

Chapter 18

Challenges of Data Collection: with Special Regard to Developing Countries

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Abstract

This paper declares that the quality of statistical data collection in developing countries has to improve in order to aid decision making at the national and international levels, such as tracking progress toward the Millennium Development Goals (MDGs). But in almost all relevant issues of data collection, developing countries face a different set of problems compared with industrialised ones. The author begins by outlining the problems faced by the National Statistical Offices in developing countries, both external (in the society at large) and internal (within the statistical offices). The author then describes the extensive institutional and structural changes the government of Pakistan is undertaking to improve data collection. A list of recommendations, both general and specific in nature, are provided to help developing countries meet the Paris21 Consortium's purpose: greater demand, availability and use of better statistics and statistical analysis in national, international and civil-society decision making.

Data collection here is understood as all activities involving collecting data from respondents or from secondary sources for the purpose of producing official statistics. Data collection may or may not coincide with data entry and data editing and checking. Data collection may be done traditionally “in the field” by enumerators or interviewers or through other media like mail, telephone or internet. Data collection in the developing countries is generally undertaken by the state institutions because of lack of capacity in the private sector. Again in most of these countries the statistical structure is largely federal. In Pakistan, though there are Provincial Bureaus of Statistics but they are weak in terms of infrastructure and capacity to be able to play an effective role in data collection. Therefore, most of the data collection work is handled by the Federal Statistics Division through its three departments, *i.e.* Federal Bureau of Statistics (FBS), Agricultural Census Organisation (ACO), and Population Census Organisation (PCO). The Central Bank and some Federal Government Ministries too have statistical cells though with limited capacity.

In almost all relevant issues of data collection developing countries face different sets of problems as compared to industrialised countries. These difficulties in most countries are:

- Endogenous lying within official statistics itself on grounds of weaknesses of institutional and organisational set-up, of lack of resources and infrastructure or operational inadequacies;
- Exogenous lying outside of official statistics perceived as inability of the civil society, establishments or even of the administration to part reliable and timely data.

Weaknesses external to the Statistical Offices can be generally attributed to:

1. Level of literacy and lack of appreciation of importance of data collection as a national activity mixed with general cultural ethos of not sharing personal information.
2. Law and order situation in some areas rendering these areas inaccessible for data collection.
3. Cultural constraints in rural/tribal societies in not parting information about gender related issues or sharing information with outsiders.
4. Remote and thinly populated areas pose logistical as well as technical problems for example application of area sampling.
5. Infrastructural deficiencies i.e. insufficient postal services, inadequate transport, road networks, telephone and internet facilities.
6. Large informal economy in subsistence economies make statistical measurement complicated.
7. Even in formal economy especially in the Small and Medium Enterprises (SMEs), low standard of bookkeeping, inadequate administrative coverage and low standards of social performance. Thus, there are few formalised phenomena statistical observation can refer to.
8. Lack of political will and administrative support discourages development of a vibrant and autonomous statistical structure which tends to support the perception that the production of statistics is a task of minor importance. Lack of credibility and transparency of data create the feeling that the governments tend to utilise statistics for window-dressing of its policy failures. Consequently it leads to resistance to cooperate with the statistical offices
9. Socio-cultural inhibitions towards giving out personal information affect filling of questionnaire by the civil society. Business and industrial class in some economies avoid sharing data for fear of being sued for tax fraud. As a result, there is a low propensity to deliver data for statistics.
10. Developing countries are rapidly changing their structural and administrative set-up. Consequently, scope, items and concepts of statistics and last but not the least their questionnaires have to be adjusted more frequently. This hampers to get civil society acquainted with carrying a certain statistical burden.
11. Quality of enumerators and quality control/vigilance of enumerators need improvement to ensure that the enumerators and interviewers are applying their instructions appropriately
12. For a lot of variables the variance within a developing country is much larger than in an industrialised one. Prices pertaining to agricultural commodities differ a lot between the various provinces and districts due to lack of an organised marketing

chain system and due to the fact that many of these commodities are neither graded nor branded. Their prices are volatile. The baskets of price indices in industrialised countries are much more determined by branded goods of industrial production which makes collection of prices and compiling price indices much easier. The same might be true for the statistical observation of wages and salaries or of private households consumption.

13. The administrative density in industrial countries normally is very high. This enables these countries to collect and compile statistics very efficiently out of secondary sources such as taxation, customs, movements of ships, building licenses and the like. Statistics out of secondary data may replace costly surveys or may at least allow for additional benchmark estimates. In developing countries the option of using secondary sources is limited.
14. There is no control of the National Statistical Office over the statisticians working in statistical cells of other Ministries/ organisations nor is a Statistical service like the one in UK which does not provide a coordinated network.

Weaknesses internal to the statistical offices can be identified as:

1. Statistical offices do not attract quality human resources as in most countries official statistics is perceived as a government task of minor rank. As a consequence the salaries as well as the career planning and motivation of staff are low. Capacity building including technology up-gradation, modern training facilities and linking performance with reward is accorded a low priority. Training is hampered by a lot of fluctuation of staff.
2. Infrastructure for internal information and communication in many countries is poor. The main frame application, for example, is still the prevailing form of data processing. Micro computers and client-server systems have in some countries just started to intrude into the performance of work. Decentralised data entry is not yet the norm. Access to the internet as well as internal networks often have still to be developed.
3. Allocations of financial resources for statistics organisations are inadequate.
4. Information on the institutional setup of the economy lack comprehensive and up-to-date directories. This hampers drawing frames and applying elaborated techniques as, for example, stratified sampling.
5. Statistical organisations lack autonomy while the legal framework is outdated to meet requirements of a modern statistical structure.
6. There is absence of Strategic/Corporate and operational planning/management on modern lines.

What can be done to overcome the mentioned problems and weaknesses? Of course, it is easier to amend or mitigate the difficulties we face from internal weaknesses as – in contrast to the external weaknesses – a lot of measures are easier to undertake. In my view the institutional setup of official statistics is a key issue to internal improvements. In Pakistan, the existing three organisations are being merged into an autonomous legal entity. The organisation will be managed on the top by a professional management team led by a Chief Statistician and five members of international repute, steered by a Governing Council comprising of representatives of government and private sectors and supported by a Users' Council. Administrative and a degree of financial autonomy will be

given under the law. All stakeholders will be involved in planning and execution in an organised and formalised way. A new and modern statistical law is being finalised which clearly defines the tenure, the tasks and the role of the Chief Statistician and the five executive Members as well as the duties of the Governing Council, the Supervisory body, and the Users' Council. This will enhance the autonomy of official statistics and its management vis-à-vis the government. Issues like the utilisation of secondary sources or the prerequisites to provide micro data in the form of public and scientific use files are also being tackled within the concept of greater public access to data and building bridges data users. . With restructuring the revamped and modernised official statistics entity of Pakistan will emerge as a reliable, independent and credible institution in its perception amongst media, civil society and other stakeholders.

It has been possible to initiate these changes due to very strong political commitment from both the Government and the opposition parties. Next year when we would have completed our new office building equipped with modern infrastructure in Islamabad we will have all the three statistical organisations *i.e.* FBS, ACO and PCO under one roof, we expect that the performance of the organisation will also benefit from the fact that it is not scattered over various premises any more.

But while at the institutional level we merge and centralise, we go in opposite direction in modernising workflow and organisational performance. With the help of donors we have entered into decentralising data entry in our field organisation. In order to cope with the above mentioned problems of poor infrastructure and illiteracy in remote areas we have strengthened and modernised our regional offices. All of these offices have now been equipped with computers. They now enter the data and simultaneously check them, and they transmit the files via electronic media to our data processing centre. Formerly the questionnaires had been sent as paper sheets. This is a big leap ahead. We started with price statistics and are now expanding decentralised data entry by and by to other surveys, also. This has improved the timeliness and transparency of data. We plan to develop institutional intranet to facilitate real time transmission of data for further processing at our data processing centres. Training in statistical computer techniques is being imparted to all the staff.

All institutional and structural changes and all achievements in the performance of work need human resources which are able to promote this change in a sustainable way. So, capacity building plays a major role in our efforts. In Pakistan with donors support our training institute was rejuvenated and a comprehensive training schedule in modern statistical methodologies and computer techniques has been launched to adequately equip our staff with required qualifications. Training, in my view, is the centre-piece to the multi-dimensional process of modernising and restructuring a statistical organisation. In view of low wages it is difficult to attract top quality youth from the labour market. You normally have to rely on the staff available in your institution and to increase their skills is crucial. We improve and enhance training in two ways. We have established Training Institute as an integral part of the Federal Bureau of Statistics which is providing more and more courses not only for internal staff but for participants of related institutions like statistical offices of the provinces, government departments, State Bank or associations and the like, also. Statisticians are being sent abroad to attend courses which are offered by SIAP of UNESCAP, by the IMF, the Asian Development Bank, the World Bank and many more. A programme has also been launched to send bright youth to Universities abroad for postgraduate education. It is proposed to upgrade our training institute to conduct post-graduate diploma course in Applied Statistics in the near future.

Another object of possible modernisation and improvement is, of course, our statistical programme. As an effective institution we are not only modernising our inputs – this is the traditional way of steering public entities – but also have to look at our outputs or, better to say, our outcome. For a statistical office this means meeting expanding data requirements of a rapidly growing economy which are up-to-date, timely and reliable in a transparent manner according to international standards and methodologies. The period of rebasing of indices and national accounts is also being reduced by undertaking regular surveys in major segments of economy. Regular annual surveys are being conducted on socio-economic sectors for monitoring implementation of MDGs. For professional standardisation and credibility, our survey reports are reviewed and validated by international experts in addition to monitoring and review by technical committees comprising of experts. In the spirit of promoting public-private partnership a joint report on Health Indicators has been compiled in collaboration with an NGO.

Pakistan has a Federal form of Government and our policymakers require data in deep regional structure. But the provincial Statistical Bureaus are not in a position to entertain deep and broad regional statistics. It is the federal statistical organisations who are filling this gap. This has the advantage that the regional statistics are harmonised and reconciled with the national results. However important plans are under implementation to strengthen their capacity. In Pakistan we meanwhile are improving our Mouza (village)-statistics which means that we provide a predetermined set of variables for each village in same content and same format. Thus, statistics supports processes of regional development and planning for equitable distribution of socio-economic benefits and allocating resources for investment in regional infrastructure. It also supports political processes of devolution.

Plans are being prepared to tackle the problems with outdated frames and lack of directories, installing a statistical business register for Pakistan through public-private partnership. This register will be established through coordination of data entries of different state departments and thus try to unify the various directories which are available to us. We put them in a special format and intend to update this register regularly and within short time. This means we exploit all secondary sources and we involve a lot of different parties of the public as well as of the private sector in our attempts to improve things. We will open the results of the register for public use as for as the data of the register are classified as non-confidential. All this will hopefully create some perception of “ownership” with the concerned ministries, semi-public organisations, associations, chambers of commerce and the like. Statistics should more and more be perceived as a joint product of public and private partners. The problems with no or bad response might then be mitigated. But we have to make sure that involving secondary sources, and especially taxation and customs authorities, is a one way exercise not allowing confidential statistical data to be sent to the fiscal bodies. Dealing with secondary fiscal sources, of course, is a sensitive issue. We are also undertaking the exercise of setting up a modern health accounting system.

So far, ladies and gentlemen, I have tackled some Pakistan-related projects and plans. I confess that I am proud of them as I and my team have launched and promoted most of these initiatives. I am deeply convinced that we are marching in the right direction. But I am also convinced that a lot of developing countries need to undertake similar efforts. So, I hope that our way to move forward is of interest for you, also. Let me finally mention some more general aspects, not so much related to my country alone.

Some ten years ago the then new government of Tony Blair in the UK published a so-called White Paper “Statistics: a matter of trust”. Trustworthy, credible statistics, ladies and gentlemen, is most of all an issue for the civil society of a country. We should strive for autonomy of official statistics. This would require intensified contacts to the media. This would help to improve the public perception of statistics and its producers as such. This might also contribute to enrich a moderate and facts-oriented public discourse of political issues and to promote modern thinking as, for example, in gender issues. Effects in same direction have been generated in my country by guest lectures by me and other staff of statistics at various forums including universities in order to involve the society at large in the process of data collection on vital issues.

Not only a matter of trust but also a matter of mutual benefit are involving of stakeholders of the public as well as of the private sector into the planning and the performance and the results of official statistics are in my view a must especially for developing countries. In Pakistan we have various technical committees and users councils. These groups incorporate a lot of institutions and persons and may at first glance be deemed oversized. But they are necessary to get the consent and for some crucial decision even the approval of various parts of the government of the provinces, of statistics-related institutes and organisations and – last but not the least – of the civil society as a whole.

Modernisation of statistical offices, of their infrastructure, their performance and their output primarily means to have more funds. Additional funds may accrue from their own economic activities, from government funds or from grants of international development aid. Activities such as selling publications and the like do not have capacity to generate significant resources. I understand that this is also the case for statistical offices in developed countries. And solicitation of public funds for official statistics is difficult in industrialised countries as well as in developing ones. Unfortunately all over the world, official statistics suffer from disregard and from lack of funds.

For the developing countries grants from donor organisations can be a way out. However grants from donors vary based on their own financial and investment projects which are related to their own objectives which may not be according to the specific requirements of an national statistical office. Moreover, it is not an easy job to acquire grants from donors and it is even a tougher job to promote coordination between them.. However in my view support to statistics is a good proposal to countries which are willing to enter into development aid or which are willing to extend it. Good official statistics by their very nature have to be neutral vis-à-vis politics. Statistics contribute to transparency, they enable analysis and thus they contribute to good governance.

Last but not the least, I should mention that especially for developing countries it is important to strive to achieve internationally agreed standards concepts, methods and classifications. Even if they did not give many inputs due to scarce resources they, nevertheless, harvest what a lot of countries who are better off have already contributed. But my recommendation for developing countries is to give inputs to international agreements, also. The benefit would be a mutual one as given inputs ensures participation and, most important, learning from others. Pakistan is aware of the importance of international commitments and comparability. It is more and more committed to fulfill or to approach international standards of statistics as, for example, the System of National Accounts. Pakistan will increasingly fill its place on the international landscape of statistics. For any country in the world, the contacts to international bodies and the

participation in their statistical activities is essential for steering the performance, the harmonisation and the modernisation of official statistics.

Ladies and gentlemen, when it comes to international cooperation in statistics, we also have to consider declarations and ideas which have been outlined under the umbrella of the MDG – commitments. The Paris 21 Consortium's goal is to develop a culture of evidence-based policy making and implementation which serves to improve governance and government effectiveness in reducing poverty and achieving the Millennium Development Goals (MDGs). Its purpose is: greater demand, availability, and use of better statistics and statistical analysis in national, international, and civil society decision making. This initiative shows that the international community is aware that we have to improve official statistics in the developing countries and that official statistics is an important factor for achieving the MDGs.

Before I conclude, let me suggest the following for improving the quality of statistical data collection in the developing world:

- Capacity building of statisticians is accorded highest priority by strengthening and coordinating with both national and interregional training centres. Pakistan can share its experiences with the regional countries apart from offering its training institute as a regional training centre. A statistical capacity building fund need to be created under the auspices of UNSD to fund these projects;
- Under the Marakkish Declaration, countries are required to undertake strategic plans for modernising their National Statistical Offices. However there is a long way to go in this direction. International support is required to provide know-how and guidance in this regard. Paris21, ESCAP and UNSD need to play an active role by undertaking seminars and symposia's at international and regional levels in this regard;
- Developing countries need to be involved actively in the various technical groups on international statistical standards in order to bridge the current gap in implementation of these standards between the developed and the underdeveloped groups of countries;
- International financial institutions should rely on statistical data generated by national statistical offices rather than indulging in self- imputation of data to develop capacities of these institutions. To meet the cherished goals there is a need for appraisal both nationally and internationally. Strong data-base in each country can help in this regard through effective monitoring and appraisal. International community must help in building strong National Statistical Offices (NSOs) to achieve these objectives;
- Analysis of data collected in surveys/census is vital for policymakers and executive arms of the Governments for policy formulation but this is generally not undertaken. Donors need to give due importance to the issue;
- A Statistical Service is created at the national level of statisticians working in all ministries/organisations controlled by the National Statistical Office. This will help in creating better career prospects;

- Due encouragement be given to the private sector in data collection and surveys to expand data base. Standards are specified for surveys/studies to qualify to be graded as national statistics;
- Autonomy be accorded to the NSOs and the Chief Statistician should be provided an assured tenure to discharge his functions independently.

Ladies and Gentleman, we are citizens of a fast shrinking global village, colourful flowers of one beautiful bouquet of human race. Dissemination of knowledge would lead to better understanding and appreciation and thereby create harmonisation in the currently divisive international environment leading to a better world. Statistical facts are the best source of evidence-based truth and knowledge. We must all strive to promote collection of reliable and timely evidence based knowledge for the betterment of humanity.