IUSSP meeting on Taking stock of data needs and monitoring for the Millennium Development Goals in Developing Countries

Rabat, Morocco, 25-27 January 2007

Organised by the International Union for the Scientific Study of Population (IUSSP),
in collaboration with the Haut Commissariat au Plan - Centre d'Etudes et de Recherches Démographiques
and with financial support from UNFPA and the William and Flora Hewlett Foundation

Seminar Report

Policy decisions, planning, and monitoring all require accurate and timely data. Monitoring of the Millennium Development Goals (MDGs) in developing countries is no exception; however, there are serious gaps both in data collection and its availability. This is compounded by a lack of human capacity to analyse and disseminate such information. UNFPA has witnessed a decline in the role of demographers and population analysts in the field of poverty reduction and planning, and called upon the IUSSP to organise this seminar, bringing together experts in the field. Apart from redefining the role of demography in development, the broader aim of the meeting was to determine where the major problems lie and to propose feasible, short-term solutions to them, for implementation in the next 5 to 10 years.

The meeting brought together 30 experts in different areas of the field of population information and data for developing countries, from all regions of the world. The seminar sessions focussed on a few, key themes. Firstly, data needs were established, and secondly, an overview of existing demographic and statistical data sources for monitoring the MDGs was presented. Next, statistical techniques and new technologies that could simplify and improve monitoring were introduced. Finally, practical considerations were addressed, outlining the real world constraints which could limit the effectiveness of each data source and technique presented, linking data collection and dissemination with policy, planning and human capacity issues.

I. What Data are Needed for Monitoring the MDGs in Developing Countries?

Need for Surveys and Censuses. The current supply of data does not meet the demand, for several reasons. Firstly, surveys and censuses are generally lacking, although the severity of this problem varies across geographical regions; for example, only 50% of the population of Africa was covered by a census between 1994 and 2004, compared to 95% of Asia (Dupriez 2007). This data gap is exacerbated by problems with the reliability, comparability, relevance and timeliness, accessibility, and usability of surveys and censuses that do exist (Dupriez 2007).

Disaggregated data and easier access to microdata are also important: "The increased focus on evidence-based policies requires more detailed data than are typically provided by national statistics offices. This has caused an increased demand for access to microdata for research and for monitoring and evaluation" (IHSN 2006). In many developing countries, information is absent at certain geographical levels – e.g. no adequate information at the community level apart from civil registration and the census. The lack of private sector data was also highlighted, as in most developing countries, a significant number of consultations, especially for child health, take place here, as people consult their pharmacist or shopkeeper first, and their physician second.

Easing Restrictions on Data Access and Sharing. Legal, technical, political and financial obstacles prevent data access and exploitation. Due to the amount of data collected and left unanalysed, there is an acute need for data sharing and feedback. Organisations like the World Bank

receive a huge demand for datasets without requests for funding, from independent researchers, indicating the great potential for analysis that does not require outside funding.

Need to Exploit What Data We Do Have. Data are meaningless until they are analysed, and useless until they are disseminated (AbuZahr & Stansfield 2007), yet there is a great deal of data which are collected and then left unexploited. Incomplete data, funding problems, and restrictions on data access are all causes of this phenomenon, which need further examination. Demographers must advocate for the use of indirect estimation techniques to exploit incomplete health services and vital registration data. In this way, the development community can make better use of existing data, so as not to waste time before 2015.

Addressing Data Segmentation. Many of the MDG indicators require data collected by different national ministries and sectors, making data 'silo-ing' especially problematic. Even within one country, often data will not be shared, or access limitations will be put in place. Emphasis should be placed on multi-sectoral work, crossing boundaries between Statistics and Health, or Geography and Demography, for example, as well as on combining multiple data sources for analysis.

Need for Harmonisation of Methods and Sources. A balance must be struck between aiming for complete data harmonisation, and the need to capture local realities. At the technological level, it is necessary to ensure interoperability across subsystems and geographies. Similarly, to monitor progress towards the MDGs, there must be a certain level of comparability and coherence between different data sources and indicators; for example, standard definitions and measurements.

Although survey coordination and the harmonisation of definitions and methodologies are important, some disparities between sources will always exist. The issue is thus identifying such differences, and adjusting for them. It would be useful to bring the multitude of sources and information systems into one, single space in the future – perhaps in the form of a computerised, international database.

Measurement Issues. "There is a need to strengthen and simplify measurement strategies and methods, and to refrain from contributing to the proliferation of indicators and reporting requirements" (AbuZahr & Stansfield 2007: 10). In other words, the quality and usefulness of indicators must be stressed over their quantity.

Definitional issues challenge the accurate measurement of many diverse phenomena that demographers would like to quantify and monitor. One such problem area is migration, which is the most complex demographic process to quantify, and yet is increasingly important for a number of issues from economic development and social cohesion to health status (Hugo 2007). Most data on migration are generated in 'destination' countries, however these are generally insufficient. A global partnership to address the measurement of the different types of migration is needed, as well as recognition of its importance for the attainment of several MDGs – most notably MDGs 1, 3, 6, 7, and 8 – on poverty reduction, gender equality, prevention of diseases, environmental sustainability, and the global partnership for development. There is potential to improve the study of migration through the addition of a few, simple questions to the 2010 census round.

Emma Slaymaker addressed the definitional problems surrounding reproductive health and the measurement of access to reproductive health services. Both Emma Slaymaker and Chris Grundy emphasised that the measurement of access to services must consider social as well as geographical constraints, as well as the idea that non-use does not equal non-access.

The Skills Gap. CICRED's surveys found that there was a major capacity gap between the least developed countries (mostly in Sub-Saharan Africa) and others. These countries also had large training needs in all areas (demographic analysis and statistics, survey methods, and database management), and a very small proportion of centres with adequate demographic software (around 20%). In Africa, especially, civil registration and national collection of vital data is weak or

nonexistent, providing unreliable and outdated data. Training needs vary by region, but where vital statistics are incomplete, training should include *indirect estimation methods*, as well as I.T. training, and handling local- and micro-level data. The capacity gap could be transformed by a transfer of essential skills, ensuring that every country has 5 or 10 people who can perform each of the above tasks.

Need for Capacity Building and Partnership Formation. The issue of capacity building and retention is complex, with regional variation and a multitude of causes. Insufficient human resources in the developing world threaten MDG monitoring as much as problems with the data themselves. CICRED identified approximately 2000 population experts working in the South, using a 2003-4 census by the Institute of International Education (IIE), and the IUSSP's own register. The dearth of qualified demographers is made worse by the continuing 'brain drain' from developing countries towards higher pay in more developed countries and with international organisations. South-South, North-South, and public-private sector cooperation can all advance the statistical knowledge base for MDG monitoring. Some 'success stories' do exist: Benin and Bangladesh found ways to keep qualified people in their countries, through opportunities in private companies. Engaging the private sector on this complex issue could possibly be beneficial.

Communication and Dissemination Issues. Seminar discussions repeatedly returned to the idea that statisticians and demographers must communicate their findings more effectively, both to policy makers and to the public, in order to raise awareness of the importance of information to decision-making. There is a need now, more than ever, to reach out to non-traditional users. The Demographic and Health Survey (DHS), for example, just released a journalist's guide. In order to spread the idea that *data are important* for development, we must reach out to new groups who can act on our findings, beyond academic and public policy circles, towards the general public.

Lack of Funding. CICRED found that financial constraints were the most frequent issue mentioned by population centres in the developing world. Disaggregated analysis lacks funding, although the main weakness is at the level of data management and dissemination. Suggestions were put forth for UNFPA scholarships, to fund capacity-building efforts in the South.

Need for a Systematic Census of Needs from Centres in the South. CICRED carried out another two surveys which begin to establish the needs and capacities of demographic centres in developing countries, although there is still a *need for a systematic census of needs from centres in the South*.

II. How can we meet these data needs?

The long-term aim should be to build and invest in sustainable health information systems (HIS), rather than the current, fragmented data collection efforts. Too often, data are collected and then remain unused. A recurring theme, emphasised by UNFPA, was that project documents must take account of data collection, analysis, and dissemination when they are being planned and funded, rather than leaving the latter two steps as an afterthought. At the policy level, the World Health Organisation (WHO)'s Health Metrics Network (HMN) is putting together a standardised HIS framework, to guide countries in the right direction.

Innovative Data Exploitation Techniques and Technologies

Vijay Verma presented an overview of small domain estimation techniques, which deal with small domains, or small samples, by combining the strengths of two different data sources. 'Synthetic estimation' methods, for example:

borrow the structural relationships between variables available in detail (but which are not current) in the census, and impose those relationships in some appropriate manner on the less detailed but more current survey data to produce estimates which are current and detailed at the same time (Verma 2007: 4).

Although many techniques exist, the method is most feasible for use in developing countries. Which one is used is contextually determined, and dependent upon: (1) data availability, (2) accuracy of the estimates, (3) practicality, and (4) user acceptability. Simple, empirically-focussed techniques would be recommended for developing country use. Such techniques can be used for better disaggregated data estimates, at the sub-national level. This area is promising, though small domain estimation has mostly been used in developed countries (Verma 2007).

Studying hard-to-reach populations is another area where innovative approaches must be used to address the methodological and practical challenges. Sampling becomes a major issue when studying covert activities, such as the 'worst forms of child labour' (WFCL)[1]. Workplace and school-based surveys, rapid assessments (not generally useful for quantitative data collection), and baseline surveys employing probability sampling can all be used. Further development of cost-effective over-sampling, adaptive sampling and capture-recapture techniques should be considered for studying hard-to-reach populations (Ofosu 2007: 9).

Studying post-disaster or conflict situations similarly requires an adaptation of traditional methods to exceptional circumstances. Geographic Information Systems (GIS) can be used to estimate the population impact of natural disasters, when the data are available, e.g. after the 2004 Asian tsunami or the 2005 Pakistan earthquake. Specialised surveys, asking specific questions, can be used to indirectly estimate the demographic impacts of conflicts, and allow easier cause-desegregations than traditional surveys (Bergouignan 2007).

The use of GIS in the developing world is just beginning to expand, and a careful consideration of its accuracy versus cost and skills requirements should be undertaken before it is chosen over simpler approaches (Grundy & Cox 2007). Very simple GIS methods can be used, in the emerging developing country context, and such methodologies could be put into a country guide to ease access to this technology. Work remains to be done on methodological policies and GIS 'best practice'. GIS can also be linked to census and survey information (such as DHS and MICS [Multiple Indicator Cluster Surveys]), to transform administrative information into policy-relevant research data. Using small geographic building blocks allows for more user-flexibility, and is helped by small area statistics. Geo-coding currently tends to differ across agencies, creating major obstacles for the fast and efficient use of pre-existing GIS datasets (Muñiz & Balk 2007), therefore a unified, geographical coding system, and a centralised location for GIS data were both recommended to ease data access and use. Concerns were raised over confidentiality issues, especially to do with linking geographical identifiers (through GIS) with microdata (from the census), and this area merits further consideration.

New technologies have the potential to simplify data collection, analysis, and dissemination. Using handheld computers during survey fieldwork can simplify the administration of complex questionnaires, and reduce data entry requirements (Slaymaker 2007: 7). Opportunities for faster data collection and monitoring using Personal Data Assistants (PDAs) and Computer Assisted Person Interview (CAPI) should be explored. James Phillips discussed the potential of 'paperless' demographic surveillance systems (DSS), such as Uganda's 'Iganga' system, which could cut costs by three-quarters (to 20 cents per capita, per year) (Phillips, *et al.* 2007). Another novel DSS design makes use of global networks to standardise different data systems and definitions, easing the application of standard approaches to data collection[2] (Phillips, *et al.* 2007). The census has also benefited from technology in many ways, including the utilisation of public domain aerial photos and Geographical Positioning Systems (GPS) for the initial mapping stages (Dekker 2007).

---

[1] WFCL includes using children for slavery, prostitution and other illicit activities, such as drug trafficking (Ofosu 2007: 2).

[2] See the *INDEPTH Network* for further details: http://www.indepth-network.org

Addressing Gaps in the Knowledge and Skills Base

Since a lack of skilled human resources is currently a major problem in the developing world, particularly Sub-Saharan Africa, the 'brain drain' and capacity-building and retention strategies will be covered next. One strategy is to raise demographers' salaries, to keep experts from leaving for international agencies and NGOs, though senior-level employees often still express a preference for working in Europe or for international agencies. Bad job prospects at home are often the cause of this, and involve non-monetary factors. Researchers in developing countries are often based in government ministries, and therefore work as civil servants rather than 'researchers'. This causes research interest, career, and mobility problems. Ageing population experts and a lack of funding and training opportunities result in a loss of key skills that must be addressed before the situation becomes irreparable.

Recommendations for increased financial support and institutional partnerships between centres were another recurring theme. Developing countries should encourage demographers to participate in North-South conferences, in order to 'learn by doing'. There is a need to foster a competitive environment, where peers can discuss new issues faced by demographers and learn from others, as the discipline moves beyond its traditional boundaries and into addressing broader social and economic problems (e.g. HIV/AIDS). Skills such as modelling, multi-dimensional analysis, and indirect estimation methods are increasingly important as adult mortality becomes a larger policy focus, and the training syllabus must be reviewed and updated accordingly.

Where Do We Go From Here?

The IUSSP could contribute its expertise to many important areas, and should move from the identification of problems towards viable solutions. Vijay Verma suggested convening meetings on: (1) data on special populations, e.g. hard-to-reach populations, who could be studied using the methodologies above, and (2) how small-area estimation could produce better sub-national estimates on small populations. Jim Phillips suggested that the IUSSP structure more specific working groups, in order to bridge different themes and expertise. To benefit scholars in the South, the IUSSP could promote the advantages of its membership, and strengthen its support for them, by improving document availability, and encouraging donors to fund developing country researchers to attend meetings such as this one. The IUSSP could ask its members to support researchers more holistically: supporting not only data collection and production, but also the research process, through collaboration and ideas-sharing.

To aid capacity-building in the South, the IUSSP could examine the potential of distance learning training, run through regional demographic centres; for example, to teach basic computer skills, as well as simple demographic analysis, methods, and estimation. Equally, a simple mentoring system could be initiated. Assembling an email directory of its willing members would allow the IUSSP to identify experts on specific topics, whom others with questions on such areas could contact for help and advice when they need it.

Several actions could follow this meeting: (1) an articulation of 'best practice', e.g. a broad policy framework, outlining what institutions and budgets should look like, and expectations for human resources and data management; (2) address the communication problem, by linking creatively to help effective communication with citizens; and (3) address human resources capacity building by finding a way to move capacity out to countries and move experts and networks across national borders, as international agencies tend to corner the market in modelling and projection experts.

References

(Papers or PowerPoints presented at the meeting are available to IUSSP members at the following link: http://www.iussp.org/members/restricted/publications/Rabat07/programme07.php)

AbuZahr, C., Stansfield, S., 2007. *Taking stock of data needs for developing countries, with particular reference to the measurement of maternal mortality*. Paper presented at the IUSSP Meeting on Taking Stock of Data Needs and Monitoring for the MDGs in Developing Countries, January 2007.

Bawah, A.A., Binka, F., Phillips, J., 2007. *Applying Demographic Surveillance Systems to Monitoring Progress in Achieving Millennium Development Goals. The Feasibility of Small Area DSS: The Case of Ghana*. Paper presented at the IUSSP Meeting on Taking Stock of Data Needs and Monitoring for the MDGs in Developing Countries, January 2007.

Bergouignan, C., 2007. *Le recours aux enquêtes rétrospectives dans l'analyse démographique des conflits L'exploitation d'une enquête « spécifique » (ESDSR1 Burundi 2002) et d'une enquête « conventionnelle » approfondie (EDS2 Rwanda 2000)*. Paper presented at the IUSSP Meeting on Taking Stock of Data Needs and Monitoring for the MDGs in Developing Countries, January 2007.

Chahoua, S., 2007. *Objectifs du millénaire pour le développement au Maroc: Besoins en données our le suivi et l'évaluation*. Paper presented at the IUSSP Meeting on Taking Stock of Data Needs and Monitoring for the MDGs in Developing Countries, January 2007.

Dekker, A., 2007. *Census data processing for the 2010 round: new technology and lessons from the past*. Paper presented at the IUSSP Meeting on Taking Stock of Data Needs and Monitoring for the MDGs in Developing Countries, January 2007.

Dupriez, O., 2007. *Enquêtes par sondages et suivi des indicateurs de développement: Aperçu des problèmes et solutions proposées*. Paper presented at the IUSSP Meeting on Taking Stock of Data Needs and Monitoring for the MDGs in Developing Countries, January 2007.

Feeney, G., Coullare, F., 2007. *Civil Registration–Based Vital Statistics Systems*. Paper presented at the IUSSP Meeting on Taking Stock of Data Needs and Monitoring for the MDGs in Developing Countries, January 2007.

Grundy, C., Cox, J., 2007. *The use of GIS in measuring access to services*. Paper presented at the IUSSP Meeting on Taking Stock of Data Needs and Monitoring for the MDGs in Developing Countries, January 2007.

Guilmoto, C.Z., Martinez, R., 2007. *Needs and capabilities of demographic centres*. Paper presented at the IUSSP Meeting on Taking Stock of Data Needs and Monitoring for the MDGs in Developing Countries, January 2007.

Hartanto, W., 2007. *Web-based data for decentralised planning*. Paper presented at the IUSSP Meeting on Taking Stock of Data Needs and Monitoring for the MDGs in Developing Countries, January 2007.

Hugo, G., 2007. *Challenges in measuring migration in developing countries*. Paper presented at the IUSSP Meeting on Taking Stock of Data Needs and Monitoring for the MDGs in Developing Countries, January 2007.

International Household Survey Network, 2006. *Developing Data Dissemination Tools*. Available from: http://www.surveynetwork.org/home/?lvl1=activities&lvl2=tools. Last accessed on 4 March 2007.

Jaspers, D., *REDATAM+SP as a tool for data processing, analysis, and dissemination*. Paper presented at the IUSSP Meeting on Taking Stock of Data Needs and Monitoring for the MDGs in Developing Countries, January 2007.

Loaiza, E., 2007. *Multiple Indicator Cluster Surveys (MICS)*. Paper presented at the IUSSP Meeting on Taking Stock of Data Needs and Monitoring for the MDGs in Developing Countries, January 2007.

Muñiz, M, Balk, D., 2007. *The spatial dimensions in demographic monitoring and research: Use of GIS data*. Paper presented at the IUSSP Meeting on Taking Stock of Data Needs and Monitoring for the MDGs in Developing Countries, January 2007.

Ofosu, Y., 2007. *Surveying difficult-to-reach populations: Examples from ILO work on child labour*. Paper presented at the IUSSP Meeting on Taking Stock of Data Needs and Monitoring for the MDGs in Developing Countries, January 2007.

Phillips, J., Bawah, A.A., Binka, F., 2007. *Applying Demographic Surveillance Systems to Monitoring Progress in Achieving Millennium Development Goals. The past, recent innovations, prospects for the future (Part 1: What is DSS?)*. Paper presented at the IUSSP Meeting on Taking Stock of Data Needs and Monitoring for the MDGs in Developing Countries, January 2007.

Slaymaker, E., 2007. *Universal access to reproductive health by 2015: how do we measure progress towards this target?* Paper presented at the IUSSP Meeting on Taking Stock of Data Needs and Monitoring for the MDGs in Developing Countries, January 2007.

Vaessen, M., 2007. *The Conventional Survey: Problems and Prospects*. Paper presented at the IUSSP Meeting on Taking Stock of Data Needs and Monitoring for the MDGs in Developing Countries, January 2007.

Verma, V., 2007a. *A Review of Lot Quality Assurance Surveys*. Paper presented at the IUSSP Meeting on Taking Stock of Data Needs and Monitoring for the MDGs in Developing Countries, January 2007.

Verma, V., 2007b. *Small area domain estimation techniques: A brief overview*. Paper presented at the IUSSP Meeting on Taking Stock of Data Needs and Monitoring for the MDGs in Developing Countries, January 2007.

Verma, V., 2007c. *Surveys in Conflict/Disaster Situations: Aspects of the Lancet Study "Mortality after the 2003 invasion of Iraq: a cross-sectional cluster sample survey" by Gilbert Burnham, Riyadh Lafta, Shannon Doocy, Les Roberts, Lancet 2006*. Paper presented at the IUSSP Meeting on Taking Stock of Data Needs and Monitoring for the MDGs in Developing Countries, January 2007.