

Using the GDDS to build statistical capacity in Africa

Graham Eele¹ and Oliver Chinganya²

Summary

The General Data Dissemination System (GDDS) provides a broad framework for statistical development. It covers social and demographic as well as economic data sets and provides a focus on data quality and dissemination. Since its launch in 1997 it has proved to be a robust and flexible framework, not only for documenting current procedures and practices, but also to identify where improvements are needed. For many developing countries it has proved to be an important starting point for a more comprehensive and strategic approach to statistical development and capacity building. The paper discusses how, by participating in the GDDS, a number of developing countries have been able to build capacity and improve the availability of indicators generally. It also shows how the framework has provided a basis for strategic planning and identifies ways in which the synergy between participation in the GDDS and building sustained statistical capacity could be strengthened.

Key Words:

National strategies; Global monitoring; Standards; Poverty reduction strategies

1. The General Data Dissemination System

1.1. Background and History

The work by the International Monetary Fund to develop standards to guide countries in the compilation and dissemination of economic and financial statistics arose as a direct result of the financial crises of the mid-nineties. It was recognized that an important contributing factor to the crises was the lack of reliable, good quality, comprehensive statistics on the state of economies and the operations of financial and other markets that could be compared across regions and countries. The importance of good statistics in being able to identify, at an early stage, the potential for instability and turbulence in markets and in indicating the need for intervention and action was clear. In 1995, therefore, the Fund's Statistics Department under direction from the Executive Board started work on the development of standards to guide countries in their statistical work and to help improve the quality and comparability of key economic and financial indicators.

From an early stage it was clear that a two-tier process would be needed. On the one hand, countries with relatively sophisticated economic and financial systems and requiring access to international financial markets had specific needs. On the other hand, though, it was recognized that many countries, especially the least developed, did not have a well established statistical infrastructure and were unlikely to be able to access financial markets for some time to come. It was decided, therefore, to develop the Special Data Dissemination Standard (SDDS) for the first set of countries and this was ap-

1: Senior Statistician, World Bank, geele@worldbank.org

2: IMF Resident Coordinator, GDDS Project, Kenya, Ochinganya@africaonline.co.ke

proved by the Executive Board at the end of March 1996. The second tier, entitled the General Data Dissemination System (GDDS), was formally approved about a year later.

The primary reference source setting out the structure and objectives of the system is the GDDS Document, (IMF, 2003). This has been updated from time to time to reflect changes and to ensure that the system remains relevant and useful. Reviews of the data standards are conducted at regular intervals and changes to the system are reflected in the Document and are approved by the IMF's Executive Board. Recent development include: extending coverage to data on external debt and debt servicing in 2000; the launch of the GDDS web-site (IMF, 2004) in May 2000 to publish inform the public about a country's participation and to provide information on current statistical practices and procedures; and, in 2003, to give explicit recognition to the Millennium Development Goal indicators³ and the development of appropriate statistical and monitoring systems.

1.2. Overview of the GDDS

The GDDS is a structured framework that countries participate in voluntarily. Its aim is to help countries improve the quality of the data and indicators produced and disseminated by national statistical systems. While it includes recommendations on the methods and procedures to be used to collect and compile official statistics as well as on the frequency with which key indicators are disseminated, the crucial point is that participating countries themselves decide on their own priorities for development and on the pace at which they propose to implement the recommendations. Although participation in the GDDS is seen as a way for countries to develop their statistical systems so that they can achieve the special data dissemination standards, it is recognized that not all countries will be able to or will want to migrate to the SDDS in the short to medium term. It is designed to be flexible and relevant to the needs of countries right at the beginning of developing a coherent statistical system as well as those with much better developed institutions and data processes.

The GDDS is consistent with other frameworks and recommendations designed to support the development of statistical systems and the use of sound data collection, compilation and dissemination practices. It is, for example, fully consistent with the United Nation's *Fundamental Principles of Official Statistics* (UNSD, 2003) and provides a practical way to put these into practice. It is also coordinated with the frameworks for economic and financial statistics, including the System for National Accounts (SNA).

To support the development of national statistical systems to meet the needs of economic management, the monitoring of poverty reduction strategies and international reporting, the GDDS focuses on three key areas: the quality of the data; dissemination of statistics for public use; and the development of plans for improvement. Under the quality heading the main objective is to support the development of the systems that produce and disseminate statistics, in accordance with good practice and international recommendations, where relevant. The emphasis is on the procedures and practices of the agencies collecting and compiling the data as well as the attributes of the indicators themselves. The inclusion of development plans ensures that the system is dynamic and is relevant as statistical systems change in line with changing demand. The emphasis is three-fold, covering diagnosis of current methods and procedures, the formulation of action plans with specific time frames and tracking progress.

3: The GDDS now incorporates 23 of the 48 MDG indicators that are usually generated by national statistical systems and which come within the scope of the system

As already indicated participation in the GDDS is voluntary and depends on three actions. First, countries indicate their formal commitment to using the GDDS as a framework for statistical development. Second, they nominate a country coordinator who works with Fund and Bank staff as well as the different agencies involved in the collection and compilation of official statistics. Third, countries prepare metadata, or detailed descriptions of their current statistical practices as well as plans for both short and longer-term improvements. These metadata are then published by the IMF on the Data Standards Bulletin Board.

The descriptions of current methods and practices as well as the plans for improvement are discussed in the GDDS in four dimensions that cover: data coverage, periodicity and timeliness; data quality; procedures to ensure the integrity of the data and to ensure the confidence of users; and access by the public. Data coverage includes economic, financial and socio-demographic data, and includes discussion of the broad frameworks used, where relevant, as well as core indicators. Economic and financial data cover national accounts, central government operations, money and banking and the external sector. Socio-demographic data concerns statistics on population, health, education and poverty.

1.3. Comparing the SDDS and the GDDS

Although both the SDDS and GDDS were developed as part of the same response to the financial crises of the nineties and both are designed to promote the compilation and dissemination of better quality data for users, in practice there are important differences and, over time, they have tended to fill different functions. First, the SDDS is a *standard* that countries have to meet before they can participate. Once countries are SDDS subscribers, they must maintain the prescribed standards and meet the requirements of the system, but there is no assumption of development beyond this. Further development in data quality, coverage and dissemination may well take place in response to demand from data users, but this is neither a requirement nor a component of participation. The GDDS, on the other hand, is specifically a system or a framework for the development of statistics. Countries may subscribe whatever their level of statistical development. Participating countries include those with relatively sophisticated and well developed statistical systems such as China and others, such as Angola and the Democratic Republic of the Congo, where statistical systems are rudimentary at best.

Second, as a standard, countries participating in the SDDS are required to meet the requirements for data compilation and dissemination in all sectors before they can subscribe. There is no possibility of countries deciding, for example, to concentrate on improving real sector statistics at the expense of balance of payments data. By taking part in the GDDS, however, countries agree to develop their statistics in line with the overall framework, but the pace of change and the priority areas for development are decided in line with national priorities. A participating country with limited resources may decide, for example, to concentrate on the development of poverty statistics and delay the compilation of a producer price index.

Third, the plans for improvement in the different data categories are core components of the GDDS, which are not found in the SDDS. In particular, the plans represent specific improvements that countries would like to implement and also identify what additional resources may be required to put them into effect. Since the GDDS does not cover all data areas or all data producing agencies, these plans do not represent a comprehensive strategy for statistical development in a country. They do, however, indicate in a structured way what is being proposed in both the short and longer-term.

Fourth, the GDDS incorporates social and demographic statistics, while the SDDS focuses exclusively on economic and financial data. This reflects, of course, the different purposes of the two, with the SDDS being concerned with those data

items and underlying systems that are of most importance to financial markets. The key socio-demographic statistics in the GDDS, on the other hand, while not all-encompassing, nevertheless do cover most of the main data areas of interest and concern to users in developing countries. Data on population, health, education and poverty, for instance, cover a substantial proportion of those MDG indicators generated by national statistical systems as well as many of the indicators used to monitor the implementation of poverty reduction strategies.

1.4. Cooperation between the World Bank and the IMF

The inclusion of socio-demographic statistics in the GDDS has undoubtedly broadened the extent to which it can be used to support statistical development, but has required the IMF to cooperate closely with the World Bank both to develop the framework and to support its implementation. As the GDDS was being developed, an early decision was taken to bring the World Bank into the process, since the IMF did not have expertise in any of the socio-demographic data categories. Since 1999, the Bank has cooperated with the Fund, first to develop the framework and particularly the socio-demographic parts of the GDDS guide [2, op.cit] and second to provide both technical and, in some cases, financial support to countries interested in participating. This has taken the form of *ad-hoc* arrangements responding to demand for assistance from countries and, more recently, in the development and implementation of joint sub-regional development projects.

1.5. The GDDS as a Framework for Statistical Development

Since its inception, the GDDS has proved to be popular, with more and more countries participating. By August 1, 2005, 79 countries were full participants in the GDDS and had posted their metadata. Table 1 shows the distribution of countries participating by World Bank region.

The flexibility of the GDDS and the utility to countries in subscribing is indicated by the level of participation as shown in Table 1. In sub-Saharan Africa for example, more than 80 per cent of countries participate, while in Latin America and the

Table 1:
Distribution of GDDS and SDDS Subscribers by Region as of August 1, 2005

	Number of Borrowing Countries	SDDS Subscribers	GDDS Subscribers
Africa (Sub-Saharan)	47	1	39
East Asia and the Pacific	21	4	8
Europe and Central Asia	30	19	6
Latin America and the Caribbean	32	9	17
Middle East and North Africa	21	2	5
South Asia	8	1	4
Total	159	36	79

Caribbean, a similar proportion subscribe to either the GDDS or the SDDS. In the least developed countries in particular, the GDDS seems to have been widely adopted as a framework to support the development of national statistical systems.

It seems to be the basic characteristics of the GDDS that make it such a useful statistical development tool. First it is flexible and can be used by countries at very different levels of development. Second, countries retain control of the development process. Third, while not covering all areas of statistical activity it does focus on a number of priority areas and fourth, it provides a mechanism for bringing together different data producing agencies and does not focus on the national statistical agency alone. The next two sections of the paper discuss how the GDDS has been used in practice as a component of a broad process of statistical development, especially in Commonwealth countries in sub-Saharan Africa.

2. Increasing Demand for Statistics

2.1. Global Monitoring and the MDGs

The past five years, since the end of the last century, have seen a substantial increase in the demand for data to monitor indicators of development. This increased demand has been generated from a number of sources, but overall it represents both a major challenge and a major opportunity for the statistics community in general and for the managers of statistical systems in developing countries in particular. A number of reviews of statistical performance in developing countries over the past ten to fifteen years have identified that many statistical systems, especially in less developed countries, are facing a vicious spiral of poor performance, inadequate demand for their outputs and reduced resources (World Bank, 2003 and UNECA, 2001). The key problem has been seen as the lack of sustained demand for the products of statistical systems especially from those parts of government that have to allocate resources for statistical activities (Eele, 1989). Processes that lead to an increase in demand, therefore, represent an important opportunity to break into the vicious cycle and address fundamental problems.

The United Nations Millennium Summit in 2000 and the resulting Millennium Declaration placed the need to monitor progress at the core of the development and poverty reduction process. For the first time an unprecedented number of heads of state and governments committed themselves to a process to achieve eight development goals and to monitor and report on progress on a regular basis. The translation of the eight goals into 21 targets and 48 indicators immediately focused a political spotlight on the statistical systems that were to generate the data for these indicators. Even though some of the indicators have to be estimated from international or developed country sources, national statistical systems remain the only viable source of information for the majority⁴. The emphasis on monitoring these indicators regularly and the political attention given to progress reports, especially in 2005 and 2010, have highlighted both the data gaps and the need to invest in statistical capacity.

4: Of the 48 MDG indicators, 35 are normally based on data generated by national statistical systems, the other 13 are usually generated by international agencies

2.2. Monitoring Poverty Reduction Strategies

Within developing countries a number of processes have also created demand for good statistics and have presented an opportunity to make the case for more sustained investment in statistics. Following the political campaign for enhanced debt reduction around the Millennium, the Highly Indebted Poor Countries (HIPC) initiative and the requirement for the least developed countries to prepare and implement poverty reduction strategies created enhanced demand for statistics. The preparation of Poverty Reduction Strategy Papers (PRSPs) is a data intensive process (World Bank, 2002). Countries preparing a PRSP need to compile data for a baseline assessment, they also need to specify both indicators and monitoring mechanisms for annual progress reports. In many countries, the process of preparing the PRSP and the political attention given to the document highlighted weaknesses in statistical systems and allowed managers to make the case for increased resources (Booth and Lucas, 2001 and World Bank and IMF, 2004).

Because poverty reduction strategies are broad policy statements covering programs and policy changes in many different sectors, the demand for data is also broad. The need for countries to identify indicators as well as specify and put in place mechanisms for monitoring and evaluation presents an opportunity for the managers of statistical systems to take a strategic view of the development and to link their plans directly to the PRSP (Zieschang, 2005).

2.3. The Results Agenda and the Marrakech Action Plan for Statistics

The focus on identifying indicators, compiling data on a regular basis and monitoring and evaluating the results of past action at international and national levels has come to be called *the results agenda*. Following the Monterrey Conference on Financing for Development held in Mexico in 2002, there was a broad consensus that increased finance for development could be made available, but that developing countries and the international community more generally should adopt a much more results focused approach (United Nations, 2002). The international development banks in particular, have been leading this agenda, but it has been driven by a number of other processes, including the negotiations for the fourteenth replenishment of the International Development Association (IDA) and the recent Africa Commission report (Commission for Africa, 2005).

The results agenda places an explicit requirement on countries and development agencies to manage for results, to identify how additional resources can be used most effectively and then to monitor outputs and especially outcomes. At the second roundtable on Managing for Development Results held in Morocco in 2004, the international statistical community discussed what additional things need to be done to support the results agenda, focusing in particular on the challenge of reporting on progress towards the MDGs by 2010. The participants in this meeting developed what has become to be known as the Marrakech Action Plan for Statistics or MAPS. MAPS aims to build on what has already been achieved, including the widespread participation in the GDDS, and identifies a specific action plan to be carried out between now and 2010. The plan has six components, three working to support national statistical capacity and three to strengthen international coordination and management. MAPS has been widely endorsed, by the UN Statistical Commission, by the Development Assistance Committee of the OECD, by the Partnership on Statistics for Development in the 21st Century (PARIS21), by the Africa Commission and by the executive boards of the international development banks. If fully funded and implemented, MAPS represents a step increase in resources for statistics over the next five years. The challenge is to make sure the program is implemented successfully and to bring together all the main initiatives supporting statistics in developing countries to deliver better data for development.

3. Using the GDDS in Practice

3.1. GDDS and Statistical Development in Africa

Table 1 indicates that the rate of participation in the GDDS by sub-Saharan African countries has been particularly high. More than four fifths of all countries have already prepared and disseminated their metadata and some are updating these on a regular basis. In part, the high participation rate can be ascribed to special efforts by the IMF and the World Bank to encourage and support countries, especially in the metadata preparation stage. The regional approach, working with sub-regional organizations has proved to be particularly effective. Nevertheless, the fact that countries continue to participate actively does indicate that statistical managers find the GDDS useful and flexible enough to address issues in countries at very different stages of development.

One regional project that has proved successful in getting countries not only to participate in the GDDS, but also to use the framework actively to develop their statistical systems has worked with 15 Anglophone African countries of which 11 are members of the Commonwealth. The project has been financed by the United Kingdom and is implemented jointly by the IMF and the World Bank. Having started in 2002, the project has been extended and is now due to be completed by the end of April 2006. The overall objective is to support the more effective design, implementation, and monitoring of economic policy and poverty reduction strategies by strengthening national statistical systems through participation in the GDDS. The initial phase of the project focused on the assessment of statistical systems and the compilation of the GDDS metadata. Subsequent activities have been concerned with providing technical assistance to assist countries to implement plans for improvement in the different data categories.

The project was reviewed at the end of 2003 and a further evaluation will be carried out at the beginning of 2006. Feedback from participating countries so far indicates that the project is valued and seems to have been successful at least in delivering the outputs and, to a considerable extent in achieving its purpose. Specific outputs include: sustainable improvements in the quality of official data, and their access by the public; GDDS metadata being updated on a regular basis and being used to assess the performance of statistical systems; improved coordination among national statistics agencies and more effective allocation of financial and other resources; increased awareness of the value of quality data and their dissemination on the part of data producers and data users, and more effective communication between these groups; coordinated strategies and/or plans in place to strengthen national statistical capacity in the medium and longer-terms; and improved regional cooperation on statistical issues.

As part of the project countries have been encouraged to integrate the GDDS into existing mechanisms and processes for the organization and coordination of statistical activities. Many countries have held GDDS workshops to bring together users and providers of statistics to discuss both technical and development issues. National workshops have proved to be useful forums for raising awareness of the importance of statistics and of the value of the metadata. Technical GDDS committees have also been established with representatives from the central statistical agency and other data producing organizations. These committees have been helpful in promoting cooperation and in some cases have now evolved into more permanent coordination structures.

The regional approach has also proved valuable in promoting regional cooperation and the sharing of experience and expertise between countries. In one example, statisticians from Zambia were able to provide technical support to Botswana

in the processing of trade statistics. In another case, Lesotho, Namibia and Swaziland held a workshop to discuss the measurement of private capital flows within the balance of payments.

3.2. National Strategies for the Development of Statistics

An important component of the Marrakech Action Plan for Statistics is to assist all developing countries to prepare a national strategy for the development of statistics (NSDS) by the end of 2006. The NSDS is an initiative of PARIS21 to promote an integrated and strategic approach to the development of statistical systems and investments in capacity. While the idea of strategic planning in statistics is not new [5, op. cit.], the aim of the initiative is to enable countries to assess existing statistical capacity, identify both strengths and weaknesses, identify goals and targets, set priorities, identify resource requirements, set out implementation plans, and set up mechanisms for reporting, accountability, monitoring and evaluation.

The NSDS approach builds on the experience of preparing and implementing poverty reduction strategies. The aim is for countries to take control of their own statistical development, to initiate effective consultation processes to help identify data priorities and to mobilize resources around an effective and realistic implementation program that is integrated within existing budget management processes. Experience from the Anglophone African project and elsewhere indicates that participation in the GDDS can be an important starting point for countries looking to develop a strategic approach. The framework provides a way of putting the fundamental principles of official statistics into practice, the metadata provide a detailed and well structured assessment of current statistical methods and procedures, the plans for improvement constitute the main components of the development program and the regular updating of the metadata provides a mechanism for public accountability.

4. Discussion and Conclusions

4.1. The Role of Standards in Building Statistical Capacity

The SDDS and the GDDS illustrate different approaches to the use of standards in building statistical capacity and helping countries improve the quality, availability and use of official statistics. Data quality is important to users, but in most circumstances, they are unable to determine the quality of an indicator from an examination of the data alone. Additional information is needed, in the form of metadata or descriptions of the methods and procedures used to collect the data, classify and compile the indicator and disseminate the results. Both the standards, by focusing on the role of metadata, help to provide information on data quality and hence improve the credibility and utility of the statistics, but the way in which this is done is different. For the SDDS, the role of the standard setting agency, in this case the IMF, is to provide an external and independent assessment of data quality and to reassure users that the data can be used with confidence.

The GDDS, on the other hand, provides a structured framework for improving statistics, setting targets in terms of data coverage, quality and dissemination, but allowing countries to set their own priorities and time-scale for achieving them. Although users will not be able to assess the quality of a specific indicator, such as an estimate of the income poverty headcount, or the rate of inflation as measured by the consumer price index, simply from the knowledge that this country is a GDDS subscriber, they will have access to the metadata as well as the plans for improvement. The fact that a country has subscribed

also provides a good indication that it is serious about improving statistics and that issues of data quality and dissemination are seen as important.

One area where further development is required is to improve and strengthen the technical content of the metadata to ensure that it reflects what is actually done in practice, documenting bad practice as well as good, but also identifying areas where data quality may be prejudiced. Compilers of the metadata need to keep in mind that the aim is not to show data producing agencies in a good light, but to provide accurate and relevant documentation that really does allow users to assess data quality in relation to their needs.

4.2. Improving the Governance of Statistics

An efficient and effective statistical system and the regular dissemination of official statistics that are seen as being reliable, of good quality and fit for purpose is an important component of good governance in any country. It is also important to recognize, however, that statistics, as a public good, are financed through tax revenues and as users of public finance, statistical systems also have to be accountable and transparent themselves. Improving the governance of statistics is a topic that does not seem to be widely discussed. Many statistical managers seem to be very willing to measure just about any aspect of public sector activity, but seem to be curiously reluctant to apply the same discipline to the activities they have responsibility for.

Participation on the GDDS and especially updates of the metadata that are reviewed and made publicly available, therefore, can be an important way for data users not only to assess the quality of specific indicators, but also to review the performance of a statistical agency as a whole. In a number of countries the requirement to produce regular metadata updates is one of the performance indicators set out in their national strategies and implementation plans. The metadata, accessed through the IMF's Data Standards Bulletin Board⁵ is also one of the ways that users and other stakeholders have of assessing improvements in data quality and accessibility.

If the GDDS data are to be actively used to assess capacity and progress in improving data quality, then it will be essential to ensure that the metadata are updated regularly and do reflect current procedures and practices. Countries participating in the GDDS are required to update their metadata regularly as and when major changes are implemented and at least once a year. An analysis of the metadata available on the DSBB⁶ indicates, for example, that only 20 per cent of countries have updated their metadata within the last 12 months, about one third last updated their metadata between one and two years ago, a further third last submitted updates between two and three years ago and just over one in ten have not updated their metadata for more than three years. Clearly if the GDDS is to be effective it is important that participating countries are encouraged and supported to update their metadata on a regular basis. Now that the initial expansion phase is coming to an end and countries have been participating for a number of years, it could well be that the emphasis should move from encouraging new countries to join to ensuring that information is accurate, complete and up to date.

5: <http://dsbb.imf.org/Applications/web/gdds/gdds/home/>

6: The analysis was based on Table B for national accounts aggregates, but similar results are obtained using other tables.

4.3. Building Sustainable Capacity

It is clear that the GDDS will play a central role at the heart of the NSDS in most countries. In sub-Saharan Africa in particular most countries are already subscribers and the work they have already done to compile metadata and to prepare plans for improvement provides a sound basis for strategic planning. The GDDS also fosters sound statistical practices with respect to the development, compilation and dissemination of economic, financial, and socio-demographic statistics. Particular attention is paid to the needs of users, which are addressed through the dimensions relating to the quality, integrity, and public access to the data. Together, these GDDS priority areas constitute a solid basis on which to formulate long term policies for statistical development, which can be integrated directly into a strategic plan.

While the data covered by the GDDS are necessary for all countries, the system does not cover all data sets that are required for a complete system of official statistics. However, the GDDS approach can be easily extended to other data sets and the integrity and access issues apply to all data producing agencies, so the overall approach in these areas can be seen as comprehensive. While it may not be possible to publish metadata on the DSBB for other data sets, it may well be useful for countries to apply the GDDS approach to data activities that are considered important locally.

A key feature of the GDDS is the promotion of statistical coordination within a country. The full data set in the system covers data produced by at least three, and often as many as ten, agencies. Countries are encouraged to establish GDDS committees composed of representatives of all concerned agencies. The establishment of the GDDS has been cited in many countries as a key tool in informing agencies what data are being compiled, where overlaps in data collection exist, and where efficiencies can be realised in compilation and dissemination.

Finally, by focusing on key data sets and on short and medium-term improvements, participation in the GDDS can help countries to build momentum for longer-term and wider-scale improvements. Building confidence among data users in the quality and utility of official statistics is an important part of breaking out of the vicious cycle and changing it into one of virtuous improvement.

References

IMF, (2003), *The General Data Dissemination System*, Washington D.C.

IMF, (2004), *Guide to the General Data Dissemination System*, Washington D.C.

United Nations Statistics Division, (2003), *Handbook of Statistical Organization: The Operation and Organization of a Statistical Agency*, Third edition, Series F, no. 88, New York

World Bank, (2003), *Building Statistical capacity to monitor Development Progress*, Washington D.C.

UNECA, (2001), *Assessment of the Addis Ababa Plan of Action for Statistical development in Africa in the 1990s*, ECA/DISD/CODI.2/11, Addis Ababa

Eele, G., (1989) *The Organization and Management of Statistical Services in Africa: Why Do They Fail?*, *World Development*, Vol. 17, No 3, 431-438.

World Bank, (2002), A Sourcebook for Poverty Reduction Strategies, Washington D.C.

Booth, D. and H. Lucas, (2001), Initial review of PRSP Documentation, DFID, London

World Bank and IMF, (2004), PRS Progress report: Progress in Implementation 2004, Washington D.C.

Zieschang, K. (2005), IMF Statistical Metadata Standards and Classifications: Enhancing the Effectiveness of Statistical Capacity Development, Paper presented at the Commonwealth Statisticians Conference, Cape Town, September 2005

United Nations, (2002), Outcome of the International Conference on Financing for Development: report of the Secretary General, New York

Commission for Africa, (2005), Our Common Interest: Report of the Commission for Africa, London, Penguin Books