WORKSHOP

MODERNISATION OF THE STATISTICAL SYSTEM IN INDIA

14-16 September 1998
Vigyan Bhavan, New Delhi

COMPENDIUM OF THE WORKSHOP MATERIALS

Department of Statistics
Ministry of Planning and Programme Implementation
New Delhi

CONTENTS

ABBREVIATIONS AND ACRONYMS USED

AIES	Annual Income and Expenditure Survey
AIIMS	All India Institute of Medical Sciences
ASI	Annual Survey of Industries
ASSOCHAM	Association of Chamber of Commerce and Industry of India
BDO	Block Development Officer
BICP	Bureau of Industrial Cost and Prices
BoP	Balance of Payment
BR	Business Register
CAPE	Crop Acreage and Production Estimation
CC	Computer Centre
CD-ROM	CD – Read Only Memory
CEA	Central Electricity Authority
CES	Crop Estimation Survey
CIF	Chief Inspector of Factories
CII	Confederation of Indian Industry
CIL	Community Based Information Lending
CLIC	Culture, Library and information Centre
CMIE	Centre for Monitoring of Indian Economy
CPI(AL)	Consumer Price Index Number for Agricultural Labourers
CPI(IW)	Consumer Price Indices for Industrial Worker
CPI(RL)	Consumer Price Indices for Rural Labour
CPI(UNME)	Consumer Price Indices for Urban Non Manual Employees
CPIs	Consumer Price Indices
CS Act	Collection of Statistics Act
CSO	Central Statistical Organisation
DC(SSI)	Development Commissioner(Small Scale Industries)
DCA	Department of Company Affairs
DES	Directorate of Economics & Statistics
DFI	Development Finance Institutions

DG	Director General
DGCI&S	Directorate General of Commercial Intelligence and Statistics
DGE&T	Directorate General of Employment and Training
DGTD	Directorate General of Technical Development
DIP&P	Department of Industrial Policy & Promotion
DISNIC	District centre of NIC
DME	Directory Manufacturing Establishment
DOE	Department of Electronics
DOS	Department of Statistics
DPD	Data Processing Division
DSS	Decision Support System
DTA	District. Transport Authority
DTO	District Transport Office
DTR	Daily Trade Return
EDI	Electronic Data Interchange
EPCG	Export Promotion Compensation Guarantee
EUROSTAT	European Statistical Office
FASAL	Forecasting Agricultural Output Using Space, Agricultural Meteorology
FICCI	Federation of Indian Chamber of Commerce and Industry
FSUs	First Stage Units
GATS	General Agreement on Trade in Services
GDI	Gender Development Index
GDP	Gross Domestic Product
GEM	Gender Empowerment Measure
GIS	Geographic Information System
GNIE	Government Not Included Elsewhere
GVA	Gross Value Added
HRD	Human Resource Development
HTL	Hindustan Teleprinters Limited
IASRI	Indian Agricultural Statistics Research Institute
ICICI	Industrial Credit and Investment Corporation of India

ICMR	Indian Council for Medical Research
ICS	Improvement of Crop Statistics
ICSSR	India Council of Social Science Research
IDBI	Industrial Development Bank of India
IDR	Industries Development and Regulation
IEM	Industrial Entrepreneurs Memorandum
IES	Indian Economic Service
IFA	India Factories Act
IIP	Index of Industrial Production
ILO	International Labour Organisation
IMF	International Monetary Fund
IOTT	Input Output Table
IR	Indian Railway
IS Wing	Industrial Statistics Wing
ISS	Indian Statistical Service
IT	Information Technology
IWT	Inland Water Transport
KVI	Khadi and Village Industries
LOI	Letter of Intent
MIS	Management Information System
MOST	Ministry of Surface Transport
MU	Management Unit
NAD	National Accounts Division
NBO	National Building Organisation
NCT	National Capital Territory
NDME	Non Directory Manufacturing Establishment
NDWOS	National Data for Official Statistics
NFHS	National Family Health Survey
NGO	Non Government Organisation
NH	National Highway
NIC	National Informatics Centre

NICNET	NIC Network
NISIS	Network of Integrated Statistical Information System
NPE	National Policy on Education
NPISH	Non Profit making Institutions Serving Households
NSS	National Sample Survey
NSSO	National Sample Survey Organisation
NSTI	National Statistical Training Institute
OAME	Own Account Manufacturing Establishment
OCR	Optical Character Recognition
OECD	Organisation for Economic Co-operation and Development
OMR	Optical Mark Reader
P&T	Post and Telegraph
P/L	Profit & Loss
PC	Personal Computer
PEC	Post Enumeration Check
PEN	Permanent Establishment number
PFCE	Private Final Consumption Expenditure
PHCs	Primary Health Centres
PKM	Passenger Kilo Meter
PLF	Pay Load Factor
POL	Petroleum Oil and Lubricants
PSUs	Public Sector Undertakings
PWDs	Public Works Departments
R&D	Research And Development
RBI	Reserve Bank of India
RDBMS	Relational Data Base Management
REC	Rural Electrification Corporation
RET	Renewable Energy Technologies
RGI	Registrar General of India
ROC	Registrar of Companies
RTAs	Regional Transport Authority

RTO	Regional Transport Offices
SAIL	Steel Authority of India Limited
SASA	State Agriculture Statistics Authority
SD	Statistical Department
SDDS	Special Data Dissemination Standards
SDRD	Sample Design and research Division
SEBs	State Electricity Boards
SEWA	Self Employed Women's Association
SH	State Highway
SIDO	Small Industry Development Organisation
SLSA	State Level Statistics Authority
SNA	System of National Accounts
SRS	Sample Registration System
SSBs	State Statistical Bureaus
SSI	Small Scale Industries
STAI	Statistics Authority of India
STAs	State Transport Authority
TAC	Technical Advisory Committee
TCIL	Telecom Consultants India Limited
TERI	Tata Energy Research Institute
TRIOS	Training and Research Institutes for Official Statistics
TRS	Timely Reporting Scheme
UGC	University Grants Commission
UN	United Nations
UPSC	Union Public Service Commission
UTI	Unit Trust of India
UTs	Union Territories
VAPW	Value Added Per Worker
VSAT	Very Small Aperture Terminal
VSNL	Videsh Sanchar Nigam Limited
WPI	Wholesale Price Index

SECTION I

Keynote Address by Sh. M.D. Asthana, Secretary, Department of Statistics, Government of India

The distinguished delegates are well aware that the estimates of national income and related aggregates are derived statistics, and their quality depends primarily on the quality and coverage of data that is used in the preparation of these estimates. The compilation of national accounts prerequisites availability of large amount of data, particularly in view of the large size of our economy. The data that is used in the estimates also need to be of high quality, in order to avoid inconsistencies in the national accounts.

2. Indian national accounts are currently passing through a transition phase. While the implementation of new UN System of National Accounts, 1993 (SNA 1993) and the IMF's Special Data Dissemination Standards (SDDS) will mean collecting a large amount of additional data, the quality and coverage of data that presently goes into the computations of GDP, need considerable improvement. In the Agriculture and allied sectors, we often find inconsistencies in the data in addition to the large data gaps. Lack of response is primary cause of worry in the industries sector. The results of enterprise surveys, which form the basic input for services sector, are often inconsistent and unreliable. The reasons for these are many and we must all address to these problem areas, together. I would like to spell out briefly in the following paragraphs, the new data requirements for our emerging commitments in the form of SNA 1993 and the SDDS, and the problems ailing our statistical system.

3. The SNA 1993 recommends preparation of sequence of accounts for all the institutional sectors into which the economy has been divided, namely, (i) non-financial corporations, (ii) financial corporations, (iii) general government (iv) households, and (v) non-profit institutions serving households. Several satellite accounts including the environmental accounts have also been recommended. The other key features of SNA 1993 are the enlargement of production and assets boundaries of the 1993 SNA. As per the extended production boundary the production of the households for own-account consumption, illegal and underground production are required to be reckoned within the national accounting framework. The data requirements for implementation of SNA 1993 would be value of output, including output for own final use and inputs, GVA and factor incomes, acquisitions, less disposals of new or existing tangible fixed assets (farm building and other structures, machinery and equipment, cultivated assets-plantations, trees and livestock-that are used repeatedly or continuously to produce products), major improvements to tangible non-produced assets, including land, costs associated with the transfer of ownership of non-produced assets and changes in stocks (work-in-progress on cultivated assets, materials and supplies and others). To capture the activity of production of goods within the households for own account consumption, necessary changes have been introduced in the ensuing household consumer expenditure survey of the NSSO. We are also introducing time-use surveys on pilot basis to get an idea of the amount of time spent by the households (in particular females) in the activities relating to production of goods meant for self-consumption. As regards illegal economic activities, concealed and underground production it will indeed be very difficult to collect reliable information on these activities. We may have to take a view about the coverage of illegal activities in the national accounts, whether to try and capture data or omit the same from the national accounts. Regarding institutional sector accounts, we find that the company finance studies of the Reserve Bank of India (RBI) do not serve the purpose, because of the inadequate coverage and non-availability of detailed information on certain items. For preparation of the Household sector accounts detailed household income expenditure survey is required to be conducted. For NPISHs we do not have even the frame so as to plan a survey for collecting detail information about them.

4. For in-depth analysis of sectoral performances, SNA 1993 has recommended system of satellite accounts. The satellite accounts allow for (a) the provision of additional information on particular social concerns, (b) the use of complementary or alternative concepts when needed to introduce additional dimension to the conceptual framework of national accounts, (c) extended coverage of costs and benefits of human activities (d) further analysis of data by means of relevant indicators and aggregates. The main areas where the satellite accounting framework has been suggested relate to environmental economic accounting, tourism accounting, extended production boundary (gender issues). Requirements for such satellite accounts would be introduction of new classification systems under both the industry and commodity classifications, collection of data on outputs, inputs, capital expenditures, salaries and wages, operating surplus/mixed income and employment.

5. The IMF introduced the Special Data Dissemination Standards (SDDS) and India subscribed to the SDDS on 1.1.1997. The SDDS envisages compilation and release of data for 17 data categories according to a prescribed periodicity and timeliness schedule. The Department of Statistics (DOS) has been given the responsibility for co-ordinating the data categories under the Real Sector, which comprises of gross domestic product, production index, labour market and price indices. The time available for the subscribing member countries for complying with all the provisions of SDDS is 31 December 1998. Under the SDDS, the quarterly GDP estimates are required to be compiled and released every quarter under the SDDS. The major data gaps in the compilation of quarterly GDP estimates are the data on unorganised segment of various economic activities at quarterly intervals; and data on work-force. While most countries have quarterly surveys of enterprises and employment, India do not have these surveys. Absence of data on the performance of unorganised segment at quarterly intervals is a major data gap in India. The SDDS prescribes compilation and release of employment/unemployment data on quarterly basis with a lag of one quarter. The National Sample Survey Organisation (NSSO) of the DOS is presently examining the feasibility of generating quarterly employment/unemployment information from their annual thin sample surveys on the subject. Few pilot studies have also been conducted. However, no concrete recommendations have emerged. At this stage it appears that we may not be able to come up with quarterly employment/unemployment data for India before December 1998.

6. With regard to the current status of sectoral statistics, I find that the advance estimates of area under crops and the production of agricultural crops are now made only by judgement by the state agricultural statistics authorities (SASA). Till the final results are available, which is almost one year after the close of agriculture year, we have only rough estimates, which is the reason why large scale revisions take place in the estimates of foodgrains released by the Ministry of Agriculture at various points of time. Over the years the functioning of the TRS has left much to be desired. There is no monitoring by the concerned agencies about the timely receipt of TRS returns. Thus, we have practically lost a system which was conceived to scientifically generate advance estimates of production of agricultural commodities. The estimates of foodgrains released at various points of time, since 1993-94 show that the range of estimates is 179-184 million tonnes for the year 1993-94, 185-192 million tonnes for the year 1994-95, 193 - 180 million tonnes for 1995-96 (largest variation in any year) and 191 - 199 million tonnes for 1996-97. For the year, 1997-98, the likely estimate now stands at 193 million tonnes after two revisions. Sometimes the production data does not conform to auxiliary evidence, as is happening in the case of estimates relating to 1997-98. While the foodgrains production fell from 199 mn. Tonnes to 193 mn. Tonnes, the procurement (under central pool) has risen from 21.3 mn. Tonnes to 27.0 mn. Tonnes (between July 1, 1997 to July 1, 1998), registering a growth rate of 26.8 per cent. Looking at the main commodities of rice and wheat, the inconsistency in the estimates emerges clearer. During the year 1997-98, the production of rice has gone up by 0.80 mn. tonnes from 81.31 mn. tonnes in 1996-97 to 82.12 million tonnes, thus registering a marginal growth of 1per cent. However, the procurement of rice in the same period had risen by 21 per cent, from 12.0 mn. tonnes to 14.5 million tonnes. In the case of wheat, while the production has declined to 66.05 mn. tonnes in 1997-98, from 69.27 mn. tonnes in 1996-97 (a negative growth rate of 4.6 per cent), the

procurement had risen to 12.65 mn. tonnes in 1997-98 from 9.30 mn. tonnes in 1996-97 (registering a growth rate of 36.0 per cent). This surge in foodgrain stocks cannot be possible in a country like ours where population is growing at a rate of about 1.7 per cent per annum and consumption cannot be expected to drastically reduce over a period of one year.

7. After the abolition of the DGTD and liberalisation of the licensing procedures, there has been a steady decline in the submission of the production returns by the industrial undertakings to the Department of Industrial Policy & Promotion (DIPP) due to lack of controls and effective penal provisions in the Industries (Development & Regulation) Act, 1951. In any case the Act is not applicable to non-scheduled industries and factories which do not fall under its definition. Therefore, the data supplied by the DIPP to the CSO for compilation of IIP, consists of large amount of estimation in respect of non-responding units Further, the data on production from Small Scale Industries (SSI's) is not available due to the definitional and logistic problems. The Ministry of Industry do not have any data on the SSIs. The quality of IIP released by the DOS has, therefore, serious limitations. The results of follow-up surveys of enterprises on unorganised manufacturing, which are used for estimating the GDP from unorganised manufacturing, suffer from many inconsistencies and unrealistic value addition figures. There are no indicators available on the current growth pattern of the performance of this sector, and, therefore, current estimates of GDP of this sector depend largely on index of industrial production data.

8. The availability of statistics on the unorganised services sectors which mainly constitute the informal sector, is generally through large scale sample surveys. Despite regular surveys being conducted, the data generated on informal sector have not been realistic, due to absence of appropriate legal provisions, education and lack of importance attached to statistics by the informants and the private unincorporated sector. As a result of this, the value added per worker (VAPW) estimates used in the compilation of GDP estimates of services sectors appear to be unrealistic. Concerned with the quality of results of follow-up survey of enterprises, the DOS launched a survey of enterprises in the month of August 1998. The survey aims to capture VAPW estimates of unorganised sector of all economic activities at one point of time, which are presently not available. The schedule and the survey have been designed in such a way that Value added estimates are probed through two different approaches, namely, the income and production approaches. This survey is, therefore, expected to give consistent and better quality results.

9. The GDP from the unorganised segment of manufacturing and services sectors is based on the estimates of work-force. Traditionally, the work-force estimates used in the national accounts are based on the population censuses. However, with the introduction of Economic Census, we now have four sets of data on work-force, based on (a) Population census, (b) Employment and Unemployment Surveys of NSSO, (c) Economic Census and (d) Enterprises Surveys. The four sets of data show variation in the absolute numbers and significantly among the various industry groups. While the NSS based estimates give higher numbers of Work force, the Economic Census' estimates are the lowest. The Advisory Committee on national accounts, which is examining the estimates of work force during the last one year, from these four data sources, is finding it difficult to take a decision on the choice of the source. One of the issues is that the contribution of Women in population census has generally been found to be understated. The variation is generally due to quality of enumeration work and also to some extent difference in definitions/concepts followed in the four sources.

10. It is normally expected (given the existence of various laws on corporate sector to furnish balance sheets), we should have complete data sets on corporate sector. I find it difficult to understand that we have a major data gap in respect of private corporate sector and that too, in this age. As of now, we do not have complete data on the private corporate sector, even for one year, so that bench-mark estimates could be prepared. The company finance studies done by the RBI, which is the source of data of this sector, suffers from lack of scientific sampling procedure and inadequate

coverage. We must have a frame of corporate sector and a procedure for its constant updation, keeping in view the large additions mortality rate in this sector.

11. The data that comes from some of the states, of late, is not upto the quality or meets the standards and definitions laid by the CSO. An example of this is the price data of various commodities furnished by the states. It has been observed that there is a tendency on the part of some of the states, whose per capita income is around the all-India average per capita income, to under-report the price data, so that they stay below the all-India average per capita income. This is because the devolution of funds to some extent depends on these statistics. We have now two choices to either delink the per capital state domestic product from the devolution of funds or have an auditing of price data reported by the states. With regard to other data, like production and various survey results, too, we need to inbuild certain cross-checks so that the data that finally emerges does not suffer from qualitative aspects.

12. Of late, I find that there is little linkage of statistics with applied areas. Interest on the part of academicians and researchers on statistics, seems to be on the wane. There is insufficient feedback to the statistics compiled by the official statistical system, so as to assess and improve the quality and coverage of statistics.

13. India being a signatory to the General Agreement on Trade in Services (GATS) and with the global trade in services ever expanding, it has become imperative for the country to evolve a suitable methodology for generating data on international trade in services. This will primarily help in providing suitable direction to the promotion of this sector in the country's overall export effort. In india, though receipts/payments data in certain areas of services sector are available, these are not comprehensive enough to provide complete information. Most of the concerned agencies do not have adequate machinery for carrying out the necessary exercises and yearly or periodical statistics released by them do not provide an information base for many service sector areas especially in the field of Foreign Exchange earnings. Reserve Bank of India which is the controller of foreign exchange for India has not been able to provide full information on the foreign exchange earnings of each area of the services sector. Information as published by the RBI in the Balance of Payment statistics relate only to major heads like Travel, Transportation, Insurance, Investment income, Government not included elsewhere (GNIE) , Miscellaneous and Transfers (Official and Private). As compared to the partial and incomplete data on services presented under Balance of Payments, practically no reliable Official statistics of international trade in services are available in India at present. However, the possibility of capturing data on "International Trade in Services" at disaggregated level has been receiving attention for quite some time.

14. A quick glance of the available literature reveals that while the source document for most of the countries for compilation of statistics of International Trade in Merchandise is the Customs declaration form, (or electronic transmissions sent by traders or their agents to Customs Officials in lieu of Customs declaration forms), no such recommended and time tested procedure exists in the case of "trade in services" data. Existing statistical systems for Balance of Payment (BoP) compile data on payments and receipts between residents and non-residents through channels such as banks (Authorised Dealers of foreign exchange in the Indian context). This information is, however, supplemented with sectoral surveys conducted by experts and industry associations.

15. In India BoP statistics are compiled by the Reserve Bank of India on the basis of information supplied by the Authorised Dealers of foreign exchange. In order that the data generated by an Official system for statistics of international trade in services are consistent with the data compiled by the RBI in the Balance of Payment statistics, it is advisable to obtain the basic information relating to trade in services through the Authorised Dealers of foreign exchange in India using a prescribed format to be devised for this purpose. In India, the Directorate General of Commercial Intelligence & Statistics (DGCI&S) is the Official nodal agency for compilation of

statistics of international trade in merchandise and in order that a comprehensive Official system of statistics of international trade is evolved over a period time, it is advantageous to make the DGCI&S also responsible for the Official statistics of international trade in services.

16. As Balance of Payment statistics were not originally designed to fulfil the needs of 'trade in services' data users, BoP service categories were highly aggregated. However, there being no comparable data on international trade in services, BoP statistics become the major source of data in this area. With requests being received from various users the service part of the standard BoP components was made more detailed in 1993 and included 13 majority components, 14 sub-components and 9 additional items selected as supplementary information. The OECD/EUROSTAT Trade in Service Classification which is more detailed has been developed around the same time and is in use in the OECD areas. This Classification with modifications to suit the requirements of India as well as the GATS can be conveniently used in India for generation of Trade in Services Data.

17. In the suggested methodology, the importer/exporter while submitting documents to the Authorised Dealer in the event of entering into a contract with the foreign party has to indicate the nature of service (in appropriate codes), the value of the service received/rendered and the country from/to which the service has been imported/exported. This provision has to be made mandatory by incorporating necessary changes in the instructions issued by the RBI to the Banks / Authorised Dealers of foreign exchange. The information on trade in services may be transferred to the DGCI&S from the RBI Head Quarter at Mumbai through a communication network linking RBI, Mumbai, DGCI&S, Calcutta and the Authorised Dealers. The claim of the Importer/Exporter of services has to be adequately supported with appropriate documents to be submitted to the Authorised Dealers. As the data source for both the RBI and DGCI&S is proposed to be the same Authorised Dealer, this methodology is expected to ensure consistency between the trade data and BoP data for services.

18. The subject "exports by state of origin" received attention from time to time and is of live interest at present. But no official statistics of the country's exports according to the state of origin are available. In the context of country's transition to a globalised economy with a view to deriving maximum benefits from the expanding overseas market opportunities, Centre and the States will have to mutually reinforce and step up the national endeavour for improving the country's export performance. As a policy, provision of incentives to the States based on the share of their exports in the total exports efforts of the country can be thought of.

19. It is expected that with the increase of exports on the part of the states, there may be loss of state revenue in terms of sales tax. In order to develop a suitable mechanism for assisting the States for their contribution to the national export effort, generation of data on exports by State of Origin is of high priority.

20. The issue of generation of such data has been examined and it has been pointed out that for capturing such data one additional field reflecting the state of origin is required to be inserted in the DTR module. Until now, it has been observed that this field is being provided by the customs only in case of EDI based computerised DTR data. It is also believed that this field is being filled up based on the declaration of the exporters. Based on such data received from Delhi Air Customs, DGCI&S has been generating data on exports by state of origin in respect of principal commodities. It will be possible to generate state level exports data as soon as all the Customs stations will be able to send EDI based computerised DTR data.

21. Since these data are based on the declarations of the exporters, there is need to provide for external cross-checks for the data generated through the declarations. Sample studies may be conceived in this regard. It may be stated that DGCI&S lacks in infrastructural facilities, trained manpower resources and adequate finance to undertake such studies. DGCI&S may, however, be

able to supply the sampling frame required for designing the suitable sample studies in this regard. The entire work of survey may be entrusted to some renowned research institute/organisation. If such a study is undertaken, it may help in gathering very useful additional information about trade and industry, especially with a focus on export effort.

22. The data on defence goods are not included in DGCI&S publications. The possibility of incorporating such information in the imports data of DGCI&S as line entry without giving the nature of imports and other details has to be explored. Such a step will obviate avoidable guess of value of Defence inports often made by various international agencies.

23. Other important issues relating to non-availability of data in foreign trade are:

(i) Exports originating from the small scale sector, non-small scale industries;
(ii) Exports made by exporters who fulfill export obligations under Export Promotion Schemes such as EPCG etc;
(iii) Impact of non-tariff barriers on exports;
(iv) Impact of infrastructure bottle-necks on exports; and
(v) Imports under schemes such as Special Import Licenses etc.

24. The all-India Index of Industrial Production is being published as a monthly series since 1950. In order to capture the structural changes in the industrial sector and reflect adequately the industrial growth, the base has been revised from time to time. As per UN recommendations, the base of IIP should be revised quenquennially. Accordingly, it was planned to revise the base of all-India IIP from 1980-81 to 1985-86. The complete series with revised base was compiled from April 1986 to May 1995. But the new series did not compare well with the existing series in some years particularly in 1994-95. Further, the DCSSI was not in a position to line up data on the additional items of the small scale sector. Even after finalisation of the weighting diagram, a number of items have to be dropped on account of non-availability of monthly production data on regular basis. Therefore, in the inter-ministerial meeting, it was not considered appropriate to release the revised series at a later stage and it would not serve the position effectively especially when the CSO would be in a position to shift the base to a more recent year, i.e., 1993-94.

25. On availability of detailed results of ASI 1993-94, the exercise for revision of IIP to base 1993-94 was initiated. Based upon the criteria of selection of items with gross value of output of Rs. 80 crore and GVA of Rs. 20 crore at the ultimate digit level of NIC 87, a provisional item basket containing 674 items of manufacturing sector was identified and circulated to the data source agencies for identifying the items on which regular monthly production data are available with them and also supplying monthly production data on each of them for revision of base of IIP. However, the source agencies could furnish the time series monthly production data in respect of only 478 items of manufacturing sector clubbed into 285 broad item groups. Thus, the remaining 196 items had to be dropped due to non-availability of data from the source agencies, thereby affecting the representativeness of revised series of IIP. The DIPP, Ministry of Industry which is a major source of data accounting for about 52% of the weight in overall IIP, also faced problems in supplying data on 122 new items identified in the item basket of the revised series.

26. As a follow-up of recommendations of the task force on Industrial Statistics, the issue of setting up of an independent data reporting system for compilation of IIP was first considered in the meeting of COS on 4 November 1993. On the directions of COS, an exploratory exercise was carried out on the basis of monthly data on the DGTD items collected by FOD of NSSO for a period of two years (April 92-March 94). The exploratory exercise enabled FOD to obtain good response and in the process, to bring out the salient features of the status of the present information base of the IIP as follows:-

i) About 16% of the products are not produced by the units in the DGTD frame.
ii) 17% of the products in the DGTD list pertains to either non-existent or inoperative units.
iii) Non-response in the FOD exercise was only 5%.
iv) Information on 40% of the products belonging to the non-response category of DGTD could also be obtained by the FOD.

However, the extent of non-response cannot be indicated because the DGTD did not share the data with the Department of Statistics. The position continues to be so even now.

27. One of the major weaknesses in the IIP is inadequate representation of small scale sector for which the source agency is the Development Commissioner, Small Scale Industries. While the unorganised sector has grown significantly in the recent past, in the absence of item wise monthly production data, the revised series has taken into account its contribution only through the weighting diagram. At present, the monthly data on only 18 items of SSI sector covered in the 1980-81 series have been included in the revised series. However, it is expected that by December 1998 the information on additional 69 items of this sector would be made available by DCSSI which will certainly improve the representativeness of SSI sector in the index and hence its quality.

28. The quality and timeliness of production data are crucial factors in compilation of IIP. While the time lag in supplying monthly data for compilation of IIP has been reduced significantly, the quality of data is far from satisfactory which has resulted in significant differences between the Quick Estimates and subsequent revisions of IIP.

29. For compilation of Quick Estimates of IIP, the source agencies are required to furnish monthly production data within 4-5 weeks from the reference month. The data are subsequently revised by the source agencies on the basis of increased response from the production units. However, the revisions in the data are sometimes very significant with affect the credibility and reliability of IIPs issued by the CSO. For instance, the O/o Textile Commissioner, Bombay intimated the revised figures of production to CSO for 1996-97 which necessitated corresponding revisions in the indices of earlier months. Similarly, the Development Commissioner, Iron & Steel also revised the production figures on steel items for 1996-97 retrospectively which resulted into significant downward revision in the growth of the sector. In order to ensure that the indices for a particular month are finalised within the next three months against the revision schedule of first, 4th and 13th month, the issue was discussed in a meeting of source agencies held on 14 July 1998 and it has been decided that the indices would now undergo only two revisions, i.e., in the next month and the third month. Therefore, based upon the monthly production data furnished by the source agencies, the indices for April 1997 onwards have been revised as a one time measure and incorporated in the Press Release for July 1998. It has been noticed that many of the source agencies have significantly revised their data. While DIP&P have not revised their past data, they have not indicated their response rates.

30. In order to improve the quality of data supplied by source agencies for compilation of IIP, the officials of IIP Unit are having regular interactions with the source agencies. A meeting of source agencies held in July 1998 also considered steps for improvement of quality of data. The interactions with the source agencies have revealed that they do not have proper statistical set up for effective monitoring of receipt of data and proper estimation procedure for non-response. The source agencies may also submit proposals for adequate strengthening of infrastructure facilities for collection/compilation of monthly production data.

31. The production data available with the excise department may also be used for compilation of IIP. However, the present set up in the excise department is not adequate to meet the timely requirement of reliable data on all the items for compilation of IIP.

32. Efforts are being made to introduce a system of regular collection of monthly production data from large size ASI units from January 1999 by the Department of Statistics. For this purpose, the field agency, i.e., the FOD of NSSO would be used. Once this system stabilizes the quality and timeliness in bringing out IIP would certainly improve significantly.

33. The list of factories registered under the Factories Act 1948, as maintained by the Chief Inspectors of Factories (CIF) in each State/UT, forms the basic frame for the ASI . The frame also includes units registered under Bidi and Cigar Workers (Condition of Employment) Act 1966, which are having 10 more workers and operating with power and having 20 or more workers and operating without power. It also includes all electricity undertakings engaged in generation, transmission and distribution of electricity registered with Central Electricity Authority irrespective of their size of employment. The above list of units are supposed to be updated by the CIF annually by incorporating the new units. The list is also supposed to be revised once in three years. Unfortunately the maintenance, updation and revision of the frame is not being accurately done by the Chief Inspectors of Factories as a result of which the data thrown up by the ASI even in respect of basic parameters like the number of factories and the number of workers are not fully reflective of the true picture.

34. Submission of returns by the factories, though mandatory under the Collection of Statistics Act 1953 (CS Act), is also beset with problem of non-compliance by the units and in some cases the units default altogether. Legal action under the penal provisions of the CS Act is always not found to be the solution for the problem as the penalty is not very stringent. Moreover in cases of litigation of units in income tax and other cases the submission of returns is affected as the relevant documents are stated to be in legal custody. This leads to non- response and affects ASI results.

35. Over the last few decades there has been a spurt of the growth of the number of registered factories and consequently in the number of units from whom data are to be collected and analysed annually but manpower resources available to the Deptt. of Statistics could not be increased much due to financial constraints. Thus, collection and compilation of data from a large number of units (approx. 70,000) in a very lengthy schedule (16 pages) have not only led to undue delay in the availability of results but also involve non-sampling errors affecting quality of data. To improve timeliness and reduce non-sampling errors the size of ASI schedule has been reduced (6 pages) for 1997-98 survey. The new ASI schedule is designed to make it users - friendly at all level of its use than the existing one. The sampling design of ASI has also been revised.. According to the new sample design about 30000 units will be surveyed through the ASI 1997-98 instead of about 70,000 units covered upto ASI 1996-97. This will certainly reduce the data collection and processing time. Also, non-sampling errors will be reduced to a great extent.

36. An action plan has been drawn to reduce the time lag in releasing the ASI results substantially by March 1999. The time lag will be eliminated in the release of industrial statistics to users by end of the current financial year.

37. At present many of the States/UTs are processing the same set of ASI schedules canvassed under 'Central sample' which are being processed by CSO. In order to conserve and optimise the resources, States/UTs have been requested to utilise the database/tables generated by CSO from 'Central sample'. On the other hand, the States/UTs may divert their resources to cover additional units with a view to generate district/regional level estimates by pooling these additional data with the 'Central Sample' data.

38. Steps for data transmission from factories and field offices of FOD (NSSO) to the tabulating agencies in the form of digitised schedule utilising country-wide network are under consideration of the Deptt. of Statistics. This arrangement will improve the quality of data from the field. Common software for scrutiny and validation of data being used by CSO can be utilised by States/UTs also to

ensure improvement in quality of data. The ASI results can also be disseminated electronically in a common format.

39. It is well known that the unregistered sector in the Indian Economy has grown significantly in the recent past and its contributions both in terms of total output as well as the employment is growing rapidly. Its contribution to the total manufacturing sector is about 40% in terms of Gross Value Added and employing about 160 lakhs, workers during 1996-97. So far the DCSSI in collobration with State/UT governments has conducted two censuses first for 1972-73 and subsequently for 1987-88 to collect the details of units and their performances. However, regular collection of data from large number of units in the small scale sector has posed a major problem. Thus, the information for any recent period in respect of small scale sector is not available. A number of surveys have also been conducted by the NSSO for collection of data on DME (6 or more workers), NDME (1-5 workers) and OAME (household industries with zero worker) but no reliable estimates are available.

40. Now, turning to data on socio- economic characteristics which are essentially for planning and implementing a series of welfare measures for the population, we have been experiencing numerous problems by way of data deficiencies which I should highlight before this august gathering. As all of us are aware, education holds the key to the all round development of individual citizens and thereby of the society at large and the nation. India is committed to achieve universalisation of elementary education. The National Policy on Education (NPE) envisages free and compulsory education of satisfactory quality for all children upto the age of 14 years by the turn of the century. Whereas, as a part of the UNESCO/OECD pilot project on world education indicators, as many as 43 education indicators have been identified in our country, regrettably, education statistics are presently collected only for a very limited number of items which are inadequate for our planning requirements in terms of comprehensiveness, quality, reliability and timeliness. In fact, it has been observed that the existing infrastructure available for educational statistics is grossly inadequate, both qualitatively and quantitatively in terms of manpower available. For instance in UP, only 10 out of 83 districts have one statistical assistant each. In West Bengal, there is practically no staff available for collection and processing of educational data and as a consequence no education statistics are forthcoming from that State for the past few years. The most important indicator in this context is the literacy rate of the population. This data is available at all levels only decennially through Population Census. NSSO also gives state level rates through some of its socio-economic rounds. In such circumstances, there is a vital need for obtaining the annual changes in the level of literacy, if we are to effectively monitor and achieve the policy objectives set for universalisation of education in the next few years.

41. As regards health statistics, though programme statistics are available, data on some important indicators to evaluate the efficiency of health programmes are not available for all administrative levels. For instance, reliable Maternal Morality Rate data are not available even at the national level. In fact, Infant Morality Rate which is required to assess the efficacy of child health interventions is not available for small States and UTs and below State level. These are very critical indicators for assessing the impact of Child Survival Programmes. We are unfortunately not in a position to tell reliably which is the major killing decease in India as the Causes of Death statistics are scanty and deficient. The Civil Registration System was evolved to fulfil the vital statistics data requirements. Although this scheme came into existence three decades ago, the progress is far from satisfactory. We have been reportedly getting only about 50 percent of the vital events registered.

42. Issues relating to empowerment of women are currently becoming increasingly important and relevant. In order to assess the extent of achievements in this parameter, statistical indices like Gender Development Index (GDI) and Gender Empowerment Measures (GEM) have been developed . Though these measures were developed about three years back internationally, we have not yet

been able to develop a methodology suitable to Indian conditions till now. For computation of GDI and GEM suitable to Indian conditions, a number of indicators have to be considered. On some of these indicators, data are presently not available. The quality of data being collected on crimes against women also needs much improvement.

43. Some of the areas in labour statistics which need immediate attention are child labour, labour engaged in informal sector both urban and rural, problems relating to migratory labour both domestic and international, impact of new economic policy on the labour in the organised and unorganised sectors, wage rate and working conditions of the labour in different segments of unorganised sector etc.

44. Price stability is an essential pre-condition for sustained growth of economy. In India, though prices are collected and compiled by a plethora of agencies, the current practices leave a lot to be desired. At least four CPIs are compiled in India at national level, which are for specific segments of the population. They are, however, not oriented to reflect the effect of temporal price movements of goods and services on the living standards of urban and rural population. A need definitely exists for rationalisation of different CPIs. Moreover, with a multiplicity of indices being available, there are a number of different estimates of inflation which lead to confusion amongst the users.

45. WPI is being used for measuring inflation, for which purpose it is not designed to cater. Clearly, WPI measures price changes at an early stage of the distribution system, and does not take into account retail margins. Although efforts have been initiated to revise the base year of WPI in 1992, the revision is yet to become operational and by the time the revised series is implemented , it is quite possible that the base year selected would have already been rendered obsolete.

46. CPIs compiled in India are noted to be not revised regularly to take into account the ongoing changes in the consumption pattern of the population. It is imperative to have a regular mechanism for revision of base year of different price indices. For all the four national CPIs, the existing base years are more than a decade old. Family Living Surveys were conducted in all these cases in the early 1980s; thus rendering the weights for different items of goods and services possibly not relevant and also not representative.

47. A plethora of price measures are published at national and subnational levels by various agencies. But comparability is a major problem in these measures with each index having its own scope and specifications. As such, harmonisation of price measures is a prime necessity.

48. One of the emerging areas in statistics relates to environment statistics encompassing various disciplines. Department of Statistics has recently compiled a 'Compendium on Environment Statistics' based on available data. We have identified many indicators in consultation with countries in Asia and Pacific region and are impressing upon data source agencies to compile data on these indicators. We are also trying to undertake Natural Resource Accounting on a pilot basis to know the impact of development processes on our national natural capital. The methodological issues are being finalized.

49. Despite the fact that India has one of the largest statistical man power in the world, so far adequate attention has not been paid to the crucially important issue of imparting requisite training to the statistical manpower. For instance, the field personnel of the National Sample Survey Organisation have not had the benefit of a refresher training on relevant aspects at periodic intervals. With a view to effectively address this long overdue problem, steps have been taken to establish a National Statistical Training Institute(NSTI) along with a complement of regional counterpart Institutes at some selected centres of the country.

50. Another important problem which has been identified in this context is that the Statistical

education, as it exists and is being offered in the universities at present, suffers from serious handicaps in that Official Statistics is not prescribed in the curriculum of the under-graduate, post graduate courses in Statistics. Perhaps, it would be advisable to introduce official statistics in adequate measure right at the graduate level so that the statisticians and economists turned out by Indian Universities and other institutions of excellence develop an interest and appreciation of the role and value of official statistics in the National Development Programmes. Likewise, it would be a worthwhile idea to consider in terms of allowing the practicing official statisticians to work in the universities and reputed statistical research institutions on certain major problems confronting the official statistical system with a view to evolving a workable strategy for resolving such problems.

51. The Government is responsible for a number of programmes and services being offered to the community. But at the same time, we do not have unlimited resources to strengthen these programmes to ideal levels. This calls for a concurrent evaluation for assessing the efficiency and effectiveness of each of such activities. Recently, the Australian Government has evolved a system of statistical audit with a view to evaluate the performance of range of services provided by the Government. Such performance audit indicators focus on efficiency and effectiveness aspects of services delivery. In our system, we have been looking at only achievements of physical and financial targets to monitor various programmes. It is high time to have a feeling of the pulse of people's perception over such government services and we have to initiate the statistical audit as being adopted in a country like Australia.

52. The Statistical data system should be transparent and embody only truth as emanating from data collection from grass root level upward. For this purpose, the Statistical Organisation should be absolutely independent, having no bias or leanings to any particular segment/organ of the government. With a view to accomplish this objective, a statutory organisation with adequate independence, authority and power is considered to be the need of the hour. Such an organisation can provide the required guidance, supervision and overall coordination among the Central Ministries and States so as to strengthen and streamline the statistical system and make its role more meaningful and purpose-oriented in the country's developmental efforts.

53. In order to help us to formulate appropriate policies and strategies and also continuously evaluate the efficacy of the on-going development programmes, appropriate statistical data bases of desired quality is a pre-requisite. It is recognised that transparency and easy access to statistical data bases and information at all levels of the society are invaluable to the sustenance of the democratic fabric of the country. Thus, a strong statistical system is the need of the hour.

54. The National Statistical System in India as it exists and operates today, is required to be strengthened and substantially improved without any further loss of time to equip and enable it to effectively address some of the critical problems confronting the official data and information systems. Such problems include inter-alia, those relating to gaps in the data, quality of data produced/collected and its dissemination, inordinate delays in transmission and publication of data on various socio-economic and other characteristics generated by the Statistical System in India.

55 The National Sample Survey Organisation (NSSO) is one of the large scale sample survey agencies in the world. Its primary mandate was to identify and fill-up the gaps in data required for improving the national accounts as also to generate data to facilitate Socio-economic planning on sound basis. It has been conducting sample surveys on annual basis with a very large sample size of about 12,000 to 14,000 villages and blocks in the central sample and on equal matching independent sample of the same size covered by various State/UT agencies. Many important subjects are being covered such as household consumer expenditure, employment and unemployment, land holdings, livestock holdings and debt and investment, unorganised manufacturing, trade and services, housing condition, participation in education, health care etc. The data thrown up by these enquiries form the basis of several important estimations such as national income, poverty, levels of living,

unemployment situation, labour force, conditions of living of disadvantaged sections of the population such as scheduled castes, scheduled tribes and agricultural labourers. Price data collected by NSSO are used in compilation of monthly consumer price indices.

56. The NSSO functions under the overall directions of the Governing Council which is empowered to take all technical decisions in respect of the survey work from planning to release of results. The Governing Council has the benefit of involvement of experts from outside the Government also. In spite of the rich experience gained by the survey Organisation in conducting the surveys repeatedly on the same subjects over a long period of its existence of nearly five decades, there are serious problems yet to be overcome. Serious concerns have been expressed by a number of data users on the quality of data thrown up by these surveys. For example, estimates of private consumption expenditure thrown up by the survey appear to be gross under estimates as compared to the alternate estimates available from the National Accounts. There have also been instances where the published results of the surveys have been found to be unacceptable to the user agencies as such results appear to be unrealistic and far from the ground realities. Where the surveys of NSSO have successfully thrown up usable and realistic results also, serious problems have cropped up in making available these results in time for effective use in policy formulation, monitoring and evaluation. The time gap between the survey and the final results is unduly long and hence not acceptable. There are cases of surveys where the field work for data collection was done by NSSO at huge public costs, it was, however, never released fully. ASI is a classic example. Not only we did not do the analysis ourselves, we did not part with the data (in the past) for somebody else to do it. Even after the draft report is ready, the Governing Council takes 5-6 months before authorizing its release. The very preamble of re-structuring of the NSSO in 1970 had stated that the Governing Council of NSSO was being created to take care of these serious problems. Even after 28 years, the situation has hardly improved. Over and above such problems, the NSSO has not been able to evolve a concurrent system of evaluation of survey data. The training aspect of the investigators has been completely neglected. The requirements of data through surveys have gone up manifold; there has not been matching increase in the size of the workforce in NSSO. This has seriously affected the quality of data and also affected adversely the design of the surveys itself. Sample size has been determined not on scientific basis of sampling error considerations but on the availability and location of investigators strength. The NSSO faced such tremendous odds in spite of the fact that its Governing Council had the benefit of some of the best brains of the country and who had international standing. As a result of this type of environment in which the survey organisation has been functioning, several rigidities have developed in the working and productivity of the organisation. Although there is a concept of four sub-rounds in a round of one year duration, results relating to a sub-round are not available immediately after completion of that sub-round. As a consequence, survey data of immediate importance on burning issues cannot be made available through the NSSO setup. Time has come for making serious attempt to evolve a parallel survey setup in the Government which can cater to the immediate requirements of survey data on subjects of topical importance. Also there is a felt need to review the structural aspects and other issues related to the conduct of surveys by NSSO.

SECTION II

WORKING GROUP 1
Data Collection at the Ground Level – Setting up of CLICs

Summary of papers

1. **Pilot Project on Community Based Information Lending (CIL) – Goa (WS 98/G-1/1):** *Government of Goa*

The paper provides general administrative information on Goa, followed by a discussion on the pilot project in the State of Goa. A detailed list of statistics to be maintained at the village level is given, along with the organisational structure, starting from the State Information Officer down to the Village/Town Information Officer, with defined functional responsibilities. The financial implications of the project have also been given.

2. **Setting up of Culture, Library and Information Centre (CLIC) at the Village Cluster Level (WS 98/G-1/2) :** *Government of Tamil Nadu.*

The paper starts with a dicussion on the organisational structure of the DES, Tamil Nadu along with present statistical system. There are numerous short-comings in the existing system of data collection and the paper supports the need for a sound statistical system in view of the fact that vast financial and administrative powers have been vested with the village Panchayats. The 'Bottom up Approach' has been felt necessary in view of the need for micro-level planning at the Panchayat level. The state of Tamil Nadu has desired to undertake the setting up of CLICs at the village cluster level. The revised structure, along with data/information required at village level under CLICs, has been spelt out. Methodology linkages, use of advanced information technology and the human resource development measures have also been suggested.

3. **CIL System : Aims to Modernise (WS 98/G-1/3) :** *Andaman and Nicobar Administration*

The paper narrates the peculiar problems of the Andaman & Nicobar Islands. The problems in data collection are partly due to the location and difficult terrain and topography of the Islands, apart from various other natural factors and shortage of staff. A number of suggestions for improvement in the collection of data have been listed, along with the detailed types of data which are collected by the administration from various sectors including Agriculture Industry, Transport, Banking, Labour, Justice etc.

The Administration is ready to take up the project and views the CIL programme as an aid to formulation of the schemes for the Poverty alleviation programme and creation of employment and has thus supported the 'bottom-up' approach for maintaining up-to-date information about villages. The system will bring about improvement in the quality of statistics at the district, state and national levels and reduce time lags for supplying of data.

4. **Modernisation of Statistical System – Lakshadweep Experience (WS 98/G-1/4) :** *Government of Lakshadweep.*

A brief description of the geographical and socio-economic features of the Union Territory of Lakshadweep has been given in the paper, along with an account of the present status of availability of statistical data. The delays in data compilation and dissemination in the form of publications is as much as 4-5 years, due to several reasons, including non-availability of staff. The socio-economic data is not available at regular intervals for suitable formulation of programmes and schemes, except for a comprehensive Socio-economic Survey conducted by the NSSO in 1996 for the purpose.

The administration is willing to take up the project in order to substitute a number of activities like Below Poverty Line survey, Electoral rolls, Households surveys etc. with the system of generation of data at village level through CLICs. The new system will be able to provide quality of development data at village, district, state and national level and can be utilised for micro economic development planning and policy making. However, the achievement of this modernisation system of CIL and CLICs will depend upon continued tapping of information of the household by integrating it with the developmental and non -developmental institutions based on respective Panchayats.

5. **Strengthening the Ground Level Foundation of Statistical Modernisation Recommendation for a Pilot Test (WS 98/G-1/5) :** *Paul Armington, World Bank*

6. **Community-based Information Lending(CIL) (with an example of pilot testing in India) (WS 98/G-1/6):** *Paul Armington, World Bank.*

Both the papers point out the interest of the World Bank in promoting lending programs for statistical modernisation, with a strong capacity-building focus, encouraging countries to integrate statistical capacity into their national strategies for capacity building. In this respect, the papers present the case for a "bottom-up" strategy to this integrated approach to capacity building and identify the main concepts in this strategy and relate them in a coherent framework (system) of principles and methods. They then discuss, in some detail, how the strategy could be tested, taking the statistical modernisation project as an example.

The papers conceptualise the various elements of Community-based Information Lending like building social capital, using the information gathering capabilities of modern information technology and simultaneously increasing the ability of local governments to provide worthwhile public goods and services to the community. In a nutshell, the proposed project revolves around installation of suitable equipment and communication facilities (maybe, at the village Panchayat or village-cluster level) for purposes of maintaining all types of basic data about the community, which can be used by the village community, as well as, by the state and national government agencies for planning and development purposes.

7. **Reaction on the proposals for modernisation of the statistical system (WS 98/G-1/7):** *Government of Bihar*

The paper provides the reactions of the Govt. of Bihar on the proposals of Modernisation of the statistical system. The objectives of the project can be brought home, not by change of heart of the personnel alone, but, by bringing a remarkable change in the out look of society at large, who are the ultimate beneficiaries or casualities of any plan or programme. The CIL programme may eventually give a stop to the process of having the decennial Census, with the establishment of Population Registers in the CLICs. The scheme will enhance the capabilities of the already employed and throw open further employment opportunities at the Panchayat level. For ascertaining the success of the efforts, the paper suggests that the pilot test may be carried out in one or two development Blocks of Patna District.

8. **CIL System - Aims to Modernise (WS 98/G-1/8) :** *Andaman & Nicobar Administration*

(The paper is identical to the one at S.No. 3 above)

9. **Modernisation of Statistical System and Integration of Regional Accounts Statistics (WS 98/G-1/9):** *Government of Meghalaya.*

This paper contains reactions of the Govt. of Meghalaya to the proposed (CIL) project. The State government has found the project of Community-based Information Lending (CIL) as a noble idea,

as strengthening the ground level foundations of statistical modernisation for data out-put at the micro level is urgently required. The Project will improve Agriculture Statistics, Price and Market Intelligence Statistics by the use of computers at village level, besides, helping in the development of Regional Accounts Statistics. The Project will help in identifying and covering the gaps in data requirements. It will also help to improve the reliability, timeliness and coverage of processes of collection, transmission, processing and dissemination of data. Methodology linkages, use of advanced information technology and the human resource development measures have also been suggested.

Report of Working Group 1 (presented to the Plenary on 16 September, 1998 by Mr. Paul Armington)

The salient points of the papers were presented by the concerned representatives of the States/UTs and World Bank. The status of the present statistical system, problems of data collection, data gaps, along-with suggestions made for setting up of CLICs, were discussed in detail, with a view to work out a Pilot Project to be taken up in some States/UTs.

The findings and recommendations of the group are as follows:

1. At present the data flow from villages and subsequent analysis takes a lot of time. A need was felt for better data collection at ground level, and great possibilities exist for improvement through the state statistical departments.
2. **A "bottom-up" approach** of statistical techniques is a felt necessity. The micro-level approach at Panchayat level is a starting point. To have practical implementation of the idea of a bottom-up approach, creation/establishment of Culture, Library and Information Centre (CLICs) is a felt need.
3. **Designation and selection of CLIC Board** : DOS could provide a menu of alternative models of the governance of CLICs, e.g., (a) Existing group is used, eg., the Gramsabha, b) Panchayat appoints Board, or c) Panchayat nominates Panchayat Board candidates, or c) other existing organisations such as NGO's are invited to nominate candidates, or stakes of candidates, followed by direct election by residents.
4. **Organisation of CLICs**: CLIC is to be organised at village Panchayat level, which is the Management Unit (MU).
5. **Training and equipment:** Block/District Statistical Departments (SD) would arrange and provide professional training and any specialised equipment (hardware, software, and network connectivity) for a running-in period of 3 years. After this period, CLIC is expected to be acting independently, providing, using and financing its own training and equipment, and amortizing its initial capital stock. IT infrastructure would remain the responsibility of the Block/District SDs, and they would also provide long-term support for training and innovation in statistical practices.
6. **Coordination for CLICs**:
   a) At the state level:- The Department of Planning will be the nodal Department. The Directorate of Economics and Statistics (DES) will monitor the organisation of CLICs. At State level the Director of Economics and Statistics will be the nodal officer.
   b) District level:- The District Collector/Deputy Commissioner will be a controlling and co-ordinating authority of the CLICs. The CLIC is established at village panchayat level, a development administrative unit at the micro-level.
   c) Block level:- The Block Development Officer (BDO) will be the immediate field level controller and supervisory officer of the CLIC, in co-ordination with Block Level Statistical Inspector (BSI) available in the Block office.
7. **Functional Arrangement of CLICs** : The CLICs established at the village Panchayat level with the World Bank assistance would work in close liaison with all line Departments, development agencies, welfare departments etc. This would be a meaningful data centre at the village Panchayat level, with trained personnel in data processing/retrieval and use of computers.

8. **Service role of CLIC**:- The CLIC will play a major role in:
   a) Collection of local data;
   b) Dissemination of data to various line departments and other Government agencies;
   c) Storing of state-level welfare program data for the benefit of villagers;
   d) Dissemination of eligible criteria for various welfare/senior programs, implemented by states and central government;
   e) Information/data on the eligibility criteria of persons living below poverty line, under various welfare programs implemented by various agencies.
9. **Data contracts : Block with CLIC** : Block/District SDs negotiate with CLIC Board and Director contract terms for delivery of Panchayat data as specified by an annotated Minimum List. Terms of payment and Minimum List could be set and updated through a Standardized, State-wide process that brings State-wide representatives of CLICs and their government stakeholders together for collective agreements concerning contract terms and the evolving Minimum List. Planning and implementing this continuing process of collective action is a State/District role.
10. **Funding for the CLICs**: The initial set-up of CLIC would be partly funded with World Bank support for such capital expenses as: Preparation of Business Plan of the CLIC, special office equipment and connectivity, and the CLIC building. After a running-in period of 3 years, CLICs should meet all costs, which should be fully covered by contract revenue from core data operations and other sources. Also community provides volunteer support for chargeable and free (Community) programs. Volunteer work may turn out to be the bulk of human-resource inputs to CLICs in the long run, with important consequences for popular support of the CLIC system.
11. **CLIC- A viable self funding unit in the long run** : It is visualised that CLIC will be a self-supporting unit after 3 years of running-in period.
12. **Entrepreneurial development** : The CLIC business plan should elaborate plans for both chargeable and free community programs of the CLIC. Chargeable services might include private access to computer and telecom equipment needed by the CLIC. This is an important challenge for entrepreneurial creativity and innovation, contributing to community-wide support and participation. Development of data and information resources beyond the current Minimum List (of contract-specified variables) is a further area for developing and testing the entrepreneurship of CLIC management, as well as for meeting special data needs of the particular community.
13. **Feedback of data to CLICS from Block/District/State SDs** : Within the scope permitted by the current Minimum List, CLICs should receive prompt and relevant comparative data from the State's system of Statistics Offices. Obligations to provide this feedback promptly should be incorporated, as citizen rights to public data, in the data contracts between Block SDs and CLICs. CLIC organizations of representatives at District and State levels should take the lead in demanding and specifying the content of this feedback of comparative development data, useful at community level. CLIC offices should have equipment and connectivity needed to receive this feedback quickly and cheaply.
14. **Village Panchayat/Municipality Data**: Data to be collected by CLICs are of the kind cited in the Report of the Expert Committee on Small Area Statistics (1997).
15. **Role of Federal-level Statistical Office (DOS)** : DOS could facilitate sharing of CLIC experiences and encourage transmission of best practices across States. DOS could monitor States in their activities, which include: a) setting norms and terms for Block contracts with CLICs, updating Minimum Lists, overseeing CLIC governance and representative organisations, and facilitating choice of technologies. DOS could analyze and share start-up experiences of CLICS, monitor and facilitate progress of CLIC system in developing chargeable services and innovative community programs, and highlight accomplishments of CLICS in going beyond the Minimum List. DOS could prepare Annual Report on the CLIC system in India; maintain public database (compiled from CLIC audits) on CLIC management and operations, useful for purposes of performance evaluation of the CLIC system; and conduct a program of research with universities, NGOs and institutes in order to provide an intellectually stimulating environment for the CLIC system in the long run.

16. **Implementation by the time of the next Census** : The usual preparatory work for the Population Census (2001) gives all States and MUs an historic incentive and opportunity to participate during the 1999-2001 period. B.S. Minha's suggestions (in B.N. Yugandhar and A. Mukherjee, Readings in Decentralized Planning, Concept publishing company, New Delhi, pp. 103-112) represent a minimum effort that all panchayats can make, with proper state and federal encouragement, toward implementing CLICs by the time of the 2001 Census. These ideas recommended a decade ago by Minhas are fully consistant with the concept and implementation of CLICs. States not participating in the PTP during 1999-2001 should, in any event, implement Minhas' proposals forthwith.
17. **Contribution of other official stakeholders to CLIC System** : Through Block/District/ State SDs, offices of line ministries and regulatory/tax bodies at block, district, and state levels, having interest in CLIC activities, should participate fully as partners of the SDs in negotiating the Minimum List and its updating. Arranging for this collective action among Stakeholders of CLICs would be an important role of the Block/District/State SDs. They would also undertake to guarantee prompt and reliable sharing of properly aggregated CLIC data with official stakeholders, at all levels of Government.
18. **Setting and updating terms of payment to CLICs for Minimum - List data** : These terms should be negotiated and updated from year to year by district and State organisations of CLICs with Government Stakeholders, led by the State SD. There should be a norm for the ratio of State-wide CLIC contract revenue (from data of Minimum List) to State-wide total revenues of CLICs. This norm could vary from State to State, and over time, but India-wide harmonization of these norms should be a concern of the federal-level DS. This norm essentially governs the trade-off between public and private influence on the agendas of CLIC Directors.
19. **Accounting and auditing** : CLICs would keep books according to regulations established by the State and Federal SDs. These accounts would be used to monitor aggregate ratios of revenues from core statistical work to total CLIC revenues. These books would also provide vital information for monitoring and evaluation of CLIC performance in relation to their respective business plans.

Comments on the Report of Group 1 by the participants at the Plenary Session

Dr. S.Ray, Addl. DG, CSO:

- The CLICs are recommended to be set up under the over-all charge of the District Commissioner. They should be under the District Statistical functionaries, rather than being set up under the District administration.

Shri J.P.Mishra, JD ,CSO:

- As per the recommendations, Block and State statistical functionaries will provide the leadership to the CLICs. As such, proper training should be imparted to all the concerned officers to raise their leadership capabilities.

Shri Ajit Mazoomdar, former Secretary, Department of Statistics:

- The local level information may be useful for local level planning and decision making but the electronic data processing etc. will be an entirely different activity in the existing situations. Given that, so far, even newspapers are not reaching Block level Community Centres, it is difficult to imagine how the village level programme would be feasible.
- The programme is more related to the concerns of the Department of Rural Development rather than to those of the Deptt. of Statistics.
- The scheme should be taken up at Block level rather than at the Panchayat Samiti level, if it is to have any chance of succeeding.

Shri A. Vaidyanathan:

- CLICs may start up from the households slips, individual slips etc. prepared by the Census, Economic Census, Live-stock Census at the village level and data can be continuously collected and updated for the village as a unit.
- In Kerala, a mass mobilization programme was being run, which could generate lot of interest in the collection of data/information.

Sh. Vinay D. Lall:

- The setting up of CLICs was conceptually a very useful contribution. How to operationalise it, how the community process can help in disseminating the information etc. need to be decided.
- There is already a rich data base, which can be utilised for building up the computerised data base. Such a data base exists since olden times through community information services.

SECTION III

WORKING GROUP 2
Agricultural Statistics

Summary of Papers

1. Agricultural Statistics (WS 98/G-2/1) : *Prem Narain*

After introducing briefly the genesis of the Agricultural Statistics in the country, the paper proceeds to give, in a condensed form, the system of data collection in respect of area and yield of principal crops, area and yield of fruits and vegetables, estimation of livestock number and products, and estimation of fish production. It, inter-alia, discusses the role of IASRI in developing the sampling methodologies in most of the cases. Data gaps in Land Use Statistics, the lack of precision in crop-forecasts that contradict the final estimates, the inconsistency in the irrigation statistics due to definitional differences, lack of a proper procedure for estimating minor and fodder crops, the need for small area statistics, the data gaps in livestock statistics, the problem of under estimation of GDP due to non-coverage of agriculture production in kitchen gardens/backyards and the necessity for generating environment-related agricultural data have been addressed in this paper. Quality of data under the present system is discussed and suggestions for improvement are proposed, some of which are as follows:

(i) Establishment of alternative/ additional field agency on part or full-time basis, wherever the field agency at village level has collapsed or is on the verge of collapsing.
(ii) Research on newer methodologies for data collection in agriculture, modification of existing methodologies and investigations in small area estimation for disaggregated data at lower levels.
(iii) A regular mechanism for training new people and upgrading the knowledge of existing statistical staff in the States and the Central Ministry, so that they can cope with the newer demands of statistical methodology and data collection. Alternatively, an autonomous research organisation like the IASRI may be entrusted with the responsibility of conducting the sample surveys in agriculture by incorporating necessary structural changes in their management.
(iv) Use of Remote Sensing in improving the crop forecast system. The present approach of FASAL is a welcome step.
(v) Proposition of collecting data on yield directly from the farmers, as an alternate system for estimation of yield rates.
(vi) A regular mechanism for training new people and upgrading the knowledge of existing statistical staff in the States and the Central Ministries.
(vii) Use of newer information technologies to ensure timeliness in data availability to all users.

2. Indian Statistical System for Agriculture and Allied Sectors (WS 98/G-2/2) : *Rajiv Mehta*

The paper dwells on the details of the statistical system. The present methodologies adopted for collection of agricultural statistics including livestock, forestry and fishery are described comprehensively. The projects, jointly undertaken by the Department of Space and Ministry of Agriculture, based on Remote Sensing Application in agriculture, such as CAPE and FASAL have been explained. Issues and measures for improving agricultural statistics are given at the end of each section.

Some of the suggestions given are as follows:

(i) There is an urgent need to have a single agency equipped with modern information technology for coordination, collection , validation and dissemination of timely and reliable agriculture statistics. Since the agencies generating area statistics are not always under the administrative control of State Agriculture Statistics Authority (SASA), the requisite authority to thwart the potential threat of non-sampling errors is often missing.

(ii) The present nine-fold classification of land use does not fully meet the requirements of the planning and it is necessary to collect more detailed information particularly in respect of land characteristics such as alkalinity, salinity and inland water bodies as well as relating to environmental issues.

(iii) The agencies concerned with agriculture statistics have weak statistical professional teams both in terms of their strength and status in administrative hierarchy. The statistical functions are in some cases looked after by non-statisticians.

(iv) Due to lack of instructions in the manual for Girdawari, several new short duration and summer crops, which are being grown, are generally not covered in the land records affecting the collection of area statistics. There is an urgent need to have a re-look at the manual for Girdawari.

(v) The data base on horticulture and other high value added produce also needs to be strengthened as this sub-sector is rapidly growing.

(vi) The Livestock Census is not conducted concurrently by all the States. Similarly, there is no uniformity in the reference date followed by the States for the Agriculture Census. The two Censuses may be conducted simultaneously to reduce cost and time, and to have consistent data.

(vii) Adoption of uniform definition for both Land Use Statistics and Forest Statistics is necessary to avoid the large discrepancies in the figures on area under forest.

(viii) There is a need for evolving standard methodology for estimation of inland fish.

3. Status Paper on Agricultural Statistics System in India (WS 98/G-2/3) : *Department of Agriculture & Cooperation*

The paper briefly describes the existing system of agricultural statistics, lists out the shortcomings and gaps in Crop Production Statistics. Agriculture Census, Agriculture Price Statistics, Cost of Cultivation Studies, Livestock census and other statistics relating to agriculture are also covered in this paper.

Salient points presented in the paper are the following:

(i) The present nine-fold classification of land use does not fully meet the requirements of planning and there have been demands for more detailed information.

(ii) Lack of adequate supervision by higher officials also affects the quality of statistics.

(iii) The data base on horticulture also needs to be strengthened.

(iv) Information on a subject like tenancy, which is a sensitive subject is required to be collected in a special survey and the information need not be integrated with the land records made by the Patwari, in the Agriculture Census.

(v) A large part of the information collected in Cost of Cultivation Studies remain unutilised.

4. Data Gaps and Inconsistencies in Agricultural Statistics (WS 98/G-2/4) : *M.D.Asthana*

The paper highlights the poor quality of data, as evidenced by the inconsistencies observed while comparing data from one source with other related or auxiliary sources. After briefly touching upon the existing System of Agricultural Statistics and identifying the major data gaps, the paper exemplifies the inconsistencies in the data on quantity and price of agricultural products reported by the States for purpose of compilation of National Income. The issue of under- estimation of GDP due to under coverage in agriculture statistics is also discussed.

Important issues presented by the author are the following:

(i) There is a time lag of three years in the release of the results of the Cost of Cultivation Studies.

(ii) There are no separate production data available on minor crops. There are no data on production of flowers, mushrooms, medicinal herbs, and other high value commercial crops.

(iii) Agriculture production in kitchen gardens/backyards is not included in the compilation of agriculture GDP.

(iv) Outputs of third and fourth crops grown in some of the States are not captured in the Crop Estimation Survey.
(v) The present crop calendar adopted by the States is too old to capture the short duration and summer crops sown and harvested in some of the States in between two the 'girdawari' periods.
(vi) There are no estimates of milk production from animals other than cows, buffaloes and goats .
(vii) There are no reliable estimates of annual livestock population for the inter- livestock census period.
(viii) The supervisors' crop record of the sample cluster under the Improvement of Crop Statistics Scheme should be used to make appropriate correction in the TRS. estimates of crops areas.
(ix) There is no centrally maintained data base on prices of agricultural commodities to cross check the price data supplied by the States for the purpose of compiling National Income.
(x) In view of the importance of agriculture to the Indian economy, the ISAS, IASRI, Department of Agriculture & Cooperation and the Department of Statistics need to put in concerted efforts to streamline the agricultural system.

5. Modernisation of Statistical System in the Country (WS 98/G-2/5) : *Department of Agricultural Research and Education, Govt. of India*

The paper stresses upon development and maintenance of a strong and comprehensive data base, which will enable policy evaluation and decision making and improve institutional efficiency and effectiveness. There has been an increasing demand of various types of information at more disaggregated and local area level for micro level planning purposes. Some recent techniques like remote-sensing and Geographical Information System have added new dimensions to the data generation and its analysis, which need to be integrated in the existing system of agricultural statistics. The needs of the Indian Council of Agriculture Research for information are indicated.

6. Existing Data Gaps & Methods of Improvement in Data Flow (WS 98/G-2/6) : *Ministry of Water Resources, Government of India*

The paper highlights the necessity of sample surveys for collection of data on water resources due to constraints of appropriate machinery and man power in the existing system . It lists out the existing data gaps and gives some suggestions for streamlining the data flows. A standardised national information system should be established with network of data banks and databases, integrating and strengthening the existing Central and State level agencies in improving the quality of data and the processing capabilities. Apart from the data regarding water availability and actual water use, the system should include comprehensive and reasonably reliable projections of future demands for water for diverse purposes.

The paper emphasises the need for conducting sample surveys to bridge the data gaps in the following areas :-

(i) Water uses pattern and demand .
(ii) Environmental, socio-economic and cultural impact of major water resources projects.
(iii) Water quality data.
(iv) General aspects of irrigation such as State-wise crop yield data in irrigated and unirrigated areas, assessment of impact of irrigation on crop yields and agricultural practices, canals and distribution system.

7. Status Paper on Livestock Statistics (WS 98/G-2/7) : *Department of Animal Husbandry, Government of India*

The paper lists out the sources of data on livestock. The existing agencies for collection and coverage data are mentioned. The data requirements /gaps are pointed out. Constraints and deficiencies in the existing system of data collection, such as lack of financial resources, lack of trained staff and trained facilities, lack of computerisation and operational constraints, have been

mentioned in brief. Remedial measures for bridging the data gaps and overcoming the constraints undertaken are also given. The areas and spheres to be covered in future are listed out in the end.

Salient points brought forth in the paper are the following:

(i) There is no established system for collecting data pertaining to animals slaughtered at unauthorised slaughter houses or other places, particularly on occasions of festivals or melas/ markets.

(ii) There is no scientific system for estimation of production of broilers and poultry meat in the States/UTs.

(iii) No realistic data on consumption of milk in rural and urban areas are available.

(iv) The data on dung production, collected under Integrated Sample Survey, are not tabulated.

(v) It is proposed to enlarge the coverage and scope of the integrated sample survey for the estimation of major livestock products during the Ninth Plan period, so as to cover the data gaps viz., (a) Estimates of production of broiler and poultry meat (b) Estimates of production of meat by-products (c) Cost of production of milk and egg in all the States (d) Pattern of utilisation of milk in rural and urban areas (e) District-wise estimates of livestock production, viz., milk, egg, wool and meat, and (f) Seasonal/quarterly estimates of livestock products state-wise.

8. Suggestions for Improvement of Indian Statistical System: *P.S.Dahiya and H.C.Sharma*

The paper points out the data gaps in agriculture price statistics. It suggests a new system to supplement the existing system of crop cutting experiments by having contact/contract farmers for cooperating in conducting of these experiments.

Salient points dealt in the paper are:

(i) Certain terminal markets should be declared as markets of national importance for collection of agricultural statistics.

(ii) All types of agricultural statistics should be accessible through CD ROMs, INTERNET, NICNET from the Directorate of Economics & Statistics, Ministry of Agriculture.

(iii) One Agricultural Statistics Assistant should be provided at each Kanungo level in the country.

(iv) The entire land records should be computerised throughout India.

(v) In order to ensure the desired quality improvement in collection, processing and dissemination of agricultural and various types of statistics, the Indian Statistical Service(ISS) and the Indian Economic Service (IES) should be made All India Services.

9. The Management of Livestock and Animal Production Data and Information: *Ajit Maru*

The paper addresses in general the problem of non-availability of data on livestock as required by the users of data. Holistic approaches to development of rural communities can not be taken up as the livestock data and information available can not be related with information from other economic sectors and development areas such as agriculture, environment and public welfare. Paper also mentions that there are no other sources of livestock and production data available in public domain other than the Government viz. Department of Animal Husbandry and the State Animal Husbandry Departments. There is a need for an improved vision in the need and provision of reliable data . The data collected be made available in magnetic media in a usable form.

Issues raised in the paper are:

(i) Lack of identification of user needs of livestock related information.

(ii) Supply of livestock data free of cost has been proved to be a very limiting factor in improving quality of data and information.

(iii) The raw data on livestock must be made available centrally in a compatible format to facilitate the users in using the data without the need of any special software packages for conversion.

[1]**10. The Agricultual Statistics System in India - Strengths and Weaknesses:** *Rajiv Mehta*

The points included in this paper are covered by the author in the other comprehensive paper presented by him (vide. Paper No.2).

Report of the Working Group 2 (presented to the Plenary on 16 September, 1998 by Prof. Prem Narain)

The findings and recommendations of the Working Group are the following :

Land Use and irrigation Statistics

1. The four major sources of data on land use are (i) the village register (ii) Land and livestock holding surveys, conducted every 10 years by N.S.S.O. (iii) Agricultural Census conducted every 5 years and (iv) Remote sensing. The system of reporting crop area by the village level worker namely Patwari/Karnam has almost collapsed in a few States and has become ineffective in most of the other States because the Patwari is overburdened with multifarious activities along with being part of the land revenue system. The job of recording crop area statistics is considered a secondary job and there is hardly any supervision by the high revenue officials to check the quality of data reported by him. Sample surveys and agricultural census cannot provide data at disaggregated level. Therefore, for getting available data on the land use and crop area at Taluk/Block/Village level complete enumeration at village level is essential. However, in order to reduce the workload on local/village officials, it is suggested that 20% of the villages selected randomly in the Taluk be covered every year with intensive and strict supervision in the Southern States, where the system has broken down, so as to cover all the villages in 5 years. For the remaining States where the Patwari System is in existence and is working fairly well, the existing system may continue, but stricter enforcement of supervision and checking needs to be ensured.

2. Remote sensing techniques now offer a potential alternative. However, considerable experimentation is necessary to establish its' capabilities and scientific procedures for verifying the accuracy of remote-sensing estimates on the basis of verification of ground truth. It is suggested that an intensive and systematic programme to evolve, test and evaluate remote-sensing techniques for land use and irrigation status and cropping intensity should be undertaken for the next 5 years.

3. The 9-fold classification of land use is inadequate to cover soil characteristics and other parameters relating to environmental issues. It is suggested that the 23-fold classification as followed in the remote-sensing application be adopted for providing land use statistics. However, the existing practice of the 9-fold classification be continued till the new system gets stabilised.

4. It is understood that, in some States, computerisation of village level land records has been done. It should be done in all the States. While it is a welcome feature in the process of modernisation of statistical system, it is essential that some sort of assessment/checks on its efficacies should be undertaken by an independent agency, so that its extension on a wider scale can be properly planned.

5. Techniques of cross-validation may be undertaken for land use statistics obtained from different sources to improve upon the quality of data.

6. Agriculture Census needs to be conducted once in ten years instead of 5 years as at present. It is important to ensure that the data at the village level and above are readily available to the users.

7. There are inconsistencies in the data of irrigated areas reported by the State Irrigation

[1] (Note : Papers 8 to 10 of this Section were received in response to the advertisement calling for essays on suggestions for improvement of the Statistical System.)

Departments, the Land Use Statistics, and the National Sample Survey Organisation. These are due to differences in the definitions and methods of collection adopted by various agencies. Special sample studies need to be conducted to reconcile the differences.

8. Availability of information on the quantity and quality of water uses for different purposes is critically important for water resource planning. There is an urgent need to conduct appropriate field studies to assess these aspects, a task which is best entrusted to the concerned specialised agency.

Crop Production Statistics

9. The crop-cutting experiments meant for crop estimation surveys must be segregated from those conducted for crop insurance purposes, so that the estimates of yield rates for crop estimation get insulated from the influences of other considerations.

10. The limitations of crop-cutting approach have emerged due to faulty implementation, the multiplicity of agencies doing the field work and the near break-down of mechanisms for supervision and verification. Adequate training of the staff and strict supervisory checks are imperative. Because of the logistical and organisational problems of the current system, it is important to explore alternative techniques. Besides more systematic cross validation of estimates from different sources, the possibility of using sample surveys of farmers to ascertain area and yields at the time of harvest should be explored. While it may have cost advantages, it has also propensity for individual biases, which are likely to get accentuated in the absence of objective assessment approach of crop-cuttings. However, the merits of farmers' estimate can be made use of to improve estimates based on crop-cutting. This will have the advantage of objectivity of crop-cutting with cost efficiency of farmers' approach. A research institute like IASRI may be entrusted with the investigation of the possibility of adopting a method combining the two approaches.

11. Adequate training of field staff on the conduct of crop-cutting experiments needs to be imparted periodically and rationalised supervision must be strictly carried out to improve upon the estimates of yield rates.

12. In order to improve upon the quality of the statistics collected and processed, the State and Central Statistical Departments, as well as Research Institutions, particularly IASRI, must be strengthened in terms of professionally qualified statistical manpower, training and infrastructure.

13. Many details of information on agricultural outputs, inputs and their disposition (including those of live stock products) are collected in cost of cultivation studies. But these are not at all utilised at present. This source of data should be fully exploited and made available for analytical use by both official and non-official agencies for research.

14. Introduction of new varieties and changes in cropping pattern have made the old classification of crop seasons outdated. It is necessary to review the crop calendars presently used for the purpose of Girdawari and crop cutting experiments. It is also necessary to examine their implication in sampling design and timings of the crop cutting experiments.

15. It is necessary to have a systematic analysis of the ICS data in relation to TRS/CES over the years to assess the nature and extent of errors and the underlying reasons to help improve quality of production statistics.

Horticulture and Minor Crops

16. Sample survey methodology developed by IASRI for estimating production of fruits and vegetables is yet to be adopted by all the States. In the centrally sponsored scheme operating in a few

States, the implementation is not satisfactory. This is because the erstwhile linkage between IASRI and the States for proper implementation of the scheme is now not there. It needs to be revived.

17. For surveys on minor crops, an integrated approach should be developed, so that data collection can be undertaken in a cost effective manner.

18. For cross-validation purposes, independent estimates of production of fruits and vegetables may be undertaken by collecting data on market arrivals in the peak marketing seasons. Farmers' estimates approach may also be explored.

Livestock Number & Products

19. It is understood that sample survey methodology developed by IASRI for milk, egg, wool and meat has been adopted by most of the States. However, there seem to be problems in ensuring that the procedures of selection and instructions are strictly observed in the field. Estimates are also available with inordinate time lags. There is a need, therefore, for an independent assessment of actual procedures adopted in the field and to incorporate independent sample checks by IASRI .

Fisheries

20. While an appropriate methodology for estimation of marine fish catch is being followed by different States, there is none in the case of inland fish catch. For marine fish catch, the methodology adopted needs to be assessed and checked by an independent agency like IASRI. For inland fish catch, IASRI may be entrusted to evolve a suitable methodology, as soon as possible.

General

21. The functions of IASRI have a cutting edge in sample surveys methodology and training, which seem to have eroded substantially over time. In order to revive their role, studies on methodological research and training in agriculture sample surveys should be entrusted to them by providing sufficient financial support.

22. The available sample survey methodologies for estimation of various crop and livestock products etc. should be fine-tuned and documented. The operational and technical manual giving full details of the methodology and field work should be brought out by the Directorate of Economics and Statistics, Ministry of Agriculture and made available to each Development Block in the country, for reference and use. For the use of primary field staff, field manuals should be in local languages.

SECTION IV

WORKING GROUP 3
National accounts and informal sector statistics

Summary of Papers

1. Statistics can Help the Informal Sector Workers and Producers - Some Experiences from SEWA (WS 98/G-3/1) : *Renana Jhabvala*

The paper by the Self Employed Women's Association (SEWA) highlights the data gaps with reference to the informal sector. The paper mentions that the census estimates of women workers are very low, which is contrary to the general perception. On the other hand, the NSS presents a realistic picture of this, but unfortunately these are not used in the CSO. The paper also states about lack of data on home-based workers, street vendors, salt workers, workers in the forests, construction workers, health workers and those working in the waste recycling. Absence of this information results in inability to implement or canvas for various welfare schemes for the workers of informal sector. Although contribution of informal sector to the GDP is available, there are no such estimates with regard to savings, capital formation and exports, as well as their contribution of taxes. The paper calls for using the extended definition of 'work' for collecting data on informal sector through surveys and censuses and also suggests that the CSO use NSS based estimates of workers rather than the Census estimates.

2. Data Issues in Planning (WS 98/G-3/2): *Pronab Sen and K.L. Datta, Planning Commission*

The paper highlights the growing discrepancy between estimates of consumption expenditure based on the NSS Consumption Expenditure data and the PFCE estimates presented in the national accounts statistics (derived through commodity flow approach), which the authors perceive to be due to inadequate information (including sector specific prices) and usage of old estimates. The data gap is, therefore, in the form of absence of updated rates and ratios, used in the estimates of PFCE. The paper calls for separate estimates of PFCE for the household and non-profit institutions serving household institutions in the national accounts and second-hand goods consumed by the households in the NSS survey results. With regard to the savings and investment estimates, the estimates at constant prices for savings has been cited as a data gap. The contribution of unregistered manufacturing to gross capital formation in machinery and equipment is not accurately estimated due to the benchmark estimates being too distant and not updated regularly. The non-availability of state-specific cost of living indices as well as cost of living indices for the poor is cited by the authors as major data gaps for estimating the poverty. The small size of sample used for NSS consumption expenditure surveys, makes the estimation of poverty for smaller States, unreliable.

3. Business Register - Maintenance/Updation Practices in Some Countries (WS98/G-3/3) : *A.C. Kulshreshtha, Ramesh Kolli, Gulab Singh and Rajiv Sharma, CSO*

The paper highlights the non-availability of a full-fledged directory and absence of updation mechanism of enterprises in the country, as a serious weakness in the system. In this background, the paper attempts to analyse the practices of few countries (UK, Australia, New Zealand, Mexico, Philippines) in preparing and updating the frame of enterprises (usually called as Business Registers). The paper observes that, generally the developed countries have the system of Business Registers, which are based on administrative records, normally maintained by the Tax Authorities. These countries maintain the register with the purpose of having a frame for conducting sample surveys. The Business Register provides a directory of businesses, enterprises including small units of the businesses, in the form of a MESHBLOCK. They also do regular updation surveys to keep the Business Register up-to-date. However, an important observation with regard to the developed countries is regarding the omission of economically insignificant units in the coverage of the

Business Register. The definition of economically insignificant unit or the informal sector is, however, different in different countries. The contribution of these economically insignificant units is not included in the national accounts on the ground that they account for a trifle of the national income of the country. On the other hand, the developing countries have significant informal sectors and thus they generally resort to Economic Censuses or Full Scale surveys of enterprises, usually once in 5 years, to prepare the frame of enterprises for conducting quarterly/annual surveys of enterprises. All the countries have the statutory support of legal acts for ensuring smooth flow of information for the Business Register. Though penal provisions exist in these countries, penalties are very rarely imposed. In fact, the legal provisions have created enough awareness among the industries for them to generally act as partners with the government in the sharing of information. The feed back in the form of information received from the government by the industries has been an incentive to supply correct statistics to statistical organisations.

In this background the paper calls for commissioning a system of a Business Register in India with an in-built mechanism for regular updation. This could be done as a central intervention by positioning an independent setup to create and maintain Business Register, with the extensive co-operation of different Ministries (Labour, Industry, Finance, Planning etc.), using their existing legal provisions and signing of memoranda of understanding . This setup will take care of all non-crop businesses except own account enterprises. The BR itself will provide useful information and will also give an ideal frame for conducting sample surveys. The informal sector (the complementary of Business Register) could be covered through household surveys or mixed surveys by National Sample Survey Organisation (NSSO).

4. **National Accounts Statistics - Data Requirements and Gaps (WS 98/G-3/4):** *A.C. Kulshreshtha, Ramesh Kolli and Gulab Singh, CSO*

The paper briefly presents the data requirements of national accounts, separately for the sectoral estimates of GDP and the expenditure aggregates, as well as for the preparation of quarterly estimates of GDP, the implementation of 1993 System of National Accounts and the Input-Output Transactions Table. The paper, besides highlighting the requirements, gives in a nutshell, the availability of data from the existing data sources and the data gaps. The summary methodology adopted for the compilation of national accounts is spelt out in the annex attached to the paper.

With regard to the data gaps, the paper mentions about the absence of production data on crops other than the principal crops and on the emerging agricultural activities like horticulture, floriculture, growing of mushrooms and other high-value crops, meat and meat products, as well as the ancillary activities like cut and dried flowers. Generally, there is little data available on the inputs of agriculture, livestock, forestry and fishing sectors. With respect to unregistered manufacturing sector, there is a major data gap with reference to movement indicators for carrying forward the benchmark estimates. For the services sectors, two major areas of data gaps are highlighted- namely, the absence of benchmark estimates and performance indicators with regard to the private corporate sector and no extrapolators for the unincorporated enterprises, besides the results of existing enterprise surveys being unreliable. For the expenditure aggregates, the data gaps relate to the absence of updated norms, rates and ratios, which are extensively used in their compilation and generally based on very old studies. These can be updated by conducting type studies. With regard to the quarterly GDP estimates, the data gap that needs to be filled urgently is quarterly performance of various sectors, which can only be done through quarterly surveys of enterprises and employment. The paper also highlights the data gaps for implementation of 1993 SNA, mainly focussing on the production boundary, asset boundary and institutional sector accounts.

5. **Draft Proposal for An Enterprise Survey Scheme As a Substitute for Economic Census: (WS 98/G-3/5):** *Sibdas Bandyopadhyay, Arijit Chauduri, J.K. Ghosh and P. Maiti,*

(The paper was withdrawn)

6. **Permanent Enterprise Number (PEN) - A Superior Alternative to Economic Census:** (**WS 98/G-3/6**): *J.P. Mishra, NSSO*

The paper proposes a permanent enterprise number (PEN), as a superior alternative to Economic Census. The system could be achieved through a central legislation and creation of an agency to register and allot the PEN as well as collect all returns to be disseminated to various data compiling agencies. The advantages of the system are to have a permanent coding of enterprise (thereby having a directory of enterprises), its regular updation and reducing the respondent burden (by collecting returns at one place and through a single schedule), having small area statistics, availability of better index of industrial production and avoiding duplication of efforts of various organisations engaged in collection and dissemination of data. The enterprises need to quote the PEN for availing all facilities from the government, which ensures its being on the master register and its updation.

7. **Informal Sector Statistics: Needs, Availability and Deficiencies(WS 98/G-3/7) :** *Sanjay Kumar, CSO*

The paper by the CSO calls for an operational definition of the informal sector so that collection of statistics could be targeted to the sector. There are problems in collecting data from informal sector due to the fear of taxation authorities and also due to their not maintaining books of accounts. Since units undertake mixed activities, identifying them according to a particular industry group is extremely difficult. In view of this, the paper calls for restructuring of the existing system of data collection. The paper also suggests for continuous updation of the frame, as birth, mobility and mortality of small units are very high.

[1]**8. Indian Statistical System:** *R.G. Parkar, Mumbai*

The paper briefly mentions that the timeliness of Input-Output tables (IOTT) need to be improved, besides calling for extensive dis-aggregation of the table. The paper also suggests inclusion of quadrant III (wage and non-wage income) in the present IOTT released by the CSO. The paper mentions that the concepts and definitions in the successive censuses change and the results are not comparable. The DGE&T on the other hand gives only organised sector's employment data. The paper mentions that the concepts of PIM, derivation of pure tables of IOTT and the NSS concept of current daily status, mentioned in the relevant official documents, are not clear.

[1]**9. Data Gaps in Statistical System:** Sushim Banerjee, SAIL

The paper calls for more disaggregated IOTTs, which are needed for industry analysis. The time lag of IOTTs too need to be reduced in future. Regarding the IIP, the paper requests for presenting cumulative data at 2-digit level, rather than the present practice of giving only the current months data at 2-digit level and cumulative data only for the totals. The paper also requests for more disaggregated data in respect of use-based classifications and quarterly estimates/surveys for GDP, employment, sales and production. The paper mentions that the data sources that go into the compilation of national accounts, need to be updated and the national accounts need to be released with a maximum time lag of one year.

Report of Working Group 3 (presented to the Plenary on 16 September, 1998 by Prof. S. Tendulkar)

[1] (Note : Papers 8 and 9 of this Section were received in response to the advertisement calling for essays on suggestions for improvement of the Statistical System.)

The Working Group deliberated extensively on the issues raised in the papers as well as on the issues concerning the subjects of national accounts and informal sector statistics. The following have been identified as the major data gaps:

(a) **Informal Sector**

(i) Lack of an operational definition of the informal sector in the Indian context. Currently it is identified with unorganised sector.

(ii) Frame of unorganised sector enterprises with suitable mechanism for its regular updation

(iii) Data on workers in the unorganised sector, industry-wise and state-wise, including separate details on subsidiary activities

(iv) Realistic assessment of the contribution of informal sector to the economy

(v) The contribution of informal sector to the saving, capital formation and exports

(b) **Problem areas relating to data with reference to existing estimates of National Accounts Statistics**

(i) Yield estimates of crops other than the principal crops, grass and fodder crops; production of new emerging commercial crops like mushrooms, flowers and other high valued herbs and spices, as well as, on ancillary activities like cut and dried flowers, etc.

(ii) Seed rates of crops other than those covered in the cost of cultivation studies and extension of this study to other important States/UTs.

(iii) Estimates of production of meat and meat products, including poultry meat, estimates of fallen animals

(iv) Estimates of consumption of roughages and concentrates (including composition) consumed by different categories of cattle

(v) Estimates of production of fish and prawns from fish ponds cultivation

(vi) Information on inputs in forestry and fishing sectors

(vii) Lack of authentic information on forest products – major as well as minor

(viii) Estimates of value added from unregistered sector; lack of current growth indicators (extrapolators) to move forward the benchmark estimates

(ix) Updation of various rates/ratios and norms used in construction sector, private final consumption expenditure, capital formation and changes-in-stock

(x) Information relating to the details of activities of unorganised non-banking financial undertakings and own account money lenders

(xi) Updation of norms used for estimating the production of capital goods out of partly capital goods and part of capital goods

(xii) Information on change in stocks in household trading enterprises

(xiii) Regular information on estimates of change in stock of food grains in trade and small scale manufacturing

(xiv) Data on private corporate sector in general and data required for estimating the saving of private corporate sector in particular

(xv) Estimates of saving at constant prices

(xvi) Extensive disaggregated details of expenditure required for compilation of input-output tables

(xvii) Estimates of production in the foreyard/backyard

(xviii) Production of goods by households for own consumption

(xix) Information on concealed and underground production

(xx) Detailed income-expenditure data for households

(xxi) Directory and estimates in respect of non-profit institutions

(xxii) Regarding extended asset boundary - cost of transfer of capital assets from one unit to the other unit; copyrights/patents, film originals, books and artistic originals; defence

expenditure on capital assets like radar, satellite launching systems, vehicles, construction of buildings for office, hospitals, schools, roads, airfields, etc., which could be used for civilian purposes; expenditure on purchase of softwares, databases, etc; and, information on valuables

(xxiii) Disaggregated data in respect of IIP releases on use-based classification; absence of IIP data at 2-digit level for cumulative period (upto the month)

(xxiv)Additional data for compilation of Quarterly GDP, employment, production, sales, profits, etc. including the timeliness aspect

Recommendations of the Working Group

Considering the need to fill up the above stated data gaps, the Working Group, recommended the following steps to be introduced in the statistical system:

1. An operational definition of the informal sector in the Indian context should be arrived at.

2. The Group did not have the benefit of the recommendations of other Working Groups, which would provide input into problem areas as identified by this Group with reference to unorganised sector and the compilation of national accounts statistics. The Group recommended that the problem areas identified by the Group should be discussed with data supplying agencies for correcting the weaknesses and that the outcome be discussed in the Expert Groups in these specific areas.

Views Expressed in the Plenary Session

While presenting his Group's report, Professor Tendulkar reiterated that the Group did not have adequate time to discuss thoroughly the problems in quarterly estimates, as well as the implications of the SNA 1993. These issues are much more complicated and cannot be discussed in a short span of time. Summarising the data gaps mentioned in the report of the Group, Prof. Tendulkar stated that these represent more the weaknesses of the statistical system than the data gaps. He gave the examples of area enumeration and results of sample surveys on unorganised sector, where data exists, but not of desired quality due to the weakness of the system. He felt that the problem of negative value added sometimes encountered in some of the service sectors should not cause undue alarm, as negative value added can occur in the economy, just as negative savings is a common occurrence. Trading margins too can be negative, sometimes, in a particular reference period. This aspect must be kept in consideration, while coming to a judgement about GDP being under-estimated. The data gap is not easy to fill up. As regards the estimates of private corporate sector in general and savings in particular, although it may be said that the RBI's method of estimation is faulty, this is a weakness of the system and it needs to be addressed. As regards the estimates of saving at constant prices, perhaps adoption of double deflation of capital formation and net capital inflow could be a method, but this too needs to be discussed in detail. In respect of availability of detailed data for input-output tables and SNA 1993, the new system places more demand on data relating to production of goods by the households for own consumption, non-profit institutions and items covered in the new asset boundary. Regarding the index of industrial production, Prof. Tendulkar mentioned that this would have been discussed by the concerned Working Group. Abolition of DGTD has resulted in high non-response which needs to be addressed. Electronic data storage and dissemination needs to be attempted in this area.

Prof. Tendulkar made two general observations on the system in his personal capacity. There are no short cuts to improving the quality of primary data collection on regular basis. Sample surveys are not a substitute for improving a particular system, for example the Sample Registration Scheme. In the case of agriculture, the quality of area estimates need to be improved, by entrusting these jobs to technically sound and motivated persons. Efforts towards improving the system should not emphasise privatisation of data collection activities. Privatisation at best could be resorted to in

processing and dissemination activities. Data collection must be done by competent and technically qualified persons. Highlighting his second observation, Prof. Tendulkar agreed with the comments of Prof. J. Roy that data cleaning without affecting validity accounts for 90 per cent of the job of data processing.

The problem, therefore, lies at the data collection stage. This needs to be attacked at that level, by developing technical competence and motivating the investigators in various ways. Electronic media alone cannot improve the statistical system at the collection stage.

SECTION V

WORKING GROUP 4
Financial and Price Statistics

Summary of Papers

1. Data base of the Indian Financial System Including Finances Of The Corporate Business Sector (WS 98/G-4/1) : *S.L.Shetty*

The paper presents a description of the range, nature and quality of statistics gathered and tabulated and/or published by different agencies in respect of the entire financial system including corporate sector finances. By its very nature, the subject is a very vast one, embracing a multiplicity of basic, periodic, ad hoc and analytical statistical series procured by official agencies statutorily or otherwise from myriad institutions on their multifarious activities and operations. Apart from the Reserve Bank of India (RBI) at the apex,, the commercial and cooperative banks, development finance institutions (DFIs) including investment institutions, newly created mutual funds and non-banking financial institutions (NBFIs) are covered. RBI has been, and remains even now, the pioneer and fountainhead of statistical and other information on the financial system, as also the fiscal operations of the government, on the financial sector, and on the finances of the private corporate sector. Since the mid-1960s, the Industrial Development Bank of India (IDBI) has taken over the apex status for development finance institutions (DFIs), and to the extent of their involvement in rendering financial assistance for industry, for investment institutions like the Unit Trust of India (UTI) and the insurance corporations. The paper covers all these aspects except the fiscal area.

RBI has placed its publications and major data series on the internet. The author has suggested that RBI should be in a position to put in place an institutional arrangement whereby all statistics in the financial system could be put on the ICSSR's proposed Data Archives for easy and steady access.

2. Price Statistics in Perspective (WS 98/G-4/2) : *R.L. Narasimhan, F.T. Mathew S.P. Gera*

The paper gives an overview of the information system on prices prevalent in the country. The major national and subnational agencies, that either collect or compile price data, are identified. Critical questions are asked concerning current practices in the compilation of price measures, and the authors conclude that new approaches to price measures are required. A nationally coordinated, and well-organised, strategy for collection, processing and dissemination of quantitative information holds the prospect for an improved information system on Prices. The paper notes that the system for collection and compilation of price statistics in the country is faced with many deficiencies and data gaps. Some observations and suggestions as regards price statistics scenario in the country are given. Need for use of satellite-based communication network for transmission of price data, and possible relevant actions that have to precede such a system, are also dealt with.

Important issues discussed in the paper are the following:

(ii) There exists a need for harmonisation of different consumer price indices (CPIs) that are compiled by various States and Union Territories. Construction of an all India CPI, based on harmonised indices of consumer prices (HICP) is desirable to give an index applicable to the whole population of the country as regards general price level from the point of view of the consumer.

(iii) There is a need for compiling CPIs separately for the rural and urban population at national level, as also for mega-cities of the country. There is also a need for compilation of CPIs separately for the rural and urban poor.

(iv) Inflation-estimates, based on Wholesale Price Index (WPI) measures changes in the general price level at level faced by the wholesaler or the producer. From the

viewpoint of a consumer, inflation estimates based on CPI are considered to be more appropriate.

(v) It is imperative to have a regular mechanism for updating the CPI/WPI basket of goods and services at least once every five years.

3. Financial and Banking Statistics in India - A Position Paper (WS 98/G-4/3) : *R.B. Barman*

This position paper notes that the main agency for collection and dissemination of financial and banking statistics in India is the Reserve Bank of India (RBI). RBI is also a major user of these data by virtue of the fact that it formulates monetary and exchange rate policy. The financial sector consists of financial intermediaries and financial auxiliaries. Financial intermediaries are overwhelmingly dominated by banks and financial auxiliaries which include brokers and foreign exchange dealers. Financial instruments cover currency, deposits, loans, financial leases, derivatives, guarantees etc. Financial intermediation channelises savings into investment, which in its turn leads to income generation. The data cover not only areas of money and banking, but also developments in money market, forex market, capital market, external payments, term lending market, and developments relating to prudential aspects of institutions.

In this paper the author has focused on the availability of financial and banking statistics currently made available by RBI, without losing sight of the need to address issues such as data gaps, improving coverage and timely dissemination of data. A brief account of different sets of data available in the flow of funds accounts, securities transactions, monetary surveys, banking statistics, balance of payments statistics, Census of India's Foreign Liabilities and Assets and corporate finance statistics is provided, inter-alia, bringing forth conceptual and coverage problems involved in each of the areas, in the context of the changing economic and financial environment. Use of Information Technology for collection and dissemination of data and development of a strong Data Warehouse, to be designed specifically to meet the needs of users, are suggested for improving the dissemination of data.

4. Note on the Wholesale Price Index (WS 98/G-4/4) : *Office of the Economic Adviser, Ministry of Industry, Government of India.*

The paper, after dealing with the concept of Wholesale Price Index, goes on to state the objectives and practical applications of the Index. This is followed by a discussion about the commodity coverage under various broad Commodity Groups, and Subgroups for the current 1981-82 series. The various sources of price data of different commodities have been provided in this paper.

The paper addresses the following issues:

(ii) Collection and standardisation of data and timely dissemination of data in a format acceptable to the global markets.

(iii) Deficiencies of the existing statistical system.

(iv) Technological upgradation and dissemination of standarised economic information.

(v) Requirement of a mega (technologically upgraded) database to access data from both primary and secondary sources on a regular basis and

(vi) Intensive training of the staff dealing directly with collection and dissemination of data on Wholesale Price Index.

5. Modernisation of the Statistical System Pertaining to the Financial Services Sector In India - Some Aspects (WS 98/G-4/5) : ***N. Nagarajan, Reserve Bank of India***

This brief note attempts to identify some of the broad critical areas that need further consideration while deliberating on a programme of modernising the statistical system relating to the Indian Financial Services Sector.

The note has briefly described the financial sector in India both in public as well as private institutional sectors. These institutions offer capital market related services; perform sector specific financial functions; and extend different miscellaneous and essential services to facilitate smooth functioning of the financial system, such as money changing, arranging for payments and settlements, etc.

Till before economic liberalisation, the official statistical agencies could access the data through the regulators of the Indian financial system as they had extensive powers over the constituent institutions. The problem of regulators have increased due to the process of economic liberalisation, which has affected the functional distinction between the institutions because of their integration. This has affected in a large way the official statistical agencies in this field. The liberalisation has lowered also the entry barriers by various units. This has resulted in the entry of a large number of new individual units, and in turn also in exit of many. The exiting number of functional units may not be known to the regulatory authorities. In such a situation, the data collection can only be made by conducting 'Surveys', which would definitely increase the cost of data collection .

Developments in the financial sector have far-reaching and immediate implications for the other sectors. Hence, it is essential to have high frequency data series pertaining to this sector. The requirement could even be fortnightly. Also long time series data are required for any meaningful analysis.

The author has suggested the following:

(i) the creation of a data warehouse;

(ii) to adopt up-to-date communication (V-SAT) technology to transmit data with appropriate security features embedded into the systems; and

(iii) to train adequate number of people in data collection, collation, processing, storing and dissemination, using the new technologies.

Report of Working Group 4 (presented to the Plenary on 16 September 1998 by Dr. Abhijit Sen)

Recommendations of the Working Group

Financial Statistics

1. The Group examined the issue of availability, coverage, and timeliness of data in the financial and banking sector. Three papers were available to the Group covering the sector. While these papers touched upon various aspects of availability, frequency and gaps in the current available data, the view was that there is a requirement to list out in detail the existing data, their frequency and problems and even more to anticipate the likely changes and future problems in this rapidly evolving and expanding sector.

2. In view of the large amount of data and the varied requirements of different users, such as National Accounts Division of CSO, Monetary and Fiscal authorities, and users of financial statistics in the capital, money and foreign exchange markets, it was felt that a Task Force should be set up to report within a reasonable period (say 1-2 months) of its constitution. The Task Force should comprise amongst others, representatives from RBI, Ministry of Finance (Department of Economic Affairs), GIC, LIC and regulatory agencies, such as the SEBI. This Task Force should (a) detail the data currently being collected by source, coverage and periodicity, (b) identify the data requirements of each of the agencies concerned, (c) identify difficulties experienced with data currently available and difficulties experienced during data collection, and suggest possible remedial measures including those needed for effectively addressing the current data gaps.

3. The Working Group noted that there are a number of agencies, within and outside the government, which are now generating basic data and related information about the financial sector. The advantage of some of these private agencies is in the speed of making available data, but this

often comes with very little or no validation of data, and no adequate explanation of methodology adopted. The Group is of the view that there might be some dangers in using such data. While such private sources will continue, in the official statistics system, the emphasis should be on the integrity of the data base.

4. The Group recognises that communication and information technology are vital pre-requisites in this area. The RBI has already initiated steps to set up a V-SAT network towards this end. A critical aspect of flow of data through V-SAT or electronic media is standardisation of formatting of the raw data and its electronic dissemination. The Working Group is of the view that, on account of its pre-eminence as the main agency for collection, compilation and dissemination of financial and banking statistics in the country, the Reserve Bank of India should continue to be the nodal agency in the area. There should be a system for continued flow of data to RBI from all other agencies.

Price Statistics

5. The Technical Advisory Committee on Statistics on Price and Cost of Living (TAC on SPCL) should be reactivated.

6. All the national CPIs that are currently compiled are having base years that are quite old. An urgent need exists for regularly revising the base years, preferably once in every five years. Generally, the process of revision of base years is a long one. Under the circumstances, there should be a provision for an arrangement within the NSSO for carrying out regularly the requisite periodic surveys necessary to update the base.

7. The existing CPIs of CP(IVV) and CPI(AL) should continue to be compiled because of their historic and statutory significance and practical utility. However, whether CPI(UNME), and CPI(RL) should continue as at present, may be examined by TAC on SPCL. The introduction of CPI(U) and CPI(R) should also be considered. India is the only country which is using WPI for measurement of inflation. An all-India general CPI which is duly weighted, should be built up to serve as a measure of inflation.

8. In the case of domestic manufacturing goods, although factory-gate prices were supposed to be collected only in exceptional cases, this is now the norm. As a result, the existing WPI is in large part close to a producer price index (PPI) but inclusive of excise duty. Because of this, the TAC/WG might consider drawing appropriate distinction between PPI and WPI. In this connection, the working group notes that PPI may be the most useful price index for national income purposes. For deriving a proper WPI it may be necessary to collect separate data on transport and trade margins.

9. In many countries, important price data is available on unit labour cost. For this information, regular collection of wage rates and productivity is needed. Feasibility of collecting data on a regular basis on wage rates, trade margins and transport charges may be looked into, using the same agencies who are currently collecting the price data.

10. In the long run, we should move towards a real time system as regards prices where data are available to any user at field level. The same data can be transmitted through satellite-based communication links for compilation of price measures. The data should also be available on an interaction basis from anywhere in the country.

11. A suitable system of incentives for personnel collecting primary data should be instituted.

12. A compendium of various data sources, listing contact persons (with telephone/fax nos. etc.) is required to be compiled and made available to all users.

SECTION VI

WORKING GROUP 5
Commerce, Industry and Corporate Sector Statistics

Summary of Papers

1. Industrial Statistics : Current Status, Limitations and Data Gaps and Suggestions for Improvements (WS 98/G-5/1) : *M.S.Maulik, CSO*

This paper reviews the genesis of the Annual Survey of Industries, Index of Industrial Production and follow-up surveys on Unorganised Sector, identifies the data gaps in the existing system and discusses improvements being made or required to be made in the existing system.

The main problems relating to ASI have been identified as relating to the ASI frame and its updation, non-response on the part of factories and lack of stringent legal penalities for non-response. The improvements that are being made for collection and tabulation of ASI data are:

(i) A shortened ASI schedule is being canvassed for 1997-98.
(ii) Sample design for ASI 1997-98 has been revised.
(iii) Electronic data transmission from factories and field offices of NSSO to the tabulating agencies is being envisaged.
(iv) States/UTs have been requested to use the database/tables generated by CSO from the Central sample, instead of processing the duplicate copies of ASI returns. The States may divert their resources to cover additional units to generate district/regional level estimates by pooling these additional data with the central sample data.

The following steps have been or are being taken for improvement of IIP :

(i) The figure pertaining to a particular month is revised only twice and will not be revised further.
(ii) The coverage of items pertaining to SSI sector will be enhanced by an additional 64 items from the present 18 items by Dec. 1998.
(iii)Efforts are being made to introduce regular collection of monthly production data from large sized units from Jan. 1999.

There is no periodical collection and publication of statistics for unorganised sector in India. NSSO conducts follow up surveys for this sector. DC (SSI) has also conducted two censuses in 1972-73 and 1987-88 to collect the details of registered SSI units.

Data gaps remain in this sector on account of less frequent periodic collection of data. The last survey was conducted by NSSO in 1994-95 after the 1989-90 survey.

The results of the follow up surveys are not used for getting the macro aggregates, only value added per worker in different industry groups, is used.

2. Discussion Paper on Modernisation of Statistical System in India (WS 98/G-5/2) : *Department of Chemicals and Petrochemicals, Govt. of India*

The paper explains, in brief, the existing set up of Monitoring and Evaluation Division in Department of Chemicals and Petrochemicals, which is primarily entrusted with sectoral planning, promotion and development of chemicals, petrochemicals and pharmaceutical industries. The information is collected on a wide range of products being produced by more than 550 companies in the organised sector. All the establishments whether exempted or not from the requirement of compulsory licensing, are required to submit monthly returns to DIP&P with a copy to Administrative Department/Ministry concerned. The monthly return covers a wide range of information i.e. installed capacity, production during a month, cumulative production, reasons for short fall and, in some cases the domestic prices. The information is received from almost all

industrial units and the coverage is about 85 to 90%. The existing time lag in receipt of information is about one and a half month.

The paper suggests that, for a sound statistical basis and to achieve maximum coverage, there is a need for a statutory mechanism for submission of monthly production data by all manufacturing units.

3. Modernisation of Statistical System in India - Industrial Statistics (WS 5/ G-5/ 3) *:* Arun Ghosh

The paper takes stock of the current procedures relating to the Index of Industrial Production(IIP), Annual Survey of Industries(ASI) and the Small (non-factory) enterprises, identifies grey areas and suggests measures to improve the quality of data.

The author is of the opinion that a move towards chained index number system for the IIP is warranted in order to capture the rapidly changing production pattern. The data reporting system has become unsatisfactory as a result of dismantling of DGTD. The author questions the universe of Small Scale Industries (SSI) units as the DC(SSI)'s definition of "SSI" covers many SSI units actually coming under IFA. The paper proposes introduction of severe penalties for non-response under Collection of Statistics Act. The author opines that the IIP should be revamped to cover only the factory establishments. In case the index for small scale sector is needed, it may be compiled on quarterly basis for specific items e.g. Gems & jewellery, Bidies, Cigars etc. based upon the data on such items collected from the areas of their concentration. For compilation of IIP, data on monthly basis may be collected from 3000-5000 large and medium size factories. The remaining units may be covered by suitable sampling procedure with different sampling fractions. For continuity of returns, and in view of the costs, the total sample size for IIP should be restricted to 5000-6000 units. The data should be reported by units by 7th of the following month, using the electronic media and the concerned Ministries should compile and furnish totals to the CSO for compilation of index of registered sector. It also suggests that, for some industries, e.g. automobiles, fertilizers, cement etc., Manufacturers' Associations may be asked to send regular monthly production data.

The author expresses concern over the wide divergence between the number of factories registered under the IFA and those treated by ASI as the total population. There is a need to find ways to update the universe of factories listed under the IFA, otherwise, the very sampling design of ASI may get adversely affected. There are delays in availability of ASI data.

The practice of using employment estimates for blowing up figures has been questioned and there is a suggestion for adopting different procedures for different industries for estimation of population aggregates. The commodity classification in ASI should be revised to conform to the Harmonised System (HS) of nomenclature adopted for excise and foreign trade purposes. The revision of ASI schedule should be considered only after an expert group carefully examines the matter, as some entries in the schedule may not be for compilation but for cross checking the data.

Regarding the output of Small Non-factory enterprises, the author states that experts hold divergent views in regard to growth of SSI sector and the statistical basis in favour of either view is non-existent. The NSSO is the only source of data to represent overall national aggregates of employment, value added etc. of small enterprises. The data collection in this sector is full of problems because of the sample size, the investigator strength required etc.

It has been suggested that, following the 1997 Economic Census, serious efforts should be made for conducting follow up surveys and make the results available in time. For this, some detailed information (e.g. industry classification) may have to be sacrificed, if required.

In the concluding remarks, the paper recommends that (i) using properly designed surveys is the only way of collecting data on the non-factory sector, (ii) the data on the number of factories given by the Chief Inspector of Factories needs to be checked and updated through sampling (iii) the administrative control over data collection/analysis needs to be given up for improvement in the quality of statistics and (iv) one has to have a judicious combination of reliability of data and manageable costs for timely availability of data.

4. Status of Statistics in the field of foreign trade (WS 98/G-5/4): *Dr.N.S. Sastry*

The paper brings out the present system of collection and dissemination of foreign trade data. The main sources for foreign trade statistics are the shipping bills and bills of entry submitted to the customs authorities. The author has identified major data gaps in foreign trade and also given suggestions for filling up these gaps. Presently, there is no methodology available for generating data on international trade in Services. He has suggested that the Directorate General of Commercial Intelligence and Statistics (DGCI&S) may be made responsible for the official statistics on international trade in Services. The OECD/EUROSTAT trade in service classification, with modifications to suit the requirements of India, may be used for generation of data of trade in Services. He has also suggested that suitable mandatory provisions may be made in the instructions issued by the RBI to the Banks/Authorised dealers of foreign exchange.

Official statistics of the country's exports according to the State of origin are not presently available. This is required to develop a suitable mechanism for assisting the States for their contribution to the national export effort. The author has emphasised that, as these data will be based on the declarations of the exporters, there is need to provide for external cross- checks .

The author has suggested that incorporation of the information on defence imports as single line entry, without giving any details in the DGCI&S publications, may be considered.

5. Corporate Sector Statistics (WS 98/G-5/5): *Mahesh Vyas*

The paper highlights the role of Centre for Monitoring Indian Economy(CMIE) in the dissemination of corporate sector statistics. CMIE is the principal source for detailed company- level data in electronic format covering all types of business enterprises. The author has identified some limitations in RBI's Company Finance Studies, as such studies are based on thin samples, results are inordinately delayed, exclusion of public & cooperative sectors etc. He has also compared company finance aggregates, compiled by CMIE, RBI, ICICI & IDBI for five years from 1992-93 and pointed out that CMIE's studies were based on larger sample sizes. He has recommended that annual accounts of companies may be made available to CMIE and CSO may purchase data from CMIE.

The author points out that the ASI results are available with the gap of about 30 months from the close of the year of reference. He has suggested that ASI may be conducted on all types of business enterprises, independent of the labour , or capital (power) engaged. He has also pointed out that the revised series of index of industrial production continues to suffer from inadequate coverage.

The author has recommended that ASI may be replaced by a completely new exercise based on information collected from accounts of business enterprises. The emphasis should be on the economic activity and not on the characteristics of the enterprise. According to him, the annual reports are the most reliable, transparent and comprehensive source of information. He has, therefore, recommended that a group of experts be assigned the task of exploring the possibilities of getting the information required for the ASI from the annual reports of the companies and suggesting modifications, if any are required.

6. Modernisation of Statistical System - Trade Data (WS 98/G-5/6): *Ministry of Commerce, Government of India*

The paper by the Ministry of Commerce has identified shortfalls in the trade data. It suggests that Department of Statistics, with the Ministry of Commerce, may undertake a collaborative exercise to bring out exports data on the basis of industrial classification. The export data classified by industrial classification give an idea of the change in the export basket over a period of time, which will be useful in understanding the dynamics of trade performance in the current economic scenario. An attempt may also be made to do a size-wise classification of the trade data in order to arrive at exports in the small scale sector. There is need for a comprehensive and an integrated on line relational data base to enable the decision maker to respond proactivily to the changing economic scenario. Lack of data on employment generated in export sectors needs to be bridged.

7. **Modernisation of Statistical System (WS 98/G-5/7) :** *Department of Industrial Policy & Promotion (DIP&P)*

The paper discusses the production data collection system for the purposes of constructing the IIP. The DIP&P furnishes data on 338 items for the IIP (base 1993-94). The data is submitted by the industries registered under the Industries Development and Regulation Act 1951. The industries having 50 or more workers make the frame under IDR Act. Under the Act, the data are required to be furnished by the industries within 7 days from the reference month and no field staff is allocated for collection of data. There is regular follow up and data are submitted in time for release of IIP as per SDDS norms. There are no gaps in the monthly data collected for IIP.

The frame of Units is updated based upon closure, stoppage of production and the new units reported, as per Letter of Intent (LOI) and Industrial Enterprenuers Memorandum (IEM) filed by the units. The data covers the industries which do not fall in the SSI sector. The duplication of data are avoided by the permanent electronic record of each factory.

The paper suggests that (i) for harmonisation of data, uniformity in the number of production units of registered and non-registered sector should be proportional to its size, (ii) a system with one to one relation for its human resource and electronic media in Unix environment will serve the purpose for easy access of data and (iii) there should be in-house training programmes at regular intervals for the persons engaged in the processing of data to enable them to update their knowledge of the latest techniques in the field.

8. **Modernisation of Statistical System for SSI Sector - A status paper (WS 98/G-5/8) :** *Deptt. of SSI & Agro and Rural Industries, Govt. of India*

This status paper takes stock of the two censuses of SSI units and the three sample surveys carried out by the Department to collect detailed data in respect of SSI units. The data series presently available with DC(SSI), with respect to SSI sector has been enumerated. The problems of data collection from the unorganised SSI units have been spelt out. The office of DC(SSI) collects data on units registered with the State Directorates of Industries and makes estimates for the unorganised SSI units. It does not collect detailed data on entire unorganised manufacturing sector. Activities like handloom, powerloom, handicrafts,etc. fall under the purview of different All India Boards. The follow up surveys of Economic Censuses, conducted by DOS, fail to capture all the relevant details of the working of SSI units and there is a lack of uniformity in the definitions of SSI as adopted by DC(SSI) and those adopted by DOS for their follow up surveys.

The limitations of the present data system have been identified as follows:

(i) Database of registered SSI units is 10 years old.
(ii) Staff available for data collection has remained static for the last 10 years.
(iii) Data on registered SSI units do not give correct position of working of SSI units.
(iv) There is no statutory backing for data collection on SSI Sector.

Emphasising the need for a sound database for the unorganised manufacturing sector to estimate its contribution to GDP, the paper identifies the following areas for improvement:

(i) CSO should evolve a methodology to get separate data on registered and unregistered SSI units (based on investment definition) by excluding other manufacturing activities such as powerloom, handloom, etc.
(ii) The periodicity of the surveys for large and medium sector should be once every year.
(iii) It is necessary to evolve some methodology to provide export data for SSI sector.
(iv) Information on sickness is being maintained by the RBI for units financed by the banks/financial institutions and is clubbed with other segments like KVI, handloom, etc. However, similar information for SSI units which are not financed by the banks/financial institutions, is not available.
(v) Duplication of data collection by different departments should be avoided.

(vi) A census of SSI units covering both registered and unregistered SSI units should be conducted.
(vii) It is essential to have a complete census of registered and unregistered manufacturing units in the country based on the frame provided by the 4th Economic Census.
(viii)There should be compulsory registration of SSI units.
(ix) All forms and procedure for collection of data should be simplified.

9. Position on Corporate Sector Statistics (WS 98/G-5/9) : *Deptt. of Company Affairs, Government of India*

The paper elucidates the current system of collection and dissemination of corporate sector statistics, which are a by-product of the administration of the Companies (CA) Act, 1956. The dissemination of corporate sector statistics is achieved by publishing the data in various publications of the Department of Company Affairs (DCA) and other Central/State Govts. The paper gives an account of the data bases maintained by the DCA and the efforts of the department to use modern information technology to provide more effective services to the corporate sector in time.

The problem of identification of about 4.84 lakh non-functional registered companies, is highlighted, and the paper proposes that a joint effort by DOS and DCA may be initiated to identify the non-functional companies using the nation-wide network of NSSO. The paper suggests creation of a data base of direct employment creation by the private corporate sector, by either inserting a table on 'trends in employment" in the balance sheets format as a compulsory requirement for each company to present alongwith Balance Sheets and P/L account, or alternatively, by conducting a survey on employment generation by the corporate sector. Such a survey may be clubbed with the regular employment & unemployment survey of NSSO. A joint effort by the Ministry of Science & Technology and DCA to collect and compile data on expenditure on R&D activities by the corporate sector needs to be taken to bridge the data gaps in this area.

10. India's Export and Import Trade - Need for More Detailed and Accurate Statistics : *R.J. Venkateswaran*[1]

In this paper, the author has recommended the following :
(i) Compilation of state wise export statistics
(ii) Detailed statistics regarding direction of exports especially to the markets of South East Asia, Africa etc. may be generated
(iii)Statistical officers may be appointed in the commercial sections of Indian Embassies in the major export markets like USA, UK, Russia, China, Japan and Africa to keep New Delhi regularly informed about our competitors and the changes in the foreign trade policies.
(iv) Export Promotion Council and Commodity Boards may be asked to compile detailed statistics especially in regard to their achievements and in developing and promoting new markets.
(v) Efforts should be made to bridge the gap in the trade statistics brought out by RBI and DGCI&S

Views Expressed in the Plenary Session

The preliminary recommendations of the Working Group were presented in the Plenary Session on 16 September 1998. In his general observations, Shri Arun Ghosh, the Chairman mentioned that the changes over time are needed for improvement in any system but these should not destroy the existing system. The changes should aim at improving the existing system. However, in the recent

[1] Paper 10 of this Section was received in response to the advertisement calling for essays on suggestions for improvement of the Statistical System.

past, some changes introduced in the system were of ad-hoc nature. He also indicated that, in the vast areas like industry, trade and corporate sector statistics, it is not possible to formulate recommendations in a day or two, as each of these require detailed deliberations and consultations with the concerned organisations. He also mentioned that the unorganised manufacturing sector is a complex area, and, in a short period, it was not possible to make any concrete recommendations for improvement of Statistics in this sector. As such, he chose to omit this sector all together from the recommendations and suggested that the Government may consider constituting a separate Working Group in the DOS, which should be represented by the Ministry of Industry, O/o DCSSI and also some prominent experts, academics in the field to consider the subject in detail and to come up with specific recommendations.

Various participants also expressed their views on the recommendations made by the Working Group on Commerce, Industry and Corporate sector. Dr. K.C. Seal, Ex-DG, CSO expressed the view that pooling of the Central and State samples for district/regional level estimates suggested by the Working Group, is not possible as the same may not give reliable estimates at the district/regional level. He also suggested that, if DCSSI does not have adequate resources for field work, they may undertake the survey on contract basis. On the suggestion of the Group to take help from Industrial Associations for regular supply of monthly production data, Shri J.P. Mishra, Joint Director, FOD (NSSO) stated that reporting by the units to the industrial associations is not binding. Therefore, the response from units would vary from month to month, which would lead to fluctuations in the production data. Mrs. R. Thamarajakshi, former Secretary Department of Statistics stated that it would be difficult to take a puristic view and calculate IIP only for registered sector, as the weighting diagram which is based upon ASI also includes a portion of production of small scale sector. She also mentioned that the census of companies recommended by the group may not be a cost-effective proposition. Instead, the possibility of using the information available with the RBI, ICICI, IDBI, etc. should be explored. While agreeing to the suggestion for constituting a working group on unorganised sector, Shri R.P. Katyal, former Head (NAD) supported the view of the Working Group for complete census of companies to provide a frame for future surveys. Prof. S.D. Tendulkar, Director, Delhi School of Economics supported the recommendation for compilation of separate IIPs for the organised and small scale/unorganised sectors, as the quality of data in the two sectors differs significantly. He also reiterated the view that the two indices should be compiled separately and then combined together using appropriate weights to give an overall Index of Industrial Production. Dr. Vaskar Saha, Deputy Director General, SDRD/DPD, NSSO expressed his concern on incorporation of the information on Defence Imports as a single-line entry, without giving any details, in the DGCI&S publications.

In difference to the wishes expressed in the plenary that the Working Group should go deeper into the issues and give its considered views and recommendations, the Working Group was reconstituted (see Annexure-II).

Report of the Working Group 5

The reconstituted Working Group held four meetings on 15 October, 21 October, 29 October and 13 November 1998. The final report of the Working Group is given below:

Industrial Statistics

1. This section of the report relates to two major segments of industry, which are dealt with separately, first, large and medium industries and second, small industries, which include a wide range from household industries to the relatively small modern enterprises.

2. Data from these two segments are collected with three purposes: (a) the construction of a quick and reliable Index of Industrial Production, which permits an assessment of the pace and pattern of

industrial growth; (b) measurement of the contribution to the GDP of the industrial sector as a whole, as well as, of particular sub-sectors; and (c) obtaining information regarding cost of production, employment, capital employed, etc. to facilitate more detailed analyses of the nature and consequences of industrial growth.

3. Improvements of the data system from the point of view of better realising these requirements should seek to ensure (a) improved coverage; (b) better quality; and (c) greater timeliness in the availability of data, while keeping the costs of data acquisition and tabulation/release as low as possible.

4. ***Indices of Industrial Production***: There are three sets of indices of industrial production that are either currently generated or planned to be provided. These are, an overall index for the industrial sector as a whole, an index of production in the small scale sector and, comparable state level indices of industrial production. The national index of industrial production has been revised recently, with 1993-94 as the base and with a wider coverage of 543 items, as compared with the 352 items covered by the earlier series, with 1980-81 as base. The revised index attempts to capture trends in the small scale sector by including 18 items produced by that sector. The source agency, the DCSSI, collects production information on these 18 reserved items from 4,800 SSI units selected from the sample frame of SSI units registered up to 1984-85. The composition of these 18 items may be changed on the basis of importance as indicated by the SSI Census 1987-88. However, the **coverage** varies significantly, as of today, with the number of units actually reporting being much smaller, and varying very considerably from month to month. (Indeed, that malady afflicts the present index in respect of large and medium units also, an issue discussed in the next para.) The DCSSI is now planning to collect data relating to 500 items from 28000 units using the services of 138 computerised DICs. Depending upon the success of this effort the number of items from the small scale sector to be included in the calculation of the IIP is proposed to be enhanced to a total of 69 items by December 1998. It has been also decided that only two revisions of production data would be made in the second and third month, so that final estimates are available within a reasonable time span.

5. In regard to even large and medium scale units, it is well known that with 14 source agencies providing data drawn from a variety of sources, the problem of non-response is one factor adversely affecting the quality of the IIP. This problem has been aggravated by the abolition of the DGTD in 1995. It is, therefore, imperative that a national campaign be taken up in collaboration with industry associations, to educate sample units about the importance, even from their own point of view, of adhering to the provisions of the Collection of Statistics Act/ IDR Act.

6. The Working Group is also uncertain whether, given the change in the definition of the small sector recently which would include a large number of medium-sized units in the DCSSI's frame, the inclusion of more items from the SSI would significantly improve the representativeness of the index. Further, the inclusion of new items could worsen problems of uneven coverage over time, especially since it has been decided to make only two revisions of production data over a three month period. **It is, therefore, suggested that, unless the experience with regard to response is found to be consistently good, new items from the small scale sectors should not be included in the overall IIP being currently generated.**

7. The Working Group was also of the view that indices, which separately capture what is happening in the large scale sector and the small and medium industries sector can be of considerable use. Currently, the DCSSI is putting together an index of production with base 1970 in the registered small scale sector, based on a sample of 2,400 units from which production information on 356 important items is being collected on a quarterly basis. This index is to be strengthened in terms of coverage and timeliness. Changes in the definition of units, which fall under the purview of the DCSSI have now included a number of medium scale units in its universe. Thus the DCSSI's index

can be seen as a quarterly index of production performance in the small and medium scale sector. It is understood that, increasingly, because of the non-response - even the non-existence - of a large number of units registered with the DCSSI, the index produced by it is not only of varying quality from time to time, but also tends to represent the relatively more modern industries (with substantial capital investment). This makes the comparability of data over time a questionable proposition.

8. Given the changing universe of units surveyed by the DCSSI from a policy angle, because of periodic changes in the ceiling level of investment specified for defining a unit as a small scale unit, the cost of collecting through large sample surveys, a range of information on employment, investment, cost of production, etc. of units under the DCSSI may not be warranted. In any case, units in the handloom, powerloom, handicrafts, coir, sericulture and Khadi sectors fall under the purview of different All-India Boards under different Ministries. Indeed, the employment-intensive (and important) segments of small industries (e.g., in gems and jewellery, and some parts of brass ware) are not covered in the DCSSI's universe of small units. Thus, besides looking after the units of the small sector under its administrative purview, the DCSSI could better focus its efforts by conducting detailed, periodic surveys of small industrial clusters in particular urban or semi-urban areas, as is true in the case of the gems and jewellery, leather and footwear industry, glass blowing and bangle-making, lock production, woollen garments, etc.

9. The Working Group feels that there is, today, some confusion between the DCSSI's needs of data relating to units registered with it, for better understanding of its 'clients' and assisting them, and the needs of data collection for the small scale sector, as a whole. As a result, the efforts of the DCSSI fall between two stools, and neither requirement is adequately fulfilled. The DCSSI ought to have an updated list of units registered with it, for which the DICs should be responsible for not only maintaining proper lists but also the 'drop outs' - which are large - and the new entrants. The DCSSI should attempt to have a complete, updated list of the units (for which the DICs should have the primary responsibility for (updating/revisions/cancellations), and in regard to such units, the DCSSI needs to devise its own questionnaire for obtaining the information it needs **for better discharge of its administrative functions**.

10. However, the above has nothing to do with data relating to the output of small scale industries. It is to this end that the Working Group has made the following recommendations, after careful consideration. It would be useful if, alongside the index of production in the medium and large scale sector, we have a separate index for the small industrial sector. To this end, the Working Group supports a twofold suggestion from the CSO. First, that it will, on an experimental basis, conduct a monthly survey of large industry, based on a brief questionnaire addressed to units employing 200 or more workers, (and even going below 200 workers in certain industries, where their contribution to the industrial output is very large), which can help put together an index of production in the large scale sector, as well as, other information relating to that sector.

11. The Working Group also understands that the CSO has nearly finalised arrangements for collection of data from approximately 6,000-7,000 manufacturing units, on a monthly basis. Since most of such units today have fax/e-mail facilities, and many units have expressed willingness to supply regular data - in response to a **small** questionnaire - quickly, by, say, the 7th of every month (for the previous month), the working group strongly recommends that such an index (based on **existing** weights for industries) be computed and run parallel to the present index for a minimum period of one year, and in any case till a revision of the **base** for the index of industrial production is taken up. The CSO could also use the good offices of reliable industry associations in the process of data collection and cross-validation. The Group does not wish to suggest that **two** parallel indices be published at this juncture, but a switch can be made soon after one year of experimentation, with specific indication that the index pertains to the output of essentially large and medium industries.

(c) the Annual Survey of Industries should be improved and tightened with a separate, dedicated annual survey of non-registered factories comprising 'Own Account Enterprises', 'Directory' and Non-Directory' establishments through the annual NSS surveys by the NSSO.

Corporate Sector Statistics

Introduction

1. Formation of a joint stock company is generally the first step in starting any organised economic activity. A number of activities ranging from manufacturing, distribution, finance, media, and a variety of other services are undertaken by joint stock companies. The corporate sector is an important way of getting household savings mobilised for making new investments; and today it is also a major recipient as well as supplier of foreign investment. Specifically, in the Indian context, the character of the corporate sector is changing fast with reduced role of government -- both directly and indirectly -- and with globalisation. In the post-liberalisation period, many of the earlier restrictions on companies (e.g. on capital issues, managerial remuneration and inter-corporate investments) have been removed and more are expected to follow. The objective behind these changes is to delegate decision-making power from the government to company shareholders and board of directors. In the new regime, the role of private sector has increased significantly due to throwing public sector reserved areas open to the private sector and is expected to increase rapidly in the coming years due to the privatisation (part or whole) of public sector companies. The role of foreign investment is expected to increase substantially in the coming years in the aggregate, as also in several sectors. Similar could be the case with outward investments by India as many Indian companies are becoming global players. Globalisation also implies increased transactions with the outside world by the corporate sector.

2. These developments pose new challenges and to meet the demands of the new regime the monitoring system should be made more efficient and object-oriented than in the past. How inadequate monitoring seriously affected the stock market during the recent past and how corporate governance problems in East Asia have come to light following the crisis in those countries should provide object examples. More importantly, there is need for greater 'vigilance' so that householders' confidence in the corporate sector is not damaged by 'fly-by-night' operators, of which several cases have come to light in the past. This may call for not only better data collection but also for some minimum legislative changes.

3. In spite of its importance, surprisingly very little is known about the characteristics of the corporate sector in India, whether they are organisational, ownership, regulatory or technological. There is considerable ambiguity even in case of important aspects like capital issues and foreign investment. Besides serious data gaps on the sector, there is uncertainty even about the size of the sector itself. Due to extensive non-filing of annual reports, even the number of companies in operation is not known with any reasonable degree of accuracy. An examination of the Directory of Joint Stock Companies, 1990 suggests that non-response need not be due to defunctness, as a good number of the non-responding ones were registered during the 'eighties. It is understood that, as of March 1998, while there were more than 4.8 lakh companies registered with the Registrars of Companies, between the Department of Company Affairs and the Registrars of Companies, they had only about 2 lakh annual accounts of companies; and this situation obtained despite all ROCs -- as the DCA -- being equipped with computers and all other electronic communication facilities.

4. Much of the problem lies in the manner in which the Indian corporate sector has grown during the past two decades. The sector is dominated by small private limited companies registered in a few states and urban centres, a very large number perhaps only in name, with dozens of companies with the same address -- just a room with one telephone and a clerk -- with no ostensible genuine business. Quite a number of even the listed companies promoted in such a manner are characterised by involvement of auditors and stock-brokers, and frequent change of directors and registered offices. In many of the corporate and financial scandals, the role of such small companies is quite conspicuous. Such companies are also employed by persons managing public and listed companies with a distinct

possibility of their being used in corporate control mechanism and for personal gain at the expense of non-managerial shareholders. There are also a very large number of new corporate registrations in March every year, obviously with a view to tax avoidance, the new companies being essentially promoted by existing companies, for diverse reasons. This phenomenon should, therefore, be inquired into, without treating it as a case of mere non-reporting or defunctness, so that such bogus companies can be weeded out and newer ones of similar type prevented from coming into being.

5. The absence of reliable and relevant data has been one of the important reasons for lack of wide-ranging studies on the Indian corporate sector and on industrial organisation. That given appropriate data, such studies would be taken up is clearly reflected in the experience of '70s and '80s. The provision for disclosing information on production, foreign exchange earning and expenditure, particulars of employees drawing salaries over a specified limit, etc., introduced in the early 'seventies, contributed significantly to a number of studies based on such data. Indeed, without this information, it would not have been possible to assess the contribution of various categories of companies to India's balance of payments or technology imports. Such data have given birth to an entirely new set of literature on industrial organisations. Since critical decisions are taken by company managements and not by individual factory managers, data at company-level has additional advantages over factory data for understanding the trends, even in the industrial sector. It is, therefore, necessary to facilitate industrial organisation-based studies, for a better appreciation of the developments in the economy, through better data on the corporate sector.

6. Besides enabling measurement of the sector's contribution to national income and other parameters, a statistical system on the sector should be such as to enable proper monitoring. The data system should also reflect the impact of the on-going policies, apart from other aspects like employment, technology development and contribution to net foreign exchange earnings, as also behavioural patterns of different types of companies categorised according to ownership and management characteristics. From the monitoring point of view, individual scrutiny becomes increasingly infeasible due to growing numbers. Methods should be devised to organise information on specific aspects of the functioning of the sector in an effective manner. Since the Companies Act is being revamped, it provides a welcome opportunity to incorporate certain improvements to ensure better disclosure and better compliance by companies. It is essential to ensure in any new legislation to come that (a) bogus companies be strictly squeezed out, and (b) all *relevant* information that would help in improving confidence in the corporate sector, be provided through company accounts.

7. Indeed, the Woking Group strongly feels that 'confidence' of householders in the corporate sector -- and therefore in new issues -- does not depend, in the long run, in speculative increases in stock prices in the secondary market, but on the profitability of the sector, on its transparency, and on its proper management. The Working Group's recommendations are based on the above premises.

De-registration of Defaulters

8. It is of utmost importance to bring out the studies on company finances conducted by RBI with minimum possible time lags to serve as basic input for policy formulation, as well as, for building up the saving and capital formation estimates. In this connection, a lot of difficulties are experienced by the RBI in procuring annual accounts from the companies in spite of vigorous efforts on their part. The law, as at present, states that every company must send three copies of annual accounts to the concerned Registrar of Companies, within a month of their being presented in the Annual General Meeting and not more than fifteen months shall separate two annual general meetings. The law also requires all companies to conform to the fiscal year (April-March) for purposes of accounts, and many years have elapsed since this law was enacted, to enable companies to change over their accounting period to the legally valid year. While initially companies were found to be changing their accounting periods to coincide with the financial year, gradually a good number of them have again started adopting their own accounting periods. It needs to be looked into why

and how the earlier stipulation was reversed. In any case, even in the normal course, by say December 1997, almost all company accounts should be available for 1996-97. As of March 1998, of the 4.8 lakh companies registered, only some 2 lakh companies had sent in their audited balance sheets and profit and loss accounts for 1996-97. Assuming, say, some 40,000 companies started in 1997-98, the DCA and its ROCs should have had significantly more than 4 lakh company accounts for 1997-98, provided they were functional. (Even where 'construction' is in progress, accounts must be prepared and audited, by the end of September).

9. The obvious implication is that there is a lot of unwholesome activity in the corporate sector today and the law must weed out all *hanky panky* to encourage genuine corporate development.

10. The Working Group would, therefore, strongly recommend that a one time Census is taken say, in 1999, of all genuine and operating companies existing as on 31 March 1998 and all bogus companies de-registered. The law may need an amendment -- and perhaps an Ordinance may be passed initially, with a Bill to follow for presentation to Parliament -- to enable this to be done. Today, corporate winding up is a long drawn procedure but if the law provides for the disposal of assets/liabilities, there could occur a massive 'cleaning up' operation.

11. The Working Group recommends that -- after a grace period of 3 months -- any company (other than those specifically with BIFR) which does not submit its accounts for the previous year, be 'deregistered', and the fact properly notified. That may impel shareholders to go the Court against the concerned Directors, and the unlawful activities of some unscrupulous managements may thereby get curbed.

12. The one-time Census, and weeding out, may help provide the statistical authorities with the required 'frame' for conducting proper random sample surveys of the corporate sector, on an annual basis. The lists would need to be changed from time to time, but the legal provision for deregistration would be a strong disincentive for the formation of bogus companies in the future.

13. The Working Group appreciates that the above recommendation is a drastic one. But the present state of affairs in regard to corporate data can be described as 'deplorable', and in the revised 'liberalised' framework, information would be the only means of taking proper and appropriate decisions. The Working Group suggests that this question be taken up at the highest level, and a proper legal opinion be obtained in regard to the precise manner in which a 'clean up' of the present mess can be best organised. In the absence of suitable legal advice in the short time available to the Working Group, it is constrained to make only a general recommendation to (a) change the law regarding 'de-registration' of (bogus) companies, and (b) further legal recourse (by investors) to prosecute and claim damages from the promoters of bogus companies.

14. The Working Group feels that this will, in the long run, strengthen the corporate sector, encourage householders to invest in the primary market, and help in the proper development of the private corporate sector.

15. The Working Group would now focus on the aspect of analysis of corporate balance sheets.

National Accounts and Accounts of the Flow of Funds

16. The Working Group understands that the Expert Group on Saving and Capital Formation has recommended that DCA should get the relevant information (annual accounts) on the top 1500, companies who would account for a preponderant portion of the paid-up capital and capital formation of private corporate sector. The Working Group feels that the present procedures for selecting the companies for analysis of balance sheet for various studies is largely governed by the availability of balance sheets, and, in the absence of the knowledge of the universe, it is not based on sampling

procedures. The Working Group feels that there should be a properly stratified random sample survey of corporate balance sheets, for which a frame of population is the basic pre-requisite. Only DCA is in a position to provide this frame.

17. The Working Group is given to understand that even a private agency -- the CMIE (Mumbai) - has more than 4,000 company accounts for a period of around eight years -- while for production data for 1996-97, it has made use of some 7,000 profit and loss accounts. The Working Group, would, therefore, suggest that while a 1:1 sample may be taken for large companies -- say, with paid-up capital of Rs. 1 crore or more -- a stratified random sample should be undertaken to obtain 'population' estimates of savings and investment. The possibility of getting population estimates for assets and turnover and value added by types of economic activities in sectors like trade, transport and professional services should also be explored. The Working Group strongly urges that the RBI staff should be suitably strengthened, in order to prepare all such estimates from the annual accounts on a sample basis from all industry groups. For this, it would be necessary to know the total universe, and to draw up a proper sampling frame.

18. It is recommended that DCA should ensure supply of all the required annual reports to RBI for generating the above estimates. It is, therefore, necessary to put in place appropriate systems and measures to achieve the above purpose. Both legal changes, and strengthening of DCA would be essential for this purpose.

19. Most of the problems connected with generation of corporate statistics can be traced to the absence of a good company database. The Working Group would reiterate the need to have complete information on the universe of companies. This can only be achieved by modernising and streamlining the database and ensuring its proper maintenance in a computerised and networked environment on a Real Time basis. As in many cases, even the registered office address is not known, for conducting the one-time survey the DCA would need to enlist the co-operation of Department of Statistics and the tax authorities for this purpose.

Unique Identification of Companies

20. One of the objectives of creating a modern database is to have all data pertaining to one corporate entity available at a single place for a comparative time period. Technology facilitates having the database geographically distributed, not necessarily residing in a single place or on one system of computers. So long as linkages are provided, it still forms one single logical database for operational and reference purposes, the key to such a system would be the unique code of identification of the entity. In the context of Corporate Database, and this key would be the company code. It is essential that right at the time of Registration, a company should be allotted a unique company code to be used throughout the country for all practical purposes, and to keep this code even if the corporate address changes. This key would be used for all purposes, e.g. even to publish quarterly/half yearly results, to submit annual return, supply data to official agencies, apply/intimate change of location, go in for public issues, get the Scrip listed, file Tax Returns, apply for bank loans, mergers, acquisitions, joint-ventures, foreign direct investment, transactions in foreign currencies, and even to offer public services like schools, parks, scholarships, social services, etc. In short, every activity of the company can be traced uniquely to the company. If each company is allotted a unique code (much like the PAN for income tax purposes), this will help in computer processing and maintenance of database without any duplication. Companies will be required to quote this code number in all their official and public dealings including litigation.

21. As the country is increasingly getting globalised, it is necessary that such a company code number follows, as far as possible, international conventions. In the case of public issues, SEBI already follows such a system (ISIN). At the same time, we may add additional characteristics required to suit our specific needs. The State code along with registration number can uniquely

identify the company. The structured code (permanent company registration number) containing ROC code, State code and registration number can be framed which should never be changed. In case of shifting from one State to another State, State code of new State may also be stored separately but the originally allotted number should remain permanent and not altered. This coding problem can be discussed further, after ascertaining the requirements of ROCs/DCA/RBI/SEBI.

22. While it is absolutely essential to maintain an integrated system for registration of companies across the country, it is equally important to operate a system of receipt of balance sheets and other related documents within the stipulated time. Presently the collection of such statistics takes place at the Offices of Registrar of Companies (ROC) at various locations in the country. The Balance sheet abstract and company's general business profile (Part IV of Schedule VI to the Companies Act, 1956) gives additional information on the company at a quick glance. Th Balance Sheet Abstract may, after the scope is duly enlarged, form part of the data stored by ROC.

Data Items

23. The company's record in ROC database may contain two parts *i.e.* fixed information and year-wise information. The fixed information may relate to registration details at entry-point including those relating to the signatories to the memorandum of association, witnesses, first directors, particulars of Officers in Default, auditors, State code (existing), Structured address, Address of nearest Post Office (to enquire about existence or forwarding addresses in case of non-responding companies), PAN, Names of Directors/Promoters (present as well as past), their other directorships, Telephone, Fax, Email, Website addresses, etc.

24. The year-wise information may contain:

a) Annual Accounts Receipt date, extension given, reminders etc. for the purpose of monitoring receipt;
b) The data from the Annual Account for the particular year; and
c) Shareholding pattern, as also names and holdings of top shareholders (with company code in case of corporate shareholders)
d) Companies/firms in which Directors are interested or which are under the same Management.

Balance Sheet Abstract

25. Balance sheet abstract (BSA), which at present has a limited scope, can be made to serve the purpose of data collection, computerisation and analysis in a relatively quick, convenient and less expensive manner. The balance sheet abstract may be received so as to include all essential data required for quick processing. Those data, when consolidated, would lead to national aggregates at various levels. Items may be decided after looking into existing balance sheet abstract, fact sheet data and items for which global figures are important for policy making, selection of sampling frame, compilation of national accounts, etc. in consultation with National Accounts Division of CSO, RBI, SEBI, research institutions and other concerned agencies. The following items need to be considered for inclusion in the balance sheet abstract in addition to the existing ones.

i) Code for type of companies (government, public, private, listed, etc.),
ii) Industrial classification (using NIC) based on the production/service activities,
iii) Parent company, if any,
iv) a) No. of employees,
b) Expenditure on R&D (separately for revenue and capital),
c) Payments and receipts in foreign currencies under major heads -- Imports (cif basis), Exports (fob basis), Dividends, Know-how fee, Royalties, Interest, etc.
d) Foreign equity investments received during the year and as at the end of the year, separately by foreign collaborators/promoters, portfolio investments and other overseas corporate bodies,

e) Investments abroad,
f) Employee remuneration,
g) Managerial remuneration, (separately for salaries & perks, and commission)
h) Presence of institutional nominee directors,
i) Special provisions in the articles for appointment of directors and decision-making at board level,
j) Auditors qualifications if any regarding compliance with accounting standards, and comments on interest paid, related party transactions, etc.,
k) Net value of items not provided for during the year and as estimated by the auditors,
l) Default on loans and deposits,
m) Capital bought back,
n) Name(s) of the Auditors, and
o) Indication of mergers, acquisitions, sell-offs, if any,

26. To facilitate computer processing it is suggested that specific codes for various items required in the balance sheet abstract may be developed and the definition explained, in order to ensure correct reporting and ready identification of data. This is especially necessary in view of certain ambiguities in the present format. For instance, the Balance Sheet Abstract (BSA) does not specify the number of months for which the data on performance of the company refers to. Also, at times, it becomes difficult to compare total assets as some companies net out current liabilities, while others do not. It serves only limited purpose if companies report top three products/services. These should be accompanied by their share in total revenue/sales as the case may be. Companies are also found to be leaving the HS classification blank in case of services. Suitable coding pattern should be indicated for non-manufacturing activities. It is imperative to use identical structure of data file and software at all offices of ROCs so that the country level figures may be arrived at just by consolidating the data files on the computer. The BSA should be certified by the Auditors also apart from the Board of Directors.

Codification of Items in the Balance Sheet

27. For facilitating computer processing of the entire data available in P&L accounts and Balance sheets it may be worth considering, at this stage, developing exhaustive item codes and defining them. The standardisation of balance sheet items may be attempted in consultation with DCA, ICAI, RBI and other authorities. The codes required for balance sheet abstract may be a subset of codes designed for the data contained in complete annual accounts. The coded information can also be supplied on computer media or communication channels by the company after the system stabilises, and thus save the data entry efforts and delays. If it is made mandatory that corporate filings should be made on computer media, it will greatly help in analysis.

Foreign Direct Investment Data

28. Periodical surveys on India's Foreign Liabilities and Assets are conducted by the BPSD, DESACS, RBI. Foreign liabilities consist of foreign investment liabilities (FDI and Portfolio), foreign loan liabilities and other foreign liabilities. Foreign assets on the other hand, comprise investment abroad, balances held abroad etc. The relevant particulars are sought from the identified corporate units along with a copy of their balance sheet. Non-response has been one of the problems faced in conducting the said surveys. In this context, there is a need to strengthen the secondary data sources for filling-in the response gap. One such major secondary source is the balance sheet of the companies, which contains information pertaining to (1) sources of funds and (ii) application of funds. The balance sheet, however, does not explicitly state the foreign component in both of them. If the balance sheet shows explicitly the figures of foreign participation in equity capital and borrowings (Source of Funds/Liabilities side) and also those of assets held abroad, loans and advances to foreign parties and investments made abroad (Application of Funds/assets side), it would

immensely help to improve the coverage of the census/surveys, as such data can be substituted for missing information pertaining to the non-responding companies. Repatriability details relating to the non-resident components may be incorporated in the concerned schedules.

Change of Registered Office

29. It is a serious matter that an RBI survey established that 30% of the 3,000 companies were non-traceable and that as per the DCA only 41 per cent of the registered companies filed their balance sheets for the year 1996-97 by the end of March 1998. It is equally serious that the RBI could not reach NBFCs that sought registration only a few months earlier and had to issue advertisements in the press to inform the companies and the public at large that those companies will not be accorded registration as NBFCs. A major reason why many companies are not traceable could be that at the time of registration, they do not need to have a registered office. They need to have it only from the day when they commence business or from the 30th day after the day of incorporation, whichever is earlier. The fact that the Directory of Joint Stock Companies, 1990 does not contain the addresses of many companies (or the address is confined just to the name of the state) may indicate the possibility of such companies not informing the ROCs of the subsequent establishment of the Registered Office. In case of change of address within the city/municipal limits, the ROCs need to be informed only within 30 days. At present, the fine for not informing the ROC of the change in the registered office is only Rs. 50 per day. It should be made mandatory for companies to receive acknowledgement of the ROC about the change in Registered Office address within a reasonable time (preferably in advance), with severe penalties both at the company level and the level of Directors/authorised management officials for non-compliance.

Other Provisions Needing Attention

30. Exemptions for private limited companies should be minimum, as a good number of private limited companies are owned by persons managing listed companies and are used as tools for perpetrating frauds. It is also important to note in this context that many companies with substantial foreign equity could qualify as private limited companies. There does not seem to be any justification for extending private limited company status to such companies. Today, Private Limited Companies are not required under Company Law to submit their Profit & Loss Accounts to ROCs. In fact, this facility is being grossly misused by public limited companies to form wholly owned private limited companies. Since they are public companies (public or private) there is no reason for granting this exemption. Private limited companies – it should be noted – are not partnerships but corporate bodies in the meaning of that term. Hence, the Working Group feels that this matter should be reviewed, and the law changed in order to enable better 'monitoring' of developments. The provisions like Companies Under the Same Management and those relating to Director's Interest also need to be tightened. Unless these provisions in the law are tightened, siphoning-off of funds from companies would be rampant, and prevention would be very difficult. The existing provisions are grossly inadequate to cover related party transactions by affiliates and subsidiaries of foreign companies. This aspect should draw special attention of the lawmakers. Data on certain items like R&D and advertisement expenditure should be reported irrespective their relative share in turnover. Employment data need to be given at various operational levels. Efforts should be made to introduce greater standardisation in various items reported to make aggregates and inter-temporal and inter-company comparisons meaningful. The annual report should also state in clear terms: (a) individual Director's record in attending Board Meetings; (b) transactions in the company's securities by Directors, their relatives, companies in which they are directly or indirectly interested including companies under the same management; (c) all immovable properties owned/leased by the company; (d) major export products and markets (with their relative shares); (e) active foreign financial and technical collaborations, franchise and royalty agreements (local as well as foreign); (f) direct imports from and exports to foreign collaborators and their affiliates and the company's own subsidiaries and joint ventures abroad; (g) patents obtained; (h) litigations relating to taxes, duties, labour, Company Law, environment, etc.; (i) value of finished goods traded (separately for direct

imports and locally procured ones); (j) mergers, acquisitions and sell-offs; and (k) donations by the company. It should be remembered that the health and progress of the private sector would depend greatly on 'transparency'. Data are essential; and the steps suggested are not 'regulatory'; they would not increase control. But they would increase public confidence and help in the growth of the corporate sector and of the economy. In respect of Mergers/Acquisitions, perhaps there is need for tighter legislation and prior approval because such Mergers/Acquisitions can only increase monopolistic tendencies in the functioning of the economy.

31. From the provisions of Companies Bill 1997, it appears that, once the Bill becomes the Law, installed capacities need not be reported by companies. This is a major lacuna and needs to be rectified. While in the new regime, licensed capacities have lost their relevance, installed capacities provide a valuable information for investors and analysts. Reporting of capacities, production and sales should be given in a clear-cut manner instead of in vague terms like personal products or basic chemicals. Inter-corporate investments need to be presented in the schedules in such a manner that not only the amount of investment but also the extent of involvement (percentage share) by the investing company would be easily known. This information may be computerised to enable detection of possible cross and circular holdings. If any shares under the category 'Sweat Equity' are issued, these should be specified separately for Directors and other employees along with the consideration received, if any. More aspects could be considered when the Act is finally recodified. In case of capital issues by listed companies, close cooperation should be established between SEBI and DCA. Efforts should be made to encourage electronic filing by companies to save on costs and time. Given the spread of computerisation and computers replacing typewriters in offices, supplying data on electronic media would not place any additional burden on companies.

Dissemination

32. To reduce the scope for malpractices and to encourage studies on the sector, there is a need for introducing greater transparency. Computerisation of various returns as suggested above enables sharing of data on companies at different levels. Besides strengthening the Research & Statistics Division of the DCA, this objective could be achieved by making available information on the Internet to the public at large. Taking the Balance Sheet Abstract as a starting point, efforts should be made to bring out every year (a) studies on trends in capital issues, employment, and transactions in foreign currencies and (b) detailed fact sheets on mergers, acquisitions, companies with foreign direct investments and foreign branches. The studies, estimates at various level of aggregation, and other findings should be widely disseminated through official publications and the Internet.

Infrastructure

33. The infrastructure necessary at DCA and ROC will need computers linked by a WAN – terrestrial or satellite network. All user organisations may be provided access rights, if need be, to select data.

Internet Web-based Communication

34. Today Internet has become all-pervasive. Net based commerce and banking are already talked about seriously in India also. Any individual or company can open a website for a fee from agencies who are willing to provide the services. Hence, we may stipulate that companies with PUC above Rs. 50 lakh (say) should open their own websites and publish their annual results and other vital information therein. This will help to substantially improve the coverage and reduce the time-lag in generating reliable and up-to-date corporate statistics.

Responsibility for Compliance

35. Reporting for statistical purposes under official legislations like Collection of Statistics Act should be made mandatory under the Companies Act itself and the responsibility for compliance including filing of Annual Returns and Annual Accounts, should vest with the Company Secretaries (whether in whole time employment of the company or those giving Compliance Certificate), and any non-compliance should attract the attention of ICSI. It should be examined if the Auditors can be made to share the responsibility of filing certified accounts with the ROCs.

Foreign Trade

1. With the global trade in services ever expanding, it is necessary to evolve a suitable methodology for generating data on international trade in services. This will primarily help in providing suitable direction to the promotion of this sector in the country's overall export effort. DGCI&S may be made responsible for the official statistics of international trade in services.

2. Efforts should be made to bridge the gap in the trade statistics brought out by RBI and DGCI&S. In particular, the idea of indicating the total defence imports as single line entry without giving any details may be explored.

SECTION VII

WORKING GROUP 6
Socio-economic Statistics and Labour Statistics

Summary of Papers

1. Status of Health Statistics in India (WS 98/ G-6/ 1) : *Dr. Padam Singh, ICMR*

The paper highlights the status of health statistics in India in the context of measuring the targets laid down in the plans for human development as well as health for all. The various sources of Health data have been described including the Decennial Census, Sample Registration System and Survey of Causes of Deaths. The publications containing health and family welfare data are listed giving brief summary of data availability in these. Brief details of the surveys conducted by NSSO on health aspects, National Family Health Survey (NFHS 1992-93) and ICMR have also been mentioned. The Health Management Information System being implemented by Ministry of Health and progress achieved in computerisation have been described. A list of desirable Health Indicators has also been added. Some suggestions have also been given to improve the quality and reliability of health data.

2. Status of Database on Population and Gender Issues in India (WS 98/ G-6/ 2): *Dr.R.N.Pandey, Central Statistical Organisation*

In this paper, the major data producing agencies in the areas of population and gender issues have been enumerated. The data availability of population and vital statistics through population census, Civil Registration System and Sample Registration System has been discussed in detail. It has also been stressed that National Family Health Survey also provides data on fertility, mortality, child and infant mortality both at state level and all India level. The important gaps in demographic data have been discussed in detail. Some of indicators on the Gender Issues where data are either not published or not available have been listed. The remedial measures initiated by the Department of Statistics in the recent past to fill up the data gaps in the area of population and gender have also been highlighted. In addition, some suggestions were given to make available the data on demographic characteristics at district level.

3. Some Issues on the Development of Environment Statistics in India (WS 98/ G-6/3): *Central Statistical Organisation*

The steps taken by the Central Statistical Organisation to develop data bases in the area of environment statistics have been discussed in detail in this paper. The publication of Compendium of Environment Statistics 1997 to make available the data on various environmental concerns at single place and organisation of National Workshop on Environment Statistics to initiate dialogue between users and producers were major initiatives. It has also been mentioned that Central Statistical Organisation organised an international training programme on Environment Statistics. Steps taken to prepare the Natural Resource Accounting on pilot basis in Goa have also been highlighted. The paper also mentions few areas where standardisation of concepts and definitions are required. A list of environmental indicators identified by the ADB organised Workshop for compilation by the countries in Asia and Pacific Region has also been included in the paper.

4. Methodology of National Sample Survey Organisation- An Appraisal (WS 98/ G-6/ 4) : *A.K. Yogi*

This paper gives a brief appraisal of the overall methodology adopted by the NSSO with some suggestions for the improvement. The NSSO carries out sample surveys throughout the country in

the field of socio-economic, agricultural and industrial statistics. In addition, it also collects data on price statistics. The inquiries of the socio-economic household surveys are multi-subject in nature, which have certain disadvantageous due to compromises made on precision of the estimates of various characteristics . The sampling designs followed by NSSO have been studied and it has been suggested that some methodological studies may be undertaken to study the effect of designs by the research institutions or NSSO itself. The aspects of sub-sampling, rounds and sub-rounds and reference periods have also been discussed in the paper. It has been suggested that some special studies may be undertaken to standardize the reference period.

The limitations of the sample frames for different types of surveys have been described and it was suggested that, for socio-economic surveys based on Economic Census, the sampling frames may be used, which may be based on enumeration blocks from the Economic Census. The shortening of the NSSO schedules has also been suggested. The modernization of the field work by using palmtop computers is also one of the useful means for improving the quality and timeliness of data.

5. **Data Gaps in Labour Statistics and suggestions to bridge the gaps (WS 98/ G-6/ 5) :** *Ministry of Labour, Government of India*

In this paper various types of labour statistics collected by attached/ subordinate offices of the Ministry of Labour, as well as other autonomous organizations under the Ministry of Labour, have been mentioned. The data gaps and data availability in the labour statistics is discussed in detail. The mechanism of data collection through administrative records/specialized surveys is enumerated. It is mentioned that the returns prescribed need to be simplified as recommended by the Committee chaired by Dr. K. C. Seal. The need for timeliness and reliability of the data have been emphasised. The training of the staff at various levels have been recommended. It is suggested that all offices dealing with labour statistics may be networked. It is also pointed out that there is no uniformity in the definitions as prescribed in various Acts. The need for standardization has been advocated. The gaps in current labour statistics have been examined vis-a-vis ILO Convention and its recommendations.

6. **Modernisation of Statistical System for the Department of Justice -Status Paper (WS 98/ G-6/ 6) :** *Department of Justice, Ministry of Home Affairs, Government of India*

The paper describes the procedure followed for monitoring the institutions, disposal and pendency of cases in High Courts, District and Sub-ordinate Courts. The quarterly reports have been prescribed in respect of High Courts and half yearly reports in respect of district/sub-ordinate courts. The proforma includes the position about the sanctioned and existing strength of judges, all types of cases disposed and number of civil and criminals cases instituted, disposed off and pending in various categories and year-wise details of pending cases. The present position of the installation of computers in the High Courts and the software used by them has been mentioned. It has been suggested that Department of Justice may be linked with the High Courts and district courts. A specialised software may be developed for this purpose to prepare reports about pendency. Adequate staff are also needed for data entry work at the district level NIC computers. The necessary funds required may be sanctioned at the State level/ Central level for modernisation.

7. **Recommendations for Engendering the 2001 Census (WS 98/ G-6/ 7) :** *Department of Women and Child Development , Government of India*

The issues of falling sex ratio of women and the low rate of women workforce participation, which are primarily captured through the census are getting attention. The efforts in the 1991 census for gender sensitization of census 1991 resulted in about 4% increase in women's work participation rate. It has been pointed out that a Core Group has been set up in the Department of Women and Child Development in engendering the 2001 census. The recommendations of the Core Group have

been made in five broad categories: (i) conceptual issues, (ii) data collection, (iii) training, (iv) media strategy for awareness and (v) language and methodology. Some steps have been suggested for additional tabulation for sex-wise break up of the data. It has also been suggested that students pursuing studies may not be shown as unemployed.

8. Status Paper on Educational Statistics (WS 98/ G-6/ 8) : *Department of Education , Government of India*

In this paper the sources of educational data for regular and ad hoc educational planning have been described. The flow of information in the present system of educational statistics has been enumerated from grass root to central level. Various returns have been prescribed for the purpose by the Central Department of Education. The organisational set up in States/UTs comprises of the district education officers at the district level,who forward the required data at state head quarters. From the State Headquarter level the data are transmitted to Central level. The data are compiled on manual basis. The difficulties faced by data collection agencies have been mentioned. It is pointed out that there is no legislative measure in India under which submission of educational statistics could be made mandatory. The major data gaps have been enumerated and steps for improvement have been suggested which include strengthening of statistical machinery in State /UTs, introduction of legislative measures and regular interaction between data suppliers and data users.

9. Issues for Consideration Regarding the Statistical System in the Country (WS98/ G-6/ 9) : *Ministry of Home Affairs, Government of In dia*

This paper describes the requirement/suggestions of the Department of Jammu & Kashmir (J&K), Foreigner's Division and Department of Justice under the Ministry of Home Affairs. The Department of J&K have suggested the strengthening of infrastructure at the ground level, alongwith the training for the field staff to enhance their skills. Besides suggesting other steps, it was brought out that basic data on various aspects may be made available at one point i.e. village level office . The supervision by superior officers is absolutely necessary for quality of data. The users may be made to pay for data in the form of the print outs of the village level data, at a nominal price. The Foreign Division has described the system of data collection in the Central Foreign Bureau. The information is received from Indian Mission/posts abroad, immigration check posts, Foreigners Registration Officers and State Registration Officers. The main problem is non-receipt of returns in time resulting in delay in compilation and consolidation of the information. The Department of Justice have submitted a separate paper which has been summarised earlier.

10. Information System of Implementation of Family Welfare Programmes (WS 98/ G-6/ 10) : *Department of Family Welfare, Government of India*

The paper provides details about the information system used for collection of data for evaluating the performance of various family welfare programmes from grass root level up to central level. The data on performance of programmes is collected from primary health centres (PHCs) and urban family welfare centres, hospitals, dispensaries etc. by the District Family Welfare Bureau. These are consolidated at state levels by the respective Departments of Family Welfare and sent to Central Department of Family Welfare. It has been pointed out that there is a considerable delay in the receipt of the detailed information from the States. The paper suggests linking up of the districts to the Centre through NICNET.

11. Improvements in Statistical System for better information on employment –certain suggestions (WS 98/ G-6/ 11): *N K Ghosh, Nilambuj Sharan and Shailendra Sharma*

The paper reviews existing data base on employment and proposes certain approaches for linking the estimates of employment with organisation of other economic indicators. The paper describes the

various sources of employment data such as population census, NSS surveys and employment market survey and suggests that efforts be made towards reducing the time lag of availability of data through these sources. The paper emphasises the need for having linkages between National Accounts Statistics and Employment estimates. A social account framework in the form of input - output table may be worked out. Social problems such as child labour,, slum residence, small/marginal farmers and rural poverty can be considered for linkages while preparing the institutional accounts.

[1]12. Industrial Statistics- The data gap : *C Bose, Calcutta*

In this paper, the author has pointed out the gaps in the industrial data required for corporate planners. Some of these are with regard to quantitative sales both for domestic and corporate purposes, energy, fuel and consumption of raw materials for international comparison, capacity utilization, percentage of import and indigenous components used in production, R&D expenditure both in value and percentage of total expenditure, environmental expenditure incurred, inventory of human capital engaged in industry, status of infrastructure project etc. Most of these data are available with the various agencies and there is a need to collate and publish such data. It is suggested that IT facilities should be used extensively for collection of data.

[1]13. Improving the quality of data and timeliness, accuracy and form of delivery : *S P Sharma , Calcutta*

In this paper, an attempt has been made to examine the current quality of data collected through census/sample surveys in various areas with the particular emphasis on data through National Sample Survey. It is suggested that the relevant codes may also be published along with the table in the NSS reports so that users may not have to search codes. The change in codes in subsequent surveys should be prominently highlighted. The sample size of the first stage units (FSUs) should be actual, based on sample errors and not on the investigator strength, as is being done now. Actually, it is suggested that these should be based upon the size and heterogeneity of the population in the given State. There should be emphasis on proper identification of the FSUs on the basis of important landmarks and these should not be revised for at least five to 10 years. The field staff should be trained adequately about the techniques of data collection, sampling techniques as well as sampling and non-sampling errors. The sample size should be determined on the basis of the scientific criterion. The sampling errors may be published along with estimates and where these are of high order, suitable caution/ remarks may be used to warn the users. Attempts should be made to reduce the time lag in finalisation of the results. The data may be inter-linked with the relevant scientific data, particularly for suitability of the crops for particular soils on the basis of soil testing before recommendation to the farmers. The packaging of the data may also depend upon the need of the users.

[2]14. Suggestions for Improving of Indian Statistical System: *G B Venkatesha Murthy*

In this paper the author highlights the absence of data on social variables, economic indicators and demographic parameters at the district level. It is suggested that the sample size of the SRS(Sample Registration System) may be increased to provide data at the district level. Regarding co-ordination between various agencies, it has been suggested that the data available with these agencies may be collated and be kept at a single place. The services of the Anganwadi workers may be utilized for collecting the data at village level.

---

[1] Papers 12 and 13 of this Section were received in response to the advertisement calling for essays on suggestions for improvement of the Statistical System.

[2] Paper 14 of this Section was received in response to the advertisement calling for essays on suggestions for improvement of the Statistical System.

Report of the Working Group 6 (presented to the plenary on 16 September 1998 by Dr Pravin Visaria)

In this Group, 10 papers in the areas of population and gender issues and statistics relating to health, labour, education, environment, family welfare and justice were presented. One paper on methodology of National Sample Survey Organisation was also considered in this Group. The problem of timeliness, accuracy and inadequacy of data in the respective fields were highlighted by presenters of the papers. Problems faced by different Departments in collecting the data were also shared with the participants. Wide ranging discussions took place on the issues raised in the papers and those raised by the participants. Discussions were moderated by the Chairman, Prof. Pravin Visaria and Co-Chairman, Prof. L.K. Deshpande.

After detailed discussions, the following recommendations emerged.

Recommendations

(1) In the data of 1991 Census, about 45,000 villages were found to be uninhabited. The share of Bihar and Uttar Pradesh in such villages were found to be 20% each. Some studies should be undertaken to assess and verify the reasons for their being uninhabited and the extent to which seasonal variations are a factor.

(2) In the 1991 Census, sufficiently large number of villages have also shown unacceptable levels of sex ratio, female work participation, percentage of Scheduled Caste population, etc. In so far as possible, it should be checked whether there have been errors of classification and tabulation in such cases. A sample of such villages should be visited to find out the possible reasons at the earliest to minimise similar problems in the 2001 Census.

(3) Houseless population's estimate of 2.0 million from 1991 Census appears to be an underestimate, as the 1981 Census gave the figure of 3.0 million. Housing conditions should also be studied carefully to assess such figures. This is vital for improving the coverage of the houseless, which may be problem.

(4) There is need to adjust the total population of India for the net undercount shown in the Post Enumeration Check (PEC) as that may help in assessing various requirements more realistically. As, ideally PEC should be conducted by an agency other than the RGI, an attempt may be made to explore the possibility of extending financial assistance for conducting PEC for 2001 Census by an independent agency with enlarged coverage.

(5) Suggestions may be made to the RGI, about the modification of economic questions in the 2001 Census, to capture better the female work participation.

(6) As regards the treatment of "persons engaged in activities for production of goods for own consumption", 2001 Census should adopt exactly the same definition as of NSSO, so that differences in the results due to concepts can be avoided.

(7) In view of the fact that very little use of the data can be made on "marginal workers" given by the censuses, Census 2001 may consider dropping the distinction between main and "marginal "workers.

(8) The size of the sample and the number of questions canvassed in the annual rounds of NSSO should be expanded to broaden the range of social and economic data available each quarter and each year.

(9) Though maternal mortality rate is required for various planning purposes, data at least on maternal deaths should be collected and tabulated in both the Sample Registration and Civil Registration System.

(10) An efficient Civil Registration System will take care of many problems of non-availability of vital statistics at lower administrative levels. Therefore, efforts should be made to revamp the system in all the States.

(11) About 45% villages in 1991 Census had a population of less than 500. Such small villages have to be given special attention for collection of statistics on their share of development benefits.

(12) Ideally geo-coding of all the villages should be attempted so that same code may be used by various data collection agencies. However, as this may take some time, in the interim, 2001 Census should use the same village codes as the 1991 Census.

(13) A number of international agencies are sponsoring various surveys on similar topics. There is a need to set up a Division/Unit in the CSO to attempt the pooling of data from similar surveys and supply of data to users.

(14) For improving the quality of data generated by different data producing agencies, maximum attention should be paid for provision of basic facilities, formats, schedules, etc., to the lowest level functionaries.

(15) As there is a long delay in collection and publication of education statistics, there is a need to study the system of collection of education statistics in various States and to evolve a model system.

(16) In view of the monitoring of progress of Universalisation of Primary Education, only school enrolment data should be collected annually by the Department of Education. Other education statistics, such as school attendance, drop-out rates, socio-economic background of students, expenditure on education, as available from Population Census, NSSO and 6th AIES should be utilised by the Department of Education.

(17) Records kept by schools from which various types of education statistics are culled out, should be inspected on a regular basis to verify their quality and coverage.

(18) There is a need to change the criteria of linking fund and number of teachers in schools to the enrolment to get reliable figures for enrolment in schools.

(19) For better dissemination of data being collected by different Divisions of Ministries amongst each other, each Ministry should bring out a Booklet giving information about data being collected by each Division. Similarly, one Government Department should keep the publications and Reports released by other Government Departments and research institutions. As CSO is playing the co-ordination role, this responsibility can be entrusted to it. For handling this additional responsibility, if need be, CSO should be provided with man-power and hardware. One copy each of the publications released by various Government Departments should also be sent to five National Libraries for the benefit of common people.

(20) Though deciding the sample size according to the standard error is a scientific approach, it is difficult to adopt it in the NSSO, as surveys cover a number of subjects and wide variability is found in different variables. There are also problems in getting requisite number of

Investigators for the field work. Human problems are also responsible for the present practice of allocating the sample size according to the Investigators' strength.

(21) Standard errors of different variables should be published for different rounds of NSSO.

(22) Need for training of Investigators and effective supervision needs due attention for better data quality. Necessary measures may be taken to strengthen them in the NSSO and other data collection agencies.

(23) To assess the data gaps relating to wage structure and distribution, labour cost, productivity, etc., required to meet the requirements of ILO standards, an inventory of labour statistics is essential and should be prepared.

(24) Collection of data on labour in un-organised sector should be given more emphasis.

(25) Regarding environment statistics, the following recommendations emerged:

(a) Strengthening of the necessary infrastructure/procurement of hardware and software for application of remote sensing data/image processing, Geographic Information System (GIS) in the Central Statistical Organisation and States.

(b) Creation of environmental statistical units, where they are not present in the State Directorates of Economics & Statistics or suitable strengthening the existing unit.

(c) The publications on environment statistics at Regional/State level may be brought out.

(d) The natural resources accounting in the Centre/States may be undertaken.

(e) Development of environmental indicators and its publication in booklet form by the Central Statistical Organisation.

(f) Capacity building of the statistical personnel working in the environment statistics through training courses.

Other Recommendations

As full justice could not be done in the short time to all the issues, it was decided that further deliberations will need to continue on various themes and to arrive at final recommendations. Accordingly the Working Group was reconstituted (See Annexure-II for details). From the deliberations of the re-constituted Working Group held on 26-27 October 1998, the following recommendations emerged:

Labour Statistics

i) Whenever any organisation tries to collect data on new areas relating to labour through surveys, a comprehensive review of the existing data available from other sources/organisations should be done to avoid duplication of efforts. For this purpose, extensive data dissemination efforts need to be supported.

ii) The city specific surveys being conducted by the Labour Bureau for SC & STs may be reviewed with a view to examine the feasibility of using the available data from the Census and NSSO.

iii) The observation of DG, Labour Bureau about the high level of non-response (about 70%) for statutory return was noted. The Labour Bureau has to devise suitable mechanism to reduce the non-response.

iv) The differences in definitions of some of the terms in different Acts should be resolved. Whenever the Acts permit, changes through administrative mechanisms should be made. For future, Labour Bureau /Department of Statistics may be also consulted for definition of statistical terms used in the Act.

v) The need to strengthen the data base on Wages and Earnings of casual and regular employees was noted. It was felt that data on wages and earnings in the organised sector may be collected through Annual Surveys of Industries and for unorganised sector some suitable mechanism/survey may be devised.

vi) Some mechanisms have to be developed for computation of labour productivity indices on a regular basis.

vii) Following important data gaps in the areas of Labour Statistics were identified.

a) Quality of employment data on child labour
b) Working conditions of labour in the unorganised sector

viii) As regards data gaps identified by Labour Bureau with regard to various ILO Conventions and recommendations, the existing statutory and non-statutory returns and questionnaires of ongoing surveys may be reviewed. Suitability of various ILO Conventions and recommendations to the Indian situation may be studied in consultation with other concerned organisations and users/ experts groups.

Education

i) Though it may be necessary to meet the demands of international agencies in the area of educational statistics, the suitability of indicators suggested and the strength of the system to generate appropriate statistics need to be kept in view while accepting and implementing these obligations.

ii) Definitions relating to education adopted by different sources may be compared and mechanisms may be developed for interaction among concerned organisations to arrive at agreed definitions.

iii) Though household data on educational expenditure are being collected every 10 years in the NSSO Surveys, the possibility of a quinquennial survey may be explored. The data should be also available by age and level of education in addition to rural and urban residence.

iv) The effort of NSSO to give data on attendance ratios and other aspects twice in a decade will be sufficient in addition to data from other sources such as census and Deptt. of Education.

v) All the publications of the NSSO in the field of educational statistics need to be disseminated widely.

vi) NSSO and census should be mainly concerned with the household level data and Deptt. of Education and its constituent bodies need to deal with institutional statistics.

Environment Statistics

i) The existing data on environment statistics available with various public and non-public sector agencies and institutions should be pooled together and disseminated by the DOS at appropriate intervals.

ii) In view of the emphasis on environmental safeguards by the developing countries , the prescribed environment rules relevant to international trade should be collected by the Ministry of Environment and Forests and the Department of Statistics. Agricultural and

Processed Food Products Export Development Authority (APEDA) and other Export Promotion Councils may also be contacted at appropriate intervals.

iii) On the basis of the pilot study on Natural Resource Accounting in Goa being conducted by the Department of Statistics and the similar exercise carried out by the Gujarat Ecological Commission, other states may be encouraged to replicate these studies. Suitable guidelines and benchmarks on Natural Resource Accounting may also be applied at the national level to understand the impact of environmental and Natural Resource changes on the estimates of Gross Domestic Product.

iv) Capability building in the area of environment by training the statistical personnel both at home and abroad is necessary to apprise them of the current concepts and methodologies followed by various agencies.

v) The Compendium of Environment Statistics is very useful for researchers, policy makers and planners working in the environment sector. Its coverage may be improved by providing time series data.

vi) The spatial data is very useful for planning purposes. The Department of Statistics may also develop infrastructure for utilising these data.

vii) The mechanism of interaction between data producers and users may be made a regular feature. This will help in better understanding of the data by the users and enhance its utility.

SECTION VIII

WORKING GROUP 7
Information Technology Needs of the Statistical System

Summary of Papers

1. **An Approach Towards Modernisation (WS 98/ G-7/ 1)** : *D.D. Kanojia, Computer Centre, Department of Statistics.*

The paper discusses the evolution of the Computer Centre (CC) of the Department of Statistics since its inception in 1967 and how its role changed over the years. Initially, the CC had a focal role to play in Government-wide computerisation efforts, including creating awareness and training manpower for developing skills in both hardware and software. The CC also provided computer consultancy to government organisations and the public sector. However, with the establishment of a Computer Directorate in the Department of Electronics and the National Informatics Centre (NIC), the focal role of the CC gradually diminished and it was confined to the computerisation efforts of the Department of Statistics during the 1970s. Further, to keep pace with changing technology, the Computer Centre has had a number of computer systems over the years, ranging from the Honeywell systems to Burroughs and finally to Bull's DPS series. They have also acquired PC based systems. The CC has simultaneously been changing/modifying their training programmes to adapt to the changing needs. The paper also discusses the new role envisaged for the CC of becoming a repository of statistical information as a National Data Warehouse for Official Statistics (NDWOS), whereby the data processing work for NSSO would be shared between the DPD HQ and Central Statistical Organisation (IS Wing).

2. **Futuristic Model For On Line Flow of Data (WS 98/ G-7/ 2):** *S.K. Nath, Central Statistical Organisation (IS Wing), Department of Statistics.*

The paper discusses the flow of data emanating from the NSSO(FOD) with respect to the statistical system in the Department of Statistics. It focusses on the opportunities for computerising the different stages of the data cycle, namely, data collection, transmission, validation and dissemination. The different subjects on which the FOD is collecting data can be categorised under groups like socio-economic data, industrial statistics data, agricultural statistics data and price statistics. The data so collected is processed in the Department of Statistics (NSSO DPD, CSO-IS Wing and Computer Centre) before the results are finally disseminated. The paper also indicates that the experience of the Department of Statistics for transmission of data using the NICNET and the network of Department of Posts was not very encouraging and had to be terminated. It then proceeds to outline the necessity and advantages for having a dedicated VSAT- based network, exclusively for the Department of Statistics, which would also enable an effective two-way communication channel for the flow of statistical information to make it more timely and relevant.

The author also presented another paper for an on-line system for the entire statistical system, which would establish an NISIS (Network of Integrated Statistical Information System) as an effective decision support system. In the proposed NISIS system, the Department of Statistics would function as a repository of all statistical information including statistical data, derived statistics, statistical bibliography and geographical data.

3. **Emerging Role of a National Statistical Office as an Information Provider (WS 98/ G-7/3)** *P. Srivastava, Central Statistical Organisation*

The paper highlights the convergence of the telecom, IT and information industry resulting in new opportunities in an information society and how these pressures are heralding a new role that

national statistical offices have to play. It dwells on the role of information as a strategic tool for competitive advantage for both business and the public sector. It then describes the statistical life cycle beginning from the survey planning, frame management, sample selection, data collection, input processing, estimation, output processing, dissemination, evaluation and marketing of information and how IT could play a significant role in each of these stages. With the pressures on statistical offices to provide more customer oriented and value added services, the paper highlights the advantages of having a uniform platform for IT across the statistical system.. The essence of data management and the criticalities involved in the data warehousing concepts are discussed in light of the new role envisaged for the Computer Centre of the Department of Statistics. Some of the advantages include improved client service and integration of statistical data. It then discusses the strategy of common databases (or **walk about** systems) which several developed countries have adopted by providing standardised data and metadata. Regarding the future directions, the paper describes how the Department of Statistics needs to corporately organise their database holdings and use marketing tools to make the statistical system more customer friendly and how the products have to be segregated into public and private goods. A proposal for integrating the statistical system was presented using the benefits of communication technology. It also described a PR strategy for improving the credibility and corporate image of the Department of Statistics, where it could be seen to be producing more timely, relevant and objective information products as a management process.

4. Information Technology: Its role in the Modernisation of the Statistical System in India (WS 98/ G-7/ 4): *Dr. Vaskar Saha, DPD & SDRD, Department of Statistics.*

The paper discusses how the advances of IT could be easily implemented in the statistical system which could be subdivided into several subsystems like data collection, transmission, processing, database creation, data linkage and dissemination. Closely linked to these are the human resources and the upgradation and maintenance policy for IT. The author gives details of how IT could be fruitfully applied to each of these stages and describes some of the tools and techniques that are available for each of them. In the data collection stage, he emphasises that the input data should be normalised and standardised across the data collecting agencies to facilitate large scale integration at higher levels. It was also argued that too many checks at the data collection stage would create bottlenecks, and that a manual bypass should be built-in for non-response. The different modes of capturing data like Palm Top Computers, Remote Sensing, Scanners, etc have also been discussed. For data transmission, the various modes and channels available, like the NICNET, DOE net, Internet, etc are discussed. For data processing, the advantages of decentralised and distributed processing is emphasised to reduce delays and bottlenecks as compared to centralised processing, where not only the data entry load becomes voluminous, but it is practically impossible to correct and validate inconsistent data. Decentralised data processing, however, increases the hardware, software and manpower requirements at the field offices. A careful analysis and monitoring programme for detecting, checking and validating data is required to be developed, so that the end results do not get affected. This leads to the necessity for creating a database environment for large scale data like that collected by the Department of Statistics, and for which there is a need to upgrade the hardware, software, communications and manpower. The author proposes the establishment of a National Statistical Authority to ensure that concepts, standards and methodologies are uniform and consistent so that timely and reliable data flows in the statistical system, without duplication and redundancies. The author also propounds the necessity of a national statistical database to be managed by the Statistical Authority. For the statistical system to be effective, it is necessary to upgrade the skills of the human resources and also plan for upgrading the IT to keep pace with changing technologies.

Recommendations of the Working Group (presented to the Plenary by Dr N.Vijayaditya)

The Working Group on IT Needs of the Statistical System deliberated on the papers presented in the group and on larger developments and advancements in IT. The focus of the

recommendations was to derive better and improved service from existing institutions. The following are the recommendations of the Working Group:

1. The IT needs have to be defined at each stage of the data cycle, right from the collection, validation, processing, transmission and dissemination of final results. There are several agencies in the country which are involved in collecting, processing and disseminating statistical data. The penetration of Information Technology in these agencies is not uniform. To create a Modern Statistical System in India it is imperative that these agencies reach a minimum level of technological capability to produce data in the desired time frame.

2. Validation and consistency checks on the data have to be built into the system as close to the data collection stage as is feasible. The data processing centres would have to ensure that the validation checks are carried out with the utmost care so that problems at the time of consolidation can be minimised. This knowledge needs to be widely distributed throughout the statistical system. The precise mechanism of the use of information technology for primary information collection and validation is best left to the agency responsible to collect such information.

3. The Department of Statistics should, in its role as the nodal agency for dissemination of information, design a conceptual model for an integrated statistical database and make use of the best technology available to establish a Data Warehouse. The establishment of Statistical Data Warehouse needs to be implemented with abundant caution and care, as it is a highly complex task.

4. The Working Group noted that there are significant advantages of having a compatible platform for hardware and software, which could be determined after a careful analysis of the needs of the statistical system.

5. Further, the working group recommends that the Department of Statistics needs to:
   - Substantially improve its internal capabilities of collection, processing, transmission, database creation and its management.
   - Substantially improve its capabilities to interface with the other agencies which provide information
   - Set up systems to interact with bulk downstream users and final consumers of information.

6. The Department of Statistics should evolve standards for coding, classification, processing, methods and procedures for data and meta data and ensure that these are not only used but are also widely circulated amongst the data producers as well as the users.

7. The Department of Statistics should use latest computer and computer communication technologies to collect, process, transmit and disseminate information.

8. The Working Group recommended that all IT efforts must be properly documented so that systems would be self-reliant on standard procedures and not be dependant on individuals. This would assist in the planning for renewal of IT for the statistical system.

9. The Working Group recommends the organisation of training programmes and workshops for developing and upgrading IT skills, and sharing experiences on IT on a continuing basis. It also noted that incentives, and motivation are essential to ensure the success of any IT plan.

10. The group recommends that while introducing any new technology it should examine its compatibility and suitability in the existing and proposed system.

SECTION IX

WORKING GROUP 8
Statistical Systems and Statistics for Decentralised Planning

Summary of the Papers

1. On Some Aspects Of Coordination Of Statistical Activities At The Centre And In The States (WS 98/ G-8/ 1) : *V.V Divatia*

This paper highlights problems faced by the present statistical set-up in turning out quality data at the desired level of disaggregation and suggests ways to evolve a strong, reliable syatem. The paper points out that though there is a superstructure for collection of required data, there exist problems of quality of the data. Problem areas have been identified such as lack of motivation on the part of the respondents to furnish true data, motivational level of the statistical personnel and pooling of estimates of the state and central samples of surveys. The author is of the opinion that the statistical coordination work carried out by DOS and SSBs leaves a lot to be desired.

For evolving an efficient statistical system, an optimum amalgam of both the 'bottom-up' and 'top-down' approaches are necessary. The 'top-down' element will consist of a National Statistical Authority for (a) co-ordinating and monitoring all Statistical activities (including those of Central Ministries and State Governments), (b) for ensuring that the data collection work (through statutory returns, surveys and other means) conforms to uniform set of concepts and definitions and (c) for ensuring that the data is collected, subject to a uniform set of methodologies.

The 'bottom-up' element should concentrate on creating a network of training and research facilities under the Department of Statistics and the State Statistical Bureaus. These institutions, having on-line inter-networking in place, will be engaged, on an on-going basis, in the skill upgradation of the data collectors (field staff), processors and analysers with a view to upgrade the statistical machinery in the Central and State Governments to a uniform level.

Research bodies like Indian Association of Research in National Income and Wealth (IARNIW) should be involved in the upgradation process, for example by engaging them to organize seminars and conferences in association with the State Governments.

2. Decnetralised Planning : Some Issues and Database For Local Level Development (WS 98/ G-8/ 2) : *Prof. B S Minhas*

The author discusses the scope of decentralised planning in India and sets out the actions to be taken for development of basic data sets required at the village/block/District level. The scope of decentralised planning has more or less been limited to coordination and collation of local level statistics and administrative data. The DISNIC also appears to have been launched with little thought behind it as the data base for village level indicators prepared through it suffered from various infirmities.

The main problem with administrative data is their poor quality, often caused by non-uniformity of concepts, definitions and procedures in different states and areas. On the other hand, the data from population censuses become available only after considerable time lags.

Since the local statistical capacity is rather low (if not non-existent), there has been little development of the capability of project formulation and data generation at the local level.

For developing local level statistical capacity for planning, a beginning could be made by retrieving and processing the population census data at the local level. The efforts of statistical

personnel at the local level should be supplemented, in this regard, by offering part time jobs to the educated unemployed.

The above-mentioned para-statistical personnel could also be gainfully employed for conducting the field work for agricultural and livestock censuses and for firming up the civil registration system for recording marriages, births and deaths. With the passage of time, some more statistical functions can also be entrusted to the local level functionaries of this decentralised data system.

As democratic decentralisation can disturb the old channels of information and data flows and also choke off the State staff support available at the local level, the author points out that action points for construction of basic data sets at the village/block/district level need urgent attention.

3. Status Paper on Data Gaps (WS 98/G-8/3) : *Govt of Tamil Nadu*

The paper looks into the issues relating to the modernisation of a decentralised statistical system. Collection, validation and primary use of data should take place at village panchayat level. Accordingly, modernisation and strengthening of ground level statistical data gathering should start from village panchayat and involve the district level information centre and ultimately there should be a linkage between the panchayat level data base to the state level data centre.

4. Some Major Areas of Concern for Revamping the Current Statistical System at National and Sub-National Levels (WS 98/ G-8/ 4) : *Dr KC. Seal*

The paper discusses the role of NIC in setting up a national network. Referring to Recommendation No. 92 of the National Task Force on Information Technology and Software Development, the author points out that the major concern of the NIC should be to focus its attention on providing its expertise and technical assistance to the setting up and maintenance of high speed, reliable, scalable and fault-tolerant, basic information network at the national level. The responsibility of setting up of domain- specific knowledge database should rest with carefully selected specialised institutions/departments having expertise in the specialised fields (e.g. AIIMS for medical field). The NIC is the national information infrastructure provider and, therefore, it should concentrate on providing requisite technical expertise and support to the specialised agencies in setting up and maintaining distributed data base systems for the various fields.

Regular consultation among data suppliers, data producers and data users, at least once a year at the national level, is essential to take a rational decision on crucial data gaps and possible data redundancies. Emphasis should be on minimal data collection with a clear understanding of the prospective users and the urgency of the specific data.

5. A Note on Modernisation of the Statistical System (WS 98/G-8/5) : *Government of Tripura*

The focus of the paper revolves around the concept of 'Grass root level Data bank'. To overcome the problem of delays and duplication, all information being collected by different agencies may be computerised and placed on a common platform – 'Grass root level Data Bank'. The data banks will be hosted and maintained by the Department of Statistics. The records, however, will be updated by the agencies that have been collecting the data earlier. This would require that the data bank is connected to the other data collecting agencies as also the higher level statistical establishments so that flow of information is ensured from the grass root level to the top.

Since the Grass root level data Bank will be the primary source for users, it will need to be carefully planned by the 'nodal agency', involving a scrutiny of the forms being used by data collection agencies.

A village level profile is necessary for building up basic information on the enterprises belonging to the informal sector. A frame of enterprises can be built up from these profiles so that

detailed studies could be conducted for estimating the contribution of this part of the informal sector in the economy.

6. The Public Visa System and Its Uses In Developing Countries: A Vision Statement and Prospectus For a Study of Feasibility (WS 98/ G-8/ 6): *Paul Armington*

The author introduces the concept of access to public services through the use of Public Visa Cards which would be taken up as a pilot in Maharashtra. It is expected that Maharashtra experiment would help in laying down programmes for capacity buildings in statistics in the 21st Century.

7. Modernisation of Statistical System (WS 98/G-8/7) : *Govt. of Uttar Pradesh*

The paper identifies some of the gaps in the statistical system and makes suggestions for improvement. One of the great weaknesses in the past has been the tendency to collect too much information. The provisions of the Registration of Births and Deaths Act need to be enforced effectively. A system of regular data collection needs to be developed regarding the capital investment, employment, production, raw materials etc. in respect of the units not covered under the Factories Act.

8. Modernisation of Statistical System (WS 98/G-8/8) : *Govt. of NCT of Delhi*

The paper identifies some of the grey areas in the statistical system and suggests ways to make improvements. They relate to (a) multiplicity of agencies leading to resource wastage as well as respondent alienation; (b) dissemination of data without involving the users; (c) length of schedules for inquiries; (d) rationalisation of forms for statutory returns; (e) delay in the release of survey results; (f) pooling of central and state samples; and, (g) upgrading the infrastructure facilities, particularly the data processing facilities of the State DESs.

9. Modernisation of Statistical System - A Few General Suggestions (WS 98/ G-8/ 9): *S.L. Shetty*

The paper points out that for the decentralised statistical set up to be effective, there is an urgent need to create a centralised institutional structure for bringing about co-ordination of the agencies engaged in data collection, analysis and dissemination. Inconsistency of concepts and definitions, on the one hand, and multiplicity of efforts on the other, have emerged as two major areas of concern for the statistical system in the country.

The proposed Statistical Authority of India (STAI) should serve as an apex institution for all other institutions engaged in statistical activity, including SSBs, and should be responsible for bringing about, on an on-going basis, improvements in the organisation of statistical system and of the institutions serving the system. To enable it to discharge its functions effectively, the STAI should be conferred with an independent status like the UGC and UPSC.

The Collection of Statistics Act, 1953 should be amended with a view to make the enabling provisions more explicit and to cast a responsibility on the statistics gathering organisation to be transparent and to reveal how the data obtained have been utilised. The Collection of Statistics Act, 1953 should also make it mandatory for the Govt. departments and PSUs to supply data to the STAI or an agency designated by it, within a time frame laid down by the STAI.

All large-scale surveys, particularly those of the NSSO, should be carried out on a collaborative basis with separate samples being assigned to the participating agencies with a clear cut mechanism making it obligatory to pool the samples.

While specialised bodies like the ICSSR are welcome to conceive projects for modernisation of statistical system pertaining to their area(s) of interest, actual execution of such modernisation

projects must be subject to overall guidance, control and supervision of the STAI or an agency nominated by it.

10. Statistical System of Bihar and Data Gaps (WS 98/ G-8/ 10) : *Govt. of Bihar*

The paper identifies the data gaps at the decentralised level and suggests ways to make the system effective at the panchayat level. The major data gaps in the estimation of state domestic product (SDP), savings and capital formation relate to ***Bihar*** agricultural by-products, dated cattle census, minor forest produce, district wise data on central sector (railways, telecommunication etc.), lack of a credible methodology for estimating household sector savings etc.

The paper emphasises that the statistical system needs to locate a statistical functionary at the Panchayat level (Panchayat Investigator) who would be responsible for collection of all types of statistical information, namely, agriculture, demographic and socio-economic characteristics of the households, prices, administrative intelligence and allied information. In order to make the system responsive and effective, the existing Block and District level statistical set up will need to be suitably upgraded in terms of manpower, with appropriate infrastructure for their skill development.

Data Bank operations should be automated at the Block level with inter-networking with the State level institutions. Computerisation of all DES offices in the State with proper networking should be undertaken so as to make it possible to pool the central and state samples of the NSS surveys.

11. Modernisation of Statistical System in Sikkim (WS 98/ G-8/ 11) *Govt. of Sikkim*

The paper deals with the serious problem of duplication of data collection efforts and ways to eliminate the same. In many cases, the new ventures and launching of surveys in different sectors are not brought to the knowledge of the statistical authority of the State. A mechanism needs to be developed under Statutory provision to check the duplication of efforts.

The paper makes special mention of the need for computers at the various levels coupled with adequate HRD facilities. The Centre should help the States by (a) introducing an exchange programme for the officers, (b) supplying the necessary computer hardware/software, (c) train (at least the senior) state statistical personnel, and (d) help set up suitable HRD centres for the statistical personnel in the States.

12. Suggestions for Improvement of Statistical System in India (WS 98/ G-8/ 12): *Govt. of Maharashtra*

The paper contains suggestions for improving official statistics at the taluk level. The present statistical system is characterized by duplication of efforts, delay in processing of data and lack of connectivity from one level to the other etc. Steps suggested for improvemnet are:

(i) Use of OCR and OMR machines to reduce time lag between the data collection and the availability of the processed data,

(ii) A computerized integrated data base of official statistics needs to be created and maintained at the taluka level as most of the basic official statistics, relevant for local level planning, originates at the village and taluka levels.

(iii) Networking facility for transmitting the data electronically to and from taluka level to district/State/Central level needs to be provided.

(iv) Since planning exercise is generally required with reference to geographical units, the data bases can be made very effective if a system is evolved to assign permanent code for identification of villages and towns in the country. For example, all villages/towns in the state (country) at a given point of time could be serially listed and assigned a permanent identification number with the state, district, taluka codes appended to the village/town

permanent code. This would ensure that the permanent number of the village/town does not change even when it is shifted to another taluka/district/state.

13. Data, Democracy, Decentralization and Development(WS 98/ G-8/ 13) : *Michael Ward*

The paper discusses various components of the concept of decentralisation and ways to measure the progress towards decentralisation. The concept of decentralisation encompasses different governmental arrangements including devolution, decentralisation and delegation. This involves allocation of decision making responsibilities between central and sub-national governments and the degree of local autonomy over revenue rising and spending decisions. It is important, therefore, to develop indicators of decentralisation.

The indicators should relate, inter-alia, to the progress achieved toward decentralisation over time and levels of services provided to the community and should include indicators, which help the central government in monitoring the activities of the sub-national governments and their contributions to macro economic goals, as well as, indicators for measuring financial self-sufficiency of local governments.

14. Status Paper on Modernisation of the Statistical System (WS 98/ G-8/ 14) : *Govt. of Punjab*

The paper proposes the following steps for modernisation and improvement of the statistical system:

- Data needs of different Government organisations /Departments should be standardised / harmonised to avoid duplication.
- CSO should bring out a publication, after collecting information from the SSBs, giving complete list of sources of different kinds of data.
- Special training should be imparted to SSB officers in schedule designing.
- To take full advantage of computer technology, all SSBs should be provided with computer facilities within a certain time frame. To make computerisation more useful, the SSBs should be linked with the CSO.
- State Statistical Services should be created to facilitate transfer of trained statistical officers from one department to the other within the State.
- A system of exchange of officers between Centre and States on deputation should be introduced with sufficient financial benefits.

15. Modernisation of Statistical System in Assam (WS 98/ G-8/ 15) : *Govt. of Assam*

The paper deals with setting up of a proper statistical system in the State. A State Level Statistical Authority (SLSA) should be constituted, with appropriate statutory back up to control and co-ordinate all statistical activities in the State. The SLSA would also draw up a work calendar for each of the sub-systems with a view to ensure timeliness in releasing data.

It would be necessary that all the sub-systems of the SLSA are inter-linked by computer network. The SLSA would maintain a library where all data received from the various sub-systems would be stored.

The paper proposes modernisation of facilities for data collection supported by the establishment of an apex training institution to train the statistical personnel of the state.

16. Modernisation of Statistics – Data Gaps and their Removal (WS 98/ G-8/ 16) : *Govt. of Haryana*

The paper suggests a few measures to improve data collection in the area of agriculture and unorganised manufacturing. Crop cutting experiments should be conducted in respect of miscellaneous and unspecified crops also on a regular basis. Some repeat surveys are required to be

conducted at District level to get the data on production of grass, as the current estimates are extended from a 1955-56 NSS survey.

Area and production data of fruits and vegetables estimated and supplied by the State Land Record Department may be treated as final even though it may not agree with the data from alternative sources such as the State Horticulture Department.

Surveys of the unorganised manufacturing sector need to be carried out more frequently through a specially constituted agency under the Department of Statistics.

17. Modernisation of Statistical System (WS 98/ G-1/ 9) : *Govt. of Meghalaya*

This paper was transferred from Working Group No. 1 and the summary is included in that section.

Recommendations of the Working Group (Presented to the Plenary by Prof. J. Roy)

Proposed structure

1. To ensure compliance with uniform concepts, definitions, standards and acceptable levels of reliability, creation of a "Constitutional Statistical Authority" is recommended. The independence and integrity of this Authority should be assured through a framework which ensures quality, professional standards, freedom from political interference and transparency. The scope of the Statistics Authority should be inclusive of all statistics of public interest at national, regional and local levels of governance.

2. The Department of Statistics (DOS), as the Nodal agency, will be the executive arm of the Authority.

3. A cell for critical analysis of the quality of information collected by various Governments, agencies should be set up under the Statistical Authority. This cell should provide guidance/suggestions for improvement in the statistical methodology.

4. A Statistical Audit Cell may also be created under the Statistical Authority to ensure proper implementation of concepts, definitions, coverage, standards etc. and the recommendations of the Methodology cell.

5. For better coordination amongst the statistical agencies and to enable statistics play a more positive role in the decision making process, it is recommended that the DOS should be brought under the Cabinet Secretariat.

6. The Collection of Statistics Act, 1953 should be appropriately amended for vesting sufficient administrative powers with the designated Statistical Authority for collection of data, with provision for graded penalties for failure to provide information.

7. The different Ministries & Departments in the Central & State Governments, responsible for the release, maintenance and storage of data/reports pertaining to their areas of operation will be subject to the standards set forth by the DOS. It will be mandatory for the Departments/Organisations to obtain the advice/approval of the DOS for new areas of statistical activities. This will help to make optimum utilisation of the available resources and its judicious usage by avoiding possible duplication and ensuring maintenance of standards.

Decentralisation

8. With the 73rd & 74th Amendments of the Constitution of India, the data requirements of the local bodies are to be met by extending the already decentralised system of data collection.

In keeping with the spirit of decentralisation of power for governance, the statistical system should now have four-tiers instead of three, as at present. To collect the village level information, adequate number of statistical personnel should be available at the second tier of the Panchayati Raj system, viz. the block/tehsil/taluka level. The information collected should be stored as a manually operated data base at the local level. The work of these statistical personnel will be supervised by the DSO. who in turn will report directly to the State statistical authority in the DES/SSB.

Education, Research and Training

9. The present curriculum at the graduation and post-graduation levels are not oriented towards the requirements of the official statistical system. As the largest employer of University graduates, DOS should take up with the Human Resources Development Ministry the issue of revision of curriculum to provide for teaching and research in official statistics to meet this requirement.

10. The DOS and SSBs may arrange for providing practical training to the students of statistics at the graduation and post-graduation levels.

11. Appropriate training and retraining programme should be organised keeping in view the aptitude and background of each category of statistical personnel. However, instead of giving a general exposure, it is desirable that the requirements of the statistical personnel working at various levels should be assessed by the training institutes and then job-specific course content should be prepared so that the participants should be able to perform their duties efficiently.

12. The DOS should set up Training and Research Institutes for Official Statistics (TRIOS), preferably as Autonomous bodies with Regional Centres, located away from the Headquarters. The objective of TRIOS would be to:
— provide initial training to ISS probationers;
— organise refresher courses and courses on methodological advance;
— critically assess the quality of official statistics and procedures of data collection and analysis; and
— carry out applied statistical research of importance to the statistical system.

13. The Institutes should work in close collaboration with leading statistical research institutes/societies in India and abroad.

14. DOS may sponsor critical studies about the quality of data by professional bodies.

15. Every officer of the ISS must work in the TRIOS for a total period of at least 5 years during the length of his career, either as a trainer or as a researcher.

16. There should be an arrangement for ISS officers to participate in the training programmes in India and abroad.

Data Bases and dissemination

17. As a part of the effort to improve dissemination of available information, it is desirable to prepare a set of directories containing information on various reports, results, brought out by various agencies. Besides listing the type of data available, details about the salient features of the studies may be included in these abstracts/directories.

18. Computer Technology is undergoing very rapid multi-dimensional changes. To keep pace with these changes, it in necessary to formulate a global policy regarding continuous maintenance and upgradation of the software and hardware at regular intervals. In order to avoid compatibility problems, there should be simultaneous periodic replacement across the length and breadth of the system.

19. Keeping in view the technological improvements and down going costs of hardware, a policy of periodical replacement of equipment with new models having long warranty periods instead of the annual maintenance contracts is recommended. Similarly contract for upgradation/changeover to latest releases of software should also form a part of the upgradation policy.

20. For operational convenience and to meet the technical requirements, activities such as frame preparation/automation/updation, sample design/allocation/selection, questionaire designing, operational control over quality of field work, data linkages between various Ministries etc. have to be computerised

21. The DOS at present uses electronic computers mainly for processing of survey data. Computers should be used for preparing geo-coded frame for first stage sampling units, sample selection, carrying out simulation experiments to compare effectiveness of competing sampling schemes, assess the margins of errors in estimates obtained from sample surveys, graphical representation of information, desk-top publication, publication of CD-ROM and electronic dissemination of information.

22. DOS should function as the warehouse of all statistical information collected by the various Government agencies. The data should be made available to the users throughout the country with the help of a suitable dedicated network. It would be the responsibility of the DOS to meet the queries of the users regarding the reliability, method of production and concepts used by the producers. This will help in proper presentation of the data to minimise the risk of mis-interpretation and ensure that the data is fit to be used for the purpose for which it is used.

23. Adequate training in computers is a prerequisite for successful implementation of the modernisation process. Use of computing equipments for cleaning of data is one of the major areas of importance. The experience gained by the large scale data processing organisation scan be fruitfully utilised for imparting training to the ISS officers & other statistical personnel. The Group therefore recommends creation of training cells in all the large scale data processing organisations of the Government..

24. Results of statistical analysis should be widely disseminated to the users through various media in the form of both technical and popular articles and other modes of presentation in an impartial manner, to help the policy makers and other users of statistics, to take appropriate decisions on various issues.

25. The DOS should provide the following services to the community of users of statistics:

— locate where specific information would be available
— assure the users about reliability of the data and pitfalls, if any, in using the data.

Networking of statistical databases

26. Data collected by various agencies of the government should be maintained and updated by the agencies themselves in computerised data bases and in accordance with standards set by the DOS. These data bases should be connected to a computerised network and the DOS

should act as the administrator of this distributed database. The statistical network should connect all the head quarters of the State Directorates of Economics and Statistics, and in course of time, link all the District Statistical Offices with the DOS.

Capacity Building of the States

27. The statistical systems of the States need urgent attention for building their capacity to meet the challenges of more decentralised and yet, responsive, statistical systems. The two key areas for capacity building would be:

(a) improving the infrastructure especially for computerisation of operations and data banking, data transmission and sharing; and,

(b) human resource development, including exchange of officers from Centre to States and vice versa.

Other recommendations

28. Efforts may be made for provision of unique geo-codes to villages/towns for their unique identification and universal use by P&T, DOS and other organisations. This will not only facilitate linkage of data collected by various organisations, but also will allow the feasibility of preparing indicators for any desired region for area planning.

29. For promoting transparency, timeliness and accountability, every statistical agency should lay down and declare its work calendar.

SECTION X

WORKING GROUP 9
Service and Infrastructure Sector Statistics

Summary of Papers

1. Discussion Paper on Modernisation of Statistical System - Transport Statistics Maintained by M.O.S.T. (WS 98/ G-9/ 1) : *M/o Surface Transport Government of India*

The paper takes stock of the statistical system for the collection of surface transport data, identifies gaps in the existing set-up and suggests ways to improve the system.

Data on port statistics from 11 major ports controlled by the Ministry is timely, adequate and streamlined. However, one data gap or insufficiency in information in port sector identified at present is with regard to cost of handling containers from user point of view and for port use. To develop a standard format and to identify source agencies, a TAC has been set up by the Ministry. Once forms etc. are standardised data will be collected by Transport Research Wing of the Ministry and will be made available to all after processing etc. The second area in which a data gap is identified is with regard to data on port equipments utilisation, fixation of its life and disposal of surplus equipments. The third area of concern is to develop a single productivity indicator to assess the over all performance in each major port on the lines of construction of Consumer Price Index. TAC is looking into this aspect also. Data on coastal movement of cargo from port to port is also not available. In the case of minor ports, the flow of data on various physical and financial parameters was not adequate and timely.

Regarding shipping statistics, the paper mentions that the data on financial performance of private shipping companies are not flowing in time. Ministry is making efforts to collect such data.

Regarding Inland water Transport (IWT), the flow of data, coverage timeliness of data etc. are inadequate except for the vessels maintained by Central Inland Water Transport Corporation. The data for the IWT vessels run by State Govts. is also not being supplied in time. There is a need to create statistical cell and strengthen the IWT Directorates in the States/UTs.

The basic road statistics of India brought out annually by Transport Research Wing of the Ministry, cover maximum road length available in the country. There is a data gap on Rural Roads which is being bridged by the Ministry , by identifying the agencies/offices in the States, from whom data can be collected regularly. Road inventory data, alongwith the traffic, are very useful for planning purpose and the Data base is not proper in the State PWDs. A proposal for establishing a Highway Management Cell in the Ministry, with Regional set up, is under the consideration of the Govt. of India. There is a major data gap in respect of passenger and freight carried on road Transport Ministry is trying to utilise the data collected by NSSO (FOD) through enterprise surveys regarding passengers and freight carried by private operators for both mechanised and non-mechanised road transport and IWT. However, the paper pleads for an institutional arrangement to collect, analyse, compile and disseminate the road traffic flow data on a regular basis. Further, there is a need to have data on each vehicle being newly registered or in case of renewing the permit. In order to have this data directly from the Regional Transport Offices/Distt. Transport offices of the States, proper linking of each of them with the Ministry is a must. Similarly, there is a need for motor vehicle census on similar lines of economic census/censuses of Small Scale Industries, which could be followed by sample surveys to maintain annual data. The cost for providing information technology support for flow of information, from RTO/DTOs. i.e. the cost of modernisation by providing hardware/software etc. may be provided by the Deptt. of Statistics under modernisation of the statistical system in India.

2. Data Base in Housing Sector: Status, Gaps and Development Needs (WS 98/ G-9/ 2) :
Vinay D. Lall

The paper highlights the need for having a sound database on housing sector as a result of the Habitat Agenda. The Agenda identifies major areas for policy and programme implementation with a goal of "housing for all". New approaches to attain this goal have been endorsed which include, among others, decentralised governance and participatory role for all stake holders to replace the top-down approach by bottom up approach in all aspects of assessment of housing needs. This require the availability of a sound data base on all aspects of housing. Major data deficiencies identified in the existing datasets are :

- Housing data are household based and are not in terms of housing units.
- Data are classified by housing typologies such as Pucca, Semi-pucca and Kutcha nits.
- Inadequacy of data on access to housing facilities such as water, sanitation, electricity, etc.
- Housing stock produced by some producers such as Housing Agencies and Cooperative Societies are only available and even these have coverage and timeliness problems.
- Housing Finance Data restricted to public financial institutions and are generally not available at dis-aggregated levels.
- Inadequate Data base on use of new technology.

Noting that opening up the housing sector to the market forces is expected to increase resources flow into the sector, the paper observes that data needs will change entirely. In order to meet the requirements, a comprehensive data base needs to be developed to take care of the aspects like new housing stock, upgradation and renewal of housing stock, housing need assessment covering both physical and financial dimensions. The author opines that this can be met with the following initiatives:

- UN Habitat indicators.
- Comprehensive Housing Census.
- Participatory approach in data generation and management system involving local bodies in urban and rural areas, development authorities, housing boards, federations, private sector, financial institutions, NGOs and training institutes.
- Capacity building inputs both for data generators and users.
- Research Institutions may be suitably strengthened to develop data base.

Some of the policy issues, which need to be examined, are enumerated in the paper.

3. Statistical Information System on Housing and Urban Infrastructure (WS 98/ G-9/ 3) :
Department of Urban Development, Government of India

The paper stresses the importance of reliable housing and building statistics in order to assess the housing stock, housing conditions, demand and supply position, employment situation in the sector and investment requirements for the implementation of housing and urban infrastructure development. The data gaps identified in the existing system are in respect of :

- Housing construction and its related infrastructure
- Housing in the Industrial sector
- Employment issues in building sector
- Slum development
- Urban Transport

The paper calls for streamlining of flow of data to National Building Organisation by the establishment of a HOUSENET with State Govts./Municipalities/Housing Boards/PSUs, etc. Statistical cell needs to be created in each of the organisations dealing wit generation and creation of data on housing. NBO may be connected with other data collecting agencies through V-

SAT/NICNET. There is also a need to vest with some legal authority the data collecting agencies, on the lines of Collection of Statistics Act, 1953.

4. Statistical System Modernisation : Housing, Real Estate a nd Service Sector (WS 98/ G-9/ 3): *Aromar Revi, et al.*

The paper traces the evolution of statistics on housing, identifies the weak links in the system, which inhibit objective policy formulation and suggests ways to revamp the existing system. Population censuses of India has been a prime source for statistics on housing condition since its inception. A number of inter-censal surveys and data collection systems were also established, notable among therm being that of the CSO/NSSO, NBO and various State Public Works Deptts, Housing and Development Authorities. But the data available for use by the policy makers is at least 5 years old and in some cases 30 years out of date. The need for strengthening the State/National level statistical system for housing, real estate and house hold service infrastructure has been emphasised by many official documents.

The author emphasises the need to have the housing data at more decentralised levels, even below district level (which is not available at present) and also inter sectoral information besides intra-sectoral information. Housing information must be supplemented with information on security of tenure, adequate space and safety standards, and, provision of adequate environmental, physical and social infrastructure, for gainful and sustainable livelihood.

Large gaps are observed in this sector in respect of prices of building materials, prices of developed land in rural/urban areas, various technologies available for construction activity, availability of skilled/unskilled manpower, source of finance, status of debt and investment etc. These gaps need immediate attention so that information is made available through surveys etc. for use by the policy makers.

At present there are three models at macro level currently in use for policy formulation and investment planning in the sector. The first one used by NBO, the second was developed by Planning Commission and the third is the BMTPC/TARV model. The present statistical system is primarily designed to provide partial inputs to fulfil the requirements of NBO model. In other models, data requirements are still to be met properly. The paper identifies major areas in which statistics has to be collected

The author notes that development of a fully functional MIS/DSS for housing real estates sector is a medium-term tasks, designed to be executed over a 5-15 years period. This process, by its nature, has to be iterative. Initial sequence will include a series of sample surveys, which may be undertaken by the NSSO and private research agencies. Following the successful completion of this process, the information may be integrated into larger and regular data collection processes.

5. Project for Modernisation of Statistical System in India (WS 98/ G-9/ 5) : *Central Electricity Authority*

The paper discusses the important points to be addressed, while establishing a good statistical system. These are the following:

(i) In order to avoid duplication of work of manually feeding of data at starting point as well as receiving point, the latest technology/computer software may be used.

(ii) The data collected should be relatively reliable, timely received, easily understandable and extent of precision determined.

(iii)Department of Statistics may improve its efficiency by timely publication of information, adopting latest information technology.

(iv) To improve the quality of data, a quality cell consisting of officers may be set up in Ministry of Planning and Programme Implementation for periodical monitoring. The quality cell should be able to visit the organisations of every suppliers of information to discuss personally the entire procedure for the latest information already supplied.

(v) The use of IS/ISO 9000 series in various orgaanisations may be enforced for improving the system in the Indian Power Sector.

(vi) Department of Statistics should develop data according to the common needs of, at least, the big users.

(vii) Central Electricity Authority has developed its own data for ascertaining the future demand of areas such as industry, agriculture, establishment of business centre, population growth and establishment of Airports/marine ports etc. Deptt. of Statistics should look into the aspect of duplication of work, that can be eliminated. The role of Central Electricity Authority is important in respect of future planning in setting up of Thermal/Hydro/Nuclear Power Stations.

6. Status Paper on Tourism Statistics (WS 98/ G-9/ 6): ***D/o Tourism***

The paper takes note of the contribution made by the tourism sector to the economic development and stresses the need for having information on the socio-economic, environmental and cultural impact of tourism on a continuing basis. Broad-based statistical information is an indispensable requirement at each step of national planning for tourism marketing and investment decisions.

The various items/aspects on which tourism data are collected include, among other things, (1) International Tourist arrivals (2) Statistics of duration of stay (3) Profiles of foreign tourists (4) Estimates of Foreign Exchange (5) Statistics of Indians going abroad, (6) Domestic Tourist statistics, (7) Profiles and Expenditure pattern of tourists, (8) Hotel statistics, and (9) Statistics of Economic Impact of tourists.

Some of the major data gaps in the statistical system are identified as (1) statistics of non-resident Indians, (2) statistics of Indian going abroad (3) tourism marketing (4) domestic tourist statistics (5) supply statistics (6) economic statistics and (7) environment and social statistics. The paper calls for these gaps to be filled up, keeping in view the importance of this sector.

7. Modernisation of Statistical System: A Status Paper (WS 98/ G-9/ 7): *Ministry of Power, Government of India*

The paper identifies the data requirements for the Power sector, lists the constraints in the data collection/dissemination and suggests ways for evolving a user-friendly information system.

Important areas of data requirement have been highlighted in the paper as assessment of energy requirements of area, optimal utilisation of available load and management thereof, transmission and design issues, and energy shortage analysis. The source agencies have also been identified.

Constraints in data collection and dissemination are identified, as follows:

- Data dissemination from different sources is not consistent.
- Formats for data collection are not standardised.
- There is a need for simplifying and standardising technical details for policy makers.
- There is no formal procedure on power position status reports from States to the Centre to facilitate development of an authentic countrywide inter-linked data base.

Various components of establishment of user-friendly information system have been identified in the paper, as follows:

- To start with, State-wise data be defined, specifying present and projected energy requirements, energy shortage, sector-wise capacity - additional, present and conceived, etc.
- Data monitoring system be stepped up from the local distribution level and integrated, for supplying level-wise filtered data details in the hierarchy of monitoring.
- System should be devised such that the data on availability of inputs for setting up of power project is made available, along with all commercial implications.

8. **Modernisation of the Statistical System - A Status Paper for Railways (WS 98/ G-9/ 8):** *Ministry of Railways, Government of India*

The paper discusses the current status of data management in the Indian Railways (IR), identifies the problem areas in the existing set-up and suggests steps to overcome these shortcomings, by the use of modern information technology and rationalisation of data gathering methods. In the present system, the data is collected in a dynamic environment and transited through a hierarchy, consisting of functional Units, Zones and the Railway Board. Around 650 returns are received at various frequencies and these add up to more than 4000 returns in a year.

Major problems in handling this data have been identified as:

(i) Existence of too many reports, some of which are redundant, lack of accuracy, adequacy and timeliness.

(ii) Un-structured formats.

(iii) No proper mechanism to transfer the data into information, for providing access to other users.

(iv) Information sharing is practically non-existent.

The paper advocates switching over from a predominantly manual system to a modern computerised system of electronic data exchange between IR and outside departments/agencies/end users. Indicating the additional data requirements of Railways, the paper identifies the following areas for improvements:

- Rationalising data gathering methods and simplification of forms and procedures.
- Streamlining procedures and making the information more timely and reliable.
- Coordinating data gathering/sharing activities with responsible private organisations like FICCI, CII, etc., to avoid duplication of data and providing wider access to all users.
- Benefiting from advances in Information Technology by strengthening the nodal institutions like NIC, simultaneously, strengthening statistical wings in Ministries/Departments in terms of both men and material, to cope with their enhanced roles.
- Human Resources Development measures for enhancing the skills of staff at all levels.

9. **Modernisation of Postal Statistical System: A Status Paper (WS 98/ G-9/ 9):** *Department of Posts, Government of India*

The paper takes stock of the present status of postal statistics, the problem areas and the emerging needs of the Department and suggests ways to revamp the existing system. Important areas of Postal Statistics being maintained and analysed, include (i) un-registered traffic (through half-yearly surveys) (ii) average resource of postal articles (iii) foreign Airmail and surface mail traffic, and (iv) registered traffic etc.

Problems faced in the collection of data etc. are the absence of the statistical units in the field and lack of qualified statistical staff.

The paper gives the following suggestions to strengthen the statistical system for collection of reliable and timely data:

- To provide qualified statistical staff/officers at least in major postal circles.
- To strengthen the statistical section in the postal directorate.
- To introduce latest technology for enhancing the productivity.
- To train field level staff.

10. **Suggestions for improvement of Transport Statistics :** *L.C.Mahajan, ITC Consultant, New Delhi.*

The paper highlights the data gaps in Road Transport Statistics and suggests measures for improving the situation. According to the author, almost 95% of passenger and freight movement in the country is by Rails and Roads leaving only a miniscule 5% for Airways, Inland Water Transport, Shipping, Pipeline, etc. Again, between the Rails and Roads, the ratio of traffic carried by the two

stands at 40:60, as compared to 80:20, some years ago. As such, roads have emerged as the prime mover of traffic in the country.

Due to their centralised set up, generation of statistics in railways, air transport, shipping, inland water transport, pipelines, etc., is adequate. However, the generation of statistics for Road Transport is far from satisfactory, except for the public sector undertakings. This is so, because Road Transport, particularly Goods Transport, is mostly in private sector and characterised by illiterate truck operators. For proper planning and development of road transport, it is necessary to have adequate data, for which such gaps need to be filled up.

The Transport Statistics in India gets generated as a by-product of the administration of the Motor Vehicle Act, 1994. The author suggests proper enforcement of provisions of the Act relating to maintenance of Log Books and their submission by the truck operators to RTOs, as an effective means to fill up the data gap. He suggests a simplified version of Log Book, having all the necessary details. Such data collected from the Log Books from the sample truck operators could be used to estimate different population parameters. The author also suggests proper processing of such data at District Statistics Offices before sending to Directorate of Economics and Statistics, Ministry of Surface Transport and Central Statistical Organisation.

[1]11. Statistical System in India - Limitations, Data Gaps and Strategy for Improvement: *Subhajit Mitra, SAIL, Ranchi.*

Emphasising the need for an adequate data base on socio-economic statistics for growth-oriented planning, the author identifies the limitations existing in the present set-up. He states that the system is beset with problems arising out of lack of a holistic approach to the entire process of data generation and dissemination at different levels of dis-aggregation, differences in data from different sources, changes effected over the years for same kind of study, irregularity in frequency, etc.

To overcome such problems, the author suggests an integrated approach for improvement of the system. The strategy suggested by the author covers both data collection and its dissemination. For data collection, he suggests that data points may be divided into organised and un-organised segments. Data requirement should be determined through massive nation wide surveys and, for the organised sector, 'fill- the form' method could be followed. For the un-organised sector, he suggests that the usual effort by the Government be further supplemented by NGOs. In order to gain from the activities of the innumerable organisations engaged in data collection of different types, he suggests that their compilation should be mandatorily given to the Central Statistical Organisation.

For data processing, the paper suggests that all the data collected should be stored at a central place, which should be linked through NICNET to various institutions, individuals, organisations, etc., having interest in such data, to enable real time availability of data to various users on payment. Data bases at centralised places need to be developed sector-wise and such data bases need to be updated regularly. Customised data processing could also be attempted using common statistical packages.

Report of the Working Group 9

In the sessions of the Working Group on 14 - 15 September 1998, only four papers were presented and based on these deliberations, a report was presented at the plenary session on 16 September 1998. As it was felt that some more discussions would be useful, the Working Group(See Annexure-II for details) continued its deliberations by meeting three times on 5th, 9th and 28th October 1998 and based on the discussions, the final report has been prepared.

The two sectors considered by the Working Group, namely, Service and Infrastructure sectors, are vital sectors of the economy and are diverse in scope and nature. Data on infrastructure sector is important due particularly to the increasing role of private investment/foreign investment. As for

[1] Papers 10 and 11 of this section were received in response to the advertisement calling for essays on suggestions for improvement of the Statistical System

tourism, it is primarily a foreign exchange earning sector. Housing is a basic-needs sector. Construction, including housing, is a labour intensive sector. Data gaps, data requirements and importance of modernisation of the statistical system in respect of these sectors have, therefore, to be perceived in the light of the backward and forward linkages of these sectors among themselves, as well as, with other sectors and with reference to the macro perspective and in order to be able to capture their contribution to capital formation and national accounts. Data generation has to encompass rural and urban sectors, formal and informal sectors, small and large sectors and public and private sectors so that disaggregated accounts can be built up at these levels.

General Recommendations

1. A large amount of data is being collected in these sectors by the Government and other agencies. The available data can be broadly classified into four categories namely (a) administrative statistics collected by respective Ministries/Departments, (b) information flowing from implementation of projects (c) survey data of NSS and National Accounts Statistics and (d) specialised studies for specific purposes. There is a need to prepare an inventory for the available data and evaluate it in regard to coverage and reliability, and with reference to requirements for policy and research.

2. Focus should shift from statistical description to statistical inference, where the analysis should be directed towards describing and interpreting a whole class of phenomena, of which information collected is merely a sample.

3. There is a need for strengthening data base on Socio-Economic Statistics for growth oriented planning through a holistic approach to entire process of data generation and dissemination at different levels of dis-aggregation and harmonisation of data from different sources collected in different years, with due consideration for regularity in frequency, etc.

4. An institutional arrangement needs to be developed for ensuring data sharing among various Ministries/Departments to avoid duplication of efforts. There should be an on-line and integrated system of data generation by all Ministries and Departments to maximise their collective efforts in this regard.

5. To ensure general awareness of the availability of different types of data in these sectors, the possibility of putting up all relevant published data on web sites/ electronic media can be examined. It will be useful if the schedules and questionnaires used in the surveys are also made available on the website.

6. The interaction between Government and private sector must increase as we gradually move towards indicative planning. Private organisations/ bodies like FICCI, CII, ASSOCHAM, TERI, SDS, etc. are generating substantial data/ information. It would be advantageous to effect co-ordination with such bodies for widening the purview of dissemination of information.

7. With increasing private sector participation in major infrastructure sectors including transport, power, etc., modernised statistical system must put in place a mechanism whereby data from private producers is integrated with those of data producers in the government for getting a holistic national picture. The governmental agency could be the nodal agency for collection of data for this purpose.

8. There is need to standardise the data collection system and the Department of Statistics should play the role of guiding, supervising and acting as an overall coordinating agency among Central Ministries and States for building an effective dissemination system. In this connection, inter-departmental coordination is to be strengthened.

9. Feasibility of collaborative studies between government and non-governmental/ research organisations may be looked into. Modalities of participation of non-governmental organisations in data processing and dissemination could be examined. Quality of data and standardisation of concepts should be the main concern and it is to be addressed by the DOS.

10. It is important to recognise that data should meet the requirements of diverse user groups including those outside the government e.g. the foreign investors, private sector, financial institutions, consultancy firms, etc.

11. Data quality and standardisation would have to be an iterative process, keeping in view the sensitivity of data errors to the end users.

12. To improve the accessibility to and efficiency of statistical system, it is necessary to ensure conformity/compatibility of hardwares and softwares used by statistical wings of different Ministries and Departments, which need to be further strengthened in terms of men and material and modernised to cope with their enhanced roles, so as to derive maximum benefit from advances in Information Technology

13. There is a need for harmonisation of data collection by various Departments / Organisations on the same subject, so that there is consistency of data from different sources.

14. Training of field staff for surveys is of primary importance.

15. Government Publications bringing out data on important sectors of the economy need to be timely and regular.

16. In order that data collection system comes up to quality standards, possibility of a suitable legislation to make it legally binding on the respondents to cooperate with the system in collection of statistics could be examined.

Specific Recommendations

Railways

1. For concurrent monitoring of the performance of railways and its role in transportation of selected bulk items like coal, cement, fertilisers and iron & steel, while their production figures are obtained from concerned ministries, timely availability of figures pertaining to their import/export is also to be ensured. Annual production of important items like food grains, mineral oil (POL), iron ore, limestone & dolomite, sugar, gypsum, manganese ore, sugarcane, salt and non-ferrous metals besides information on level and changes of inventories is necessary.

2. To facilitate comparison of costs of movement by alternative modes of transport, data on facet-wise unit cost of movement of goods and passenger traffic by other modes of transport namely roadways, airways, coastal shipping, inland waterways, ropeways and pipelines in terms of per passenger km. and per tonne km. would be useful. Other Statistics in respect of alternative modes of transport which are needed include those on physical assets, performance indicators and operating ratios.

3. For railways to perform a useful role in promotion of business in the country, basic information on domestic tourism and inbound international tourism is needed. This includes mode of transport (private/public/chartered)(air, rail, road) used by tourists, new tourist destinations, and

origin/destination profile of inbound international tourists, operation of travel intermediaries, etc.

Transport

(i) ***Inland Water Transport***

The data gaps in IWT are in respect of number of vessels operated by the State Governments and private companies with valid certificates by type, number of passengers carried and fare collected, volume of cargo carried and freight collected, and income and expenditure from IWT operations. These data are required in the context of inter-modal transport, least cost options of travel /carriage of goods, energy efficiency and relieving congestion of traffic on rail and road. It also helps regional development through the forward and backward linkage effects with the development of IWT.

(ii) ***Road Data***

There is duplication or under reporting of data on rural roads due to multiplicity of agencies involved in rural roads construction and maintenance programmes under various centrally sponsored employment oriented / poverty alleviation programmes. There is need for road Inventory Data. Data gaps also exist in respect of Traffic Count surveys on State Highways, major District Roads and other District roads. Road data at District level in different categories of roads especially on NH, SH, MDRS and ODRS are required for better development of roads, which could carry multi-axle vehicles, fast moving traffic, etc..

(iii) ***National Highways:***

The existing data formats and collection methods are not conducive to quick computerised analysis. The data required to be collected are road inventory data, traffic count data and data on socio-economic characteristics.

(iv) ***Road Transport Statistics***

There is no institutional set up to collect the data on passenger km. (PKM), freight tonne km, physical and financial productivity indicators, age of the vehicle, occupancy ratio, manpower employed, km per litre of diesel/petrol consumption, revenue and expenditure, ownership pattern, financial arrangements etc. for both passenger and freight traffic by road transport. No data is available for non motorised road transport. Enterprise survey of NSSO on transport covers only if the transport mode is operated as an enterprise. These data are required to determine and plan the multi-modal transport, cost effectiveness of transport, energy efficient mode of transport, etc.

Some initiatives for effecting improvements are:

(i) The NSSO may arrange to collect data on expenses incurred by the individuals as well as households on travel expenses for local trips such as for office going, marketing, school, business, etc; on buses, taxis, cars, two-wheelers, three-wheeler scooters, etc; the trip length, travel outside the living city for purposes of pilgrimage, social, business, etc; by different modes of transport; length of travel; trips in a month, quarter, six monthly, annual, bi-annual, etc; local transportation of goods within the city, within the State, inter-State, type of commodities carried, lead and load, etc.

(ii) Department of Statistics may take up with State Governments to create a single agency for planning and execution of rural roads and appoint a nodal officer to help/liase with various agencies in the states for information.

(iii) Relational Data Base Management Systems (RDBMS) may be developed.

(iv) Data base needs to be linked with spatial data through Geographical Information System and On-line Management Information System.

(v) There is a need for procuring data acquisition equipments, computer hardware and software, acquisition of a library of satellite images, digitised net work maps, etc.

(vi) Collection of Transport Statistics in Enterprise Survey by NSSO should be done in consultation with Ministry of Surface Transport so that their requirements may be met.

(vii) State Governments may be requested to make it mandatory on motor vehicle registering authorities at RTO/DTO level to collect the data in the format that could be designed and transmitted to Transport Commissioners of States/UTs to be passed on to MOST. Data covered would be registration of motor vehicles, issue of driving licences, permits, tax tokens, passenger km and tonne km.

(viii) Inter-connectivity among RTAs/DTAs/STAs and Transport Commissioners of States/UTs, Ministry of Surface Transport, National Crime Record Bureau and Police Deptts. of States/ UTs with other RTAs/DTAs/STAs and Transport Commissioners of all the States/UTs. through use of common format under common computer platform will enable regular flow of data. Apart from collection and dissemination of operational data, it will enable the Police Departments to trace easily the motor vehicles involved in accidents, hit and run vehicles, theft of vehicles and crimes committed using motor vehicles. It will also enable the Transport Departments of States/UTs to prevent procuring driving licenses from different RTAs/DTAs/STAs once a license is cancelled, streamline the issue of National and State Permits and curb revenue losses to the Transport Authorities due to non-payment of Motor vehicle taxes, fees, etc., through falsification of documents. Such problems to some extent may be solved by giving a unique identification number to individuals.

(ix) There is a need for proper enforcement of provision of the Motor Vehicle Act relating to maintenance of Log Book and its submission by the truck operators to RTOs. Moreover there should be a simplified version of Log Book having the necessary details. Such data collected from the Log-books from the sample truck operators could be used to estimate different population parameters. There is also need for proper processing of such data at District Statistics Offices before sending to Directorate of Economics & Statistics, Ministry of Surface Transport and Central Statistical Organisation.

Power

The following constraints have been noted in data collection and dissemination:

(i) The format for data collection and interpretation varies in different States as, for example on the data determination on transmission and distribution losses.

(ii) Data dissemination from different sources is not consistent, as no standard practice is being followed.

(iii) There is need for a formal procedure on reporting on power position from States to Centre to develop an authentic country wide inter-linked data base.

(iv) Data monitoring system has to be stepped up from local distribution level and integrated from supplying level-wise filtered data details in hierarchy of monitoring.

(v) Necessary arrangements have to be made for direct dissemination of data from Power generating units to the Central Electricity Authority.

Energy

Taking the energy sector in a broader perspective, a number of data deficiencies exist and there is scope for improvement. The major gaps are :

(i) Basic indicators from primary energy data have to be developed .

(ii) Trends of key energy utilisation have to be worked out.

(iii) In the emerging scenario of private sector participation in energy, special channels of collecting and compiling information for both government and private sector have to be put in place.

(A) Energy Demand

(a) Agriculture

(i) Crop wise energy consumption statistics (mainly power and fuel consumption) classified by agro-climatic zones have to be updated on a regular basis. The available information is only for a few States for 1985-86 based on surveys carried out at different State Agricultural Universities.

(ii) Contribution of different energy sources to power, farm activities, both human / animal and mechanised (tractors, tillers, diesel and electric engines) is last available for 1991-92 and only at the All India level. This needs regular updating.

(iii) Details on change in the level of mechanisation in farms (number of bovine, tractors, power tillers and diesel/electric engines) at the State level are available at intervals of a decade now. The source is the NSSO, land and livestock surveys. These ought to be carried out at shorter intervals. Apart from the statistics on population, the information on size/life of the farm equipment, utilisation levels in different seasons etc. is essential to work out consumption of energy in agriculture.

(b) Industry

(i) Most recent information on energy consumption by fuel type for major energy intensive sectors is available for 1994-95 from several sources - surveys by TERI, publications of respective industrial/manufacturers organisations, CII, FICCI, energy audit reports of BICP etc. Attempts should be made to update this information on a regular basis. TERI's Energy Data Directory and Yearbook serves the purpose to a certain extent; it will be very useful if an attempt is made to bring out a comprehensive statistical document on a regular basis.

(ii) Data on number and type of machines/equipments installed, efficiency, utilisation pattern in energy intensive industries such as steel, cement, fertilizer, aluminium, pulp and paper are needed.

(c) Transport Sector

(i) There is need for continuous information on total motorised vehicles in use, at disaggregate (state/city) level and also of the corresponding model split. Now, number of registered vehicles is often used as proxy.

(ii) Comprehensive information on fuel efficiency and number of trips made, utilisation levels have to be updated regularly.

(iii) There is need for data on vehicular stock, life and vintage.

(d) Domestic Sector

(i) Fuel consumption (both traditional and commercial fuels) etc. of the State level with rural-urban break up has to be collected on a more frequent basis and at more disaggregated levels.

(ii) Additional information on appliance ownership pattern, usage pattern, stocks, life and efficiency could be gathered alongside.

(B) Energy Supply

(a) Coal

(i) Coal mines should have a site on the Internet.

(ii) Data on supply to small industries like glass, brick kilns etc. and to the domestic sector should be comprehensive.

(iii) There should be uniformity in calculation of various operating and performance parameters like OMS, PLF, plant availability.

(iv) Data from private sector mines should be published.

(v) Data on physical values of environmental degradation, deforestation, air and water quality as a result of coal mining should be made available.

(vi) Data has to be compiled on the cost or expenditure towards back filling in open cast mines, afforestation and monitoring of air and water quality standards in coal mining areas.

(b) Power

(i) Publications like the General Review, Thermal Review, Hydel Review brought out by the CEA should be upgraded in their timeliness.

(ii) Data from different sources like annual reports of SEBs, CEA etc. need to be harmonised and put on the Internet.

(iii) Data on nuclear power generation should be compiled.

(iv) The formats used by SEBs for annual reports should be made uniform.

(v) Differences in figures on rural electrification provided by REC and SEBs have to be sorted out.

(vi) Separate tariff notifications are brought out by SEBs, which need to be collected by a central agency like the CEA.

(c) Petroleum and Natural Gas

(i) Data on field-wise crude/natural gas production in the country, configuration of reserves and refinery-wise by-products have to be made available, besides refinery processing data and sector-wise / product-wise consumption figures.

(ii) Regular publication of fuels and petroleum products will be useful.

(iii) There is need for data on types of crude oil being imported into the country, their sources, quality etc.

(d) Renewable Energy Technologies (RETs)

(i) While official statistics are available on the progress with respect to installation of renewable energy devices, such as bio-mass gasifiers, improved cook stoves, bio-gas plants, solar and thermal systems, SPV systems etc, there is also need for follow up information on how many are in operation and how effectively they are functioning.

(ii) Data base on bio-mass energy, mainly fuel wood and agricultural residues, has to be strengthened. The existing data on straw-grain ratios, storage volumes are outdated. There do not seem to be major detailed studies on fodder and non-fodder crops. An appropriate methodology and sample selection for estimation of bio-mass is important.

(iii) There is need for data on consumption of bio-mass in small sector industries, such as bricks making and food processing, etc.

Housing And Construction

(i) Classification of data on type of houses, specifically by the material used in roof, wall & floor and on age structure, is important for estimating replacement, maintenance and upgradation requirements. There is need for data on building ownership and use pattern, tenure arrangements, building materials and construction quality.

(ii) Data is required not only to manage and monitor but to inform public policy, design programmes, regulate land markets, private roadways and industry and to examine cross sectoral linkages with national income, poverty, employment, land and natural resource management and finance. Housing data is needed at more decentralised levels even below the district level.

(iii) Gaps in the data system have to be analysed in the context of process inputs to housing namely building material, labour, investment and finance. Reliable data on building materials prices, labour wages and costs of new building may be generated.

(iv) Data on production of housing stock is inadequate and largely restricted to public housing programmes.

(v) There is need for micro level type studies to be taken up in the areas of serious data gaps in housing stock to supplement the information already available. Availability of data on all the specific inputs going into the housing stock should be examined for its completeness.

(vi) Data on capital formation in housing is required separately for formal and informal housings.

(vii) There is a need to develop a data base on financial flows in the housing sector from various sources including HFIs, Public agencies and households.

(viii) Data are needed on access to housing services not only in terms of connectivity but also effective access, quality and frequency.

(ix) Data base on informal settlements should be developed.

(x) Linking the collection of Housing Statistics with basic requirements like availability of adequate water, sanitation, sewerage is to be examined. Though the data collection is to be guided by local needs, consideration of international comparability may also be looked into.

(xi) The possibility of a comprehensive Housing Census may be examined and required steps taken.

(xii) The National Building Organisation collects data in respect of construction activities/projects costing Rs. 50,000 and more through specially designed schedules/formats through local bodies who are supposed to send the information to State Directorates of Economics and Statistics to be transmitted to the NBO. But the response is very poor from all the States. The Organisation often faces problem in regular flow of data from States who always complain about lack of resources and manpower. In order to streamline flow of data to the Organisation, it is necessary to strengthen the institutions like DES/Municipalities/housing Boards/PSUs with suitable manpower and infrastructure. They may be connected with HOUSENET/NICNET to the NBO to enable transmission of data on-line.

(xiii) There is need to make special efforts to collect data on construction activity through special surveys, as the availability of data on construction, particularly in un-organised sector, is weak.

(xiv) Important data on housing activity in industrial sector is collected through Part-III of the schedule used for Annual Survey of Industries. Considering the importance of the data and the fact that no other viable source of information is available, it is necessary that Part-III of ASI schedule is not discontinued, as the Department of Statistics is reportedly planning.

Communications

There are two major Departments of Govt. of India in communication services, viz. Department of Telecommunications and Department of Posts. The Department of Telecommunications has a very good statistical system, equipped with necessary hardware and software. The Department of Posts also has a more or less satisfactory system for generation of necessary statistics for their use. But some streamlining and further strengthening is necessary, which include the following:

(i) The estimated unregistered traffic based on results of half yearly enumeration of 28 days in general is on the higher side, keeping in view the revenue earned from these articles. As such when the same is adjusted to the revenue earned, the traffic so arrived at is usually on the lower side. Hence, some sort of rationalisation is desired to make the estimate of traffic more reliable.

(ii) The system in Department of Posts needs to be strengthened for ensuring collection of reliable and timely data. There is absence of statistical units in the fields i.e. in circle offices, which results in delays and improper understanding of statistical terminology. There is, therefore, need to provide statistical staff at least in major postal circles and the Postal Directorate, besides introduction of Internet etc.

(iii) At present, the contribution of Telecom Sector is reflected in the form of telecom traffic and revenue generated by the Department as a part of the service sector. However, the contribution of the other vital telecom organisations, which form a substantial part of the telecom sector's activity viz. Indian Telephone Industries (ITI), Hindustan Teleprinters Limited (HTL), Telecom Factories, Videsh Sanchar Nigam Limited (VSNL), Telecom Consultants India Limited (TCIL), etc., have to be reflected in the performance and contribution of the Telecom Sector in National Accounts.

(iv) Information relating to expenditure on uses of Postal Services and subscription to Telecom services may be collected separately in Consumer Expenditure surveys of NSSO. Information on use of home computers may also be collected in these surveys.

Tourism

A sound data base on Tourism is necessary, considering the growing importance of the sector. Reliable data are necessary for perspective planning, evolving marketing strategy and facilitating investment decisions in the sector. Some statistics are available/generated by the efforts of the Department in respect of international tourist arrivals, their profile and duration of stay, estimate of foreign exchange earned, Indians going abroad, domestic tourist visits, hotel statistics and economic impacts of tourism. Yet, serious data gaps are there in respect of many important areas. These relate to statistics of non-resident Indian visits, Indians going abroad, profile and perceptions of international tourists for developing of marketing strategies, domestic tourist visits, supply factors, economic benefits and environmental and social impacts. There are some surveys, which are useful in collection of such statistics. They need to be made more regular and effective besides incorporating questionnaires relating to tourism in the surveys like Consumer Expenditure Survey of NSSO. More specifically, the following suggestions are made:

(i) Statistics pertaining to tourism now come only as a part of the passenger traffic between India and other countries. However, as per UN definition, visits of Indians settled abroad should be taken as of tourists, so long as other conditions of duration of stay etc., are satisfied. Since these travelers form a substantial segment of passenger traffic to India, a system needs to be introduced to assess the exact volume, distribution, periods of travel etc.

(ii) There is no data available on the destination, purpose and duration of visits of Indians going abroad. These details are extremely important to understand the phenomenon and for assessing capacity constraints of the airlines and other issues. The International passenger survey taken up during 1997-98 has for the first time included Indians going abroad also in the survey. These surveys need to be conducted on a regular basis.

(iii) Reliable data are needed on market trends, demographic and psychographic profiles of tourists alongwith their motivation, buying habits, perception and experiences. Foreign tourist survey constitutes an important source of data on these aspects. These surveys have, therefore, to be conducted every year.

(iv) The present system of collection of domestic tourism statistics is fraught with several deficiencies in terms of methodology, coverage and collection procedure. The statistical reporting system of occupancy statistics by the accommodation units needs to be streamlined and should form part of regular statistical reporting system of State/UT Governments.

(v) In order to plan tourism infrastructure facilities, it is also important to note the existing level of various infrastructural facilities and their utilisation. Though the Ministry of Tourism maintains the list of approved accommodation units and travel information, it does not have

information on such units which are outside the approved category. A registration system of hotels, restaurants, travel agents, tour operators, tourist transport operators, souvenier shops and other tourist related activities needs to be introduced.

(vi) Statistics of economic contribution of tourism are generally not available except for the estimates of foreign exchange earnings from tourism available from the RBI. In the case of domestic tourists, the data available on expenditure pattern is very limited. NSSO should collect information through the consumer surveys on expenditure on tourism activities separately with the details of travel undertaken by the sample households. The system of National Accounts statistics also needs to be revised to estimate the economic impact of Tourism. It would involve the adoption of Standard International classification of tourism activities in the survey of industries and service establishments and the tabulation of such data separately for the units classified as tourist activities.

SECTION XI

Papers Received in Response to the Public Advertisement

1. Suggestions to Improve the Efficiency and Utility of Indian Statistical System : *N M Swamy*

In this paper the author identifies some of the gaps in the existing statistical system and offers suggestions for improving the credibility of the system. As the concept of sustainable development acquires momentum, the author opines that CSO should develop a set of indicators for sustainable development and evolve standards and concepts in this area. Regarding agricultural statistics, the paper points out that the sample check programmes on page totalling and area enumeration can be dispensed with considering the limited use of the data generated and the sample check on yield rates can be carried out once in 3 or 5 years. Instead, sample checks on fruits, flowers, etc. can be conducted.

With regard to Industrial Statistics, the paper calls for amending the Collection of Statistics Act 1953 to cover all non-agricultural activities. ASI schedule needs to be simplified with separate schedules for corporate sector and non-corporate sector. The census sector needs to be redefined to cover factories with 200 workers or more and sample non-census sector needs to be modified. The author proposes that data collection for IIP may be entrusted to NSSO.

Regarding National Sample Survey, the paper calls for (i) coverage of new and relevant subjects; (ii) simplification of survey schedules; (iii) separate samples for different schedules of a round; and (iv) use of computers at the field level.

The paper also contains suggestions for improving the price statistics and social statistics. There is a suggestion on commercialsing the data collection operation by undertaking collaborative ventures with the private sector. The author also suggests use of modern information technology to improve dissemination of official statistics and increase the accessibility for data users.

2. Improvement of Indian Statistical System- Views and Suggestions : *K R Debnath*

Emphasising the need for the Statistical System to gear itself to face the dawn of the new century, the paper calls for strengthening the capabilities of the system and make it more user-friendly. As there is a need to remove the major data gaps in areas relating to infrastructure, micro-level activity, living standards and social justice, production and HRD, there is a requirement for conducting new surveys and increasing the frequency of Economic Census and Follow-up Surveys. Recognising that timeliness and quality are very important, the paper calls for rationalisation of survey schedules, streamlining the supervision mechanism, use of sophisticated techniques to tackle non-response, etc., improved HRD and use of computers to make improvements. The author notes that there is inter-state capability gap in relation to statistical development and calls for initiation of programmes by the CSO to bridge the gap.

The paper recognises the need for replacing some methodologies currently followed in various surveys with cost-effective, time saving new techniques and in this respect calls for fruitful interaction between academics and official statisticians. The NABS may be activated to provide better guidance for standardisation of concepts and methodologies.

With ever increasing need for data, the author opines that govt. would find it difficult to cope with the demand on its own and calls for greater participation of private sector under the captaincy of DOS, greater integration of scattered know-how, closer interaction between producers and users of data, modernisation of the system and better HRD for the personnel.

3. Suggestions for Improvement of Indian Statistical System : *R K Sen , Calcutta*

The paper identifies the data gaps in the existing statistical system, emerging areas of statistics and suggests steps to improve the set up. The gaps have been identified to exist in the areas of

environment statistics, consumer expenditure data from the NSS, labour statistics, HRD, health statistics and post-project evaluation data. The author calls for making public the methodology of published data in order to make the data series transparent. There is a need to educate the public about the data compilation. To improve the quality of data, the paper calls for greater coordination among various public departments and with private organisations and avoiding computation of quick estimates. In order to implement the suggestions made, the author proposes formation of a technical body for coordination and inviting suggestions from the public.

4. Suggestions for Improving of Indian Statistical System : *Anjali Chavan, Bhopal*

The paper lists the important limitations of the system and suggests steps to improve the situation. Lack of coverage of production of fruits, vegetables and inadequate coverage of the SSI and cottage sector, surface transport, consumption and labour statistics need to be addressed immediately. Lack of motivation on the part of the field staff and their inadequate training affect the quality. A lot of data collected are not tabulated resulting in waste of resources which needs correction. A public awareness programme has to be launched to educate the public on official statistics. The paper points out that there is no uniformity in collection, compilation and analysis of data and calls for standardisation in these areas. There is a need for grater coordination between the central and state statistical organisations and effective liaison between official organisations and universities/research institutes. The author suggests involvement of NGOs/ Voluntary organisations in the activities of the system

5. National Statistical System : *A K Verma, SDRD*

Pointing out that the present National Statistical System is not properly organised and coordinated, the author calls for converting the present data base to a National Data Base. In order to streamline the system, the paper suggests the following steps:

(i) Formation of a National Council on Statistics on the lines of Prasar Bharati Board to formulate overall policy, ensure periodic audit of the system and ensure coordination.
(ii) Constitution of a Methodology Research Bureau to evaluate the existing methodologies and evolve new methodologies.
(iii) Formation of a National Statistical Standard Bureau to provide certification for statistical methodology and processing.
(iv) A National Data Bank under DOS to function as a data dissemination centre.
(v) A National Statistical Training Academy under DOS to train statistical personnel.
(vi) Better management of system to ensure compatibility between man and machines.
(vii) Constitution of an All India Indian Statistical Service.

6. Suggestions for Improvement of Indian Statistical System : *K G K Subba Rao*

This paper identifies the problem areas in the compilation of NAS, compilation of the NSSO data, coverage of the unorganised sector and suggests ways of overcoming these lacunae. With regard to implementation of SNA 1993, the paper points out that the NPISH data is non-existent, estimates of physical assets of the HH sector is fragile and source of data for capital formation is old. The revised series of national accounts are released with a time lag of 7-8 years after the base period. These issues need to be immediately addressed.

There is a need for pooling the estimates of central and state samples of the NSS. With the increased demand for data at the district level, since the NSS sample is not sufficient for that purpose, the states may have to increase the state sample size. There is a need for compiling rural and urban retail price indices, for different States and All-India. Surveys for evolving methodologies for measuring HH income should be continued.

Organised sector data collection also needs fine-tuning in the era of liberalisation. Some of the areas like access to overseas funds, use of overseas funds need to be covered.

The paper makes a case for restructuring the survey schedules and introduction of strict quality checks in data processing to improve the quality of final results. Other steps suggested to improve the system include release of priority tabulations, compilation of long-term time series and conduct of sample surveys in areas where traditional data collection mechanisms have broken down.

7. National Statistical System-A Case for Reengineering : *C S Arora, New Delhi*

The author takes a incisive look at the National Statistical System as a data provider for the illumination of various socio-economic and demographic problems rather than lending data support to the government. The author opines that the system should transform itself into a catalyst for channelling the national data into really useful information.

Though the existing system collects and disseminates a lot of data for the state machinery, the author notes that the system should provide all statistics based on which the government itself can be judged. Only then will it be able to provide illumination on the state affairs, not just the support to the govt.

The present system is decentralised involving large number of statistical organisations. The system is not open, responsive, relevant and transparent. The author calls for the national system to be open, transparent and free from political interference. Towards this end, the author proposes some degree of centralisation under the nodal Department of Statistics and giving the nodal authority the statutory status.

The author notes that in order to encourage trust among data providers and increase their co-operation, there is a need for educating them on the use of the data collected. If the expectations from the nodal statistical agency is to be met, the system should be manned by professionally competent and committed staff, according to the author.

8. Statistical System : Quality through Systems and Procedures : *T R Sreenivas, DPD*

The paper discusses the importance of systems and procedures to be in place for the collection and analysis of survey data. Noting that the quality of the data boils down to one of accuracy of data collection, the author discusses systems to be in place for collecting accurate data using personal interviews. The investigator should be highly motivated and conceptually clear. These investigators should be posted in each tehsil headquarters and provided with all the facilities.

The data processing staff should also be well aware of the problems of data collection. They should undertake field inspections and provide intelligence on quality of data collection. The survey schedules should be simplified without compromising on the quality.

The author also proposes that statistical activity should be projectised and proper pricing should play a role.

9. Suggestions for Improvement of Indian Statistical System : *S K Mathur, Delhi Univ.*

The paper takes a overview of the data gaps in the existing statistical system, steps for improving the quality of the data and ways of evolving statistical standards. The data gaps have been identified to exist in the areas like estimation of crop-acreages and yields, the frame used for the ASI and the non-response from the registered units, investment done by NRIs, trading of services, domestic service sector, urban slums, environmental pollution, participation of women, etc.

To improve the quality and timeliness of the data, the author suggests that data collection and processing should be done strictly according to a schedule. The universe of coverage should be clear and the questionnaire should be simple and unambiguous. The field staff should be properly trained in data collection and their work should be properly supervised. Modern information technology should be used for analysis and dissemination of results.

The paper proposes setting up of a decentralised system with different offices having the responsibility for collection and dissemination of the data in their respective area under the overall co-ordination of an agency. These decentralised offices should be linked with the central office

through a computer network. Remote sensing techniques may be used to improve agricultural statistics. TRS should be strictly enforced. Village-level data base should be strengthened using the local govt. offices. Universities and research institutes should be used to contribute to national data base. The author calls for generation of funds by the National Statistical Agency.

10. Suggestions for Improvement of Indian Statistical System : *Rajesh Jaiswal, NCAER, New Delhi*

The paper focuses on the central idea of developing a computerised management information system with well-trained personnel to be installed at every level with a view to reduce the inconsistency between and across the data sets compiled by various agencies. This includes accurate data collection, establishing separate data entry modules at village and block level and electronic data processing at all levels. To achieve this, adequate training should be given at all levels. Village level data should be sent to District Computer Centre through NICNET so that data could be available at state level and at the central level. The author has also suggested some incentives to factory owners to maintain proper statistics. He is of the view that a core standardised questionnaire combined with district and state specific questions and blended with qualitative micro-level information should be devised.

11. Suggestions for Improvement of Indian Statistical System : *.K.G. Sundaram, S.N. D.T.W. University, Mumbai*

The paper suggests measures for timely availability, reliability and usefulness of data especially for urban unorganised/informal sector. Some basic changes are required in the statistical system to improve it. This includes data collection at the level of local bodies under the guidance and advice of State and Central Government. Decentralisation is a must at data collection, data dissemination and at data analysis level. Modern techniques must be introduced with careful planning. An attempt should be made to build data bases even if it involves large amount of resources. A start may be made through citizenship cards for individuals and entities-details card for entities. However, the confidentiality of data, where required, must be maintained. The system should develop in such a way that it is transparent and has confidence of people. A strong coordination has been recommended at state level by DES and at the centre by CSO.

12. Suggestions for Improvements of Indian Statistical System : *K. Naga Jyothi*

The Paper highlights the data gaps in the existing statistical system, reasons for poor quality of data alongwith suggestions for improving the statistical system. In estimation of GDP, direct source data for several components are not included. Non-inclusion of new rapidly growing services like INTERNET and Cellular Phone Services in service sector, contribution by women to the household economy, production from kitchen garden etc. are likely to cause large errors in estimation of national income. The reason for poor quality of data include improper timings of surveys, lengthy schedules, long reference period, etc. The measures suggested for improving the statistical system include proper training of field investigators, transparency in the system and strong dissemination standards. These also include use of electronic devices for data collection and introduction of new surveys.

13. Extension of Statistical System for Metropolitan Area Planning : *V.K. Phatak and V.N. Patkar, Mumbai Metropolitan Region Development Authority, Mumbai*

The paper stresses the need for the statistical system to provide information at Metropolitan level. Information on domestic product, large and medium industry, employment and other key areas are not available at metropolitan level. Various data sources such as ASI, NSSO, Economic Census and Population Census should provide information at metropolitan level. Also, the distribution of employment in newly growing areas such as IT sector is not available at metropolitan level. The

system should have uniformity and consistency in the concepts and definitions. Study should be conducted to extract the information from administrative records.

14. Strengthening the Indian Statistical System : *G.C. Manna, NSSO Calcutta*

The paper gives suggestions for improvement of statistical system through re-engineering of Census operations, permanent segmentation of village/towns, unique geo-coding system, re-allocation of field staff, reviewing data gaps and increased data accuracy, timeliness and dissemination. The survey methodologies are also required to be improved. The author is of the view that the replacement of economic census by an Enterprise Survey scheme, as is under active consideration of NABS, may not serve the purpose.

15. Statistical System in India: Gaps & Issues : *Prem P. Talwar*

The paper highlights the need for collection of relevant data keeping in view the requirement of the data users. Duplication of data should be avoided in various publications and data dissemination should be through two sets of publications. The publications could be of the concerned ministry, covering exclusive information relevant for a specific programme and it could be a national publication (those of CSO) which proposes to disseminate essential information on various programmes in the country. He has also indicated gaps in the existing data system which includes the choice of indicators, distribution of indicators in two sets of publications (that of ministry and CSO), lack of knowledge of data sources among data users, tendency to publish and disseminate information in the raw form etc. The issues related to data system are – decision on the type of information or indicators to be collected, distribution of information among different publications keeping in mind their clientele, avoidance of duplication, giving enough information on quality, different sources and time periods. The author has emphasised the need for two sets of committees. The first will be a review committee, called Sectoral Review Committee for each ministry/department. Their work would be coordinated by a Central Review Committee whose role will be to oversee improvement in country's statistical system. A beginning in this direction may be made by the Department of Statistics by holding a meeting of all those who have sent suggestions for strengthening the data system in India, senior data users and officers from Ministry of Planning.

16. Statistical System in India-Limitations, Data Gaps and Strategy for Improvement : *Subhajit Mitra Mazumdar, Steel authority of India Limited, Ranchi*

The paper highlights the data gaps in the existing system. These include non-comparability of data from two or more sources, irregular frequency of reporting of data, absence of data banks, lack of sources and channels of information and lack of infrastructure to process the data, etc. An integrated strategy for system improvement has been suggested in the paper. The aspects like data collection techniques and creation of data base measurement system have also been discussed. The idea of utilisation of the services of NGOs, researchers and students in schools, colleges and universities for unorganised sector data generation has been included. In the area of data processing and dissemination, the Department should use the existing facilities like NICNET and simultaneously develop or extend the computer network. Database should be created through developing data banks for different sectors. Customised data processing tools should be available in the front-end as an interactive interface.

17. Suggestions for Improvement of Indian Statistical System: *Samir Chaudhary, Power Grid Corporation of India Ltd., New Delhi*

The author opines that the problem of data gaps in the existing statistical system like inadequacies in the data flow system and duplication, discrepancy in data series are mainly due to lack of co-ordination and interaction with the users. Co-ordination and regular interaction with users may resolve the problem to a large extent. Discrepancies between statistics relating to same subject by different agencies are mainly on account of lack of uniformity in concepts, definitions, methodologies, differences in the coverage, length of reference period and period of survey. The

quality of data can be improved by rationalising the survey questionnaires and tabulation plan and release of advance calendar. Every statistical agency should devise a series of quick provisional estimates and summary results. The states should be provided more resources to ensure timely availability of state sample results. The presentation of data should also be improved. The statistical system may be improved if the aspects like standards, methodology, data collection, and dissemination of results are improved. The author has emphasised the need for creation of a National Statistical Data Base Management System (NSDBMS) for implementation of the suggestions proposed by him for effective implementation.

18. Suggestions for Improvement of Indian Statistical System: Vikas Goyal, Database Manager & Civil Engineer, Bikaner

The author has advocated the role of private sector in improving the Indian statistical system. The data gaps in the present statistical system can be broadly attributed to lack of definition of objectives of data collection, improper planning of data usage, large magnitude of collection and generation of data, manual handling of data and poor data storage system. He is of the view that the concept of International Standardisation Organisation (ISO) norms is also applicable to data structure as the importance of data has emerged with development. The accuracy of data can be improved by controlling various factors associated with the collection of data. The system can be improved upon by standardising the methodology for a particular task for different regions, by improving the data collection and data processing techniques. The author has suggested strategy for effective implementation of the suggestions made by him through enlarging the role of statistical department and including it as the 5th element of constitution which would work independently alongwith the Executive, Legislature, Judiciary, and Comptroller and Auditor General (CAG).

Annex I

Views expressed by the Participants at the Mid- Session Plenary - 15 September 1998

A meeting of the Plenary was arranged at 10.00 a.m. on 15 September, 1998, as per the request of some of the distinguished participants, who wished to raise some general issues about the state of the statistical system, before the discussions on sectoral issues were resumed in the different Working Groups. The World Bank team was also asked to make a short presentation on the status of the Modernisation Project and the Bank's role therein.

2. Valerie Kozel, who works for the India Country Team at the World Bank and represents the operational side, introduced the other members of the team viz., Mr.Michael Ward, Mr. Paul Armington, Mr. Misha Belkindas, Mr. Chandrakant Patel and Mr.Juan Munoz, the latter two working as Consultants. She pointed out that the size of the group reflected the importance the Bank attaches to the issues under discussion. Recent advances in technology and changes in methodologies, made it possible to have very recent and very accurate statistical information in the hands of policy makers, the general public, civil society and others in India, as well as in organisations like the Bank. Changes are required in the way we all do business, how the organisation serves its clients, how the information is disseminated and in how agencies organise themselves as an institution. The Bank saw this Workshop as an important first step in opening a broader front of consultation and asking experts regarding their information needs, their perception of the data gaps and suggestions on how these could be filled.

3. Mr. Michael Ward, from the Development Data Group, World Bank explained how the Bank became interested in supporting the extremely valuable effort being made by the Department of Statistics. The Bank wanted to act as catalyst in the formation of a concrete proposal, which would promote development. Over a significant period of time, through interactive discussions with all branches of Government of India, the Bank and the authorities had begun to formulate a joint vision about the process of statistical progress in India and to identify the technical steps that needed to be taken to push this agenda forward. The embryonic project is seen as a technical assistance program, centered around a general upgrading of technical skills, along with a corresponding improvement in the use and installation of physical equipment. Mr. Ward spoke about the impact of liberalisation of the India economy, decentralisation in administrative decision-making, and the availability of information technology on the needs to be fulfilled by the data system. The greater need for focussing on household needs and the pressure to strengthen the data series and to subscribe to the IMF's SDDS, were other factors impacting on the system.

4. Mr.Ward felt that the present Workshop would help to identify in some details the problems in the system. The forum has provided, not only a unique range of ideas as to how to deal with these problems, but has also given food for thought as to how best change management could be organised in this area of Government. The gaps did not reflect adversely on the professional competence of the Statistical Department, but was representative of the structural incongruities in the system. The Bank was looking to the Workshop to build on the on-going process of participation and was committed to promoting the role of data in informing more effectively the whole development process, by creating the pre-conditions for the better functioning of Government.

5. Mr. Misha Belkindas, Senior Statistician, World Bank, stated that the World Bank and the Department of Statistics were now in a stage of designing a vision about where the Statistical System should go and what it should do to get there. As a first step in designing

this vision, the needs had to be identified very concretely, and the system had to be forward-looking, with the aim of introducing international standards and classification. To achieve the objective of addressing the general needs of Government, private sector and society as a whole, the system had to probably go through some organisational changes. There was also perhaps a need to modify data collection processes, to introduce new techniques in estimating some essential macro-aggregates and to upgrade the technology used for data estimates, transmission, sharing and storing. Preparation of a World Bank project, which was seen as an institutional building and an investment project, requires a lot of work by the DOS, with the active participation of the World Bank team. From the present stage of the broad vision, the next step was to pave the way to get where we wanted to go, and then to decide how much both the partners wanted to commit in terms of resources etc. He conveyed the willingness of the Bank to work with the Government and stated that the Bank was ready to help in achieving the vision, jointly formulated.

6. Prof. A. Vaidyanathan informed the gathering that, in the past, the problems of data gaps had been addressed in quite great detail in several Seminars organised by the Indian Economics Society and by several Government Committees. He also, observed that the policy for dissemination of data had just been announced, for which many persons like him had been actively lobbying and for which congratulations were due to Mr. Asthana for having seen it through. There was already a long tradition of interaction between Government statisticians and outsiders, through various fora in which non-official experts have been involved. This was, therefore, not the first occasion for such interaction to take place.

7. He stated that the problem was not in terms of lack of understanding of what was needed to improve the system, but rather a managerial / organisational one. User Departments tend to give long laundry lists of the data required and demand levels of details, being oblivious to the logistical problems such as cost of data collection. Often, nobody knows why the data is required. There also exists a lot of information, which is not utilised at all. The delays are attributable to an imbalance in the resources allocated between collection of data on one hand, and analyses, processing and dissemination, on the other. There was a neglect in Government's programmes for supporting methodological research, which was a great weakness. There were very well-designed internal checks and validation control systems, which had broken down over a period of time. If this problem was not addressed, no amount of hardware, software, training etc., would help to get better data. The integrity of the statistical system had to be preserved and any attempt at reform had to squarely address the issue of internal institutional reform. Prof. Vaidyanathan pointed out that all the problems mentioned were much more serious in the States. He also stated that he was totally opposed to the idea of privatisation of data collection and would support the idea of having more public centers of data collection and anaysis. The NSSO, for all its faults, had proved to be one of the most lasting and enduring systems, one of its greatest virtues being that, while it was part of the Government, it was professionally autonomous. While Government had the right to decide the agenda for data collection, it should leave a great deal of autonomy to the NSSO, in terms of the utilisation of the professional expertise available, and should allocate sufficient resources for the work of the organisation. Prof. Vaidyanathan stressed on the need of utilising the expertise available in specialised research institutions like NCERT and Universities for reducing the burden on the NSSO. Concluding his remarks, Prof. Vaidyanathan expressed the hope that, if there was a professional group coming to assess the functioning of the statistical system, in which many of those present at the Workshop had a great stake, the findings would be openly discussed in an intensive way and in the spirit of transparency and open professional consultations.

8. Shri Arun Ghosh said that, Change being a law of Nature, there was need for continuously adapting and improvising, and the focus should be to strengthen and improve the existing institutions and systems, rather than dismantling and destroying them. He

emphasised that, in a large country like ours, sampling was an essential element of any system of data collection on an aggregate basis and we should rely more and more on the sampling techniques, as propounded by Prof. Mahalanobis. Shri Ghosh felt that the subject of the Indian data system was too vast and the issues too complex, for specific recommendations to be made in one and a half days. He had the feeling that he was being rushed and stressed that the Working Group on Industry, Trade and Corporate Sector, which he had been asked to chair, should not try to give any final concrete recommendations, without further deliberations. Shri Ghosh felt that the focus on international commitments like preparing quarterly estimates was misplaced, whereas the priority should actually be on improving the data system and the annual data first. He felt that India was not ready to prepare these quarterly data and that the Groups should not be pushed into making any recommendations in this regard. Similarly, with regard to the Government's commitments with regard to classification of services and payments data, he felt that the accuracy of the data and filling up the data gaps, were more important than classifications and sub-classifications. Shri Ghosh felt that, while every country has to evolve its own system of accounts, as also provided in SNA93, it appears that India is being rushed into preparing accounts, strictly in conformity with a pattern, which is alien to the production system of the country.

9. Prof. J Roy expressed three serious concerns he had about the statistical system. Firstly, he felt that, while the DOS had the primary responsibility for maintaining standards and comparability of data all over the country and internationally, it had also a moral responsibility to educate the public, create interest in statistical information and gather public support. In this respect, there had been a big failure in the system, which should be addressed. Secondly, as the largest employer of statistical graduates, the Department of Statistics should ask the teaching community and the Universities to orient the teaching of the subject more to suit its requirements. No research was being done in the official statistical system, with regard to designing sample surveys, for which empirical investigations and studies are essential. He felt that the DOS should set up a Training and Research Institute, where every ISS officer, should spend at least five years, during the course of his entire career. Thirdly, as pointed out by Frank Yetz, in a Fischer Memorial Lecture, statisticians needed to prepare themselves for the use of computers, as otherwise, non-statisticians would fill the vacuum, which would be the greatest calamity that the System could face. Prof. Roy pointed out that computers had to be used not only for data processing, but also for designing the frames and for dissemination. Dedicated networks were required for communication of raw, as well as, processed data between independent specialised data bases scattered all over the country.

10. Responding to some of the comments made, Shri M. D. Asthana clarified that the Workshop was indeed an extension of the principle of interaction with the users, but unfortunately, the industry and NGOs, who were invited had not responded in adequate numbers. He assured the delegates that the Department wanted to proceed only as far and, at the pace at which the distinguished participants wanted it to go and there was no need for anybody to feel threatened or harassed. At the same time, he felt that, if the Government had entered into a commitment, it was the duty of all concerned to ensure that it was met. In spite of this, he was willing to convey to the concerned Ministry the concerns expressed by the earlier speakers in this regard. He indicated that the Finance Ministry having asked the DOS to come out with quarterly estimates, and no inputs being available at the quarterly level for this, the DOS had no option but to become forecasters. The DOS was doing the job of the Government Statistical System which was about National Accounts, labour employment and unemployment, prices, indices of health, disabilities, and information on disabled sections of society. He wanted the sampling techniques, mentioned by Prof. Roy to be laid down. He stated that he was not there to dismantle the system, but to construct and restructure, to the extent the learned gathering permitted him, for which they had been provided the platform. He assured Shri Ghosh, in particular, that he was willing to give as

much time as was required for further deliberations of the Working Groups to come up with final recommendations. He placed on record his gratefulness to Shri Ghosh for having agreed to associate himself with the programme. It was in fact Shri Ghosh, himself, who had pointed out in his article that the system was crumbling and sought his help in reconstructing the system. The Government did not want to go from one distorted system to another, on the basis of recommendations that may be made in haste. He sought solutions from the distinguished participants to the problems about which they had already spoken.

11. Prof. Minhas observed that, if the Bank had come along to provide a fillip for cleaning up the system, it should be welcome. However, the concerns expressed by the previous speakers were valid and needed to be tackled. Prof. Tendulkar observed that as far as National Accounts were concerned, as data comes from various sources, if primary reporting is not properly done, no amount of computerisation will help. Hence, improvements in primary data-collection system, for example, in the area-reporting in agriculture, needs to be addressed and sample surveys were not really the substitute. He felt that in the sample surveys, cleaning up of data was very important. Data collection needed to be centralised only up to a point and autonomous agencies should be set up, which would establish the credibility of the data being generated.

12. Prof. Pravin Visaria, complimented the Department for being alert and concerned about the decline in the Statistical System. However, some of the groups needed separate Seminars and discussions. He commented on the fact that the Office of the Registrar General of India was conspicuous by its absence and given the importance of population data, there was a need for separate consultations with such organisations. He argued that, given the scarcity of resources and the time required for processing and analysing, data sets thrown up once in 3 years, by the censuses and quinqennial surveys should be adequate for policy planning. While criticism is essential for strengthening, it will not be possible to improve the system in a hurry. He added that it was important to disseminate the information, especially, whenever results were published.

13. Shri R.P.Katyal agreed with Shri Ghosh that the time was not ripe for coming out with quarterly estimates and a beginning could be made with half-yearly estimates. Prof. Minhas intervened with the observation that, in agriculture, there were at least two quarters in which there was no output and only input, which resulted in negative value added. To overcome this problem half-yearly estimates could be brought out instead of quarterly estimates, for which he was prepared to go and talk to the Finance Minister, who had made the commitment to come out with quarterly estimates. Shri Katyal also suggested that there should be an element of surprise in the supervisory process in the field.

14. Dr. Vijayaditya, NIC stressed the role of standardisation and the importance of statisticians being able to use computers as a tool. With the technology of today, it was possible to disseminate data via the Internet, and we should see how best to improve the structure to achieve the objectives, while maintaining the consistency of data. He stressed the importance of standardisation of codes and of having geo-codes, and of looking at the contents of the information. While India had a very rich Statistical System, with world renowned Statisticians, we should develop our own software packages, rather than borrowing outside ones.

15. Professor Sundaram spoke about the need for strengthening basic data collection systems and for having an alternate system in place before destroying the existing crumbling system. The collectors of information, as well as members of the public, should be motivated to respectively collect and supply the information. He cautioned against the danger of overloading the system, in terms of the volume and frequency of the information, sought to be collected from the same set of people. He also questioned about the ability to

generate value added estimates, when the allocation of specific inputs over individual crops was not available.

16. Prof. Abhijit Sen commented on the adverse effect of the liberalisation process on the clout of the regulatory agencies such as RBI and SEBI, who had to collect data in the financial sector. He also felt that a Task Force should be set up to look into the reuquirements of the statistical system and into data communication issues.

17. Ms. Sally Taylor, from the DFID, Government of U.K., felt that the System should be responsive, demand driven, forward looking, and meet the demands of everybody. It should be valued by Government, in terms of the resources it gets, and should have credibility, integrity and authority. Thirdly, efficient use of limited resource should be made, reducing the user burden. The system should be professional, should have intellectual leadership, should be innovative and have research capacity. It should be integrated with the rest of Government and look at issues such as duplication, common definitions, comparability etc.

18. Dr. P.H.Thakar, Director, Gujarat Government stated that the system should cater to the requirements of planning processes. Out of a universal format, some fields should be left open to the States to collect data according to their individual requirements. Prof. L.K. Deshpande, felt that the system was trying to react to too many demands from various groups, as well as, from international agencies. He questioned as to whether the Department of Statistics should try to satisfy all these demands or whether we should draw a line somewhere, especially in view of the limited resources of the country to meet international commitments. Perhaps, the present discussions could help the Department to draw this line. Prof. Deshpande felt that in the Federal System, there were a lot of problems due to lack of data from the States. Problems of militancy in certain States often resulted in omission of these States, which affected the validity of data.

19. Mr. Asthana informed the gathering about the press note, which had been released on 14 September, 1998 publishing the Government's policy for Dissemination of Data. As regards the time element and the need for wider consultations, he requested the Chairmen of the Working Groups to suggest a time-frame in which the final recommendations could be made available. In his concluding remarks, the Chairman of the Session, Prof. Minhas, remarked that it was important to see how the private sector's role could be enhanced in the system. He urged that there was also a need to involve the political set-up in the effort to set our house in order. The lack of applied research activities in the Sector in the past few years was deplorable and the Indian Statistical Service had not quite lived up to the expectations. There was no harm in associating outsiders in the work of the Department, even if it was for limited periods, as this would help to utilise the expertise available outside the Government system.

Annexure – II

List of the Working Groups

1. Working Group on Data collection at the ground level – Setting up of CLICs

Chairperson	Ms Nirmala Banerjee
Co- Chairman	Mr. Paul Armington
Rapporteurs	Shri R. Bhaskaran, Director E & S, Tamil Nadu Shri G. D. Sharma, J.D., CSO
Group Co-ordinators	Smt. C.G. Lal, Sh. P.K.Dhamija

2. Working Group on Agriculture Statistics

Chairman	Prof. A. Vaidyanathan
Co-Chairman	Prof. Prem Narain
Rapporteurs	Dr. Rajiv Mehta, Dr. N. Eagambaram
Group Co-ordinators	Dr.S.Ray Shri R.C.Sethi

3. Working Group on National Accounts and Informal Sector Statistics

Chairman	Prof. S. Tendulkar
Co-Chairman	Ms. Renana Jhabwala
Rapporteurs	Shri Ramesh Kolli Shri Sanjay Kumar
Group Co-ordinators	Dr. A.C.Kulshreshtha Dr. Gulab Singh

4. Working Group on Financial and Price Statistics

Chairman	Prof. Amresh Bagchi / Dr. Abhijit Sen
Co-Chairman	Dr. A.Vasudevan
Rapporteurs	Shri F. T. Mathew Shri T. V. Raman
Group Co-ordinators	Shri Neelakantan Dr.V.K.Malhotra

5. Working Group on Commerce, Industry and Corporate Sector Statistics

Chairman	Dr.Arun Ghosh
Co- Chairman	Shri Amit Mitra
Rapporteurs	Shri M.S. Maulik Dr. G.M. Boopathy
Group Co-ordinators	Dr. N.S.Sastry Shri Rajeev Lochan

6. Working Group on Socio-Economic Statistics and Labour Statistics

Chairman	Prof. Pravin Visaria
Co-Chairman	Dr.L.K.Deshpande
Rapporteurs	Dr. R. N. Pandey Shri Harish Chandra
Group Co-ordinators	Shri R.L.Narasimhan Shri P.D.Gupta

7. Working Group on Information Technology Needs of the Statistical System

Chairman	Dr. N. Vijayaditya
Co-Chairman	Shri Mahesh Vyas
Rapporteurs	Shri S. K. Nath Shri Pravin Srivastava
Group Co-ordinators	Sh. A. K. Sharma Sh. S. S. Shukla

8. Working Group on Statistical Systems & Statistics for Decentralised Planning

Chairman	Prof. J. Roy
Co-Chairman	Mr. Michael Ward
Rapporteurs	Dr. A. K. Yogi Shri J.P. Mishra
Group Co-ordinators	Dr. Vaskar Saha Shri Vijay Kumar

9. Service and Infrastructure Sector Statistics

Chairperson	Dr. R. Thamarajakshi
Co-Chairman	Prof. Arijit Choudhury
Rapporteurs	Sh. S.N. Singh Sh. Rajiv Sharma
Group Co-ordinators	Sh. K.S.P. Rao Sh. K.L. Taneja

Annexure – III

Details of the Reconstituted Working Groups

(A) Working Group No:5 - Commerce, Industry & Corporate Sector Statistics

(1) Dr. Arun Ghosh ..... Chairman
78 Munirka Enclave
New Delhi

(2) Dr. Chalapati Rao, Associate Professor
Institute for Studies in Industrial Development
Narendra Niketan, IP Estate, New Delhi ..... Member

(3) Shri C.P. Chandrasekhar
Centre for Economic Studies & Planning
Jawaharlal Nehru University
New Mehrauli Road, New Delhi ..... Member

(4) Dr. Biswajit Dhar
Fellow
Research & Information System for Non-Aligned Countries
India Habitat Centre, Lodi Road
New Delhi 110 003 ..... Member

(5) Smt Uma Dutta Roy Chaudhary
D 630 Chittaranjan Park
New Delhi 110 019 ..... Member

(6) Dr. N.S. Sastry
DG & CEO, National Sample Survey Organisation
Department of Statistics
Sardar Patel Bhawan, New Delhi ..... Member

(7) Dr. Shravan Nigam
Economic Adviser, Deptt. of Industrial Policy & Promotion
Ministry of Industry, Udyog Bhawan
New Delhi ..... Member

(8) Dr. C.S. Prasad
Add. Dev. Commissioner & Economic Adviser
O/o Dev. Commr for Small Scale Industries
7th Floor, Nirman Bhawan, New Delhi ..... Member

(9) Dr. Kalyan M. Raipuria
Adviser, Economic Division
Ministry of Commerce
Udyog Bhawan, New Delhi ..... Member

(10) Dr. R.B. Barman
Reserve Bank of India
New Central Office Building
Shaheed Bhagat Singh Marg
Post Box No: 1036, Mumbai 400 023 ..... Member

(11) Shri Jogesh Dash
Director (Research & Statistics)
Department of Company Affairs
Paryavaran Bhawan, CGO Complex
New Delhi ..... Member

(12) Shri Pronab Sen
Adviser
Planning Commission
Yojana Bhawan, New Delhi ..... Member

(13) Shri Jagdish Singh
Additional Director Genderal
Central Statistical Organisation
Deptt of Statistics, SP Bhawan
New Delhi ..... Member

(14) Shri M.S. Maulik
Director (ISD)
Central Statistical Organisation
Deptt. of Statistics
Sardar Patel Bhawan, New Delhi ..... Member-Secretary

(B) Working Group No: 6 - Socio-Economic Statistics and Labour Statistics

(1) Prof. Pravin Visaria
Institute of Economic Growth
University Enclave
Delhi 110 007 ..... Chairman

Labour Sector Statistics:

(2) Shri S.R.S. Gill
Director General, Labour Bureau
Chandigarh ..... Member

(3) Dr. Shailendra Sharma
Adviser
Planning Commission
Yojana Bhawan, New Delhi ..... Member

(4) Shri D.K. Trehan
Labour & Employment Adviser
Ministry of Labour
Shram Shakti Bhawan, New Delhi ..... Member

(5) Shri P.K. Ray
Additional Director
Directorate General of Employment & Training
Shram Shakti Bhawan ..... Member

Education Statistics

(6) Dr. R. R. Saxena
Prof. & Head, Deptt of Educational Survey & Data Processing
NCERT, Sri Aurobindo Marg,
New Delhi 110 016 ..... Member

(7) Shri Champak Chatterji
Joint Secretary (Planning)
Department of Education
Ministry of Human Resource Development
Shastri Bhawan, New Delhi ..... Member

(8) Shri V.P. Garg
Joint Adviser
Planning Commission
Yojana Bhawan, New Delhi ..... Member

(9) Prof. B.G.K. Tilak
Senior Fellow
National Institute of Educational Planning & Administration
17 B, Sri Aurobindo Marg
New Delhi 110 017 ..... Member

Environment Statistics

(10) Prof. Kanchan Chopra
Institute of Economic Growth
University Enclave, Delhi 110 007 ..... Member

(11) Dr. D. Bandopadhyaya
Director
Ministry of Environment & Forests
Paryavaran Bhawan, CGO Complex
Lodhi Road, New Delhi 110 003 ..... Member

(12) Dr. Lalit Kumar
Deputy Adviser (Environment)
Planning Commission, Yojana Bhawan
New Delhi ..... Member

(13) Dr. Sumeet Saxena
Fellow, Tata Energy Research Institute
India Habitat Centre
Lodi Road, New Delhi 110 003 ..... Member

(14) Dr. Anil Aggarwal
Director, Centre for Science & Environment
41 Tughlakabad Institutional Area
New Delhi 110 062 ..... Member

(15) Shri R.L. Narasimhan
Deputy Director General
Central Statistical Organisation
Sardar Patel Bhawan, New Delhi 110 001 ..... Member-Secretary

(C) Participants in the extended session of the Working Group No:9 (Infrastructure and Service Sector Statistics)

1. Dr. (Smt), R. Thamarajakshi — Chairperson
   5/1 M.S. Flats, Shahjahan Road
   New Delhi 110 011

2. Prof. G.K. Chadha,
   Centre for Study of Regional Develeopment,
   School of Social Sciences, JNU
   New Delhi 110 067

3. Dr. S. Nigam
   Economic Adviser, Ministry of Industry
   Deptt of Industrial Policy & Promotion
   Udyog Bhawan, New Delhi

4. Dr. C.S. Prasad
   Addl. Dev. Commr. & EA
   O/o Dev. Commr. for Small Scale Industries
   7th Floor, Nirman Bhawan, New Delhi

5. Shri Vinay D. Lal
   Society for Development Studies, DDA Slum Wing
   Multipurpose Community Complex
   Opposite Pilanji, Sarojini Nagar, New Delhi 110 023)

6. Ms Meeta Mehra
   Tata Energy Research Institute
   India Habitat Centre
   Lodi Road, New Delhi 110 003

7. Shri Manish Dubey
   TARU Leading Edge Pvt. Ltd.
   U-12(SF) Green Park Extn.
   New Delhi 110 016

8. Shri Srikant Joshi
   TARU Leading Edge Pvt. Ltd.

9. Shri M.S. Yadav
   National Council for Public Cooperation in Child Development
   5 Siri Fort Institutional Area, Hauz Khas
   New Delhi 110 016

10. Dr. R. R. Saxena
    Prof. & Head, Deptt of Educational Survey & Data Processing
    NCERT, Sri Aurobindo Marg,
    New Delhi 110 016

11. Shri M.L. Batra
Cenrtral Electricity Authority
R.K. Puram, New Delhi

12. Shri M. Ganesan,
Ministry of Surface Transport
Transport Bhawan, New Delhi

13. Shri Brij Bhushan
Economic Adviser, M/o Urban Affairs
201 'G' Wing, Nirman Bhawan, New Delhi

14. Shri K. S. Prasada Rao,
Director, Deptt of Statistics

15. Shri S.N. Singh,
Joint Director, FOD, New Delhi

16. Shri K.L. Taneja
Joint Director, FOD, New Delhi

17. Shri Sanjay Kumar
Deputy Director, ECD, CSO