www.measuredhs.com).

DHS+ TOPICS

Child health

Education

Family planning

Fertility and fertility preferences

HIV/AIDS, knowledge, attitudes and behaviour

Household and respondent characteristics

Infant and child mortality

Nutrition

Wealth/socioeconomics

Women's empowerment

Child protection

Living Standards Measurement Studies

In 1985, the World Bank conducted the first living standards measurement studies in Côte d'Ivoire and Peru. Since then, there have been about 40 surveys in 25 countries, sponsored by various donors including the World Bank, USAID and other bilateral organizations.

Although the first surveys followed a similar format, substantial differences have arisen since then. Some standard modules are often omitted, and the organization of the field-work varies.

The following table shows the indicators likely to be covered (see also www.worldbank.org/lsms).

TOPICS IN A TYPICAL LIVING STANDARDS MEASUREMENT STUDY

Household questionnaire	Migration
Consumption module	Fertility
Income module	Anthropometrics
Education	Community questionnaire
Health	Price questionnaire

The Core Welfare Indicators Questionnaire (Africa)

The core welfare indicators questionnaire (CWIQ) survey is newer than most of the other international surveys. Developed by the World Bank, it was piloted in Kenya in 1996 and collected in Ghana in 1997. The survey was constructed to use leading indicators to provide a quick assessment of how far development objectives have been achieved.

The questionnaires are relatively short (about eight pages), although other modules may be added. CWIQ surveys are often an annual exercise, sampling 5,000 to 15,000 households.

The following table lists the kinds of indicators likely to be covered by the CWIQ (see also www4.worldbank.org/afr/stats/cwiq.cfm).

TOPICS COVERED IN A TYPICAL CWIQ

Education	Access to water
Health	Employment

International Publications

International publications are also important sources of statistics and data. Of these, two key international data sources are UNDP's global HDRs and the World Bank's World Development Indicators. These are useful for international comparisons that put individual countries in perspective. They are also important for notes, definitions and links to other data sources. Data from both publications are available on the UNDP and World Bank web sites (see <http://hdr.undp.org/statistics/> and www.worldbank.org/data/wdi2002/).

Other international databases are listed in the following table with some notes.

Major International Databases

DATASET	DESCRIPTION	MAIN TOPICS	WEBSITE
FAO (Food and Agriculture Organization) statistical databases	Collates data collected by country-level organizations	Agriculture, nutrition, fisheries, forestry, food quality control	http://faostat.fao.org/
ILO (International Labour Organization) labour statistics	Statistics are published annually; additional statistics are published in the bulletin of labour statistics.	Economically active population, employment, hours of work, consumer prices, occupational injuries, wages and food prices	www.ilo.org/public/english/bureau/stat/portal/index.htm
ILO key indicators of the labour market	A database of country-level data on 20 key indicators of the labour market	Labour force participation rates, hours of work, employment in the informal sector, education	www.ilo.org/public/english/employment/strat/kilm/
IMF (International Monetary Fund) statistical topics	Various macro-economic indicators	Currency composition of official foreign exchange reserves, external debt, international financial statistics, primary commodity prices, world economic outlook	www.imf.org/external/np/sta/index.htm
IPU (Inter-Parliamentary Union) PARLINE database	An international organization of parliaments that follows parliamentary trends	General information on parliamentary chambers; description of electoral systems, results of the most recent elections, archive of past election results, information on the mandate of members of parliament, statistics on women's political participation	www.ipu.org/parline-e/parlinesearch.asp
ITU (International Telecommunications Union) database	Data for 200 countries; the World Telecommunications Database offers time series data for 1960, 1965, 1970 and annually from 1975 to 2004 for 80 sets of telecommunications statistics.	Telephone network size and dimension, mobile services, quality of service, traffic, staff, tariffs, revenue and investments	www.itu.int/ITU-T/dbase/index.html
OECD (Organisation for Economic Co-operation and Development) statistical portal	Country-level data	Agriculture and fisheries; demography and population, economic projections, environment, globalization, information and communication technology, monthly economic indicators, prices and PPP, transportation, science and technology, balance of payments, health, education, energy, development, labour, and social and welfare statistics	www.oecd.org/statsportal/0,2639,en_2825_2933564_1_1_1_1_1_1_100.html
World Bank World Development Indicators	An annual compilation of data about development	More than 900 indicators in more than 80 tables organized in six sections: worldview, people, environment, economy, states, and markets and global links	www.worldbank.org/data/wdi2007/
WHO WHOSIS (World Health Organization Statistical Information System)	A guide to health and health-related epidemiological and statistical information	Disease or condition, population, health personnel, HIV/AIDS, alcohol database, child growth and nutrition, drug use, immunization, reproductive health, blindness and deafness	www3.who.int/whosis/menu.cfm

DATASET	DESCRIPTION	MAIN TOPICS	WEBSITE
UNAIDS (Joint UN Programme on HIV/AIDS)	Estimates of the number of people living with HIV/AIDS by country	Surveys of pregnant women, population-based surveys and other surveillance information	www.unaids.org/en/HIV_data/
UNCTAD (UN Conference on Trade and Development) statistical database	Statistics are based on existing national and international sources; time series data are also available.	International trade, foreign direct investment and commodities	www.unctad.org/TEMPLATES/Page.asp?intItemID=1584&lang=1
UNESCO (UN Educational, Scientific and Cultural Organization) Institute for Statistics database	Country and sub-national information	Education, literacy, science and technology, and culture and communication	www.iis.unesco.org/ev_en.php?ID=2867_201&ID2=D0_TOPIC
UNHCR (UN High Commissioner for Refugees) statistics	Covers data in more than 150 countries	Data on “people of concern” to UNHCR, including refugees, asylum seekers, returned refugees, and internally displaced and stateless persons. Data include scope and nature of protection activities, new outflows, duration of refugee camps, camp locations, asylum applications and refugee state determination.	www.unhcr.org/cgi-bin/texis/vtx/statistics
UN Population Division databases and publications	Has data by topic and region, with UN demographic estimates and projections for every country in the world	Data related to population (including population and housing censuses), vital statistics, social indicators, children, cities and urbanization, education and literacy, health and refugees, and women	www.un.org/popin/data.html
UN Statistics Division statistical database	Various socioeconomic data	Economic, demographic, social, environment and energy statistics	http://unstats.un.org/unsd/default.htm
UNECE (UN Economic Commission for Europe)	Detailed statistical information on countries in Europe, North America and Central Asia, organized by domains and subject or policy areas	Macroeconomic and gender statistics	www.unecp.org/stats/data.htm
UN ESCAP (UN Economic and Social Commission for Asia and the Pacific)	Provides two key databases—short-term indicators and annual core indicators	The short-term indicators database provides economic indicators for countries in the region, while the annual core indicators cover the following: demography, migration, education, health, poverty, gender, employment, economy, government finance, employment, transport and the environment.	www.unescap.org/stat/data/index.asp
UN ECLAC (UN Economic Commission for Latin America and the Caribbean) CEPALSTAT	This social indicators and statistics database gathers data, estimates and projections from various international organizations, as well as information from censuses and household surveys supplied by national statistical systems, covering more than 130 indicators summarizing the past and present social evolution of 33 Latin American and Caribbean countries.	Demography, education, health, housing, employment, wages, poverty and income distribution, economy and the MDGs	http://websie.eclac.cl/sisgen/ConsultaIntegrada.asp

ANNEX 3: WRITING META-DATA

Any data published in HDRs, put on the Internet or otherwise publicly provided should offer the following information.

Title

Content description, which should contain the following:

- Sample size
- Geographical coverage
- Observation unit(s)
- Classifications and standards applied
- Labels in rows/columns in tables and elements of graphs
- Definitions of labels
- Measurement unit(s)
- Time reference/period(s)
- Regional unit(s)
- Comparability over time (break in series, missing data)
- Footnotes highlighting specific precautions
- Source of data (agency compiling the data)
- Description of methods used in collection, revision, calculation and estimation of statistics
- Information on error sources and accuracy of statistics
- Explanation of standard symbols in tables
- Any information on copyright, restrictions of usage
- Description of background and purpose of statistics, concepts, variables and standards
- Why was it collected? What questions did it ask?
- At what level was it collected (household,

individual, village, community, city, country)?

- If data is missing, why is it missing (question was not relevant, respondent did not know the answer, missing values, anything else)?
- What was the method used to collect data (randomization and at what level, stratification and at what level, interviews, focus groups, rapid assessments, etc.)?
- In what format were the data stored?
- Contact points for additional information

If the HDR team is using qualitative information:

- What message is the team trying to convey through it?
- Is qualitative information capturing parts of the story that quantitative information cannot?
- Is there any merit in highlighting the nuances of this story?

When publishing on the Internet, additional issues include:

- Comparability with other relevant information
- Links to press releases/summaries of findings
- Are there any details about the storage format that the team should be especially careful about?
- If converting data to a different format, is the user familiar with the relevant software?

ANNEX 4: METHODS OF QUALITATIVE DATA COLLECTION

The following table lists data collection methods and associated advantages, disadvantages, precautions to take and types of information collected.

METHOD	ADVANTAGES	DISADVANTAGES	THINGS TO BE CAREFUL ABOUT	TYPES OF INFORMATION THAT MAY BE GATHERED
Direct observation	<p>Provides direct information about behaviour of individuals and groups</p> <p>Permits researcher to understand situation and context</p> <p>Provides an opportunity to identify unanticipated outcomes</p> <p>Exists in natural, unstructured and flexible setting</p>	<p>Can be expensive and time consuming</p> <p>Needs well-qualified and well-trained experts</p> <p>May affect the behaviour of participants—window dressing for researcher in initial stage</p> <p>Selective perception of observer may distort data.</p> <p>Investigator has little control over the situation.</p> <p>Behaviour of observed person or groups may be atypical.</p>	<p>Observations have to be done using a set of carefully developed, structured protocols.</p> <p>In advance, observer should clarify concepts, definitions and criteria for defining events.</p> <p>Usually what is observed has to be judged against a set of expectations.</p> <p>Along with appropriate training, the use of protocols (such as a list of questions, definitions, checklists, a rating scale) helps insure that all observers are gathering relevant information and applying the same criteria.</p>	<p>The physical environment</p> <p>The ways in which actors behave and interact</p> <p>How are resources allocated, what do actors do?</p> <p>The precise language in which people behave is an important way to record how people understand their experiences.</p> <p>An idea of non-verbal communication (the ways people dress, express opinions, physically space themselves and arrange themselves)</p> <p>Non-occurrences can be compared to what is expected or should occur (it is important to space observations over time to avoid capturing atypical settings).</p>
In-depth interviews	<p>Usually yields richest data, details and insights</p> <p>Permits face-to-face contact with respondents</p> <p>Provides the opportunity to explore topics in depth</p> <p>Presents the opportunity to assess the parts of the policy that have affected stakeholders and those that have changed their perceptions</p> <p>Allows the researcher to explain or clarify questions, increasing the likelihood of useful responses</p>	<p>Expensive and time consuming</p> <p>Needs well-trained and qualified interviewers</p> <p>Interviewee may distort information through recall error, selective perception and desire to please interviewer.</p> <p>Flexibility can result in inconsistencies across interviews.</p> <p>Volume of information gleaned may be too large; it may become very hard to transcribe and reduce the information.</p>	<p>A carefully constructed questionnaire is used for structured interviews.</p> <p>In-depth interviews rely upon dialogue between a skilled interviewer and interviewee.</p> <p>Most interviews are best conducted face to face, but telephone interviews can be successful.</p> <p>Interviewers should be trained people who are sensitive, empathetic and able to establish a non-threatening environment for participants.</p> <p>Key to being a good interviewer is to be a good listener and a questioner.</p> <p>Interviews may yield richly detailed information useful for analysis.</p>	<p>How does a policy look and feel to participants and stakeholders?</p> <p>What have been their experiences?</p> <p>What do they know about the policy?</p> <p>What are/were their expectations?</p> <p>What features of the policy are most salient?</p> <p>What changes do participants perceive in themselves as a result of the policy?</p> <p>This technique should especially be used for complex subjects, detailed information, busy and/or high-status respondents, or highly sensitive topics.</p>

ANNEX 4:

METHODS OF QUALITATIVE DATA COLLECTION continued

METHOD	ADVANTAGES	DISADVANTAGES	THINGS TO BE CAREFUL ABOUT	TYPES OF INFORMATION THAT MAY BE GATHERED
Focus group discussions	<p>Help to understand interactions between respondents, as well as conflicting opinions</p> <p>Relatively low cost, with the potential to cover a large number of respondents especially if they are likely to have similar responses</p> <p>A good technique if it is desirable for stakeholders to hear what participants have to say</p>	<p>Group interaction can be limited or may dampen the responses from certain people.</p> <p>Peer pressure can inhibit responses.</p> <p>Subject matter may be too sensitive and respondents may be unwilling to talk.</p> <p>They are not very useful if a large number of issues have to be covered. Participants may not be geographically co-located.</p> <p>Interviewers need to be supportive and especially skilled listeners.</p>	<p>The group will usually be a gathering of 8-12 people who share some characteristics relevant to the policy.</p> <p>Conducted by experts, these usually take place in a group facility that includes a recording apparatus and/or an official recorder who may or may not be in the room.</p>	<p>Should be used to:</p> <p>Identify and define problems in policy implementation;</p> <p>Identify policy strengths, weaknesses and recommendations;</p> <p>Assist with interpretation of quantitative findings;</p> <p>Obtain information about perceptions; and</p> <p>Generate new ideas.</p>
Other qualitative methods such as document studies, key informants, performance assessments, case studies	<p>Often easily doable, inexpensive and available locally</p> <p>Grounded in the setting and language in which they occur</p> <p>Relatively unobtrusive and useful for determining values, positions, attitudes and sequence of events</p> <p>Talking to key informants may have the benefit of strengthening the relationship between researchers, clients, participants and other stakeholders.</p>	<p>May be inaccurate</p> <p>May not be authentic</p> <p>Locating these sources of information may prove to be long and arduous; access may be difficult.</p> <p>Informants/ researchers may inject their own bias.</p>	<p>Informants' own perceptions may bias results.</p>	<p>Wealth ranking for targeted programme interventions.</p>

Source: Adapted from the National Science Foundation 2002.

Some Steps in Qualitative Analysis

HDR teams may want to observe the following three steps in undertaking qualitative analysis:

Step 1: Data Reduction

This step involves selecting, focusing, abstracting and transforming data that appears in field notes and transcriptions into intelligible and manageable information that conveys something about the salient features of the evaluation. It is important to focus on what different groups said about the questions relevant to the evaluation, compare them if relevant and understand the reasons for consistency/inconsistency. Make use of colour coding to identify similar responses. (It is important not to “flatten” the data at this stage to make it look like quantitative survey responses.) This step should assess perceptions, and note the relative frequency with which different issues are raised and the intensity with which they are expressed.

Step 2: Data Display

Data display is an organized form of showing information that permits researchers to draw conclusions. A display can be an extended form of text, a diagram, a chart, a flow diagram or a matrix. It allows a systematic and possibly new way of thinking about the text. Researchers can use the display to extrapolate data to discern systematic patterns and relationships. At this stage, additional or higher category themes may emerge that go beyond those first discovered during data reduction.

A useful way to display data is in a series of flow charts that map out critical paths, decision points and supporting evidence. These

displays can be created for a series of sites/points that qualitative information has come from. Displaying responses in the form of a matrix, along with answers to open-ended questions, for example, helps to understand why respondents differ. A checklist may aid in assessing the relative importance of these responses.

Step 3: Drawing Conclusions and Verifying

To draw conclusions means to step back and consider what the analysed data mean and to consider their implications for the question(s) at hand. Verifying data involves revisiting them several times to crosscheck and verify emerging conclusions. Verifying conclusions is different for qualitative information than for quantitative data. For the latter, it is a technical term. For qualitative analysis, it means to verify that the conclusions are credible, defensible, warranted and able to withstand alternative explanations. It is important at this stage not to leap to conclusions and to remain cognizant of a number of issues.

- “Data heaps” that do not present a story line should not be presented.
- Conclusions that are beyond what the data might support or are premature are also unwarranted.
- It is important to spell out a “logic model” that lays out the assumptions of the research.
- It is important to understand the differences in case studies that are the sources of qualitative information, and to account for middle-ground differences. Miles and Huberman (1994) present 13 “tactics for generating meaning,” including noting patterns and themes, clustering cases, making contrasts and comparisons, and subsuming generalities in the particular.

- It is important to verify credible explanations for variations and the extent of the information in providing answers to the main questions. Miles and Huberman (1994) present 13 ways of confirming findings, all of which address the need to build “systematic safeguards against self-delusion.” These safeguards—such as using multiple sources and evidence—should be built into the design right from the beginning. The objective is to create a plausible, empirically grounded account that best responds to the questions at hand. Triangulation is important, but results may not corroborate each other. Discrepancies can reveal many things, however. It is the job of the analyst to weave various voices and sources together in a narrative that responds to the questions of the study. The more artfully and simply this is done, the more convincing it is.
- In qualitative analysis, “outliers” are treated differently. Deviant cases present a chance to look for fresh insights. They should be used for further elaboration and verification.

Some Advice on Conducting Qualitative Analysis

- Qualitative analysts have to be self-aware, transparent, honest and reflective about the analytical process. Analysis is a series of steps or a process used to reach the results. For it to be transparent, qualitative analysts should describe and discuss how they did their work so that other researchers can access it. Openly presenting these processes is an important check against any inclination to make spurious assertions. It also allows others to judge whether the analysis and interpretation is credible in light of the data.
- Qualitative analysis requires good crafts-

manship. Analysis is judged on the basis of how persuasively and artfully analysts have put together a story. Is the story line convincing and clear—while being honest in its presentation of techniques and data? Does the analysis flow well and answer the questions of the study? Is it informative, interesting and provocative? Finally, do the analysts explain why and how some conclusions were drawn, and why competing explanations were excluded?

- There should be rigorous note keeping while data/information is being collected. Field notes and focus group or interview summaries should contain a section with comments, tentative interpretations and/or emerging hypotheses. A lot of these will eventually be rejected, but they provide a good account of the unfolding analysis.
- More than one person should be involved. Qualitative analysis should not be a single-person process. People should be used for sounding out ideas, crosschecking and as a source for new ideas. All analysts should know something about the qualitative analysis process.
- Leave enough money and time for analysis and writing. Analysing and writing up qualitative information requires more thought, time and effort than usually anticipated.
- Be careful when considering the purchase of computer software systems to assist in qualitative analysis. They can be helpful in marking, coding and moving data segments quickly. But software cannot determine meaningful categories for coding, define salient features or provide concepts. Furthermore, software systems have peculiarities, and take time and resources to understand and use. Researchers have to evaluate whether the scope of their study requires an investment in software.

Source: Miles and Huberman 1994.

ANNEX 5: SAMPLING METHODS

Before sampling data, researchers should be aware of two criteria: inclusion and exclusion criteria.

Inclusion criteria refer to characteristics that the sample people/households must possess. In a study of household agricultural practices, for example, the inclusion criterion could be that provinces should grow a crop at least once.

Exclusion criteria refer to characteristics of people/households that might meet the inclusion criteria, but could confound results. Outliers in a sample, for example, might meet the exclusion criteria. Examining them is important, but most studies will set a cut off to remove outliers that may skew results.

There are two main sampling methods: probability sampling and non-probability sampling. Probability sampling is briefly discussed here.

Probability Sampling

The first concern in any sampling method is to avoid selection bias. It is important to ensure that each observation (people/household) has an equal chance of selection into the sample. Randomization procedures should be employed to provide an unbiased sample that will be statistically valid. Several methods can be used to randomly select people/households.

Simple random sampling: This can be done by assigning all households a number and then using a simple random number generator to select the sample.

Systematic random sampling: This method uses the first random number to select the first observation and thereafter uses a systematic rule (for example, a fourth number after the first one, eighth, and so on) to select people/households.

Stratified sampling: Observations (households/people) are grouped according to strata such as age, gender, geographic distribution,

socioeconomic characteristics, etc.. Sub-groups of interest can be defined and an equal number of observations sampled (randomly) from each sub-group. Inclusion/exclusion criteria should be used for each sub-group, and although each has different characteristics (defined by the attributes on which the sub-groups have been constructed), the total of these would provide the sample.

Cluster sampling: To get as many possible observations and to eliminate sources of bias, a researcher might want to select households/people from all the municipalities in a province. This could be time-consuming and costly, however, so a cluster approach can be used. This is typically a two-level randomization process. First, each municipality that meets the inclusion/exclusion criteria is identified. Then, municipalities are randomly picked and all the people/households in the municipality are selected, or the people located in these randomly selected municipalities are themselves randomly included into the sample. All the observations must have an equal opportunity to be chosen, with no researcher bias.

Disproportional sampling: This helps when there are stratified samples of different sizes. Suppose an HDR team only has money for collecting information on 200 people. But the available population is 2,000, and in this population, the distribution of men and women is 1,700 males and 300 females. In the sample of 200, to keep the same proportions, 170 men versus 30 women would be required. The small number of women would probably not be adequate for drawing conclusions about women, however. While a random sample would leave the proportions to chance, a disproportionate sample, could, for example, select 100 males and 100 females. Since this would not qualify as a random sample, it would then become important in data analysis to weight the data so that males get a proportionally higher representation. Calculating the proportional weights will mean that the probability of selecting any one male or female also has to be calculated.

Source: Adapted from Lunsford and Lunsford 1995a.

ANNEX 6: SAMPLING AND OTHER MEASUREMENT ERRORS

If an HDR team decides to conduct a survey, it is important to be aware of sampling and other measurement errors that may bias the results. Inappropriate sampling methodology may lead to wrong inferences about the population. The following discussion outlines some of these errors and their effects on survey results.

Bias Error

Bias error is a systematic error that causes all statistics to deviate from their “true” value in a consistent direction—i.e., the value is greater than or less than the true value. It occurs, for example, when samples are not randomly selected from a population or when the sampling frame is inadequate. This causes the sub-population that needs to be characterized to be either over- or underrepresented in the sample.

Both survey and census data can suffer from bias error. Survey data may concentrate on just one section of the population. For instance, trying to infer the income or the life expectancy of the population from a survey of men is obviously erroneous (the average income for men is likely to be consistently higher than the average for the entire population, and the life expectancy of men is likely to be less). Census data can suffer from bias error by, for example, not representing some ethnic minorities adequately. Vital registration systems to record all births and deaths may not capture those in remote rural areas.

Bias may enter the data because of deliberate selection, unintentional selection or non-response (inability to respond, absence of respondent or refusal to respond). It may also enter if respondents suspect that there is some benefit in answering in a certain way. Communities may under-report their achievements if they feel that this will help them secure more aid from the government, for example.

If all data on which indicators are based suffer from bias error, it might be more useful to look at their ranks rather than their levels. If education is biased upwards for all provinces in a country, for example, then the HDI is likely to be biased upwards. The relative ranks of provincial HDIs become more useful than examining the actual levels.

Sampling Error

Sampling error is the difference between a sample and the population. Unlike bias error, it does not have to be consistently lesser or higher than the true value of the population. Sampling error simply occurs because the sample is different from the population.

Total error in a dataset is the sum of the squares of the sampling error and the bias error. (In statistical parlance, this is usually measured by the root mean square error, which is the square root of the sum of the square of the bias error and the sampling error.) In small samples, the bias error is likely to be small, but the sampling error is likely to be large. In large samples, the bias error is likely to be large, but the sampling error, small. In extreme cases, such as a census where the entire population is covered, the sampling error is zero but the bias error is large. The root mean square error can still be large.

Methods for Normalization

- *Ranking*: Ranking data by area is the simplest method. It is not influenced by outliers and allows indicators to be followed over time in terms of relative positions.
- *Standardization*: This method converts indicators to a common scale with a mean of zero and standard deviation of one. Indicators with extreme values thus have a greater effect on the composite indicator. This is a good method if the objective is to reward exceptional behaviour. If not, then it can be corrected while combining indicators to form the composite. The best and the worst sub-indicator scores can be excluded from the index or different weights can be assigned.
- *Rescaling*: This normalizes indicators to have the same range (0,1). Extreme values/outliers would distort the transformed indicator, however.
- *Distance to a reference*: This measures the relative position of the indicator vis-à-vis a reference point. One approach is to give indicators below or above the mean a -1 or a +1, while those at the mean get a score of zero. This leads to a lot of lost data, however.
- *Categorical scale*: This assigns a score to each indicator. Categories can be numerical (one, two or three stars) or they can be qualitative (completely, somewhat, not at all). This does not allow for following improvements over time.
- *Percentages of annual differences over consecutive years*: This represents the percentage growth with respect to the previous year instead of the absolute level.

Source: Nardo et al. 2005b.

ANNEX 7: MILLENNIUM DEVELOPMENT GOALS, TARGETS AND INDICATORS

The MDGs and their associated targets came out of the Millennium Declaration, signed by 189 countries, including 147 heads of State and Government, in September 2000. The goals and targets are interrelated and should be seen as a whole. They represent a partnership between the developed countries and the developing countries “to create an environment—at the national and global levels alike—which is conducive to development and the elimination of poverty.” For more on the MDGs, please see <http://millenniumindicators.un.org/unsd/mdg/Host.aspx?Content=Indicators/OfficialList.htm>.

GOALS AND TARGETS	INDICATORS FOR MONITORING PROGRESS
Goal 1: Eradicate extreme poverty and hunger	
Target 1: Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day	1. Proportion of population below \$1 (PPP) per day ¹ 2. Poverty gap ratio [incidence x depth of poverty] 3. Share of poorest quintile in national consumption
Target 2: Halve, between 1990 and 2015, the proportion of people who suffer from hunger	4. Prevalence of underweight children under five years of age 5. Proportion of population below minimum level of dietary energy consumption
Goal 2: Achieve universal primary education	
Target 3: Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling	6. Net enrolment ratio in primary education 7. Proportion of pupils starting grade 1 who reach grade 5 ² 8. Literacy rate of 15-24 year-olds
Goal 3: Promote gender equality and empower women	
Target 4: Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015	9. Ratios of girls to boys in primary, secondary and tertiary education 10. Ratio of literate women to men, 15-24 years old 11. Share of women in wage employment in the non-agricultural sector 12. Proportion of seats held by women in national parliament
Goal 4: Reduce child mortality	
Target 5: Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate	13. Under-five mortality rate 14. Infant mortality rate 15. Proportion of one-year-old children immunized against measles
Goal 5: Improve maternal health	
Target 6: Reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio	16. Maternal mortality ratio 17. Proportion of births attended by skilled health personnel
Goal 6: Combat HIV/AIDS, malaria and other diseases	
Target 7: Have halted by 2015 and begun to reverse the spread of HIV/AIDS	18. HIV prevalence among pregnant women aged 15-24 years 19. Condom use rate of the contraceptive prevalence rate ³ 19a. Condom use at last high-risk sex 19b. Percentage of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS ⁴ 19c. Contraceptive prevalence rate 20. Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years
Target 8: Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases	21. Prevalence and death rates associated with malaria 22. Proportion of population in malaria-risk areas using effective malaria prevention and treatment measures ⁵ 23. Prevalence and death rates associated with tuberculosis 24. Proportion of tuberculosis cases detected and cured under directly observed treatment short course DOTS (internationally recommended TB control strategy)

1. For monitoring country poverty trends, indicators based on national poverty lines should be used, where available.

2. An alternative indicator under development is “primary completion rate.”

3. Among contraceptive methods, only condoms are effective in preventing HIV transmission. Since the condom use rate is only measured among women in union, it is supplemented by an indicator on condom use in high-risk situations (indicator 19a) and an indicator on HIV/AIDS knowledge (indicator 19b). Indicator 19c (contraceptive prevalence rate) is also useful in tracking progress on other health, gender and poverty goals.

4. This indicator is defined as the percentage of population aged 15 to 24 who correctly identify the two major ways of preventing the sexual transmission of HIV (using condoms and limiting sex to one faithful, uninfected partner), who reject the two most common local misconceptions about HIV transmission, and who know that a healthy-looking person can transmit HIV. However, since there are currently not a sufficient number of surveys to be able to calculate the indicator as defined above,

GOALS AND TARGETS	INDICATORS FOR MONITORING PROGRESS
Goal 7: Ensure environmental sustainability	
Target 9: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources	25. Proportion of land area covered by forest 26. Ratio of area protected to maintain biological diversity to surface area 27. Energy use (kg oil equivalent) per \$1 GDP (PPP) 28. Carbon dioxide emissions per capita and consumption of ozone-depleting chlorofluorocarbons (tons of ozone-depleting products) 29. Proportion of population using solid fuels
Target 10: Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation	30. Proportion of population with sustainable access to an improved water source, urban and rural
Target 11: By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers	31. Proportion of population with access to improved sanitation, urban and rural 32. Proportion of households with access to secure tenure
Goal 8: Develop a global partnership for development	
Target 12: Develop further an open, rule-based, predictable, non-discriminatory trading and financial system Includes a commitment to good governance, development and poverty reduction—both nationally and internationally	Some of the indicators listed below are monitored separately for the least developed countries (LDCs), Africa, landlocked developing countries and small island developing states. Official development assistance (ODA) 33. Net ODA, total and to the LDCs, as percentage of OECD/Development Assistance Committee (DAC) donors' gross national income
Target 13: Address the special needs of the LDCs Includes: tariff and quota free access for the LDCs' exports; enhanced programme of debt relief for heavily indebted poor countries (HIPC) and cancellation of official bilateral debt; and more generous ODA for countries committed to poverty reduction	34. Proportion of total bilateral, sector-allocable ODA of OECD/DAC donors to basic social services (basic education, primary health care, nutrition, safe water and sanitation) 35. Proportion of bilateral official development assistance of OECD/DAC donors that is untied 36. ODA received in landlocked developing countries as a proportion of their gross national incomes 37. ODA received in small island developing states as a proportion of their gross national incomes <u>Market access</u>
Target 14: Address the special needs of landlocked developing countries and small island developing states (through the Programme of Action for the Sustainable Development of Small Island Developing States and the outcome of the twenty-second special session of the General Assembly)	38. Proportion of total developed country imports (by value and excluding arms) from developing countries and least developed countries, admitted free of duty 39. Average tariffs imposed by developed countries on agricultural products and textiles and clothing from developing countries 40. Agricultural support estimate for OECD countries as a percentage of their gross domestic product 41. Proportion of ODA provided to help build trade capacity
Target 15: Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term	<u>Debt sustainability</u> 42. Total number of countries that have reached their HIPC decision points and number that have reached their HIPC completion points (cumulative) 43. Debt relief committed under HIPC Initiative 44. Debt service as a percentage of exports of goods and services
Target 16: In cooperation with developing countries, develop and implement strategies for decent and productive work for youth	45. Unemployment rate of young people aged 15-24 years, each sex and total ⁶
Target 17: In cooperation with pharmaceutical companies, provide access to affordable essential drugs in developing countries	46. Proportion of population with access to affordable essential drugs on a sustainable basis
Target 18: In cooperation with the private sector, make available the benefits of new technologies, especially information and communications	47. Telephone lines and cellular subscribers per 100 population 48. Personal computers in use per 100 population 49. Internet users per 100 population

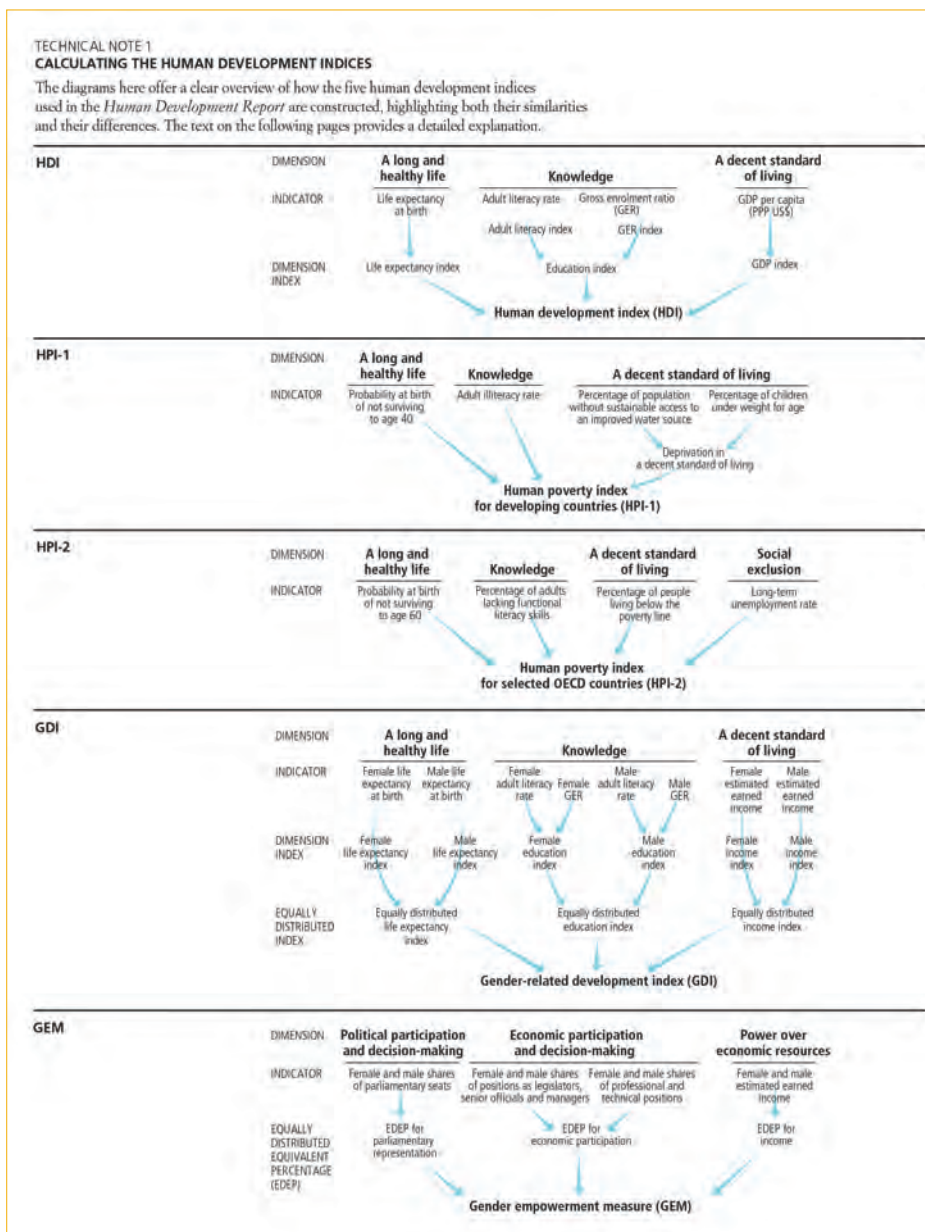
UNICEF, in collaboration with UNAIDS and WHO, produced two proxy indicators that represent two components of the actual indicator. They are the following: a) percentage of women and men aged 15 to 24 who know that a person can protect herself/himself from HIV infection by "consistent use of a condom;" b) percentage of women and men aged 15 to 24 who know a healthy-looking person can transmit HIV.

5. Prevention to be measured by the percentage of children under five sleeping under insecticide-treated bednets; treatment to be measured by percentage of children under five who are appropriately treated.

6. An improved measure of the target for future years is under development by the ILO.

ANNEX 8: CALCULATING THE HUMAN DEVELOPMENT INDICES

This annex presents the technical note from the 2006 global HDR, which provides a comprehensive explanation of the calculation of the four global human development indices.



Other resources for HDR teams include two online tools created to support human development professionals interested in calculating the HDI: the HDI calculator and the HDI Excel sheet (see http://hdr.undp.org/hdr2006/statistics/indices/calculation_tools.cfm).

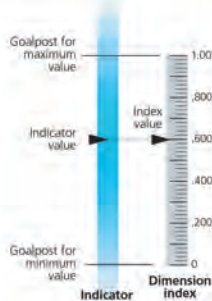
Teams may also want to refer to “Cracking the HDI: Human Development Indexing Exercise.” This helps demystify the principles and calculations of the index (see www.undpcc.lk/Publications/Publications/Cracking_the_HDI_Human_Development_Indexing_Exercise.pdf).

The human development index (HDI)

The HDI is a summary measure of human development. It measures the average achievements in a country in three basic dimensions of human development:

- A long and healthy life, as measured by life expectancy at birth.
- Knowledge, as measured by the adult literacy rate (with two-thirds weight) and the combined primary, secondary and tertiary gross enrolment ratio (with one-third weight).
- A decent standard of living, as measured by GDP per capita (PPP US\$).

Before the HDI itself is calculated, an index needs to be created for each of these dimensions. To calculate these dimension indices—the life expectancy, education and GDP indices—minimum and maximum values (goalposts) are chosen for each underlying indicator.



Performance in each dimension is expressed as a value between 0 and 1 by applying the following general formula:

$$\text{Dimension index} = \frac{\text{actual value} - \text{minimum value}}{\text{maximum value} - \text{minimum value}}$$

The HDI is then calculated as a simple average of the dimension indices. The box at right illustrates the calculation of the HDI for a sample country.

Goalposts for calculating the HDI

Indicator	Maximum value	Minimum value
Life expectancy at birth (years)	85	25
Adult literacy rate (%)	100	0
Combined gross enrolment ratio (%)	100	0
GDP per capita (PPP US\$)	40,000	100

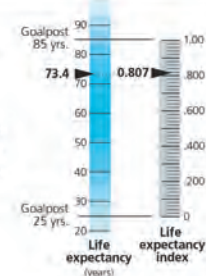
Calculating the HDI

This illustration of the calculation of the HDI uses data for Albania.

1. Calculating the life expectancy index

The life expectancy index measures the relative achievement of a country in life expectancy at birth. For Albania, with a life expectancy of 73.4 years in 2001, the life expectancy index is 0.807.

$$\text{Life expectancy index} = \frac{73.4 - 25}{85 - 25} = 0.807$$



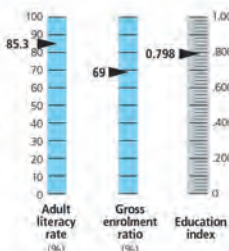
2. Calculating the education index

The education index measures a country's relative achievement in both adult literacy and combined primary, secondary and tertiary gross enrolment. First, an index for adult literacy and one for combined gross enrolment are calculated. Then these two indices are combined to create the education index, with two-thirds weight given to adult literacy and one-third weight to combined gross enrolment. For Albania, with an adult literacy rate of 85.3% in 2001 and a combined gross enrolment ratio of 69% in the school year 2000/01, the education index is 0.798.

$$\text{Adult literacy index} = \frac{85.3 - 0}{100 - 0} = 0.853$$

$$\text{Gross enrolment index} = \frac{69 - 0}{100 - 0} = 0.690$$

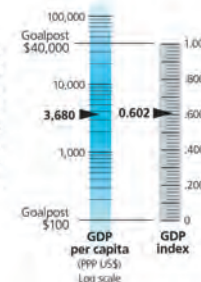
$$\text{Education index} = \frac{2}{3} (\text{adult literacy index}) + \frac{1}{3} (\text{gross enrolment index}) = \frac{2}{3} (0.853) + \frac{1}{3} (0.690) = 0.798$$



3. Calculating the GDP index

The GDP index is calculated using adjusted GDP per capita (PPP US\$). In the HDI income serves as a surrogate for all the dimensions of human development not reflected in a long and healthy life and in knowledge. Income is adjusted because achieving a respectable level of human development does not require unlimited income. Accordingly, the logarithm of income is used. For Albania, with a GDP per capita of \$3,680 (PPP US\$) in 2001, the GDP index is 0.602.

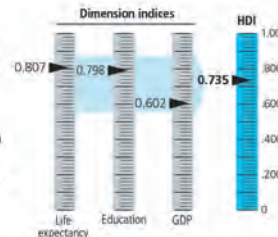
$$\text{GDP index} = \frac{\log(3,680) - \log(100)}{\log(40,000) - \log(100)} = 0.602$$



4. Calculating the HDI

Once the dimension indices have been calculated, determining the HDI is straightforward. It is a simple average of the three dimension indices.

$$\text{HDI} = \frac{1}{3} (\text{life expectancy index}) + \frac{1}{3} (\text{education index}) + \frac{1}{3} (\text{GDP index}) = \frac{1}{3} (0.807) + \frac{1}{3} (0.798) + \frac{1}{3} (0.602) = 0.735$$



ANNEX 8: CALCULATING THE HUMAN DEVELOPMENT INDICES (HPI)

The human poverty index for developing countries (HPI-1)

While the HDI measures average achievement, the HPI-1 measures *deprivations* in the three basic dimensions of human development captured in the HDI:

- A long and healthy life—vulnerability to death at a relatively early age, as measured by the probability at birth of not surviving to age 40.
- Knowledge—exclusion from the world of reading and communications, as measured by the adult illiteracy rate.
- A decent standard of living—lack of access to overall economic provisioning, as measured by the unweighted average of two indicators, the percentage of the population without sustainable access to an improved water source and the percentage of children under weight for age.

Calculating the HPI-1 is more straightforward than calculating the HDI. The indicators used to measure the deprivations are already normalized between 0 and 100 (because they are expressed as percentages), so there is no need to create dimension indices as for the HDI.

Originally, the measure of deprivation in a decent standard of living also included an indicator of access to health services. But because reliable data on access to health services are lacking for recent years, in this year's Report deprivation in a decent standard of living is measured by two rather than three indicators—the percentage of the population without sustainable access to an improved water source and the percentage of children under weight for age.

The human poverty index for selected OECD countries (HPI-2)

The HPI-2 measures deprivations in the same dimensions as the HPI-1 and also captures social exclusion. Thus it reflects deprivations in four dimensions:

- A long and healthy life—vulnerability to death at a relatively early age, as measured by the probability at birth of not surviving to age 60.
- Knowledge—exclusion from the world of reading and communications, as measured by the percentage of adults (aged 16–65) lacking functional literacy skills.
- A decent standard of living—as measured by the percentage of people living below the income poverty line (50% of the median adjusted household disposable income).
- Social exclusion—as measured by the rate of long-term unemployment (12 months or more).

Calculating the HPI-1

1. Measuring deprivation in a decent standard of living

An unweighted average of two indicators is used to measure deprivation in a decent standard of living.

$$\text{Unweighted average} = 1/2 (\text{population without sustainable access to an improved water source}) + 1/2 (\text{children under weight for age})$$

A sample calculation: Central African Republic

Population without sustainable access to an improved water source = 30%
Children under weight for age = 23%

$$\text{Unweighted average} = 1/2 (30) + 1/2 (23) = 26.5\%$$

2. Calculating the HPI-1

The formula for calculating the HPI-1 is as follows:

$$\text{HPI-1} = [1/3 (P_1^\alpha + P_2^\alpha + P_3^\alpha)]^{1/\alpha}$$

Where:

P_1 = Probability at birth of not surviving to age 40 (times 100)

P_2 = Adult illiteracy rate

P_3 = Unweighted average of population without sustainable access to an improved water source and children under weight for age

$\alpha = 3$

A sample calculation: Central African Republic

$P_1 = 55.3\%$

$P_2 = 51.8\%$

$P_3 = 26.5\%$

$$\text{HPI-1} = [1/3 (55.3^3 + 51.8^3 + 26.5^3)]^{1/3} = 47.8$$

Calculating the HPI-2

The formula for calculating the HPI-2 is as follows:

$$\text{HPI-2} = [1/4 (P_1^\alpha + P_2^\alpha + P_3^\alpha + P_4^\alpha)]^{1/\alpha}$$

Where:

P_1 = Probability at birth of not surviving to age 60 (times 100)

P_2 = Adults lacking functional literacy skills

P_3 = Population below income poverty line (50% of median adjusted household disposable income)

P_4 = Rate of long-term unemployment (fasting 12 months or more)

$\alpha = 3$

A sample calculation: United Kingdom

$P_1 = 8.9\%$

$P_2 = 21.8\%$

$P_3 = 12.5\%$

$P_4 = 1.3\%$

$$\text{HPI-2} = [1/4 (8.9^3 + 21.8^3 + 12.5^3 + 1.3^3)]^{1/4} = 14.8$$

Why $\alpha = 3$ in calculating the HPI-1 and HPI-2

The value of α has an important impact on the value of the HPI. If $\alpha = 1$, the HPI is the average of its dimensions. As α rises, greater weight is given to the dimension in which there is the most deprivation. Thus as α increases towards infinity, the HPI will tend towards the value of the dimension in which deprivation is greatest (for the Central African Republic, the example used for calculating the HPI-1, it would be 55.3%, equal to the probability at birth of not surviving to age 40).

In this Report the value 3 is used to give additional but not overwhelming weight to areas of more acute deprivation. For a detailed analysis of the HPI's mathematical formulation, see Sudhir Anand and Amartya Sen's "Concepts of Human Development and Poverty: A Multidimensional Perspective" and the technical note in *Human Development Report 1997* (see the list of selected readings at the end of this technical note).

ANNEX 8: CALCULATING THE HUMAN DEVELOPMENT INDICES (GDI)

The gender-related development index (GDI)

While the HDI measures average achievement, the GDI adjusts the average achievement to reflect the *inequalities* between men and women in the following dimensions:

- A long and healthy life, as measured by life expectancy at birth.
- Knowledge, as measured by the adult literacy rate and the combined primary, secondary and tertiary gross enrolment ratio.
- A decent standard of living, as measured by estimated earned income (PPP US\$).

The calculation of the GDI involves three steps. First, female and male indices in each dimension are calculated according to this general formula:

$$\text{Dimension index} = \frac{\text{actual value} - \text{minimum value}}{\text{maximum value} - \text{minimum value}}$$

Second, the female and male indices in each dimension are combined in a way that penalizes differences in achievement between men and women. The resulting index, referred to as the equally distributed index, is calculated according to this general formula:

$$\begin{aligned} \text{Equally distributed index} \\ = & \{[\text{female population share} (\text{female index}^{\epsilon})] \\ & + [\text{male population share} (\text{male index}^{\epsilon})]\}^{1/\epsilon} \end{aligned}$$

ϵ measures the aversion to inequality. In the GDI $\epsilon = 2$. Thus the general equation becomes:

$$\begin{aligned} \text{Equally distributed index} \\ = & \{[\text{female population share} (\text{female index}^2)] \\ & + [\text{male population share} (\text{male index}^2)]\}^{1/2} \end{aligned}$$

which gives the barotonic mean of the female and male indices.

Third, the GDI is calculated by combining the three equally distributed indices in an unweighted average.

Goalposts for calculating the GDI

Indicator	Maximum value	Minimum value
Female life expectancy at birth (years)	87.5	27.5
Male life expectancy at birth (years)	82.5	22.5
Adult literacy rate (%)	100	0
Combined gross enrolment ratio (%)	100	0
Estimated earned income (PPP US\$)	40,000	100

Note: The maximum and minimum values (goalposts) for life expectancy are five years higher for women to take into account their longer life expectancy.

Calculating the GDI

This illustration of the calculation of the GDI uses data for Thailand.

1. Calculating the equally distributed life expectancy index

The first step is to calculate separate indices for female and male achievements in life expectancy, using the general formula for dimension indices.

FEMALE	MALE
Life expectancy: 73.2 years	Life expectancy: 64.9 years
Life expectancy index = $\frac{73.2 - 27.5}{87.5 - 27.5} = 0.762$	Life expectancy index = $\frac{64.9 - 22.5}{82.5 - 22.5} = 0.707$

Next, the female and male indices are combined to create the equally distributed life expectancy index, using the general formula for equally distributed indices.

FEMALE	MALE
Population share: 0.508	Population share: 0.492
Life expectancy index: 0.762	Life expectancy index: 0.707
Equally distributed life expectancy index = $\{[0.508 (0.762^2)] + [0.492 (0.707^2)]\}^{-1} = 0.734$	

2. Calculating the equally distributed education index

First, indices for the adult literacy rate and the combined primary, secondary and tertiary gross enrolment ratio are calculated separately for females and males. Calculating these indices is straightforward, since the indicators used are already normalized between 0 and 100.

FEMALE	MALE
Adult literacy rate: 94.1%	Adult literacy rate: 97.3%
Adult literacy index: 0.941	Adult literacy index: 0.973
Gross enrolment ratio: 69.3%	Gross enrolment ratio: 74.6%
Gross enrolment index: 0.693	Gross enrolment index: 0.746

Second, the education index, which gives two-thirds weight to the adult literacy index and one-third weight to the gross enrolment index, is computed separately for females and males.

$$\begin{aligned} \text{Education index} &= 2/3 (\text{adult literacy index}) + 1/3 (\text{gross enrolment index}) \\ \text{Female education index} &= 2/3 (0.941) + 1/3 (0.693) = 0.858 \\ \text{Male education index} &= 2/3 (0.973) + 1/3 (0.746) = 0.897 \end{aligned}$$

Finally, the female and male education indices are combined to create the equally distributed education index.

FEMALE	MALE
Population share: 0.508	Population share: 0.492
Education index: 0.858	Education index: 0.897
Equally distributed education index = $\{[0.508 (0.858^2)] + [0.492 (0.897^2)]\}^{-1} = 0.877$	

3. Calculating the equally distributed income index

First, female and male earned income (PPP US\$) are estimated (for details on this calculation, see the addendum to this technical note). Then the income index is calculated for each gender. As for the HDI, income is adjusted by taking the logarithm of estimated earned income (PPP US\$):

$\text{Income index} = \frac{\log(\text{actual value}) - \log(\text{minimum value})}{\log(\text{maximum value}) - \log(\text{minimum value})}$	
FEMALE	MALE
Estimated earned income (PPP US\$): 4,875	Estimated earned income (PPP US\$): 7,975
Income index = $\frac{\log(4,875) - \log(100)}{\log(40,000) - \log(100)} = 0.649$	Income index = $\frac{\log(7,975) - \log(100)}{\log(40,000) - \log(100)} = 0.731$

Calculating the GDI continues on next page

ANNEX 8:

CALCULATING THE HUMAN DEVELOPMENT INDICES (GDI)

Calculating the GDI (continued)

Second, the female and male income indices are combined to create the equally distributed income index:

FEMALE
Population share: 0.508
Income index: 0.649

MALE
Population share: 0.492
Income index: 0.731

$$\text{Equally distributed income index} = \left[(0.508 (0.649^{-1})) + (0.492 (0.731^{-1})) \right]^{-1} = \mathbf{0.687}$$

4. Calculating the GDI

Calculating the GDI is straightforward. It is simply the unweighted average of the three component indices—the equally distributed life expectancy index, the equally distributed education index and the equally distributed income index.

$$\begin{aligned} \text{GDI} &= 1/3 (\text{life expectancy index}) + 1/3 (\text{education index}) + 1/3 (\text{income index}) \\ &= 1/3 (0.734) + 1/3 (0.877) + 1/3 (0.687) = \mathbf{0.766} \end{aligned}$$

Why $\epsilon = 2$ in calculating the GDI

The value of ϵ is the size of the penalty for gender inequality. The larger the value, the more heavily a society is penalized for having inequalities.

If $\epsilon = 0$, gender inequality is not penalized (in this case the GDI would have the same value as the HDI). As ϵ increases towards infinity, more and more weight is given to the lesser achieving group.

The value 2 is used in calculating the GDI (as well as the GEM). This value places a moderate penalty on gender inequality in achievement.

For a detailed analysis of the GDI's mathematical formulation, see Sudhir Anand and Amartya Sen's "Gender Inequality in Human Development: Theories and Measurement," Kalpana Bardhan and Stephan Klasen's "UNDP's Gender-Related Indices: A Critical Review" and the technical notes in *Human Development Report 1995* and *Human Development Report 1999* (see the list of selected readings at the end of this technical note).

ANNEX 8: CALCULATING THE HUMAN DEVELOPMENT INDICES (GEM)

The gender empowerment measure (GEM)

Focusing on women's opportunities rather than their capabilities, the GEM captures gender inequality in three key areas:

- Political participation and decision-making power, as measured by women's and men's percentage shares of parliamentary seats.
- Economic participation and decision-making power, as measured by two indicators—women's and men's percentage shares of positions as legislators, senior officials and managers and women's and men's percentage shares of professional and technical positions.
- Power over economic resources, as measured by women's and men's estimated earned income (PPP US\$).

For each of these three dimensions, an equally distributed equivalent percentage (EDEP) is calculated, as a population-weighted average, according to the following general formula:

$$EDEP = \left(\frac{\text{female population share} (\text{female index}^{-\epsilon})}{\text{female population share} (\text{female index}^{-\epsilon}) + \text{male population share} (\text{male index}^{-\epsilon})} \right)^{\frac{1}{1-\epsilon}}$$

ϵ measures the aversion to inequality. In the GEM (as in the GDI) $\epsilon = 2$, which places a moderate penalty on inequality. The formula is thus:

$$EDEP = \left(\frac{\text{female population share} (\text{female index}^{-2})}{\text{female population share} (\text{female index}^{-2}) + \text{male population share} (\text{male index}^{-2})} \right)^{\frac{1}{1-2}}$$

For political and economic participation and decision-making, the EDEP is then indexed by dividing it by 50. The rationale for this indexation: in an ideal society, with equal empowerment of the sexes, the GEM variables would equal 50%—that is, women's share would equal men's share for each variable.

Finally, the GEM is calculated as a simple average of the three indexed EDEPs.

Calculating the GEM

This illustration of the calculation of the GEM uses data for Venezuela.

1. Calculating the EDEP for parliamentary representation

The EDEP for parliamentary representation measures the relative empowerment of women in terms of their political participation. The EDEP is calculated using the female and male shares of the population and female and male percentage shares of parliamentary seats according to the general formula.

FEMALE	MALE
Population share: 0.497	Population share: 0.503
Parliamentary share: 9.7%	Parliamentary share: 90.3%

$$EDEP \text{ for parliamentary representation} = \left(\frac{0.497 (9.7^{-2})}{0.497 (9.7^{-2}) + 0.503 (90.3^{-2})} \right)^{\frac{1}{1-2}} = 17.60$$

Then this initial EDEP is indexed to an ideal value of 50%.

$$\text{Indexed EDEP for parliamentary representation} = \frac{17.60}{50} = 0.352$$

2. Calculating the EDEP for economic participation

Using the general formula, an EDEP is calculated for women's and men's percentage shares of positions as legislators, senior officials and managers, and another for women's and men's percentage shares of professional and technical positions. The simple average of the two measures gives the EDEP for economic participation.

FEMALE	MALE
Population share: 0.497	Population share: 0.503
Percentage share of positions as legislators, senior officials and managers: 24.3%	Percentage share of positions as legislators, senior officials and managers: 75.7%
Percentage share of professional and technical positions: 57.6%	Percentage share of professional and technical positions: 42.4%

$$EDEP \text{ for positions as legislators, senior officials and managers} = \left(\frac{0.497 (24.3^{-2})}{0.497 (24.3^{-2}) + 0.503 (75.7^{-2})} \right)^{\frac{1}{1-2}} = 36.90$$

$$\text{Indexed EDEP for positions as legislators, senior officials and managers} = \frac{36.90}{50} = 0.738$$

$$EDEP \text{ for professional and technical positions} = \left(\frac{0.497 (57.6^{-2})}{0.497 (57.6^{-2}) + 0.503 (42.4^{-2})} \right)^{\frac{1}{1-2}} = 48.80$$

$$\text{Indexed EDEP for professional and technical positions} = \frac{48.80}{50} = 0.976$$

The two indexed EDEPs are averaged to create the EDEP for economic participation:

$$EDEP \text{ for economic participation} = \frac{0.738 + 0.976}{2} = 0.857$$

3. Calculating the EDEP for income

Earned income (PPP US\$) is estimated for women and men separately and then indexed to goalposts as for the HDI and the GDI. For the GEM, however, the income index is based on unadjusted values, not the logarithm of estimated earned income. (For details on the estimation of earned income for men and women, see the addendum to this technical note.)

FEMALE	MALE
Population share: 0.497	Population share: 0.503
Estimated earned income (PPP US\$): 3,288	Estimated earned income (PPP US\$): 8,021
Income index = $\frac{3,288 - 100}{40,000 - 100} = 0.080$	Income index = $\frac{8,021 - 100}{40,000 - 100} = 0.199$

The female and male indices are then combined to create the equally distributed index:

$$EDEP \text{ for income} = \left(\frac{0.497 (0.080^{-2})}{0.497 (0.080^{-2}) + 0.503 (0.199^{-2})} \right)^{\frac{1}{1-2}} = 0.114$$

4. Calculating the GEM

Once the EDEP has been calculated for the three dimensions of the GEM, determining the GEM is straightforward. It is a simple average of the three EDEP indices.

$$GEM = \frac{0.352 + 0.857 + 0.114}{3} = 0.441$$

ANNEX 9: SAMPLE OUTREACH, COMMUNICATIONS AND ADVOCACY STRATEGY FOR THE 2006 GLOBAL HDR

A comprehensive advocacy strategy helps ensure that an HDR's key messages, policy recommendations and the data behind them are brought to the attention of all stakeholders. The following example, used for the 2006 global HDR, illustrates how to define advocacy objectives, identify target audiences, and select materials and activities to reach them. The specific components of each HDR's advocacy strategy should be adapted to the report's context.

The 2006 Global HDR

Target Audiences: UNDP country offices and liaison offices

Purpose: To support UNDP country offices and liaison offices in the development of national communications strategies around the launch of the global HDR2006.

A. THE HDR 2006 AND COMMUNICATIONS AND ADVOCACY OBJECTIVES

The Human Development Report Office (HDRO) has produced a Human Development Report yearly since 1990, as commissioned by the UNDP Administrator. The Human Development Report (HDR) has had the massive and simple goal of putting people at the centre of the development process in terms of economic debate, policy and advocacy. Each report focuses on a highly topical theme in the current development debate, providing path-breaking analysis and policy recommendations. The *Human Development Report 2006: Beyond scarcity*:

Power, poverty and the global water crisis is on water and human development and will be launched on 9 November 2006 in Cape Town, South Africa. The global launch event will feature the Foreign Minister of South Africa, Kevin Watkins (lead author), Sunita Narain (Centre for Science and Environment, India), Kumi Naidoo (Secretary General of Civicus) and Kemal Dervis, with final comments by President Thabo Mbeki.

The report could contribute powerfully to raising the profile of water and sanitation in the international development agenda. The HDRO does not have the mandate or capacity of a public campaigning organization, but as part of UNDP the HDRO has the potential to reach national governments (in 166 countries). To this end, the HDRO developed and has been working with an overall outreach, communications and advocacy strategy for the HDR2006. The strategy has three fundamental objectives:

1. Increase public awareness of human development (and especially of the interconnections between access to safe water and adequate sanitation).
2. Influence policy debates, leading to policy change that increases access to safe and reliable water sources and adequate sanitation for the poor.
3. Build internal and external strategic partnerships (including UNDP country offices, as well as government and non-governmental actors, both in the North and South).

With simultaneous launches in various countries around the world, and subsequent launches in all country offices, UNDP can use the HDR2006 as an advocacy tool to move forward national development agendas, in tandem with efforts at the international level.

B. COMMUNICATIONS AND ADVOCACY SUPPORT MATERIALS

The HDRO and Office of Communications (OC) have prepared a range of materials on the report in support of UNDP country office launches and outreach, communications and advocacy activities. As always, the global launch of the report will be preceded by an extensive series of embargoed background briefings for the international press by HDRO Director Kevin Watkins and other authors around the world. Should communications officers wish to make the report and associated press materials, including a complete press kit, media Q&A, etc., available in your own countries to selected journalists and news organizations who will respect the 9 November embargo, they are of course encouraged to do so, through the password-protected Internet site for the press.

The HDR2006 contains an extremely useful table on the Millennium Development Goals and the implications of the crisis in water and sanitation for attaining all MDGs. Merely attaining the goal for water and sanitation (MDG 7, target 10) is not sufficient to address the global water crisis and other MDGs. The table is reproduced in the media Q & A and can serve as a guide to tailoring ideas, events and activities for a particular country based on national priorities.

It is important to remember that each country and region faces diverse challenges in dealing with the various problems associated with a lack of access to water. Therefore certain policy recommendations of the report will be more appropriate for your work than others. In this context, you and your teams need to decide how best to use national launches to catalyse discussion and action in your country.

C. SUGGESTIONS FOR ADVOCACY ACTIVITIES AROUND NATIONAL LAUNCHES

The selection of various types of events and activities listed below has drawn on past experiences in communications and advocacy activities undertaken in various countries for similar launches or events. Each country should choose what types of activities would be most effective given the national context. Different forums are more suitable for one or another type of audience: what is appropriate in a large city may not be suitable for a rural setting. The local or national situation and objective of an activity are also critical factors.

1. PRE-LAUNCH

If the national launch is to take place on 9 November 2006, note that there is an embargo on the HDR2006 until this date. Select international media/press will have access to the report for journalistic purposes, but still under embargo conditions. Most national launches will take place afterwards, but the time prior to this should be used to cultivate media/press interest and coverage of the report. National launches should take place between 9 and 17 November, or as soon as possible afterwards.

- Develop a national communications, outreach and advocacy strategy, taking into account all possible outlets for conveying messages effectively and widely. Include a media component, consider funding issues or limitations, and identify key locations, people, etc..
- All aspects of the strategy must be coordinated to provide the same cohesive message and vision for the goal(s) identified for a given national context, with a theme, promotional materials (depending on budget), activities and events, etc., and noting a timeline for the activities envisaged.

- Tailor all messages to the audiences targeted, using language familiar to them and avoiding jargon; tie in the messages to local realities.
- Include from the start in your planning all levels of society from rural, local to national audiences, youth and adults, etc., in different types of activities or events.
- Hold a media briefing for national/local members of the press and news agencies, including electronic media, to ensure follow-up coverage of launch and later events. This is ideally done in all launch cities, regional/provincial capitals, etc.
- It is important to write and make use of compelling human stories as a way to create interest and support the messages conveyed. An example titled “She Smiles” in English (“Sonríe” in Spanish) is available on the HDR website as reference. The story is related to text in Chapter 1 of the HDR2006.

2. LAUNCH

- Organize a main launch(es) in the national capital, but also in regional/provincial capitals or centres and in rural areas. Simultaneous launches are ideal to avoid excluding those most affected by water and sanitation issues and to increase the audience reached.
- Organize dissemination seminars or workshops (for specific target audiences, e.g., civil society) around the country, to educate/raise awareness and garner support to further spread the message at all levels. Ensure that such activities are not limited solely to large urban areas.
- Ensure national/local media coverage at all launch(es) and subsequent events.

3. POST-LAUNCH

- Conduct a public awareness campaign, building on the initial national launch(es).
- Seek forums for generating public debate that

appeal to a range of groups at various levels of society, including local communities.

- Educate on the HDR2006 theme through creative means (e.g., short performances by local theatre groups on the themes of the report) to target audiences that might otherwise not be (easily) reached.
- Organize media field trips to key development programmes that illustrate successful areas of work or to areas which are in need of development aid or other support.
- Design promotional materials that are visually appealing yet contain basic messages: e.g., include relevant details from links to the MDGs table in the report, a one-sentence summary of the main national issue with respect to water and sanitation, and include a succinct version of the primary message or a key secondary one (relevancy to the national context is decisive); materials should be based on the HDR2006 design (consult the guidance on graphic standards and references on the HDRO password-protected site).
- Organize television and/or radio debates with high-level participants from government, UNDP, NGOs and prominent personalities.

D. POTENTIAL AUDIENCES FOR ADVOCACY ACTIVITIES

The following table lists potential specific audiences for communications and advocacy activities and events. Messages delivered to each audience are the basis for communications and advocacy activities and should be carefully developed for each country and each audience. The Q & A available on the HDRO password-protected press site is an excellent source of ideas for developing messages, but all messages should be tailored to national contexts and priorities, and local or regional needs.

POTENTIAL AUDIENCES

Donors and donor governments: Heads of state, ministers, etc.

Governments, developing countries: e.g., heads of state, presidents, prime ministers, ministers of finance

Governments, developing countries: e.g., ministers of water and sanitation, civil engineering, agriculture or health—or equivalents for each country

Governments, developing countries: regional/local administrative authorities, local/regional/national politicians; interregional authorities or associations

Service providers: municipal utilities, rural providers (public or private), city council members (or equivalent); local/regional/national water commissions/boards/authorities/organizations

National press/media: radio, TV stations, press at local, regional and national levels, Internet sites of press/media or related agencies

Civil society: community-based organizations, NGOs, teachers' associations, doctors/nurses' associations, academia (e.g., universities, institutes), youth groups or organizations, primary and secondary school students, other civil society organizations

Other suggestions: local/regional/national UN Goodwill Ambassadors, personalities or celebrities

E. OTHER CONSIDERATIONS

1. COMMON CHALLENGES

- Ensuring continued involvement of HDR/national experts at the local level
- Ensuring attendance of high-level national and local officials and other regular stakeholders (at the same event and the various subsequent ones)
- Providing information, messages, etc., in local languages

2. PROMOTIONAL TOOLS

- Print (posters, flyers, banners, press/media kits, etc.), radio, TV, email, Internet
- Develop official language versions of HDR2006, or summaries, to reach a wider audience.
- Adhere to UNDP graphic standards, use of logos and printing details for the report (posted on the UNDP/HDRO password-protected site for country offices).

3. ADVOCACY REFERENCES

- UNDP Communications site: <http://intra.undp.org/coa/>

Basic source to refer to for guidance on branding, guidelines on websites, general graphic standards, editorial manuals and more

- The Bluebook: <http://intra.undp.org/mdgs/common/thebluebook/home/index.shtml>

Advocacy toolkit designed to support the MDGs; reference for developing communications strategies, events, dealing with the media, etc.

- HDR Toolkit: <http://hdr.undp.org/nhdr/toolkit/default.html>

Practical guidance on the national/regional HDR—Chapter 6 contains sections on advocacy including outreach and communications strategies and marketing.

An Advocacy Work Plan

The example on the following page of a detailed advocacy work plan covers the four HDR stages of preparation, research, production and advocacy. It demonstrates how these stages may overlap.

ANNEX 10: USING DATA TO SUPPORT ADVOCACY: A PRESS RELEASE FOR THE 2005 CHINA HDR

The 2005 China HDR was called *Towards Human Development with Equity*. In the accompanying press release, the first two paragraphs highlight key facts that will immediately spark the interest of readers. They connect the report to current public debates, which is critical for journalists. The release as a whole presents a balance of narrative description and brief quotations from people involved in producing the report. Data are used throughout to highlight the main advocacy and policy messages. An active headline and subheads reinforce these messages and help maintain the attention of readers. Full contact details for communications professionals, and brief backgrounds on the HDRs and UNDP round out the release.

**EMBARGOED UNTIL 16 DECEMBER,
10.00 A.M. BEIJING TIME;
2.00 A.M. GMT**

CHINA ON THE WATCH FOR FIGHTING SOCIAL INEQUALITY, NEW UNDP REPORT SAYS

Beijing, China, 16 December 2005 – China’s wealth gap between urban and rural communities is among the highest in the world, but according to a UNDP report released today, the government is coming to grips with the widening disparities that threaten the country’s stability. *China’s Human Development Report 2005* is the first comprehensive study to offer a set of bold and practical policy recommendations to improve conditions for the rural poor, and bolster education, health care and the social security system.

China succeeded in lifting 250 million people out of poverty over the past 25 years. However, during the same period income inequality has doubled. A person living in a city earns on average \$1,000 a year, compared to just over \$300 in the countryside. An urban citizen can also expect to live over 5 years longer than a farmer. In Tibet, only half of the population can read and write while over 97 percent Chinese living in Beijing, Shanghai or Tianjin are literate. At the national level, the illiteracy rate for women is more than double that of men.

“The Chinese Government has realized the grave consequences of social inequity, and has started to tackle the problem head-on,” says Khalid Malik, UNDP Resident Representative and UN Resident Coordinator. “This report is particularly timely as the Government is shaping its new economic blueprint to ease the strains of inequality. There is no question that more can be done to mind the gap that so often triggers social unrest when economic growth on a national scale leaves the poor and the disadvantaged behind.”

The Government is already taking concrete steps to address these human development inequities. By the end of this year, it will have completely abolished agriculture taxes across the country. To improve literacy rates in rural communities, the government is promoting compulsory education for the rural poor through renovation of primary and

middle schools and providing free textbooks for 24 million students from poor families.

“Inequity is evident and concrete action should be taken immediately to help those at the bottom of the economic and social ladder,” said Li Shi, lead author of the report. Among the key recommendations, the authors propose:

CREATING EQUAL JOB OPPORTUNITIES FOR ALL

The report recommends an inclusive social security and pension insurance system to guarantee a social safety net for every worker in the country. This will require a reform of the household registration system (*hukou*) to ensure equal rights to workers migrating to the cities. This is a critical step to improve labour rights, particularly for the 150 million migrant workers.

China also sees a growing demand for household services among elderly people, as the country’s aging and growing population will reach 1.6 billion by 2030. The report highlights the opportunity for job creation through informal employment to serve the needs of the expanding population.

The study also calls for further financial reforms to encourage more people to set up their own businesses, and recommends small loans for Chinese entrepreneurs to open small enterprises. The number of employees of state-owned or collective-owned enterprises has been decreasing through self-employment or informal employment. Small loan services can boost this trend.

INVESTING IN BASIC HEALTH SERVICES FOR THE RURAL POOR

A farmer living in Guizhou or Yunnan can expect to live until the age of 65 while an individual in Hainan or Jiangsu can live to 74.

The authors highlight the need for sufficient preventive health care, health education, planned immunization, and control of serious infectious and endemic diseases. Only 15% of rural residents had medical insurance in 2004, whereas half of the urban population benefited from full insurance.

The Government is responding to the challenge.

This year, over 150 million farmers are part of a pilot cooperative medical system in rural areas to guarantee basic medical insurance for all. This new cooperative medical system is funded with financial aid from central and local budgets and voluntary funds raised by the farmers themselves. Over 70 million people have benefited from the new health policies and had their medical fees reimbursed.

MAKE PRIMARY EDUCATION TOP PRIORITY

Less than 1.5 percent of Tibetan children go to junior high while more than 60 percent of children in Beijing, Shanghai or Tianjin pursue their secondary education. This calls for more investment and legislation in public education to ensure compulsory primary education.

The report warns against the serious imbalances between primary and higher education in China. Efforts must be made to give top priority to primary education. The Government set the target of accessible, high-quality primary education, particularly for the rural population. Currently, this policy is being applied in the poverty stricken rural areas in middle and western China, and continued efforts are being made to improve primary and middle schools.

The authors highlight that improving the educational level of farmers plays an important role in raising their skill levels and ultimately their incomes. To make the curriculum and the education system more relevant to the demands of the labour market, the study recommends the establishment of community universities for vocational training for disadvantaged groups and enterprise training.

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ABOUT THIS REPORT: Since UNDP produced the first global Human Development Report (HDR) in 1990, HDRs have emerged as its flagship publications and one of UNDP's most important policy analysis and advocacy tools. China has since 1997 produced three National Human Development Reports (NHDRs). Unlike the previous reports, which were written by foreign experts and institutions, this fourth "China Human Development Report" was written by a Chinese team of experts organized and coordinated by China Development Research Foundation. These NHDR exercises have proved to be successful and worthwhile, playing a unique role in UNDP's endeavour to influence China's development policy-making. Over the years, China's NHDRs have also become useful reference books for academia and UNDP China's development partners worldwide. The reports are gradually evolving into one of the principal instruments for the office to work together with Chinese national think tanks, policy makers and development researchers.

ABOUT UNDP CHINA: UNDP is the UN's global development network, advocating for change and connecting countries to knowledge, experience and resources to help people build a better life. UNDP China's mission is to make a critical contribution to reducing poverty in China by supporting initiatives to achieve growth with equity, gender equality and environmental sustainability. UNDP China aims at being a trusted development partner of the Chinese Government and people. Following China's national priorities, we focus on high impact interventions in support of our mission, and act as a catalyst for institutional and policy change.

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GLOSSARY OF STATISTICAL TERMS

This glossary has been adapted from the 2006 global HDR, Kendall and Buckland (1960) and the OECD Glossary of Statistical Terms.

Bias error: A systematic error that causes all statistics to deviate from their “true” value in a consistent direction—i.e., the value is greater than or less than the true value. It occurs, for example, when samples are not randomly selected from a population or when the sampling frame is inadequate.

CEDAW (Convention on the Elimination of All Forms of Discrimination against Women): Adopted in 1979 by the United Nations General Assembly, CEDAW is often described as an international bill of rights for women. It defines what constitutes discrimination against women and sets an agenda for ending it. States that ratify the convention are bound to take action on its provisions.

Composite index: A unit-less number that combines various statistical indicators to convey a larger picture. A composite index is formed when individual indicators are compiled into a single index on the basis of some underlying model. A composite index can measure a multidimensional concept that cannot be captured by a single indicator alone—such as poverty, competitiveness, sustainability, market integration, etc..

Consumer price index, average annual change in: Reflects changes in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or may change at specified intervals.

Debt service, total: The sum of principal repayments and interest actually paid in foreign currency, goods or services on

long-term debt (having a maturity of more than one year), interest paid on short-term debt and repayments to the International Monetary Fund.

Disaggregation: A process of calculating indicators for different geographic sub-regions, ethnic groups and minorities, genders and income classes, among other classifications, whereby potential areas of inequality can be highlighted.

Earned income (PPP US\$), estimated male and female: Roughly derived on the basis of the ratio of the female non-agricultural wage to the male non-agricultural wage, the female and male shares of the economically active population, total female and male population, and GDP per capita (in purchasing power parity terms in US dollars; see *PPP*).

Earned income, ratio of estimated female to male: The ratio of estimated female earned income to estimated male earned income. See *earned income (PPP US\$), estimated*.

Econometrics: A social science in which the tools of economic theory, mathematics and statistical inference are applied to the analysis of economic phenomena. This technique is often used by social scientists to analyse human development trends, and the impacts of policy options (see box 1.6).

Education index: One of the three indices on which the human development index is built. It is based on the adult literacy rate and the combined gross enrolment ratio for primary, secondary and tertiary schools.

See *literacy rate, adult, and enrolment ratio, gross combined, for primary, secondary and tertiary schools*. For details on how the index is calculated, see annex 8.

Education levels: Categorized as pre-primary, primary, secondary or tertiary in accordance with the International Standard Classification of Education (ISCED). *Pre-primary education* (ISCED level 0) is provided at such schools as kindergartens and nursery and infant schools, and is intended for children not old enough to enter school at the primary level. *Primary education* (ISCED level 1) provides the basic elements of education at such establishments as primary and elementary schools. *Secondary education* (ISCED levels 2 and 3) is based on at least four years of previous instruction at the first level and provides general or specialized instruction, or both, at such institutions as middle schools, secondary schools, high schools, teacher training schools at this level, and vocational or technical schools. *Tertiary education* (ISCED levels 5 to 7) refers to education at such institutions as universities, teachers colleges and higher level professional schools—requiring as a minimum condition of admission the successful completion of education at the second level or evidence of the attainment of an equivalent level of knowledge.

Enrolment ratio, gross: The number of students enrolled in a level of education, regardless of age, as a percentage of the population of official school age for that level. The gross enrolment ratio can be greater than 100 percent as a result of grade repetition and entry at ages younger or older than the typical age at that grade level. See *education levels*.

Enrolment ratio, gross combined, for primary, secondary and tertiary schools:

The number of students enrolled in primary, secondary and tertiary levels of education, regardless of age, as a percentage of the population of official school age for the three levels. See *education levels* and *enrolment ratio, gross*.

Fertility rate, total: The number of children that would be born to each woman if she were to live to the end of her child-bearing years and bear children at each age in accordance with prevailing age-specific fertility rates.

Foreign direct investment, net inflows of:

Net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital and short-term capital.

GDI (gender-related development index):

A composite index measuring average achievement in the three basic dimensions captured in the human development index—a long and healthy life, knowledge and a decent standard of living—adjusted to account for inequalities between men and women. For details on how the index is calculated, see annex 8.

GDP (gross domestic product):

The sum of value added by all resident producers in the economy plus any product taxes (less subsidies) not included in the valuation of output. It is calculated without making deductions for depreciation of fabricated capital assets or for depletion and degradation of natural resources. Value added is the net output of an industry after adding up all outputs and subtracting intermediate inputs.

GDP index: One of the three indices on which the human development index is built. It is based on gross domestic product per capita (in purchasing power parity terms in US dollars; see *PPP*). For details on how the index is calculated, see annex 8.

GDP per capita (PPP US\$): Gross domestic product (in purchasing power parity terms in US dollars) divided by mid-year population. See *GDP* (*gross domestic product*) and *PPP* (*purchasing power parity*).

GEM (gender empowerment measure): A composite index measuring gender inequality in three basic dimensions of empowerment—economic participation and decision-making, political participation, and decision-making and power over economic resources. For details on how the index is calculated, see annex 8.

Gender budgeting: A process to help assess whether a government's gender commitments are translated into the allocation of resources to bridge gender gaps. Gender budgeting is not about devising a separate budget for women and men, but about using tools and processes to analyse the formulation of national budgets and the allocation of resources through a gender lens. This helps assess differential impacts on women and men.

Gini index: Measures the extent to which the distribution of income (or consumption) among individuals or households within a country deviates from a perfectly equal distribution. A Lorenz curve plots the cumulative percentages of total income received against the cumulative number of recipients, starting with the poorest individual or household. The Gini index

measures the area between the Lorenz curve and a hypothetical line of absolute equality, expressed as a percentage of the maximum area under the line. A value of 0 represents perfect equality, a value of 100 perfect inequality.

Gross national income: The sum of value added by all resident producers in the economy plus any product taxes (less subsidies) not included in the valuation of output plus net receipts of primary income (compensation of employees and property income) from abroad. Value added is the net output of an industry after adding up all outputs and subtracting intermediate inputs. Data are in current US dollars converted using the World Bank Atlas method.

HDI (human development index): A composite index measuring average achievement in three basic dimensions of human development—a long and healthy life, knowledge and a decent standard of living. For details on how the index is calculated, see annex 8.

HIV prevalence: The percentage of HIV-positive people aged 15 to 49.

Household: A group of people living together and sharing the same cooking arrangements. This can also denote a one-person household.

HPI-1 (human poverty index for developing countries): A composite index measuring deprivations in the three basic dimensions captured in the human development index—a long and healthy life, knowledge and a decent standard of living. For details on how the index is calculated, see annex 8.

HPI-2 (human poverty index for selected high-income OECD countries): A composite index measuring deprivations in the three basic dimensions captured in the human development index—a long and healthy life, knowledge and a decent standard of living—and also capturing social exclusion. For details on how the index is calculated, see annex 8.

Human expenditure ratio: The percentage of national income devoted to human priority concerns; see *Public expenditure ratio, Social allocation ratio, Social priority ratio*.

Illiteracy rate, adult: Calculated as 100 minus the adult literacy rate. See *literacy rate, adult*.

Informal sector: The informal sector, as defined by the International Expert Group on Informal Sector Statistics (the Delhi Group) includes private unincorporated enterprises (excluding quasi-corporations) that produce at least some of their goods and services for sale or barter, have less than five paid employees, are not registered and are engaged in non-agricultural activities (including professional or technical activities). Paid domestic employees are excluded from this category.

Legislators, senior officials and managers, female: Women's share of positions defined according to the International Standard Classification of Occupations (ISCO-88) to include legislators, senior government officials, traditional chiefs and heads of villages, senior officials of special-interest organizations, corporate managers, directors and chief executives, production and operations department managers, and other department and general managers.

Life expectancy at birth: The number of years a newborn infant would live if prevailing patterns of age-specific mortality rates at the time of birth were to stay the same throughout the child's life.

Life expectancy index: One of the three indices on which the human development index is built. For details on how the index is calculated, see annex 8.

Literacy rate, adult: The proportion of the adult population aged 15 years and older that is literate, expressed as a percentage of the corresponding population, total or for a given sex, in a given country, territory or geographic area, at a specific point in time, usually mid-year. For statistical purposes, a person is literate who can with understanding both read and write a short, simple statement on his/her everyday life

Literacy skills, functional, people lacking: The share of the population aged 16 to 65 scoring at level 1 on the prose literacy scale of the international adult literacy survey. Most tasks at this level require the reader to locate a piece of information in the text that is identical to or synonymous with the information given in the directive.

MDGs (Millennium Development Goals): The MDGs set specific targets for countries to do more to address poverty, widespread hunger, gender inequality, environmental deterioration, and the lack of education, health care and clean water. The MDGs and their associated targets emanate from the Millennium Declaration, signed by 189 countries, including 147 heads of state and government, in September 2000.

Meta-data: Additional information provided about survey or other data, including: sample size, geographical coverage, observation unit, classifications and standards applied, labels in rows/columns in tables and elements of graphs, definitions of labels, measurement unit, time reference/period, regional unit, comparability over time (break in series, missing data), footnotes highlighting specific precautions, source of data (agency compiling the data), description of methods used in collection, revision calculation and estimation of statistics, information on error sources and accuracy of statistics, etc.

Morbidity incidence rate, women and men:

The number of illness episodes suffered by all women (or men) aged 15 years and older in a given period expressed as a percentage of all women (or men) aged 15 years and older.

Mortality rate, infant: The probability of dying between birth and exactly one year of age, expressed per 1,000 live births.

Mortality ratio, maternal: The annual number of female deaths from pregnancy-related causes per 100,000 live births.

Mortality rate, under-five: The probability of dying between birth and exactly five years of age, expressed per 1,000 live births.

Normalizing data: A process of making measurement units equal for the purpose of aggregation, particularly useful when constructing a composite index. Most HDRs use the following normalization technique to construct an indicator to measure development or achievement:

$$\text{Standardized value} = \frac{\text{Value for region} - \text{minimum value}}{\text{Range (maximum} - \text{minimum)}}$$

The indicator above has no unit and lies between 0 and 1. When constructing composite indices for different years, the minimum and maximum values used in the normalization should be fixed. In composite indices that include measures of deprivation and measures of achievement, the indicator should be subtracted from 1 (all indicators calculated will lie between 0 and 1). The standardized value of the deprivation indicator = 1 – deprivation indicator.

Poverty gap: The aggregate shortfall of the expenditure or income of poor households from the poverty line.

Poverty headcount ratio: Measures the proportion of the population or individuals below a given poverty line. Some common poverty lines include:

- \$1 a day—at 1985 international prices (equivalent to \$1.08 at 1993 international prices), adjusted for purchasing power parity;
- \$2 a day—at 1985 international prices (equivalent to \$2.15 at 1993 international prices), adjusted for purchasing power parity; and
- National poverty line—the poverty line deemed appropriate for a country by its authorities, with national estimates based on population-weighted subgroup estimates from household surveys.

Poverty maps: A tool for presenting data and achieving effective and targeted policy advocacy. Small-area estimation techniques are used to produce poverty estimates for small communities, from 1,000 households to 5,000 households. The maps highlight areas where poverty is concentrated. They are often based on indices of welfare that combine information from the census, such as access to water, electricity or sanitation, or education levels.

PPAs (participatory poverty assessments):

A method of using participatory research methodologies to capture qualitative dimensions of poverty, such as people's perceptions of powerlessness and social exclusion. PPAs are useful tools for involving poor people and their institutions in defining and analysing what constitutes poverty, and what should be done to address it.

PPP (purchasing power parity): A rate of exchange that accounts for price differences across countries, allowing international comparisons of real output and incomes. At the PPP US\$ rate, PPP US\$1 has the same purchasing power in the domestic economy as \$1 has in the United States.

Probability at birth of not surviving to a specified age: Calculated as 1 minus the probability of surviving to a specified age for a given cohort.

Probability at birth of surviving to a specified age: The probability of a newborn infant surviving to a specified age if subject to prevailing patterns of age-specific mortality rates.

Professional and technical workers, female:

Women's share of positions defined according to the International Standard Classification of Occupations (ISCO-88) to include physical, mathematical and engineering science professionals (and associate professionals), life science and health professionals (and associate professionals), teaching professionals (and associate professionals), and other professionals and associate professionals.

Public expenditure ratio: The percentage of national income that goes into public

expenditure; see *Social allocation ratio*, *Social priority ratio*, *Human expenditure ratio*.

Sampling error: A sample should "represent" the population and have sufficient size. All samples deviate from the true overall population due to chance variations in drawing the sample's few cases from the population's many members. This is called chance variation or *sampling error*. It differs from non-chance variation, which introduces errors in samples due to other factors.

Sensitivity analysis: A procedure to determine how much each individual source of uncertainty contributes to output variance (referenced in relation to testing the robustness of a composite index).

Social allocation ratio: The percentage of public expenditure earmarked for social services; see *Public expenditure ratio*, *Social priority ratio*, *Human expenditure ratio*.

Social priority ratio: The percentage of social expenditure devoted to human priority concerns, see *Public expenditure ratio*, *Social allocation ratio*, *Human expenditure ratio*.

Terms of trade: The ratio of the export price index to the import price index measured relative to a base year. A value of more than 100 means that the price of exports has risen relative to the price of imports.

Time use, market activities: Time spent on activities such as employment in establishments, primary production not in establishments, services for income and other production of goods not in establishments as defined according to the 1993 revised United Nations System of National Accounts.

Time use, non-market activities: Time spent on activities such as household maintenance (cleaning, laundry, and meal preparation and cleanup), management and shopping for own household; care for children, the sick, the elderly and the disabled in own household; and community services, as defined according to the 1993 revised United Nations System of National Accounts.

Time use, work time, total: Time spent on market and non-market activities as defined according to the 1993 revised United Nations System of National Accounts.

Total error: The sum of the squares of the sampling error and the bias error in a dataset.

UBA approach (unmet basic needs approach): One of several methods to measure poverty. It seeks to establish whether households or individuals are satisfying basic needs with the products or services they actually consume. A household or individual is classified as poor if it does not reach the threshold for all or some basic needs.

Uncertainty analysis: Focuses on how uncertainty in the input factors propagates through the structure of the composite indicator and affects the composite indicator's values (referenced in relation to testing the robustness of a composite index).

Underweight for age, children under age five: Includes moderate underweight, defined as more than two standard deviations below the median weight for age of the reference population, and severe underweight, defined as more than three standard deviations below the median weight.

Unemployment: Refers to all people above a specified age who are not in paid employment or self-employed, but are available for work and have taken specific steps to seek paid employment or self-employment.

Unemployment, long-term: Unemployment lasting 12 months or longer.

Water source, improved, population using: The share of the population with reasonable access to any of the following types of water supply for drinking: household connections, public standpipes, boreholes, protected dug wells, protected springs and rainwater collection. *Reasonable access* is defined as the availability of at least 20 litres a person per day from a source within 1 kilometre of the user's dwelling.

Weighting: A process of emphasizing some aspects of a phenomenon or a set of data. Weights, associated with the construction of composite indices in this primer, reflect value judgments. In some cases, they may reflect the "value" a region or country has arrived at via national debate or rigorous participatory processes. Nonetheless, they need to be explicitly explained and justified in all cases.

This primer on measuring human development is for human development professionals, in particular those working on sub-national, national and regional human development reports. Its guidelines, tools and specific examples support quantitatively and qualitatively rigorous analysis. The resulting evidence, grounded firmly in the realities of people's lives, strengthens human development advocacy for sound policy choices.

UNDP is the UN's global development network, advocating for change and connecting countries to knowledge, experience and resources to help people build a better life.

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Mainstreaming Gender Data and Analysis

- Does the team include people with experience in gender issues and data?
- Have gender-sensitive techniques been used in gathering data?
- Are data disaggregated through the HDR by sex and other parameters of exclusion?
- Have gender-disaggregated and other data been used to analyse the underlying causes of gender inequalities, as well as the impact of gender inequalities on women and men, and on society as a whole?
- Where relevant, have data related to reporting on CEDAW and the Beijing Platform for Action been considered?
- Have gender-based violence data been explored and their limitations discussed?
- Have data related to employment, wage discrimination, the care economy, time use, consumption patterns, asset ownership and gender budgeting been considered?
- Have the GDI and GEM been used to support analysis, with a discussion of their limitations?
- Have data been used to support specific recommendations for addressing gender issues?

Mainstreaming Environmental Data and Analysis

- Does the team include people with experience in environmental issues and data?
- Are data used to explore specific links between human development, inequality and the environment in such areas as health, education, economic growth, employment, livelihoods, gender and security?
- Are data used for trends and projections involving climate change shocks and other natural disasters, and their impacts on livelihoods and coping strategies?
- Does the report analyse the long-term implications of coping strategies on human development progress?
- Have environmental indices been used with a discussion of their limitations?
- Have data been used for specific recommendations to address environmental issues?

Measuring Other Human Development Dimensions

- Have a full set of quantitative and qualitative data been used to explore the crosscutting root causes and consequences of, and policy options for dealing with HIV/AIDS?
- Is a full range of data used to assess such crosscutting themes as human security?
- Is a full range of governance indicators used to cover such topics as: civil voice and accountability, political stability, human rights, rule-of-law, corruption and regulatory quality, government effectiveness, the quality of public service, and policy planning and its implementation?

CHAPTER 3

Advocating for Change with Human Development Data

- Have human development data and advocacy, outreach and communications links been considered throughout the report process, beginning with the preparatory stage?
- Have sufficient financial resources and expertise been secured so that the most relevant data work is conducted in support of short-, medium- and longer term advocacy goals?
- Are activities for developing capacities and raising awareness planned for all HDR partners?
- Are data and analysis presented effectively in the report (a mix of quantitative and qualitative data showing the human face of issues; the consideration of representative data, standard errors, accuracy and causality; and an appropriate selection of maps, charts, graphs and tables)?
- Are human development data used to support launch, post-launch and outreach strategies?
- Are the data specialists working with communications experts to help prepare key messages and press kits?
- Are team members trained to deal with politically sensitive data issues and questions?
- Have longer term human development data and advocacy, outreach and communications initiatives been planned, including the design and maintenance of websites, databases, human development networks and support for human development curricula?
- Have other creative data-related advocacy ideas been considered, including separate publications of background studies and data not included in the HDR; policy briefs for national and regional partners; simple summaries of key messages, including those targeting youth; or plays, cross-country advocacy “caravans,” radio and TV programmes, videos and posters that target the general public?
- Does the HDR process support advocacy for better human development data?
- Are plans and resources in place to track and assess the impact of the human development data included in the report and related advocacy?

PRIMER CHECKLIST

A CONVENIENT
GUIDE TO MEASURING
HUMAN DEVELOPMENT

The following checklist covers the three main elements of the primer:

- Statistical principles in human development analysis
- Select dimensions of measuring human development
- Advocating for change with human development data

The checklist is meant as a convenient reference for teams undertaking human development analysis.

CHAPTER 1

Data Collection

- Has the HDR team contacted the national statistics organization and other statistics agencies in the country/region?
- Have the relevant members of these agencies been included in the analysis team?
- Have adequate budgetary, human resources and time been allocated to the process?
- Does the selected team have the relevant statistical expertise required?
- Has a statistical advisory group been created to provide technical guidance to the HDR team?
- Have statistical peer reviews been undertaken?
- Has the team considered drawing on the experience of other countries?

If the team is using pre-existing sources of data:

- Has the team referred to the meta-data of the dataset?
- Are the responses in the data codified carefully?
- Are the frequency, scale, enumeration units, selection process and coverage of data known?
- Is there clarity on the data collection method and the level at which data has been collected?
- Has the team accounted for potential biases in data collection/enumeration? Have these been explained?
- Does the country have a recent census? Has this been used?
- Have differences between statistics and indicators computed by national and international sources been explained?
- If doing comparisons over time, has the team ensured that data can actually be compared?
- If employing poverty maps using estimation techniques, has the team consulted experts? Has the team taken the requisite measures to ensure data are comparable between sources?

- Has the team, throughout the process, tried to advocate for more transparent methodology in data collection, better documentation and harmonized standards across data collection agencies?

If the team is collecting its own data for the report:

- Have the statistical experts on the team exhausted pre-existing sources of data?
- Are the objectives for collecting data clearly defined?
- Have these reasons been communicated to the data collection team/agency and the national statistics agencies?
- Depending on the type of data, has the methodology been explained in the report?
- Depending on the type of data, have the requisite caveats to results been included?

Data Analysis and Interpretation

- Has the team used a mix of qualitative and quantitative methods to guide and inform the report?
- If using econometric methods, has the team used trained researchers?
- Have sources of error been accounted for/explained clearly?
- Has the team ensured correlation is not interpreted as causality?
- Do data and analysis highlight issues affecting economically, politically and socially excluded groups?

Constructing Composite Indices

- For constructing new composite indices, has a theoretical model been set up?
- Is the objective of the composite index clear?
- Are the constituent indicators well defined, relevant and accessible?
- Have the inter-relationships between constituent indicators been analysed?
- Has the weighting and aggregation scheme been adequately explained?
- Have sensitivity and uncertainty analyses been conducted?
- Have the components of the composite indicator been discussed and analysed?
- Is the team using composite indices to generate discussion and attract public attention?

Disaggregating Data

- Where the availability of reliable data makes it possible, are data disaggregated by gender and other parameters of exclusion?
- Are the data underlying these disaggregated indicators appropriately representative of the subgroup they are describing?

- Is it possible to spatially compare these disaggregated statistics? Has this been done?
- Is it possible to temporally compare these disaggregated statistics? Has this been done?
- Has the need for more disaggregated data and research been recognized and included as a policy recommendation?

CHAPTER 2

Using the HDI

- Are linkages between the MDG indicators and broader human development data issues explored?
- Has the HDI been used correctly to support a broader analysis of human development?
- Have the limitations of the HDI been acknowledged?
- If the HDI has been adapted to the local context, have the rationale and underlying theoretical framework for this work been defined?

Measuring Multidimensional Poverty

- Has a full range of data and indicators been considered to allow for a multidimensional analysis of poverty that goes beyond monetary-based poverty?
- Do the data and analysis look at nationally relevant poverty lines, differences and trends in transient and chronic poverty, and issues of risk and vulnerability over time?
- Has the use of participatory poverty assessments been considered?
- Has the calculation of the HPI been considered as part of a larger analysis of multidimensional poverty, including a discussion of HPI limitations?

Using Economic Data and Analysis

- Have links between human development and different economic growth scenarios been explored?
- Have fiscal and monetary policies been analysed for consistency with human development objectives?
- Have data on the informal sector been analysed, with any limitations discussed?
- Have the Gini coefficient, quintile or decile ratios, and other data been used to explore income inequalities?
- Have data been used to analyse human development implications of regional and global economic policies?