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Access to Socio-Economic Data with Particular Reference to India

PR Goswami*

Abstract

In India, statistical agencies responsible for collection, processing and dissemination of socio-economic statistics in a decentralised set up, release data mostly in the form of serials and reports. Proper and easy access to data depends on factors such as release of users' guides/methodological handbooks, timeliness in release of data, provision for access to unpublished data and use of electronic media for data dissemination. Of late, these agencies have taken certain measures to meet the data needs of users. International agencies such as the UN and statistical offices of developed countries have started using modern technology tools like CD-ROM and INTERNET for wider dissemination of data. An attitudinal change is still needed for providing proper and easy access to socio-economic data.

1. INTRODUCTION

Most of the macro level statistics available in India in the forms of tables, graphs or charts in different publications have their origin in statistical agencies which function under the aegis of the Government. These agencies include national bodies such as Central Statistical Organisation (CSO), National Sample Survey Organisation (NSSO), Directorate General of Commercial Intelligence and Statistics (DGCIS), Directorate of Economics and Statistics, Ministry of Agriculture (DES), Registrar General of India (RGI), etc. In states and union territories (UT) there are State/UT Statistical Bureaus. Apart from these, each Government of India Ministry has either a full-fledged statistical division or a section for this purpose. Public sector organisations have their own arrangements for collection and maintenance of statistics. On the whole, statistical system in India is a decentralised one, i.e., the responsibility of collection and dissemination of statistics is divided between the Union and the State Governments on the basis of three-fold classification of subjects in Indian Constitution[1].

The use of socio-economic data has increased considerably during the last four decades or so. Data is now collected on a variety of subjects such as population, national income, industry, agriculture, education, price, foreign trade, environment, etc. Normally, statistics on these variables are collected by the official agencies on the basis of :

(i) data derived from administrative records which flow upwards through periodical returns;

(ii) statistics collected through censuses such as population census; and,

* *Librarian*
Faculty of Management Studies
University of Delhi
Delhi - 110 007

(iii) sample survey data covering one or more subjects such as consumer expenditure, employment and unemployment, health, nutrition, etc.

National income data are compiled from different available data series as analytical aggregates. In fact, databases are created, maintained and periodically updated by the different source agencies primarily to meet the data needs in the context of planning and policy formulation. Other major users of data include the following groups[2].

(i) Central/state/UT government, ministries, departments and offices,

(ii) International organisations,

(iii) Public undertakings, universities, research institutions,

(iv) Private firms, industrial unions, associations, individual research workers, etc.

2. SOURCES OF DATA

The data source agencies normally take the necessary steps for dissemination of statistics which were contained in their databases. Data are made available to the users mainly through serial publications and ad hoc reports at subsidised rates or free of cost, and sometimes on some mainstream statistical publications no-profit no-loss basis. A mailing list is maintained by the agencies for free distribution of statistical publications both within and outside the government. The copies of priced publications are also sent to Controller of Publications for sale. A broad view of certain mainstream statistical publications is given in Table 1.

The number of publications brought out by Indian statistical agencies is quite large. In fact, much expansion has taken place in data collection programmes of the agencies, and as a result, the number of volumes containing final data has substantially increased. The recent emphasis on regional planning has necessitated the release of data in disaggregated form.

3. DATA DISSEMINATION

The users of data, particularly from non-government organisation often say that the agencies do not follow a definite data dissemination policy. As a result, data largely remain buried in the files or returns maintained in the statistical offices. Only a part of the data collected are released through printed volumes in a fixed format. They are published at different places by semi-autonomous agencies on different subjects. As a result, the users who want to use data from more than one source for the purpose of analysis often face problems.

Table 1: Some Mainstream Statistical Publications

Statistical Series		Title of Serial/Ad hoc Publication)
(a) National income (This provides a quantitative account of working of the economy)	a.1	**National Accounts Statistics.** (Central Statistical Organisations, New Delhi).
	a.2	**National Accounts Statistics: Disaggregated Statement 1950-51 to 1979-80.** (Central Statistical Organisation, New Delhi).
(b) Education	b.1	**Selected Educational Statistics, 1992-93** (Department of Education, Ministry of Human Resource Development, New Delhi).
	b.2	**Selected Information on School Education. 1992-93.** (Department of Education, Ministry of Human Resource Development, New Delhi).
(c) Labour	c.1	**Indian Labour Yearbook 1991.** (Labour Bureau, Government of India, Shimla).
	c.2	**Statistics of Factories 1979-84.** (Labour Bureau, Government of India, Shimla).

In fact, requirements of the data users vary and serials published in a fixed pre-determined format do not satisfy all users. Usually special tables are generated on demand for users like the Planning Commission. Policy makers need macro level data or data in summarised form. On the contrary, planners and researchers need micro level data and the full report including the analysis.

In order to make data accessible to users, the statistical agencies take certain measures which include release of users' guides and catalogues of publications; documentation of concepts; compilation of methodological handbooks; timeliness in publication of data; provision for access to unpublished data; use of electronic media for data dissemination, etc. All these factors collectively determine the accessibility to data.

4. USERS' GUIDES AND BIBLIOGRAPHICAL TOOLS

Statistical agencies like CSO, NSSO, etc., have compiled certain 'Users' Guide or Key to Literature' which provide an insight into the contents of various statistical serials. These 'Guides' or 'Keys' are also used as bibliographical aids. The most widely known reference book for the users of data is *Guide to Official Statistics 1987* compiled by CSO. The earlier editions of this guide were released in 1979 and 1985 respectively. The guide includes details about scope, coverage, methods used for collection of data and data comparability on different subjects. An index provided in the Annexure lists statistical serials alphabetically and provides references to the page number in which the scope of the listed serials have been explained.

Another useful guide for the users of statistics is *Directory of Statistics, India 1990*, compiled and published by CSO. The first edition of this guide was published in 1976. It lists the different statistical series on which data are available. Different details such as source organisation, title of publication, periodicity of data and the level of presentation are included in it. Another annual publication *Sample Survey of Current Interest in India* by CSO provides information pertaining to sample surveys started during the previous year. Other reference tools include *Directory of Social Statistics (1990) and Statistical System in India (1989).*

A close look at the structure and contents of these guides would reveal that there is a lack of professionalism in their compilation. The format of the index and the annexures like lists of publications with inadequate bibliographical details do not provide comprehensive information to the users. These agencies should therefore associate professionally qualified and experienced staff for the compilation of these guidebooks as is usually done by foreign statistical organisations/institutions. For example, *Guide to Official Statistics* (1990) compiled by the Office of National Statistics, in the United Kingdom has a keyword index prepared by a professional librarian which provides the location of about 5000 key words in the main part of the Guide. Most of the Indian guides are published by the statistical agencies for their own official use; and except for *Guide to Official Statistics*, none of these guides are available to users through book trade channels. These guides do not have a regular revision policy and therefore they become outdated within a short time of their publication. Moreover, while providing details about the serials, these guides do not distinguish between priced and unpriced publications. Also it is usually difficult for the users to identify the publications superscribed 'for official use' or 'for restricted circulation'.

The users of statistical publications have to rely mostly on irregular bibliographical sources. For instance, Controller of Publications announces the release of certain current publications through *List of New Arrivals* which appears in newspapers and journals. Another source is *Catalogue of Government of India's Civil Publications* which is essentially a publisher's catalogue containing even the details of old publications which are available for sale. *Monthly Abstract of Statistics*, compiled by CSO contains an annotated list of priced CSO publications.

Various independent agencies such as NSSO, RGI, Labour Bureau, DGCIS also publicise their serials and reports through their catalogues published periodically. As regards

NSSO reports, bibliographical details as well as coverage of different NSSO surveys and their reports are occasionally published in their quarterly journal *Sarvekshana*. Similarly, *Registrar General's Newsletter*, published quarterly by the RGI, contains a list of census volumes published during the period; and Labour Bureau publications are listed in *Indian Labour Journal* published by Labour Bureau Reserve Bank of India and DGCIS also publicise their reports in *Reserve Bank of India Bulletin* and *Foreign Trade Statistics of India*, which are published every month.

This rather brief account reveals that only sporadic attempts have been made by Indian statistical agencies to compile bibliographical tools of their publications.

On the other hand, their foreign counterpart such as Office for National Statistics (ONS), UK and US Bureau of the Census have been publishing exhaustive catalogues of their publications. The main aim of the ONS is to improve access to government statistical information. It has published *Government Statistics: A Brief Guide to Sources*, and *ONS Catalogue, 1996*. In support of its policy, ONS generally reviews many of its existing publications for the purpose of their being redesigned for new publications. US Bureau of Census has published *Census Catalogues and Guide, 1996*. The 50th edition of this publication is both a comprehensive catalogue and an authentic guide to the programmes and services of the agency.

Unfortunately, Indian statistical agencies are somewhat indifferent to this aspect of data dissemination, and a majority of them only include lists of recent publications in their respective annual reports, newsletters or regular serials.

Most of the statistical sources are generally published as a part of government publications, and lack of proper bibliographical control for government publications exists in many countries of the world. Even in USA, studies have revealed that government publication related indexes have few access points than indexes to other traditional information sources[3].

5. METHODOLOGICAL HANDBOOKS

It has been rightly said "it is one thing to gather statistics, quite another to understand and interpret them... Statistics is as much an art—numbers means little unless they are interpreted properly. And that is precisely what makes many of the statistical works published by government so baffling. Rarely is proper guidance given to help interpret what they mean"[4].

The following factors influence the accessibility and proper use of data sources:

(i) the methodology used for data collection,

(ii) the data reliability and comparability,

(iii) documentation of concepts, definitions used,

(iv) classification scheme used for enumerating different data series (i.e., for different products, occupations, etc.).

Most of the agencies usually incorporate the source and reliability statements of their data in the introductory pages or as footnotes to tables in their publications, so that the users can have a better understanding of the data contained in them. In most of the primary sources such as *Census of India; Primary Census Abstract; Annual Survey of Industries: Summary Results for Factory Sector; NSSO Report on Consumer Expenditure;* and *Report on Currency and Finance*, a detailed description of the data collection methodology, sources of all data presented in the publication, and, statistical measures of reliability and validity of data are generally included.

On the other hand, in the case of widely used secondary data compendia such as *Statistical Abstract India, Economic Survey, Indian Economy in Figures*, which sift data from a number of statistical sources, details about the methodology, etc., are not included. Only the names of source agencies and a brief explanatory note are given enumerating the limitations of data contained in them.

Some of the statistical queries in a specialised library are esoteric in nature. A person translating such a query into the terminology of the statistical source normally needs to acquaint himself with specialised methodological handbooks which are

compiled by most of the agencies in the field. For instance, RGI publishes *Census of India: Tabulation Plan* on the eve of the decennial census. A comprehensive view of the scope and coverage of various statistical tables to be included in census volume is presented in this publication. For the users of *Annual Survey of Industries (ASI), Revised Industrial Classification of Economic Activities, 1987*, is helpful as it provides a framework for classifying data according to the kind of economic activity.

National Accounts Statistics (NAS) which is popularly referred to as the white paper on national income is one of the most widely used sources for the economists. A methodological handbook for this source is necessary because the concepts and terms used and tables given therein are usually complex in nature. For the users of NAS data, CSO has published *National Accounts Statistics*: Sources and Methods, 1980. It elaborates the sources and methods of estimation of macro-economic aggregates such as like domestic products, savings, capital formation, accounts of public sector and consolidated accounts of the nation. In addition, it also traces the development of NAS as such and explains various concepts associated with it.

Major source agencies such as RBI, DGCIS, Labour Bureau, NSSO, etc., mostly enumerate the concepts, definition and methodological sources of their publications through their journals, viz., *Indian Labour Journal, Reserve Bank of India Bulletin, and Reserve Bank of India: Occasional Papers;* and *Sarvekshana*. DGCIS publication *Indian Trade Classification* and Labour Bureau's *Master Reference Guide to Labour Statistics* are useful aids for the users of their data.

6. UNPUBLISHED DATA

Though a large volume of data is now collected by the statistical agencies, researchers often complain that data are not available on many socio-economic variables. The reason for such complaints is obvious. Data collected by the major agencies are published in a format designed primarily for the official users. They reveal only broad results. Researchers need data in a disaggregated form which would help the analysts to go for deeper studies. Moreover, data generated by different agencies of the government as a by-product of administration are not properly tabulated. Many of these data sources remain confined to government offices either marked 'for official use' or 'for restricted circulation'. A critic has rightly observed: "so the malaise of not tabulating data collected for administrative purposes is quite general : it permeates all departments. Information which is collected is not tabulated. Information which is tabulated is not made available to anybody outside the government"[5].

In fact, unpublished data, fall under four broad categories:

(i) data which are under publication;

(ii) data which are tabulated but not included in the publication programme of the statistical agency;

(iii) data which are available but not tabulated; and

(iv) data available in household/establishment schedules or in questionnaires collected through census or sample survey.

The policy followed by statistical agencies to provide access to unpublished data is generally determined by existing statistical legislation as well as factors such as 'purpose of use', and, the attitude of the officials controlling the data. Normally, data under publication are not made available to the researchers unless they are strictly for official use. Data which are under processing are generally withheld because the user can get an inconsistent result. And data which are tabulated but not included in publication programme are provided to users after verifying the purpose of their use. In the case where data are available but not included in the tabulation plan, the decision regarding access is taken keeping in view the reliability of data in terms of coverage, response rate and sensitiveness of variables measured.

Broadly speaking, two factors: (i) statistical legislation regarding guarantee of confidentiality, and, (ii) sensitiveness of data available with agencies are strictly followed by the statistical agencies for withholding data. Micro level data which are available in

schedules and questionnaires, are normally not released because they may reveal details pertaining to an individual, an household or an enterprise. This amounts to the violation of provision of Collection of Statistics Act, 1953. As regards Census of India data, some figures such as religion and mother tongue which are considered sensitive by the Government are generally not revealed to the public. Other category of sensitive data pertaining to defence establishments, etc. is usually kept secret by the orders of the Government.

In general, most of the statistical agencies show a good deal of reluctance in providing access to their unpublished data. This is in direct conflict with the democratic principle of openness or 'right to information'. Keeping this in view, the Department of Statistics, Government of India, on the basis of the recommendations of a Committee of Secretaries from various departments have recently emphasised that the Government will promote easy access to unpublished but validated data. The technical soundness of data is to be ensured before release. It has also been said that specific time frame is to be drawn for the release of unpublished data after withholding the sensitive part[6].

7. TIMELINESS FACTOR

From the viewpoint of users, timely access to socio-economic data is very important. Statistics which take a long time to be produced are of lesser use and may finally appear to be almost neglected. Timeliness also includes both speed and punctuality. Speed means that data are made available to the users soon after the period of time to which they refer. Punctuality means that the statistics are made available near to the date of publication which has been decided and made public in advance[7].

In India, some of the data serials and reports which are frequently in demand for government use maintain their speed and punctuality. For instance, *Economic Survey* is released on the eve of budget, containing data pertaining to the preceding year. Similarly, *Quick Estimation of National Income* is released during February-March every year. *Forecast of Gross Domestic Product* (i.e., advanced estimate of national income) for the year 1996-97 was released in July 1996. A provisional estimate of population is released soon after the Census of India is over. *Census of India 1991 : Provisional Population Totals* was released in March 1991 itself.

However, the release of final results of large scale sample surveys conducted by NSSO and the Census of India such as Population Census, Agriculture Census, Vital Statistics, etc., are usually delayed and in some cases they are released even after a decade. The delay occurs due to a combined effect of several factors:

(i) delay in transmission of data from the point of collection to the tabulation centre,

(ii) delay in proper checking and tabulation,

(iii) delay in data processing and preparation of tables in standard format,

(iv) the delay in the printing press.

In recent years, several measures have been initiated by the agencies to counter the problem of time lag in publication of data. For example, CSO has taken steps to reduce the time lag in processing of ASI data from 60 months to 12 months in a phased manner within two to three years. Similarly, DGCIS has curtailed the time lag in foreign trade data, with the help of computerised processing, to 12 months from about 24 months. With the advent of information technology, the mode of dissemination of data has changed. This has also helped in curtailing the time lag.

8. DATA DISSEMINATION: ELECTRONIC MEDIA

In fact, the two important factors, access to unpublished data and timely availability of data, are closely inter twined with the use of modern electronic media for data collection, processing and dissemination. Most of the prominent statistical agencies such as CSO, RGI, DGCIS, NSSO, Labour Bureau, etc., have already developed computerised databases. They have started disseminating data in electronic media in a limited way, as shown in Table 2.

Though computerised databases are maintained by some of the agencies, there is no uniformity among the databases with regard to storage device, retrieval mechanism and data

Table 2: Agencies disseminating data in electronic form

	Name of the Agency	Present State of Art regarding Electronic Data Dissemination
(a)	Central Statistical Organisation and National Sample Survey Organisations. (Department of Statistics, Government of India, New Delhi).	A part of the ASI data and NSSO survey data are now made available to the users on magnetic tapes, floppies, etc., on nominal charges which include cost of computer time involved for supply of data including special tabulation if undertaken on demand.
(b)	Directorate General of Commercial Intelligence and Statistics (DGCIS), Calcutta. (Ministry of Commerce, Government of India).	DGCIS has introduced the system of supplying foreign trade data on magnetic tapes to individuals, private firms, non-government organisations and trade services agencies of all types; and also in computer hard copies (print outs) on payment of fees towards the data cost, media cost, packing and postage costs, etc.
(c)	Labour Bureau, Shimla (Ministry of Labour, Government of India).	Labour Bureau is already in the process of having a 'Labour Information Network' (LABNET). In this, it is proposed to have a centralised database at Chandigarh and this system will be linked through a network with all the regional offices of the Bureau. This networking will be done through National Information Centre (NIC).
d)	Office of the Registrar General of India (RGI), New Delhi. (Ministry of Home Affairs, Government of India)	The 1991 census results, i.e. Primary Census Abstract, village amenities and a part of key results have been disseminated through NICNET (the computer network of National Informatics Centre) (NIC). Primary Census Abstract data have been released in 51 floppies by RGI for the entire village/ward level data for all States and Union Territories.

format. NIC has developed mechanism for use of certain databases to facilitate planning and policy making. The source of NIC's economic monitoring data is Centre for Monitoring Indian Economy (CMIE), Bombay, a private body. CMIE's focus is always on the use of processed primary or secondary data which are generated by official agencies. CMIE maintains a large number of files for updation of its databank. It has developed time series data on important sectors of Indian economy. CMIE has also devised a methodology for estimation of trends in Indian economy.

9. INTERNATIONAL SCENARIO

In India, CSO is the central coordinating agency for statistical activities in the country, whereas the Department of Statistics, (consisting of CSO, NSSO and Computer Centre), keeps a close liaison with international organisations; namely the United Nations (UN), The Economic and Social Commission for Asia and Pacific (ESCAP), the Asian Development Bank (ADB) and Food and Agricultural Organisation (FAO), International Monetary Fund (IMF), etc. The Department also has relations with statistical offices of many developed and developing countries.

Most of the international organisations publish a number of data serials and reports, providing comparative estimates for different countries of the world. These data series are collected from respective national statistical offices. Some of the important serials such as *United Nations Statistical Yearbook*, *World Development Report* (World Bank); and *Unesco Statistical Yearbook*; are available in printed as well as electronic (i.e. CD-ROM) form. Recently World Bank's statistical products have been updated and reformulated in electronic form. A new flagship statistical volume, *World Development Indicators 1997* has been released in CD-ROM form. The World Bank Atlas has been modified to complement the indicators. And the *World Debt Tables* has been renamed

Global Development Finance so as to reflect the current trends in international capital flows.

National statistical offices of several developed countries have also adopted electronic media for data dissemination. For instance, in 1994, *Statistical Abstract of United States* was released on CD-ROM. In USA, the Government has advocated for the private dissemination of government statistical data as a mechanism to help defray the costs of data collection. A new information industry has been developed for promoting the use of government information with private statistical records. The repackaged records are now sold to both business and government[8].

Index to International Statistics (IIS), published by Congressional Information Service (USA), is a reference source book, available in printed as well as electronic form. Fundamentally, IIS is an index to statistics as distinct from an index to publications[9]. The coverage includes virtually all statistics contained in periodicals, annuals, biennials, monographs, etc., made available by UN system and other similar agencies. IIS contains indexes and abstracts of more than 1700 titles annually from approximately 100 major international agencies, including 60 UN principal organs and affiliated agencies. As a back-up service, it provides, in a companion microfiche file, the complete text of most publications identified by the index[10].

Another source, *Statistical Abstracts from the Matter of Fact Database*, published by Pierian Press, USA is available on CD-ROM. It contains more than 50,000 citations with abstracts and statistics to textual materials on current political, social, economics and environmental issues worldwide. These are extracted from about 250 general interest periodicals and newspapers. Indexing is done using Library of Congress subject headings.

Two other sources, CRONOS and *Economist Intelligence Unit International Statistics*, released by Commission of the European Communities and Economists Intelligence Unit Ltd., London are online databases[11]. CRONOS contains more than 900,000 time series of economic data on countries in the European Community and other countries worldwide. The subject coverage includes general statistics, foreign trade aggregates industrial survey and sectorial information, energy, agricultural products, prices and accounts, balance of payment, financial accounts, national accounts, and research and development.

The online database by Economists Intelligence Unit contains more than 200 time series of macro economic data on non-OECD countries. It includes monthly data for 66 developing countries and annual time series for seven Eastern-Block countries; covering national income, population, trade and national debt. In fact, it makes a credit risk assessment of countries by including data. on political risk factors, economic and financial status, and short term foreign exchange risk. Data is available online through Reutors Information Services (Canada)[12].

9.1 *Use of Internet*

The growth of Internet has been phenomenal over the past one and a half years. A number of national agencies have developed sites on Internet. Statistics Canada has a well designed and properly maintained site. A comprehensive online portfolio is offered, providing access to subscription services such as CANSIM time series data and International trade database. Public Information is neatly classified by topics—land, people, economy, and state; and a daily news service is maintained, providing key figures and headline information[13].

Office of the National Statistics, UK has also developed site on Internet along similar lines with an emphasis on providing public information where appropriate; and introduced the Databank subscription service.

An important issue concerning Internet activity is charging for information, particularly from public bodies. In this regard, national agencies have adopted different policies; starting from Statistics Norway, where most information is freely available, to the US Department of Commerce. The latter's site is excellent in construction but also very commercial in its approach, with the introduction of charging for most services

provided. However, US Bureau of Census maintain an extremely informative site with many facilities, including thematic mapping service and makes much of this publicly available.

The national agencies of other countries such as Australian Bureau of Statistics; Federal Statistical office, Germany; Statistics Bureau, Japan; Central Bureau of Statistics, Indonesia; etc., have also developed sites on Internet. In most cases, the sites have been established within the context of national audience rather than viewing Internet as an international venture[14].

A great deal of data are now provided at international level of inter-governmental agencies. The problem with the data provided by these bodies is that "they are often reconstructed rather than directly observed.... the reconstruction is often cruder with more guesswork than analysis. There are enough arbitrariness in these figures to make the purists shrink at the thought of touching such data. Given the scarcity of reliable primary information, the purist position can almost lead to abstinence from empirical work altogether"[15].

10. CONCLUSIONS

Statistical agencies producing socio-economic data serve many groups. The users are heterogeneous in terms of their information needs, the way in which they use statistical data, their analytic abilities to manipulate data, etc. If a statistical agency is to be responsive to the needs of a wide range of users, it must recognise its clientele, be aware of its needs and tailor its services accordingly. In fact, a good statistical agency must readily provide answers to questions like what, how and when, the data serials are produced and how and when they are made available to the users.

In the past, the basic function of official statistics in the majority of the developing countries was to support planning and decision making activities of the Government. The situation has now undergone several changes. New users' groups have emerged, and as a result, statistical agencies are required to determine the demand and optimize the data collection, processing and dissemination procedures with available resources.

In India, the available statistical material remains underutilised due to the possessive attitude of statistical agencies. This inward looking attitude of the agencies needs to be replaced by a spirit of openness and collaboration. Data collected by these organisations should be available on request to Indian universities and research institutions as a matter of national policy[16].

The advent of information technology has provided new opportunity to statistical agencies. Now one can find market for statistics even in industry and business sector, with repackaged information tailored to the needs of the users. Many of the source agencies have lately started using computers for the maintenance and updation of databases. A few of them have started undertaking special tabulation as per requirements of users. These efforts need to be augmented using modern electronic media such as CD-ROM, etc., for data dissemination.

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