

Monitoring the millennium development goals

Current weaknesses and possible improvements – Briefing Note

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Introduction

This briefing note summarises the results of the international component of a study which was commissioned against a background of attempts by the Millennium Development Goals (MDG) Task Force, and others, with the aim of improving the quality of MDG indicators. The particular aim of the study was to provide a better understanding of the monitoring process and its standards, and to highlight areas for possible improvement.

Current weaknesses of the MDG indicators

The current weaknesses of the MDG indicators can be organised around two key questions:

1. what is the level of data available?, and
2. can a judgement be made about the quality of that indicator i.e. is the data comparable over time and between places?.

What has been the level of data availability?

During the 1990s the availability of data for the 48 MDG indicators saw improvement in almost all cases. However, there are very significant differences in availability between geographic areas and over time. These differences in availability and coverage are best explained by the “age” of the indicator, with indicators that have been widely used for many years having considerably better

coverage and availability than “newer” indicators.

- data availability has been improving - for more than 80% of the indicators data coverage improved;
- however, the availability of data still needs considerable improvement - at the end of the 1990s for about one fourth of the indicators the population covered for LDCs and SSA is less than fifty percent;
- finally, “availability” might be exaggerated because for 8 MDG indicators¹ predictive models, based on earlier data rather than current data, are used to generate estimates.

Comparability – data increasingly available but analytically useful?

When data is available is it of high enough quality to be analytically useful? Clearly, differences in definitions and methods of calculation of an indicator can mean reduced opportunities for performance comparisons between regions and for comparisons over time.

Overall 18 of the 48 indicators are affected by comparability issues, and in particular Goals 1,2,3 and 5 (poverty and hunger, primary education, gender equality, maternal health) are especially seriously affected.

¹ Literacy; infant, child and maternal mortality; measles immunisation; improved water and sanitation; and malaria prevalence.

Definitional issues

There are three main definitional problems:

1. Lack of clarity in the definition provided by the international agencies. Newer indicators tend to be subject to more debate and revision than the old and established indicators. Frequent revisions results in poor comparability. Examples include "HIV prevalence among 15-24 year old pregnant women"; the "condom use rate of the contraceptive prevalence rate", and more generally, indicators that measure the spread of HIV/AIDS,
2. Clear international definition, but some countries and some agencies still use alternative definitions to measure the same indicators. For example, in the case of "literacy", UNESCO provides a very clear definition that is not adhered to in many censuses and indeed in widely used Demographic and Health Surveys (DHS).
3. Clear definitions but difficulties in operationalising them in some country-specific contexts. This problem applies particularly to five indicators² where precise international classification and differences in the strictness of interpretation promote comparability problems. For example, in the case of "the proportion of births attended by skilled health personnel" although international definitions clearly define skilled health attendants as doctors, midwives and nurses, professional categories do not always fall into this precise international categorization.

Methodological differences

For a number of indicators different calculation methods are used to derive estimates. These different methodologies can sometimes introduce biases that severely restrict cross country or time series comparisons. That said, when the methodology is used consistently comparisons can become possible. Some examples are presented below:

- For the indicator "share of women in wage employment in the non-agricultural sector", available estimates make use of two main sources of information: labour force surveys and establishment surveys (other sources are administrative and official statistics or insurance records). However, the coverage of these surveys makes international comparison difficult. For example, in Algeria the establishment survey covers only the public sector, whilst in other cases establishment surveys can exclude the informal sector or small enterprises,
- For the indicator "share of poorest quintile in national consumption", about 40% of reported values are income shares instead of consumption shares. This generally tends to produce values that are lower than those calculated with consumption. A similar problem applies to the poverty indicators,
- In the case of measles immunization, when available, household survey data are often used to recalibrate officially reported estimates, but if household survey estimates do not exist, only official data are taken into consideration. For instance in Tunisia, official reported coverage since 1997 was above 90%, but a recent household survey estimated a coverage in 1999 of just above 70%,
- In indicators of access to water and sanitation improved systems, administrative data report a provider perspective while household surveys are closer to the user perspective. Although much of the provider data has been replaced with data from household surveys (whenever possible), there are still cases in which administrative data are the only available source³.

³ If administrative data are the only available source of data there is certainly a benefit in using them, but when different sources of data are used they should be properly distinguished.

Priority activities

Unfortunately, many of these problems can only be addressed as more data become available. However, there are areas that are within the control of international agencies that if properly addressed could lead to substantial improvements in international data even in a relatively short time period. These areas are not based on the collection of more data, but on better management and use of the present resources. The key areas include:

- appropriate and additional use of available data from household surveys with an investigation of the potential benefits of an international household survey database;
- changes in the use by international organisations of data reporting questionnaires sent out to national governments;
- changes in the use of international population data in the calculation of some indicators;
- changes in the management of common methodologies and definitions; and
- changes in data management practices.

Appropriate and additional use of household surveys and the creation of an international surveys database

The use of data from household surveys could dramatically improve both the quality and coverage of certain indicators that do not currently make full use of household survey data. This would potentially apply to four indicators in education and literacy: the net enrolment ratio (NER), the survival ratio, literacy rate of 15-24 year-olds, the ratio of girls to boys in primary, secondary and tertiary education, and the ratio of literate females to males of 15-24 year-olds.

The inclusion of data from existing household surveys could make significant differences to the estimates for these four indicators. For the NER we could have information on an

extra 10% of countries; for the survival rate to grade 5, this percentage increases to about 40%, and in the case of literacy indicators estimates could be based on information that on average is more recent by eight years.

In addition to these indicators household survey data could also potentially be used for 'the proportion of population below minimum level of dietary energy consumption'. For this indicator, household survey data could complement the information currently available and challenge some of the present results with benefits for the quality of the data.

An international surveys database would go some way to provide a sustainable solution to problems of availability, comparability and timeliness. Some of the MDG agencies have put in place sophisticated networks in order to identify and select household surveys for use in generating MDG indicators. Examples include WHO's Global Database on Child Growth and Malnutrition; UNICEF's CRING database that includes data on Infant and Under-5 Mortality Rates. All agencies maintain some type of formal or informal network for that aim to capturing new available sources of data, including household survey data.

However, these networks can and do miss important data gathering opportunities (e.g. malnutrition data in Malawi; mortality and immunisation data in Pakistan) from multi-topic household surveys that collect a range of MDG data. Such multi-topic household surveys are becoming increasingly available for example the MICS, the DHS, and the LSMS.

An international household survey database could potentially document and archive the surveys and collect and eventually provide support documents (questionnaires, manuals of interviewers, sampling information, etc.). The benefits of such a database would be of three kinds:

1. An improvement in data availability and timeliness. Given that almost half of the MDG indicators use or may potentially

make good use of household surveys, creating a system that systematically gathers all household surveys with relatively easy access to data and information could reduce substantially the chances of failing to include available estimates.

In the case of Pakistan, and inclusion of the Pakistan Integrated Household Survey in such as database would have changed infant mortality rate estimates from 84 to 77 for 2001 and from 96 to 108 for 1990.

2. To enable the improvement of comparability across countries. Gathering different questionnaires in one database could help highlight definitional differences and the importance of country specific methodologies. A single database would improve the chances for a harmonization of some definitions.

For example, because of substantial differences in definition, some surveys cannot currently be used. This is the case for categories of water sources and sanitation, and for skilled birth attendants, among others.

3. Reduction in the costs both of reporting MDG performance and of using data for analysis. National statistical agencies currently have to report to several different data agencies. A single international database would require only a single report.

Similarly, distribution and analysis of data from a single source would reduce supplier and user costs.

Changes in the use by international organisations of data reporting questionnaires sent out to national governments

For 12 indicators, international agencies use questionnaires that are sent out to national governments, to gather information from reporting countries. These indicators include

amongst other education, immunisation and improved water and sanitation.

Although questionnaires represent a convenient way to gather information, this approach does not always provide the best means of acquiring high quality data, especially when the questionnaire is long and complicated. Indeed, the authors' own experience and observations are that these questionnaires do not receive the attention that they deserve. Reporting governments do not necessarily prioritise and assure quality control in their completion of the questionnaires.

Alternative ways that could be explored to avoid such problems are a direct contact with the authorities that fill the questionnaires and the independent gathering of similar information using other sources.

Changes in the use of international population data in the calculation of some indicators

International population data are used in two quite different ways in the calculation of MDG indicators:

1. They are combined with national data to produce country indicators;
2. They are used as weights to generate regional or global estimates.

It is when international population data are directly used to produce country estimates that agencies could be more cautious vis a vis possible unwanted effects on some MDG indicators.

In fact, population data for many countries are just estimates and consequently these estimates are surrounded by some uncertainty. There are three main international sources of population data: the United Nations Population Division, the World Bank and the U.S. Census Bureau. Furthermore, most national governments make population estimates and projections for their own countries. These various population estimates present differences that

cannot be ignored - especially for developing countries.

Comparing population estimates of the UN Population Division, the World Bank, and the US Census Bureau we found that for the year 2000, total population estimates presented differences greater than 10% (more or less than 10%) for more than 1 country in every 6, and this percentage increased to almost 1 in every 3 when taking into consideration estimates of population aged between 0 and 14.

In order to mitigate the potential unwanted impacts, where faced with discrepancies international agencies could consider several hypotheses, and investigate the reasons behind the discrepancies. International agencies could also be encouraged to make public several alternative figures at each end of the potential scale of difference, making their sources clear. Additionally, other sources of information such as household survey data could be used to cross-check data where anomalies occur.

Changes in the management of common methodologies and definitions

Indicator definitions are not always accepted or as widely known and understood as might be desirable. This is particularly problematic when there is a lack of data: when data does become available, definitions may have become distorted to such an extent that an accurate trend analysis is impossible.

For example, in the case of "The proportion of births attended by skilled health personnel", skilled health attendants are defined as doctors, midwives and nurses. However, in some countries there are professional categories that do not always fall into this precise international categorization. This creates uncertainty concerning the way in which data is treated. Indeed, this is the main reason for some of the differences between WHO and UNICEF data, especially in Latin American countries. For instance, both WHO and UNICEF rely on the 1998 ENSMI survey for the estimate of births attended by skilled health personnel in Paraguay. While WHO reports a proportion of 58.1, UNICEF's

estimate is 70.9. This apparently is due to the exclusion of 'partera' from the WHO estimate.

Possible responses are: a) to further promote standard definitions and guidelines (this applies to situations where there are distortions in definitions, or a need for guidance in using the definitions, for example in education and HIV indicators); b) to provide tools with which to successfully measure trends in particular countries where context-specific issues arise.

Changes in data management practices

When data is posted on international agencies' websites, original notes and sources can become lost. This means that to the observer, information looks as if it is directly comparable, while in fact it may not be. The use of different methodologies does not undermine the analysis of data trends for countries that systematically use the same source. However, it does raise problems for comparability with other countries that may use different sources.

It is therefore important to ensure that metadata is always published with a link to its source. Certain exceptional data should also be properly documented. For example, in the indicator for 'the share of women in wage employment in the non-agricultural sector', some of the estimates refer only to urban areas of the country. Transparency also dictates that where figures are derived from models, the source and year on which the model was based, should also be clearly presented.

Further Issues

Finally, this study identified a number of areas in which the international effort could focus to improve the quality of data. In particular, the issues that might be addressed in further dialogue with the agencies are:

- a. The level of accountability that the various lead international agencies have in the reporting process, as well as a

review of the rules and systems that define the responsibilities of countries versus international agencies;

- b. A further investigation into possible improvements in the quality of data currently collected from agency questionnaires;
- c. Further exploration of the feasibility, costs and benefits of implementing an official international household survey database;
- d. Explore the advantages of a direct re-analysis of raw survey data.

Contact	Ludovico Carraro
Telephone	+ 44 (0)1865 207300
Email	ludovico.carraro@opml.co.uk