



Development is about people and their well-being—about people developing their capabilities to provide for their families, to act as stewards of the environment, to form civil societies that are just and orderly. The international consensus emerging around a set of development goals for the 21st century (see the introduction to the first section, *World View*) captures many parts of well-being: current and future health status, educational attainment, and freedom from extreme deprivation. Here we look at the social indicators identified by a recent OECD–United Nations–World Bank conference (box 2a) and at the statistical systems that produce them. Are the indicators reliable? Do they accurately and adequately measure the outcomes they intend to track? Can good decisions be made based on the indicators? Too often the answer is no, but the alternative is to know nothing and do nothing.

Poverty

The 21st century goals call for reducing poverty by half by 2015. Inadequate income and consumption levels are not only undesirable in themselves, they can lead to such other problems as crime and violence, and the reduced capacity to enjoy the full benefits and opportunities offered by the community. But poverty is easier to define than to measure, and in many countries there is more than one definition of poverty and more than one way to measure it. The three indicators selected to measure progress in reducing poverty—the headcount index, the poverty gap index (see table 2.7 for definitions), and either the income or consumption share of the lowest quintile—reflect income (or consumption) poverty. The headcount index and the poverty gap are based on an international poverty line of \$1 a day defined in constant prices and measured in purchasing power parity dollars. The advantage of a common poverty line is that it permits comparisons based explicitly on equivalent real baskets of goods and services. It also allows aggregations across countries to track regional poverty. The disadvantage is that it is not based on local development circumstances (and thus might not be adopted by a country) and that it varies widely from measures based on national poverty lines (see table 2.7). Not all countries will be able meet the poverty reduction goal, but poverty for large regions or even for developing countries as a group could be cut in half by 2015 through concerted effort.

All three indicators measure the economic dimensions of poverty. The headcount index provides a count of the people in poverty. The poverty gap measures the amount of additional income per capita, expressed as a proportion of the poverty line, that, if available to the poor, would lift them out of extreme poverty. The income consumption share of the lowest 20 percent

measures the extent to which the poor share in economic growth. But being poor means much more than being poor in income. It means being poor in health, education, and access to goods and services and involves other sources of vulnerability. The three poverty indicators do not capture these noneconomic dimensions. Child malnutrition has been proposed as a cross-check on income poverty because the prevalence of malnourished children is an indication of poverty. It should be noted, however, that the absence of malnourished members does not mean that a household is not poor.

The reliability of the income poverty indicators depends on the quality of the income and consumption data, which are usually obtained from household surveys. In poor countries household income is difficult to measure because a number of activities, products, and services go unrecorded. In these instances calculations may be based on consumption (which tends to understate inequality and household income differentials). Many rural transactions are not conducted in cash, and a part of rural household consumption is obtained from what are called "common property resources" not usually recorded in household consumption aggregates. All this implies that estimates of household income and consumption have a high variance and may be understated. Estimates of income and consumption are also affected by the limitations of sample surveys: recall errors, short reference periods, and the exclusion from the sampling frame of people in remote areas and other marginal groups who are most likely to be poor.

The gathering of household income and consumption data therefore presents problems, particularly in subsistence societies. Some of the problems, particularly the practical ones relating to respondents' inability to remember, can be overcome by carefully questioning individual household members, paying frequent visits to the household, or applying consistency checks. But the sheer size of the task makes frequent surveys of this kind impractical for poor countries that lack sound statistical systems. This difficulty is reflected in coverage rates for country poverty indicators, which are well below 50 percent (table 2a). A concerted effort will have to be made to motivate and equip governments

Box 2a

Social goals and indicators for the 21st century

A recent OECD–United Nations–World Bank conference (held in Paris on February 16–17, 1998) identified 6 social goals and 16 complementary indicators to be monitored by the development community as part of a new international development strategy. (The table numbers in parentheses show where these indicators appear in the *World Development Indicators*.)

Reduce poverty by half

- Headcount index (table 2.7)
- Poverty gap index (table 2.7)
- Income inequality: share of income accruing to poorest 20 percent (table 2.8)
- Child malnutrition (table 2.16)

Provide universal primary education

- Net primary enrollment rate (table 2.10)
- Progression to grade 5 (table 2.11)
- Literacy rate of 15–24 year olds (table 1.2)¹

Improve gender equality in education

- Gender differences in education and literacy (tables 1.3 and 2.12)

Reduce infant and child mortality

- Infant mortality rate (table 2.17)
- Under-5 mortality rate (table 2.17)

Reduce maternal mortality

- Maternal mortality ratio (table 2.15)
- Births attended by health staff (table 2.15)

Expand access to reproductive health services

- Contraceptive prevalence rate (table 2.15)
- Total fertility rate (table 2.15)
- HIV prevalence in pregnant 15–24 year olds (table 2.16)¹

1. These data are not yet available, but the referenced tables show comparable indicators.

Table 2a

Coverage of poverty indicators by region, 1996

Region	Number of low- and middle-income countries	Number of countries for which data are available	% of population represented	Number of countries with two or more data sets
East Asia and the Pacific	21	5	88	5
Europe and Central Asia	27	18	72	18
Latin America and the Caribbean	34	15	84	10
Middle East and North Africa	15	5	47	3
South Asia	8	5	98	3
Sub-Saharan Africa	49	19	66	3
Total	154	67	84	42

Source: World Bank.

to undertake household surveys on a regular basis to monitor progress and aid policymaking.

The World Bank's program for improving the collection of data on poverty involves two main steps. First, an in-house review is being conducted to take stock of existing databases in all client countries. Second, based on the review results, strategies will be developed to increase awareness of the need to collect such information at the country level. Because the surveys needed for poverty data are the responsibility of client governments, capacity building at the country level will be key to a continued flow of reliable poverty data in developing countries.

Universal primary education

The formal education system is the principal means by which people acquire knowledge, skills, and shared values. The 21st century goals call for universal primary education by 2015. Through schooling, individual (and ultimately societal) ideas, aspirations, and behaviors change. Female autonomy, through reduced fertility and the ability to take advantage of opportunities that are an alternative to childbearing, is powerfully linked to education. And primary education is important because literacy and numeracy expand personal horizons and potential. It is also the entry point for future education. Universal primary education is a composite of three dimensions, each measured by a different indicator: access and participation are measured by net primary enrollment, retention by progression to grade 5, and achievement of basic literacy by the literacy rate of 15–24 year olds.

Net primary enrollment measures the percentage of the official primary school-age population that is enrolled in primary education. Data are typically collected during national

school censuses organized by the ministry of education at the beginning of each school year. Low enrollment rates signal inadequacies in providing universal access to primary education and may in turn identify factors that prevent children from enrolling or remaining in school. They do not, however, fully capture participation in the process, because participation rates require data on daily attendance by age, grade, and gender. Some statistical offices collect data on school attendance through household and sample surveys, but such periodic assessments serve more as a check on official enrollment statistics. In addition, coverage of net enrollment data is extremely limited (table 2b), and the rates themselves have been criticized for their unreliability (UNRISD 1993).

Progression to grade 5 is concerned with the retention of children in school and their eventual acquisition of basic literacy and numeracy. It has, as its starting point, the number of children enrolled. But again, enrollment does not mean attendance, and in the absence of detailed individual pupil records, which are costly to build and maintain, assumptions have to be made about promotion, repetition, and attrition. So progression estimates are likely to be biased upward. More fundamentally, retention does not translate to acquisition of basic skills. Thus there is a need to identify actual learning outcomes through the formal (and non-formal) educational system that are universally accepted and can be applied by all countries.

The literacy rate of 15–24 year olds is an outcome measure that reflects skills acquired through both formal and nonformal training. Methods of measuring literacy vary within countries, and standards have changed over time. So changes in recorded literacy rates may not be a reliable measure of the success or failure of the education system. Still, levels of literacy are important ends in themselves because they represent a key element in the quality of life.

Literacy rates are usually derived from data on self-declared literacy in censuses or from updating census or survey estimates with current estimates of school enrollment, not criteria-based literacy tests. And although the United Nations Educational, Scientific, and Cultural Organization (UNESCO) has issued guidelines for estimating literacy levels, international comparability is affected by differences in methods (some countries test literacy in the official language, others in the mother tongue) and completeness of coverage.

UNESCO has implemented several initiatives to improve the quality and coverage of statistics, including an end of the decade education-for-all assessment, strengthening of national education statistical systems in Sub-Saharan Africa, and similar initiatives in other regions. It is also promoting the increased use of household and sample surveys to supplement national administrative files in order to monitor and test literacy status. Such surveys and the expansion of coverage of statistical information systems should also be used to provide process indicators to monitor the additional dimensions of universal primary education, such as the net intake of students at grade one, school attendance rates, and learning achievements.

Table 2b

Coverage of net primary enrollment indicators by continent, 1995

Continent	Total		Data by gender		
	number of countries	Number of reporting countries	% of countries represented	Number of reporting countries	% of countries represented
Asia	55	14	25	11	22
Americas	50	20	40	18	36
Africa and the Pacific	62	26	42	25	40
Total	167	60	36	55	33

Source: UNESCO.

Mortality reduction

The 21st century goals call for a two-thirds reduction in child mortality by 2015. Beyond its obvious relevance as a measure of health conditions, child mortality is one of the best indicators of overall socioeconomic development in a community. The two indicators selected to measure progress are the infant mortality rate and the under-five mortality rate. Both capture the threat to children, but each focuses on a different mix of risks: the infant mortality rate captures risks at the earliest stage of life closely related to the health of the mother and the socioeconomic circumstances of the family. The under-five mortality rate captures a range of influences on health that reflect communal development, and are most amenable to change.

For monitoring this goal in high-mortality countries, the infant mortality rate is less desirable than the under-five mortality rate (which includes infant mortality) for two reasons. First, less than 20 percent of under-five deaths are infant deaths. A large portion of these infant deaths are neonatal (occurring in the first month) and are more difficult to affect through policy interventions after the event. While it is possible to distinguish neonatal from post-neonatal deaths, such data are not easy to come by in the many countries where civil registration of deaths is incomplete and where infants dying during the first weeks of life, especially in remote rural areas, may not even have been recorded as being born.

Second, in low- and middle-income countries mortality between the ages of 1 and 5 can be quite high (in contrast to high-income countries, where less than 20 percent of under-five deaths are child deaths), reflecting the effects of malnutrition, incomplete immunization, the lack of adequate sanitation and safe water, and other basic preventive public health measures. For monitoring the effects of targeted interventions, the under-five mortality rate is therefore preferable.

All governments are committed to measuring these indicators, and the expertise to measure them exists in almost all countries. The principal sources are vital registration systems (covering at least 90 percent of the population) and direct or indirect estimates based on sample surveys and censuses. Unfortunately, effective vital registration systems are not common in developing countries. But most countries now have at least one estimate of infant or under-five mortality based on empirical data. Because building reliable vital registration systems is a lengthy process, the United Nations Children's Fund (UNICEF) recommends that countries use international survey programs such as the Demographic and Health Surveys (DHS) that contain questions to measure these indicators. It further recommends that survey measurements be done every three to five years.

Maternal mortality and access to reproductive health

The objective of reducing maternal mortality by three-fourths should be viewed in the context of the more comprehensive goal of providing access, through the primary health care system, to reproductive health services for all who need them. The two are interrelated: providing access to reproductive health

care and thereby reducing maternal mortality is essential to improving women's health status. Improving women's social status and ensuring gender equity in health care are important strategies for achieving these goals. The importance of this goal for society cannot be emphasized enough. Providing reproductive health services to women—and men—will have a significant effect on their health and well-being, on the size of the future world population, and on the quality of life of future generations.

Measuring progress in providing access to reproductive health is a major challenge because the area broadly encompasses many health needs and behaviors, cultural and religious attitudes, and supply-side factors. The indicators cover several dimensions of reproductive health, and most are available in the majority of developing countries: contraceptive prevalence rate, total fertility rate, maternal mortality ratio, and births attended by trained and skilled health staff. Together, they indicate the degree to which reproductive health services are accessible and used. The use of contraception and lower fertility reduce the risk of dying during pregnancy and childbirth. Prenatal care and delivery attended by skilled personnel are essential for prompt identification, referral, and treatment of complications. An additional indicator, HIV prevalence in pregnant women age 15–24, has been proposed by the Joint United Nations Programme on HIV/AIDS (UNAIDS), although the methodology is still being finalized. Having this information is considered important, particularly where HIV prevalence is high (WHO 1997b).

A well-functioning referral system for emergency obstetric complications is an important dimension of access to reproductive health care and is essential to reducing maternal mortality. Key elements of referral systems include skilled birth attendants, emergency transport, and appropriately equipped and staffed referral centers. Measuring the quality, accessibility, and use of referral systems is difficult and should be augmented by maternal death audits, verbal autopsies, and documentation of the social and logistical factors related to referral, numbers of women referred, medical condition leading to referral and upon arrival at referral facility, and outcomes.

There has been much debate about the feasibility of using the maternal mortality ratio as a measure of the quality of care. Unless there is an excellent vital registration system in the country and medical attribution of cause of death, conducting a survey is the most practical way of getting estimates. But survey methods differ in several attributes, producing estimates that can be imprecise. Observed differences in the maternal mortality ratio may not reflect improved maternal health status. Instead they may be due to changes in the reporting system or to wide random fluctuation from a small number of events. The World Health Organization (WHO) and UNICEF have derived maternal mortality ratio estimates using a demographic model. But surveys cannot detect significant changes in maternal mortality over time. And model-based estimates cannot monitor trends in maternal mortality either.

Despite the problems with reliable data collection, maternal mortality ratio is now widely used. It may be combined with fertility to calculate a lifetime risk of dying during pregnancy and childbirth. According to WHO (1997b), any alternative outcome indicators for maternal health will have similar problems with reliable data collection.

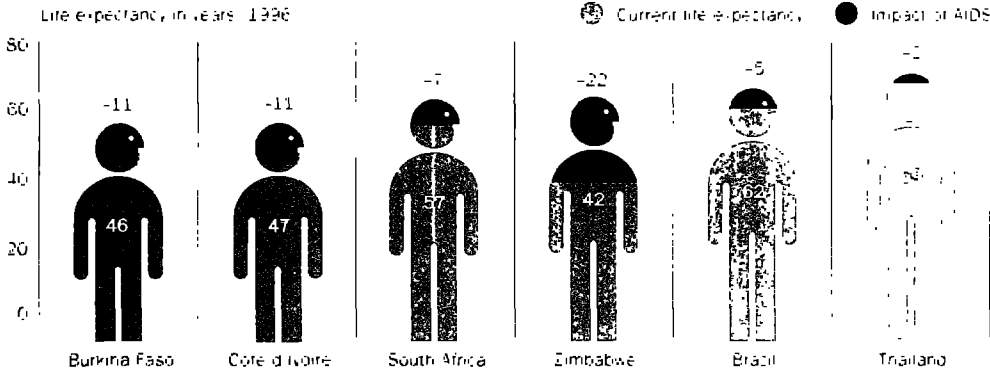
Data issues are also likely to weaken the monitoring capability of the remaining indicators. Survey measures of total fertility and contraceptive prevalence are affected by recall errors and nonspecific reference periods. For contraceptive prevalence derived from program statistics, the accuracy of the assumptions is difficult to assess. International comparisons of births attended by health staff are limited by differing definitions of what constitutes trained and skilled. Nor does the measure reflect the content and quality of care provided, so that countries with similar levels could have large discrepancies in actual care provided. While there are no proposals to improve coverage of these indicators, international survey programs such as the DHS provide the most reliable information for their estimation.

The need for better data

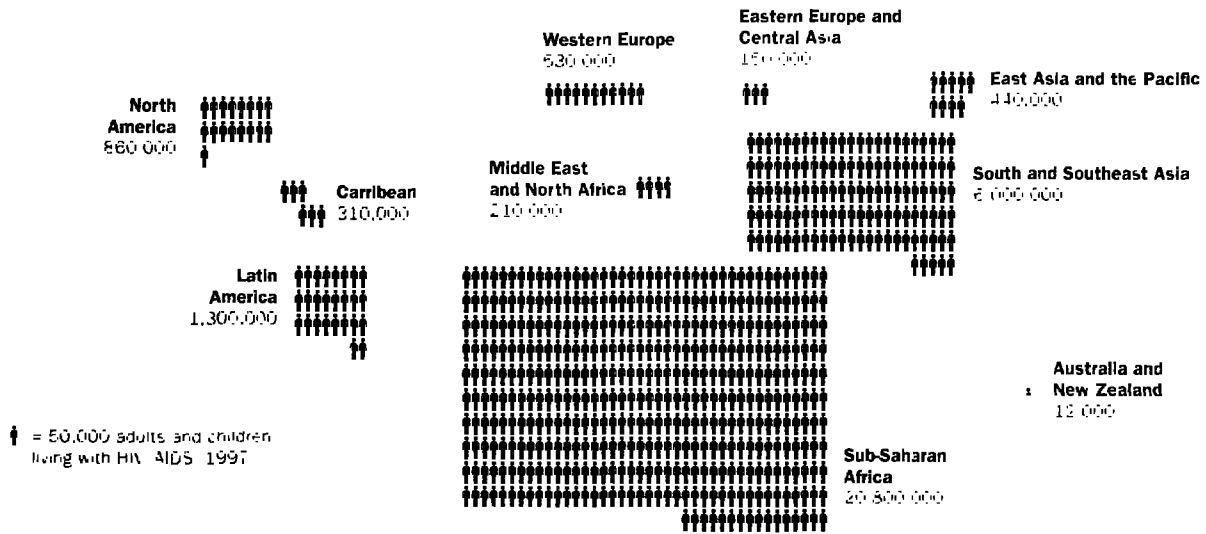
Establishing a reliable system for monitoring living standards at disaggregated levels requires a well-functioning sample survey apparatus. Many countries already conduct excellent household surveys that generate sufficiently disaggregated information to facilitate planning, and international survey programs such as the DHS have helped to improve the quality and comparability of basic indicators of living standards. For other countries, however, the state of the data does not even allow an accurate estimate of basic indicators. For these countries the World Bank's Living Standards Measurement and Social Dimensions of Adjustment surveys, with bilateral and multilateral support, provide one way to build local capacity.

Beyond data generation, however, the organizational structure in which statistical work takes place is also important, including cultivation of demand for good data by governments. Development institutions such as the United Nations Development Programme and the World Bank can help nurture this demand within countries by emphasizing the need for well-informed policy decisions, based on reliable and timely information on economic and social progress.

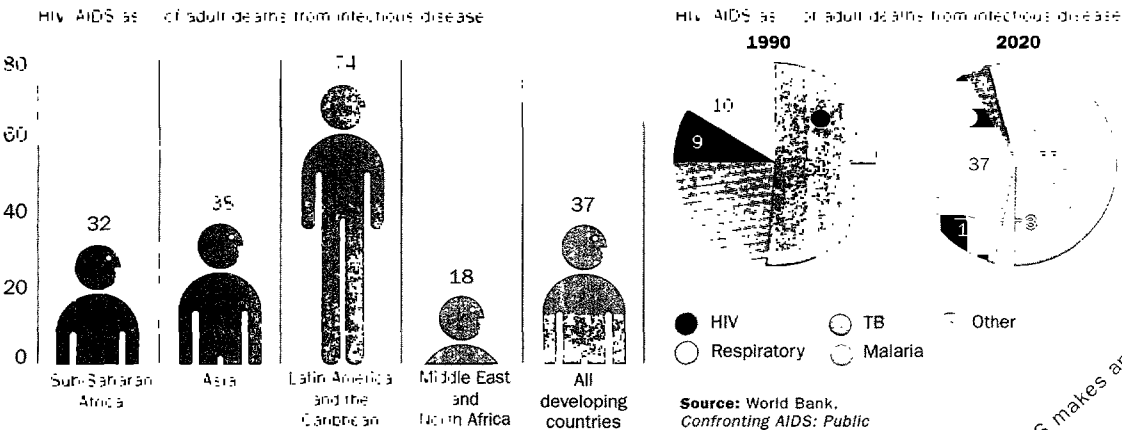
AIDS has lowered life expectancy



The HIV/AIDS burden is especially large in Sub-Saharan Africa



By 2020 HIV/AIDS will account for a sizable portion of deaths from infectious disease in developing countries

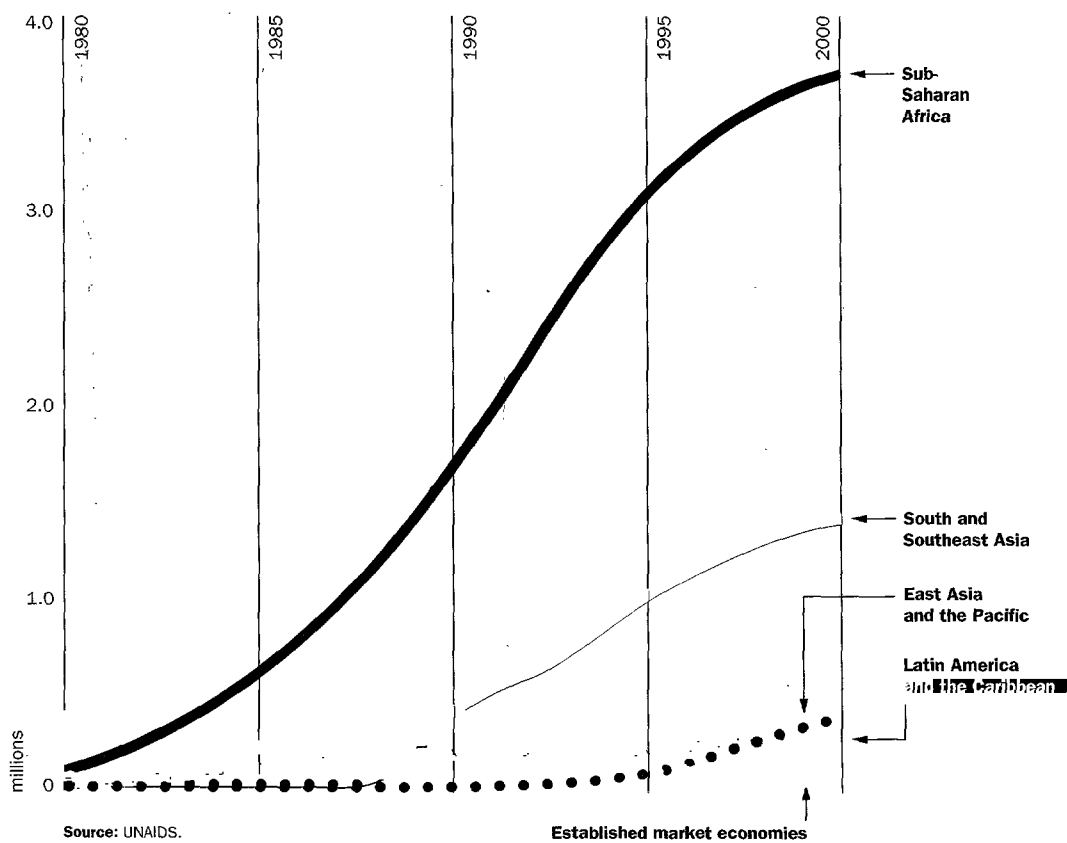


Life expectancy in Sub-Saharan Africa has returned to levels of more than 10 years ago
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 HIV/AIDS makes an even bigger contribution to the disease burden if the focus is on infectious diseases

AIDS is a large and growing problem that has already taken a terrible toll on people and their communities. Many countries still have an opportunity to avert a full-scale AIDS epidemic, but others—mostly in the developing world—are being forced to deal with the consequences of widespread HIV infection. In these countries, until prevention programs become more effective, life expectancy will fall, the number of orphans will increase, poverty will worsen, and health care systems will come under increasing strain.

Current trends indicate that the number of new HIV infections will continue to increase in developing countries

Sub-Saharan Africa and Asia have seen the fastest growth in new adult HIV infections



Note: UNAIDS analytical regions differ from those used elsewhere in the *World Development Indicators*.