

## REGIONAL ACCOUNTS

### Introduction

- 6.1 The system of regional accounts helps in providing an integrated database for compilation of income and other macroeconomic aggregates for taking important decisions at a level smaller than the country. Further, regional accounting helps us to understand in nutshell the innumerable transactions taking place in the regional economy right from the production of goods and services to their final disposal. Though, a region can be northern, southern, part of the country, or it can be a state or province or it can be a district or even tehsil or panchayat, but for the development of regional accounts in India, regions have been considered as co-terminus with the geographical boundaries of the states and sub-regions as districts. Attempts were made, before independence and after independence, by research workers and research organisations to compile the regional level estimates of income by the method of allocation or by direct estimation on the basis of the data collected at the local level or by a combination of the two different approaches depending upon the availability of data.
- 6.2 In India, the work on compilation of *official* estimates of state income started as early as in 1948-49 in the states of Bihar, Uttar Pradesh and West Bengal but the first estimates on state income for the year 1948-49 were published for the erstwhile Bombay State in January 1949 followed by the estimates of Uttar Pradesh and Bihar. Uttar Pradesh was the first state to publish its state income estimates both at current and constant prices as well as with rural and urban break-up. On the recommendations of National Income Committee (NIC) in early fifties, a few other states including Madhya Pradesh, Assam and West Bengal also came out with their first estimates on state income. Method of compilation of these estimates has been more or less uniform like, value added (Production Approach) for commodity producing sectors and Income Approach for other sectors. Following these initiatives, at the Fifth Joint Conference of Central and State statisticians held at Jaipur in 1956, it was recommended that all states should make efforts to prepare their state income estimates, broadly following the method recommended by the NIC for the preparation of such estimates at all-India level. At the same conference, it was also suggested that at the first instance, states might prepare estimates only for commodity producing sectors and publish them accordingly along with the concepts, definition and methodology. Then, at the Preliminary Conference on Research in National Income in 1957, it was recommended to constitute a Working Group consisting of the workers engaged in the state income estimation from central and state statistical organisations and other agencies to review the work done on the subject in different states, and establish standard concepts, definitions and method of estimation of state income, keeping in view the nature of statistics/data available in each state. The Working Group, so established by the Central Statistical Organisation (CSO), studied the estimates prepared by different states at that time, and gave recommendations for improvement in the procedure and to locate new sources of data. It recommended 'farm management studies' for improvement of the data on input structure of the agriculture sector and collection of basic data in sectors like unregistered manufacturing, construction, trade, transport by means other than railways and other services. Working Group also suggested standard methodologies for estimation of state income for nearly all the sectors of the economy. Most of the states followed the standard methodologies for the six commodity producing sectors, viz. agriculture, animal husbandry, forestry, fishing, mining & quarrying and manufacturing (registered). However, due to unsatisfactory data position in many states, only a few states prepared estimates for other sectors following the standard methodology. The issue of regional accounting and preparation of regional macro-economic aggregates was also discussed in depth at the Mahabaleshwar seminar of Indian Association for Research in National Income & Wealth (IARNIW) held in 1971.
- 6.3 On the recommendations of the First & Second Conference of Central and State Statistical Organisations (COCSSO) held at Bhopal in September 1971 and in New Delhi in February 1975, two Working Groups on Regional Level Statistics were constituted who while submitting their reports recommended development of a strong infrastructure for collection of statistics at District and lower level statistical organisations.

6.4 As a follow-up of the recommendations of the COCSSO, the Government of India in May 1972 set up a Committee on Regional Accounts (RAC) with the following terms of reference:

- to consider and advise on the levels (state, district or other regions) at which accounts should be prepared;
- to devise a system of regional accounts and standard supporting and supplementary tables for adoption by all the states;
- to suggest measures for building up regional accounts in the country taking into consideration the availability of data and requirements of Central and State Governments; and
- to examine the concepts, definitions, and classifications for preparation of regional accounts and to lay down guidelines.

6.5 The Committee submitted its First Report to the Government in November 1974, and the Second/Final Report in September 1976. In its report, the Committee recommended a System of Regional Accounts (SRA), which consists of consolidated accounts for the region, accounts for the household sector and accounts relating to the public sector. It also described the concepts, coverage and method of estimation of various aggregates appearing in the Accounts and Standard Tables. Further the report dealt with the major gaps in the data system and made recommendations for collection of essential statistics required for satisfactory measurement of regional income and related aggregates and construction of the recommended system of Regional Accounts. The Committee felt that an accounting frame-work for the states could be recommended but there was little point in recommending one for regions smaller than states, like district.

6.6 The committee in its recommendations had also suggested compilation of state level input-output tables, district level estimates for, at least, commodity producing sectors and comparable estimates based on purchasing power parity of the rupee in different states on the lines of the United Nations project on International Comparison of National Accounts aggregates to remove the price differentials in different regional estimates.

6.7 The RAC in its First Report recommended a set of Standard Tables for recording and presenting information for the states and

possibly for other geographical regions/areas smaller than the country. During its first report, the Committee did not present a set of regional accounts primarily because the regional accounts raised some conceptual as well as data problems which were different from those connected with the preparation of accounts at the national level and had to be resolved prior to the preparation of regional accounts. The main problem, which the Committee identified during its earlier deliberations, were in respect of savings, change in stocks and external trade and finances. The Committee had felt that without the availability of relevant data and the clarification of the conceptual problems involved it would be futile to recommend a system of accounts at the regional level.

6.8 The standard tables recommended by the Committee in its first report cover all aspects of economic transactions other than those mentioned above. The Committee had recommended the preparation of these tables at the regional level with the hope that this exercise would generate sufficient interest at the regional level in the form of collection of data and preparation of fresh estimates and the time would then be ripe for considering the system of regional accounts, which could be recommended for adoption. In its first report, the committee also published the results of an exercise undertaken by the State/UT Directorates of Economics & Statistics (DESS), Maharashtra for filling up the recommended tables with data pertaining to Maharashtra. Later, the Committee recommended a set of regional accounts in its final report submitted to the Government of India in September 1976.

6.9 The SRA recommendations in the final report of the Committee consisted of a set of three consolidated accounts for each region relating to (i) production, (ii) income and outlay, and (iii) capital finance; two accounts giving the transactions of the households (defined to include unincorporated enterprises) and the population in the form of income, outlay and expenditure; and the public sector accounts separately for administrative departments, departmental enterprises and non-departmental enterprises. No system of accounts is complete without the supporting tables which give further details on the transactions covered in the accounts.

6.10 Summary of recommendations of the Committee on Regional Accounts have been reproduced in Appendix-6.1.

- 6.11 With the progress of time, the work on estimation of state income has improved and expanded in different states. At present, practically all the States and Union Territories (UTs) of India compute state income estimates and are preparing district level estimates as well. These estimates are prepared by the State Income Units of the respective State Directorates of Economics and Statistics (DESs). The Central Statistical Organisation assists the States in the preparation of these estimates by rendering advice on conceptual and methodological problems.

### Concepts and methodology

- 6.12 State Income or Net State Domestic Product (NSDP) is a measure in monetary terms of the volume of all goods and services produced in the state within a given period of time (generally a year) accounted without duplication. The estimates of NSDP are net of Consumption of Fixed capital (CFC) and are obtained by subtracting the CFC from Gross State Domestic Product (GSDP). The estimates of CFC are compiled at the national level using the estimates of asset wise Net Fixed Capital Stock (NFCS) and average life of asset, following the procedure of perpetual inventory method (PIM). The national level estimates of CFC are allocated to states using appropriate indicators. For example, in the case of agriculture sector, the indicators of (i) public part, (ii) plantation and (iii) private part are the (a) capital assets and capital outlay of irrigation departments, (b) area under crops and (c) fixed assets of cultivator households (from AIDIS), respectively. In the case of forestry and logging, fishing, mining & quarrying, and construction sectors, the indicators are the respective sectors' estimates of GSDP. For electricity, gas & water supply sector, the indicator is the fixed assets, and for trade, transport by other means and other services, the indicators are the state-wise fixed assets of respective services, as available from NSS 57<sup>th</sup> Round survey. For the manufacturing (registered) and manufacturing (unregistered) sectors, the indicators are state-wise fixed assets data available from the ASI and NSS 56<sup>th</sup> Round survey, respectively.
- 6.13 Conceptually, the estimates of State Income can be prepared by adopting two approaches, namely, income originating and income accruing. In the income originating approach, the measurement corresponds to income originating to the factors of production physically located within the

geographical boundaries of the state and represents gross/net value of goods and services produced within the state. On the other hand, the income accruing approach relates to the income accruing to the normal residents of a state. Since this measures the income that become available to the residents of a state, it provides a better measure of welfare of the residents of the state. However, for compiling the State Domestic Product (SDP) estimates by income accruing approach one needs data on flows of factor incomes to/from the boundaries of state i.e. on inter-state flows as well as flows to/from abroad. Due to lack of availability of these data, presently, the estimates of SDP are compiled by the respective Directorates of Economics & Statistics (DES) in the States (state agencies responsible for the regional statistics), following the income originating approach. Thus the current concept of compiling the GSDP/NSDP is similar to that of compiling the GDP/NDP of the entire economy i.e., measuring the volume in monetary terms, the total value of goods and services produced within the geographical boundary of the state.

- 6.14 Per Capita State Income is obtained by dividing the NSDP (State Income) by mid-year projected population of the state and is in contrast to the Per Capita National Income which is obtained by dividing the Net national Product (NNP) by the mid-year population of the country. Thus compilation of Per Capita State Income is based on income originating approach whereas compilation of Per Capita National Income is based on income accruing approach.
- 6.15 The general methodology for compiling the estimates of state income is to first compile the estimates at disaggregated level for each economic activity and then aggregating them for the whole region/state. The estimates for commodity producing sectors like agriculture, forestry, fishing, mining & quarrying, manufacturing, etc. are prepared using the production approach i.e. measuring the value of output and deducting there from the cost of material inputs used in the process of production. In the services sectors (non-public segment) like trade, transport, hotels & restaurants etc., the estimates are prepared by income approach, specifically, by multiplying the value added per worker by the number of workers, for the benchmark estimates and extrapolating these benchmark estimates with suitable indicators for the annual estimates. The information on value added per worker is

obtained from the relevant Enterprise Surveys conducted for the purpose. The estimates of workforce are obtained using the results of large-scale sample surveys on employment & unemployment conducted by National Sample Survey Organisation (NSSO) and decennial population census carried out in the country by the Office of Registrar General of India (RGI) and Census Commissioner.

- 6.16 In the preparation of state income estimates, certain activities cut across state boundaries, and thus their economic contribution cannot be assigned to any one state directly. Such activities are Railways, Communications, Banking & Insurance and Central Government Administration, and are known as the *Supra-regional sectors* of the economy. The estimates for these supra regional activities are compiled for the economy as a whole and allocated to the states on the basis of relevant indicators. In the case of railways, the indicators are based on the track length and passenger/goods carried where as in other supra regional sectors it is the number of employees posted/allocated in the state. Certain activities like, defence, para military, border security force, high seas drilling etc. are still kept outside the purview of the state income estimation.
- 6.17 The following paragraphs give in brief the methodology for preparation of state-wise estimates from these sectors, although there could be deviations in methodology in some states, owing to availability of data.

### **Agriculture and Allied activities**

- 6.18 The sector comprises agriculture proper, livestock and livestock products and operation of irrigation system. The economic activities included in agriculture proper are (i) growing of field crops, fruits, nuts, seeds and vegetables, (ii) management of tea, coffee and rubber plantations, (iii) agricultural and horticultural services on a fee or on contract basis such as harvesting, baling and thrashing, preparation of tobacco for marketing, pest control, spraying, pruning, picking and packing and (iv) ancillary activities of cultivators such as gur making, transportation of own produce to primary markets, activities yielding rental income from farm buildings and farm machinery. Livestock and livestock products include breeding and rearing of animals and poultry besides private veterinary services, production of milk, slaughtering, preparation and dressing of meat, production of raw hides and skins, eggs,

dung, raw wool, honey and silk worm cocoons etc. Operation of irrigation system comprises supply of water through various Government channels to the agricultural producers. Agriculture and livestock activities go together as it is not always feasible to segregate the various inputs like livestock feed, repairs and maintenance costs, CFC etc., into those used in agricultural and livestock production.

- 6.19 *Agriculture Output*: The estimates of GSDP for this activity are compiled by the production method except for the operation of government irrigation system, for which the income method is followed. As mentioned earlier, the value of output is estimated for agriculture and livestock separately but the value-added estimates are prepared for the combined activity. The value of output of each crop is obtained as the product of area, yield & price or output & price as the case may be.
- 6.20 The estimates of area and output of principal crops are provided by the State Directorates of Agriculture / State Directorates of Economics and Statistics (DES), depending upon whichever agency is declared as the State Agricultural Statistics Authority (SASA). In respect of horticultural crops, the information on area and output is taken from the State Directorates of Horticulture/SASAs/National Horticulture Board (NHB), depending upon the data availability. The information on area and production in respect of floriculture is obtained from the office of National Horticulture Board (NHB). In the case of sugarcane, output excluding the quantity converted into gur by the cane growers, is estimated and output from gur is evaluated separately. The estimates of output for miscellaneous and unspecified crops are obtained by applying the appropriate average value of Yield Per Hectare (YPH), and the area under the crop. The value of by-products, viz., stalks, straw, etc. are estimated by applying the YPH as available from the cost of cultivation studies (CCS). For estimating the value of output of crops, fruits, vegetables etc. in foreyard/backyard of houses, the information available in the Report "Operational Land Holdings and Livestock Holding Survey, 1991-92, NSSO (48<sup>th</sup> Round)" is used. Using the results of this survey, it is estimated that the total area under kitchen garden works out to be 0.21 per cent of the total rural area operated at all-India level. The same norm of 0.21 per cent of the rural area operated is used in the states. For deriving the value of output

of crops in foreyard/backyard, the YPH of fruits and vegetables crops is used.

- 6.21 Valuation of crop production is done by multiplying the quantities of production by the corresponding producers prices. The source of data used in the preparation of the value of output is as under:
- (i) The estimates of outturn for principal crops are based on the results of the crop estimation surveys conducted annually by the State Government Agencies. These are compiled and published annually by the Directorate of Economics and Statistics, Ministry of Agriculture (DESAg) in their annual publication captioned 'Estimation of Area and Production of Principal crops in India'. For evaluation purposes of these crops, the producers' prices correspond to average wholesale prices ruling in the primary markets during the peak marketing periods and are compiled by the State Directorates of Economics and Statistics (DESs).
  - (ii) In respect of coffee, rubber and opium, the statistics of production and prices are available from the Coffee Board, Rubber Board and Central Bureau of Narcotics, respectively. In case of tea, the estimates of output available from Tea Board relate to production of processed tea, instead of raw tea leaves. The production of tea leaves has been estimated as 4.44 times the processed tea, the source of which is the Tea Board.
  - (iii) In respect of unspecified and miscellaneous crop and crop groups viz. (a) other cereals, (b) other oil seeds, (c) other sugars, (d) other fibres, (e) dyes and tanning material, (f) other drugs and narcotics, (g) other condiments and spices, (h) other fruits and vegetables and (i) miscellaneous crops (fodder, grass, misc. food and non food crops), the out turn estimates are not directly available for all these crops. To the extent possible, data on related crops are utilized. The value of output in respect of these crops or crop groups is estimated by utilising the area estimates under these categories or crop groups as available from the annual publication, 'Land Utilisation Statistics (LUS)' of DESAg. By applying an appropriate value of yield per hectare to the total estimated area under each of these groups/crop groups, the estimates of value of output are obtained.
  - (iv) For estimating the value of by-products, viz. straw and stalks of various crops, annual data on value of yield per hectare as available from the cost of cultivation studies coordinated by the Ministry of Agriculture, are used.
- (v) In respect of fruits and vegetables crops and floriculture, a complete database, state-wise, is published annually in the publication "Indian Horticulture Data Base" of National Horticulture Board (NHB), Ministry of Agriculture. It is being used in addition to existing data sources since 1993-94 for estimating the value of output of fruits and vegetables crops and their prices.
- (vi) For estimating the production of crops in foreyard/backyard of houses, information available in the report "Operational Land Holdings in India, 1991-92, Salient Features" March 1997 and Livestock Holdings, 1991-92, NSS (48<sup>th</sup> Round) has been used to estimate the total area under the kitchen garden.
- 6.22 The Livestock sector for the purpose of estimation of value of output has been divided into 7 broad groups. The groups are:
1. Milk
  2. Meat
  3. Eggs
  4. Wool
  5. Dung
  6. Silk Worm cocoons and Honey
  7. Increment in stock
- 6.23 Valuation of Livestock production is done by multiplying the quantities of production by the corresponding producers prices. The source of data used in the preparation of the value of output is as under: -
- (i) The State Animal Husbandry Departments compile the estimates of milk, eggs and wool based on the results of Integrated Sample Surveys (ISS) and the 5-yearly livestock censuses. These production estimates are used for estimating value of output from these products.
  - (ii) Meat group comprises of Meat (Beef, mutton, pork including edible offals and glands and poultry meat), meat products (fats, heads, legs) and by-products comprising hides (cattle and buffalos hides), skins (goat & sheep skin) and other products (guts, blood, bones, horns, hoofs, tail stump, useless meat and oesophagus). The State Animal Husbandry Departments and State's Directorate of Economics and Statistics (DES) maintain these data.
  - (iii) The estimates of other meat products and by-products are based on number of slaughtered animals and fallen animals wherever applicable and the

corresponding yield rates. The estimates of poultry meat are prepared using the information on utilization of eggs and chicken survived. These data are collected through ISS in some of the states. Indian Agricultural Statistics Research Institute (IASRI) and some of the State Animal Husbandry departments also conducted poultry surveys and collected these data. Poultry meat is estimated in terms of number of adult fowls & chickens slaughtered.

- (iv) The estimates of goat hair and pig bristles are prepared on the basis of information on yield per animal collected through the studies carried out by the CSO.
- (v) The estimates of production of dung are prepared on the basis of information available through ISS. Dung is used as manure as well as fuel. The utilization rates of dung a) used as manure and b) used as fuel are based on past studies of the Ministry of Agriculture.
- (vi) The estimates of production of silkworm cocoons by types (viz. mulberry, tasar, ericot and muga) obtained from Central Silk Board and Khadi and Village Industries Commission (KVIC) respectively are the source.
- (vii) The annual net increase in the population in each state is estimated respectively for each category of livestock on the basis of livestock population projections. The population is projected on the basis of inter censal population growth of animals.
- (viii) The prices of livestock products are collected by State DESs.

6.24 The following is the sources and procedures followed by States for estimating the value of inputs in agriculture sector.

**Seed:** Seed rates are supplied to the states by the CSO based on the cost of cultivation studies (CCS) conducted by the Directorate of Economics & Statistics, Ministry of Agriculture, Government of India, through the Agricultural Universities.

**Fertiliser/Manure:** The estimates of consumption of chemical fertilisers in different States are available from the data on dispatches to different States published by the Fertiliser Association of India (FAI). The estimates of organic manure, is the same as the output of dung manure included under the livestock output.

**Feed:** The entire value of cane trash, fodder and grass and 95 per cent of value of stalks and straw are considered as value of feed. The estimates of concentrates, salt and

medicines are based on the results of NSSO surveys.

**Irrigation Charges:** The information on receipts from water rates which include payments made by the agricultural producers to the government in lieu of water supplied to them from Government owned canals and other means of irrigation, is compiled from the State Government budget documents. Similar information in respect of irrigation system from Government tube wells operated by District Panchayats and State Water Resources Development Corporation Ltd. is also used while estimating the value of irrigation charges.

**Market charges:** Estimates of market charges paid by agricultural producers for various commodities are prepared by the CSO and are made available to states. These are estimated using the data available from the survey on market margins on major crops, which is conducted by the DESAg, at the time of revising the base year of national accounts series. The rate of market charges to total value of output is derived from these studies and is applied on the value of output at State and Central level, each year till the rate is revised again at the time of next base year. The present rate used for market charges is 2.38 per cent.

**Electricity:** Electricity supplied to agriculture sector is taken as input, information for which is available from the Annual Accounts of State Electricity Boards.

**Diesel Oil:** The estimates are prepared by the States based on consumption of diesel oil per engine and per tractor as collected through the cost of cultivation studies. The data on number of diesel engines and tractors, at State level, is available from the Indian Livestock Census (ILC) and the State Transport Departments.

**Repairs and Maintenance:** The estimates are prepared by CSO using the results of 'All India Debt & Investment Surveys' conducted every 10 years, and supplied to states.

**FISIM:** The imputed bank charges or FISIM for the agriculture sector are taken in proportion to the GSDP of this sector.

### Forestry and Logging

- 6.25 The economic activities under this include (i) forestry (e.g., planting and conservation of forests, gathering of forest products,

charcoal burning carried out in the forests), (ii) logging (e.g., felling and rough cutting of trees, hewing or rough shaping of poles, blocks etc.) and transportation of forest products to the sale depots/assembly centers and, (iii) farmyard wood (industrial wood and fuel wood collected by the primary producers from trees outside regular forests). The forest products are classified into two broad groups viz., (a) major products comprising industrial wood (timber, Round wood, match and pulpwood) & fuel wood (firewood and charcoal wood) and (b) minor products comprising a large number of heterogeneous items such as bamboo, fodder, lac, sandalwood, honey, resin, gum, tendu leaves etc.

- 6.26 Estimates of GSDP are prepared following the production method. Gross value of output is estimated separately for (a) Industrial wood, (b) Fuel wood and (c) minor forest products. Estimates of industrial wood are based on data received from the office of the Principal Chief Conservator of Forest (PCCF) in the state for recorded production. Since the value of unrecorded production is not available regularly, 10% of the value of recorded production is taken as the value of unrecorded production. For estimating the value of output of industrial wood, prices as available from forest sale depots and supplied by PCCF are used. The value of fuel wood is estimated from the consumption side using the results of NSSO consumption expenditure surveys during 50<sup>th</sup> (1993-94) and 55<sup>th</sup> (1999-2000) rounds. The estimates so derived are reduced by the actual value of agriculture by-product, namely, cotton sticks, arhar sticks, jute sticks and bagasse, which is taken into account in the agriculture sector (to avoid double counting) since these by-products are also consumed as fuel by the households. These estimates are then inflated by 6 per cent (estimated from input-output tables) to account for consumption of fuel wood by the industries and on funerals. Estimates of minor forest products are based on data directly available from the office of the PCCF. In the absence of information on inputs, 10 per cent of the value of output is taken as inputs.

### **Fishing**

- 6.27 The activities covered in the fishing are (i) commercial fishing in (a) ocean, coastal and offshore waters and (b) inland waters, that include catching, tackling and gathering of fish from rivers, irrigation and other canals, lakes, tanks, fields inundated tracts etc., (ii)

subsistence fishing in inland waters and artificial ponds, (iii) gathering of sea weeds, sea shells, pearls, sponges and other ocean and coastal water products and (iv) fish curing viz., salting and sun-drying of fish.

- 6.28 Estimates of GSDP of this sector are prepared by following the production method. Gross value of output is estimated from output and prices of inland, marine fish (including deep sea fishing) and prawns/shrimps (sold in raw form), sun dried fish, salted fish, frozen and smoking fish as furnished by the State Commissionerate/Directorate of Fisheries. Estimates of subsistence fishing are also included in the GSDP of the state. The value of inputs and operational costs is taken as 22.5%, 10%, 22.5%, 1% and 1% of the value of output for the items, marine fish, inland fish, prawns, subsistence fish and salted fish respectively.

### **Mining and Quarrying**

- 6.29 The economic activities covered in this sector comprise extraction of minerals which occur in nature as solids, liquids or gases; underground and surface mines, quarries and oil wells, with all supplementary operations for dressing and beneficiating ores and other crude minerals such as crushing, screening, washing, cleaning, grading, milling, floatation, melting, pelletising, topping and other preparations needed to render the material marketable. All these activities are covered to the extent they are carried on at the mine site or up to the first point of sale. Production of rock salt is included but production of salt obtained by evaporation of water from sea, lake etc., is excluded from the purview of this sector and included under 'manufacturing'. Similarly, large expenditure on preparing mining sites, prospecting and boring activities are not included here as they are included under the 'construction' sector.

- 6.30 Estimates of GSDP in this sector are compiled following the production method by calculating the value of output of each mineral in the state and deducting therefrom the value of corresponding inputs. State wise and mineral wise data on output (production & prices) of all minerals (except minor minerals, crude petroleum & natural gas) are obtained from the publication of Indian Bureau of Mines (IBM), Nagpur. Production in respect of minor minerals is collected from State Directorate of Geology and Mining. The production data in respect of crude petroleum & natural gas, as obtained from

the Ministry of Petroleum and Natural Gas, are supplied by the CSO to the states. The deductible rates (i.e. inputs) in respect of all minerals, except minor minerals and fuel minerals are obtained from IBM. Input rates for minor minerals are based on NSSO survey or IBM. In case of fuel minerals, input rates for coal, lignite and petroleum, as obtained from the Office of the Coal Controller, Neyveli Lignite Corporation and Oil and Natural Gas Corporation (ONGC), are supplied by the CSO to the States.

### **Manufacturing (registered)**

- 6.31 A 'manufacturing process', in general, is defined as any process for making, altering, repairing, finishing, packing, oiling, washing, cleaning, breaking up, demolishing or otherwise treating or adapting any article or substance with a view to its use, sale, transport, delivery or disposal. Railway workshops are included under manufacturing and not under railways. Conversion of sugarcane into indigenous gur, slaughtering of animals and dressing of meat carried out by farmers and individuals are excluded from the scope of manufacturing activities, as these are included under agriculture activities. Production in defence establishments is included under manufacturing.
- 6.32 For the purposes of estimation of GSDP, the entire manufacturing activities are classified into two broad segments, namely, manufacturing – registered and unregistered. The registered manufacturing segment covers all manufacturing factories registered under sections 2m(i) and 2m(ii) of the Indian Factories Act, 1948 which respectively refer to the factories employing 10 or more workers and using power or those employing 20 or more workers but not using power on any day of the preceding 12 months and bidi and cigar establishments registered under Bidi and Cigar Workers (Condition of Employment) Act, 1966 and employing 10 or more workers using power or 20 or more workers and not using power.
- 6.33 Estimates of GSDP for registered manufacturing are prepared by following the production method. The industry-wise estimates are prepared on the basis of results of Annual Survey of Industries.
- 6.34 For the years for which ASI results are not available, the growth observed in the Index of Industrial Production (IIP) of either the State IIP or the all India IIP of the CSO, is used at compilation category level. These estimates, as prepared by State, undergo

changes as soon as ASI results become available.

### **Manufacturing (unregistered)**

- 6.35 The unregistered manufacturing segment - being complementary to registered manufacturing segment - covers all those units which are not covered under the registered manufacturing segment. In other words, the unregistered manufacturing segment covers all the manufacturing, processing, repair & maintenance services units employing less than 10 workers and using power or less than 20 workers and not using power. It, by implication, also covers own account enterprises (OAE) engaged in the manufacturing activities.
- 6.36 Estimates for manufacturing (unregistered) are first compiled for the base year and are extrapolated to later years using relevant indicators. The estimates of GSDP from manufacturing (Unregistered) for the base year are compiled by multiplying the workforce engaged in manufacturing unregistered with the value added per worker (VAPW) (compiled at compilation category level, separately for rural and urban areas). The base year estimates are also compiled separately for the units belonging to the Small Scale Industries (SSI) segment and other non-SSI segment of unregistered manufacturing sector. The estimates for the units belonging to SSI sector for the 1999-2000 base year series are based on the state wise results of Third All-India Census on SSI Units, 2001-02 published by Development Commissioner, Small Scale Industries (DCSSI) and the value added ratios of unorganized manufacturing sector estimated from NSS 56<sup>th</sup> (2000-01) survey. The estimates for the non-SSI segment have been compiled, at compilation category level (also separately for rural and urban) using the value added per worker estimates from NSS 56<sup>th</sup> Round results and the corresponding estimates of workforce from the results of NSS 55<sup>th</sup> (1999-2000) Round (workforce participation rates from NSS 55<sup>th</sup> Round and population data from the Population Census, 2001). Suitable adjustments are made to bring the estimates to the price levels of 1999-2000, in respect of data pertaining to the years other than 1999-2000. Estimates for subsequent years are first worked out at constant prices and the constant price estimates are then inflated by relevant price indices to obtain the current price estimates for the corresponding years. The estimates at constant prices for the subsequent years



are compiled by moving forward the industry wise estimates for the year 1999-2000 with the help of either all-India IIP or the State level IIP, if available, at the compilation category level.

### **Electricity, Gas and Water Supply**

6.37 The economic activities relating to generation, transmission and distribution of electric energy are covered under the electricity sub-sector, the manufacture of gas in gas works including gobar gas and distribution through mains to household, industrial, commercial and other users are covered under the gas sub-sector and the activities associated with collection, purification and distribution of water excluding the operation of irrigation system are covered under water supply sub-sector. The production of LPG has been included under manufacturing and only supply of gas through pipelines, where it can not be alienated from the activity of its manufacturing, is included in the gas sub-sector.

6.38 **Electricity:** The GSDP estimates for this sub-sector are prepared using the income method. The estimates are based on the analysis of annual accounts of State Electricity Boards and other electricity undertakings located in the State. The value added estimates of central undertakings, viz. National Thermal Power Corporation, National Hydro Power Corporation and Power Grid Corporation made available by the CSO, are also added.

6.39 **Gas:** The Gas sub-sector comprises Gobar Gas and other Gas. The estimates of Gobar Gas are compiled using data available from the Ministry of Non-Conventional Energy Sources and Khadi & Village Industries Commission (KVIC). In the absence of input structure, the gross value of output of Gobar Gas is treated as value added, on the assumption that the value of Gobar used in manufacturing of Gas also results in equivalent value of by products in the form of indigenous fertilizers (manure). The estimates of GSDP in respect of Gobar Gas are prepared on the basis of value of production per plant (estimated on the basis of KVIC data) multiplied by total number of plants installed up to the current year, as furnished by Ministry of Non-Conventional Energy Sources. The estimates of GSDP in respect of 'other gas' compiled by the CSO, using the data supplied by Gas Authority of India Limited, are also added.

6.40 **Water Supply:** The estimates of SDP for water supply are compiled for the public and private sectors separately following the income method. The estimates of public sector in respect of State Government are compiled from the Budget documents where as those for Local Bodies are based on the information obtained from District Panchayats, Municipalities, Corporations and State Water Supply & Sewerage Boards. The estimates of private sector are prepared separately for rural and urban areas using NSS workforce and average compensation of municipal workers engaged in Water Supply services. The average compensation of all the 5 type of municipalities i.e. with population (i) 5 lakhs and above, (ii) 1 lakh up to 5 lakhs, (iii) 75000 to 1 lakh, (iv) 50000 to 75000, and (v) below 50000, are used for urban areas whereas the average compensation of the smallest municipality (below 50000) are used for rural areas. The smallest slab of municipalities is taken as the proxy for rural segment on the assumption that these municipalities are close to the rural areas. The private sector workforce is obtained after subtracting the public sector workforce, as obtained from the state Directorate of Employment & Training (DE&T), from the corresponding total workforce of the water supply services. This exercise is done for the base year only. However, for subsequent years the workforce is projected using the growth observed in employment of municipal workers of water supply.

### **Construction**

6.41 The construction activity as per the International Standard Industrial Classification (ISIC) adopted in the System of National Accounts (SNA) consists of contract construction by general builders, civil engineering contractors and special trade contractors. Also included is own account construction carried out by independent units of enterprises or other organisations, which are not part of the construction industry proper. But, owing to the problems of availability of data separately for units carrying out construction work, construction industry, for the purpose of estimating domestic product, is taken to include the whole of construction activity (contractual as well as own account) including construction work connected with planting and cultivating of new forests, plantations and orchards. Due to lack of data, demolition activities have, however, been excluded.

- 6.42 The estimates of value added from construction activity are prepared independently for the following categories by adopting expenditure method.
- (i) Public sector:* covering (1) state government administrative departments, local bodies, all state departmental enterprises both of states and local bodies; (2) central government administrative departments and departmental enterprises other than railways and communication and repair and maintenance expenditure in respect of Defence Services; (3) railways; (4) communications and (5) non-departmental commercial undertakings excluding air and water transport, banking and insurance (only capital expenditure).
- (ii) Household Sector:* covering (1) Rural residential buildings, (2) Urban residential buildings, (3) Rural non-residential buildings, (4) Urban non-residential buildings, and (5) Rural and urban other construction works in the household sector.
- (iii) Residual:* comprising of construction undertaken by private corporate sector, other private un-incorporated enterprises and private non-profit institutions including quasi corporate bodies, besides part of public sector namely, air and water transport, banking and insurance, public non-profit institutions including quasi-Government bodies, repair and maintenance expenditure in respect of Defence Services and the entire repair and maintenance expenditure in respect of non-departmental commercial undertakings.
- 6.43 The data on expenditure on new construction and repair and maintenance of the state government administrative departments and their departmental enterprises are directly available from the analysis of the relevant budget documents. In case of local bodies, the data are directly collected from the local bodies in the state where as the data on capital expenditure for Non Departmental Commercial Undertakings (NDCUs) are made available to states by the CSO.
- 6.44 The data on expenditure on new construction and repair and maintenance of the Central Government Administrative Departments (except of Defence Services), local bodies and their departmental enterprises except railways and communication, as available from the analysis of the central budget documents, are prepared by the CSO and made available to the States. Also, for railways and communication, the estimates are being prepared by CSO and made available to states.
- 6.45 The state-wise estimates of expenditure on new construction and repairs and maintenance in rural and urban residential buildings are available in the latest All India Debt & Investment Survey (AIDIS), brought out by NSSO. These estimates of expenditure on new construction and repairs & maintenance as available from this survey results are moved to later years with the help of geometric growth rate of rural and urban census dwellings based on 1991 and 2001 Population Census data. Price changes are superimposed with the help of the index of cost of construction of rural/urban buildings to obtain the estimates at current prices.
- 6.46 The state-wise estimates of new construction and repairs and maintenance in respect of rural non-residential buildings, urban non residential buildings and other construction works for benchmark year are also available from the aforesaid results of AIDIS. The estimates of base year are moved to later years with the help of weighted index of value of output from 'agriculture excluding livestock' and 'registered manufacturing'.
- 6.47 The estimates of gross value of output from residual category are prepared by CSO and made available to states.
- Trade, Hotels and Restaurants**
- 6.48 The Trade sector includes wholesale and retail trade in all commodities whether produced domestically, imported or exported. It covers activities of purchase and selling agents, brokers and auctioneers. Wholesale trade covers units, which resell without transformation, new and used goods generally to the retailer and industries, commercial establishments, institutional and professional users or to other wholesalers. Retail trade covers units, which mainly resell without transformation new and used goods for personal or household consumption. This sector, now, also comprises of maintenance and repair of motor vehicles and repair of personal household goods. As per NIC 1998 classification, this sector consists of following five categories:
- ✚ Maintenance and repair of motor vehicles (502+50404);
  - ✚ Sale of motor vehicles (50-502-50404);
  - ✚ Whole sale trade except of motor vehicles + Auctioning activities (51+74991);

- ✚ Repair of personal household goods (526); and
- ✚ Retail trade (except motor vehicles) (52-526).

6.49 The estimates of GSDP for this segment of activities are prepared separately for public, private organised and private un-organised parts.

*(i) Public Sector:* The estimates of GSDP for public part are prepared by the CSO on the basis of analysis of the budget documents of central/state/local governments and annual accounts of NDCUs and made available to the states.

*(ii) Private organised segment:* Estimates for private organised part are first prepared at national level using RBI studies of company finances of a sample of companies and information available from NABARD on cooperative societies. Then, the national level GVA estimates are allocated among states in proportion to respective workforce obtained from Directorate General of Employment & Training (DGE&T). These estimates are prepared by the CSO and made available to states.

*(iii) Private un-organised segment:* The base year (1999-2000) estimates are prepared as a product of VAPW and workforce. For trade sector, the estimates of VAPW as obtained from NSS 55<sup>th</sup> Round informal sector survey are used. In the case of hotels and restaurants, the estimates of VAPW as obtained from the NSS 57<sup>th</sup> Round survey results are used. The public and private organised sector workforce as obtained from the state Directorate of Employment & Training (DE&T), is subtracted from the total workforce of 1999-2000 for rural/urban areas to get the estimates of workforce in rural/urban areas for private un-organised segment. For the base year, the estimates from private un-organised sector of trade and hotels and restaurants are prepared separately. For subsequent years, the combined base year estimates of trade, hotels & restaurants are moved with the help of Index of State Gross Trading Income (GTI) of commodity producing sectors. The GTI is computed using the marketable surplus of the commodities produced and the trade margins in respect of these commodities.

### **Transport, Storage, Communication**

6.50 The economic activities covered in this sector are (i) transport by railways, (ii) transport by other means, namely, road

transport (mechanised and non-mechanised), water transport (coastal, ocean and inland), air transport and services incidental to transport, (iii) storage, (iv) communication services rendered by Post & Tele-communication Departments and Overseas Communication Services. The budgets of the railways and communication services which are integral part of Central Government budget documents include allied activities which according to standard industrial classification should belong to respective sectors. Following this principle, railway workshops and railway manufacturing establishments like Chittaranjan Locomotive Works, Integral Coach Factory, Diesel Locomotive Works and Wheel & Axle Plant are excluded from railway transport and included under the 'manufacturing' activities. Construction activity of the railways is also excluded and taken into account in the 'construction' sector. Expenditure on education, medical & health services are also excluded here and included in 'other services'. Similarly, the activities relating to post office savings bank, postal life insurance and telecommunication workshops are excluded from communication and included in banking, insurance and manufacturing sectors, respectively.

6.51 Estimates of GSDP for railways and communications are considered as part of supra-regional sectors and the national level estimates are allocated to States by the CSO. The methodology for compiling the estimates for other activities under this group is discussed below.

### **Transport (other than Railways)**

6.52 *Mechanised road transport (Public sector):* The estimates of GSDP for this segment are obtained through economic analysis of annual reports/accounts for non-departmental transport undertakings in the state.

6.53 *Mechanised road transport (Private sector):* The estimates of GSDP for this segment are worked out separately for the compilation categories, by multiplying workforce with respective VAPW. Public sector workforce obtained from the DGE&T is subtracted from the total workforce to get the estimates of workforce of the private segment for respective categories. The data on VAPW is from the results of NSS 57<sup>th</sup> Round survey on services sectors. For subsequent years, the total workforce for the base year is moved using the indicators of number of vehicles registered in the state

and the estimates of VAPW are moved with the help of CPI (UNME), for the transport & communication sub-groups, for urban areas and CPI(AL) for rural areas.

- 6.54 **Water transport:** The estimates of GSDP for organised inland water transport in respect of a state are prepared by respective DESs by analysing the annual accounts of state inland water transport companies. The all-India estimates of gross value added from the shipping companies in public and private segments are prepared by the CSO and allocated to the States using suitable indicators. Similarly, the state-wise estimates of gross value added from ports and pilotages are also prepared by the CSO by analysing relevant reports/budget documents and made available to the States. The state-wise estimates of gross value added generated from lighthouses and ships handled by the Centre and Dredging Corporation of India and Inland Water Authority too are prepared by the CSO and made available to the states.
- 6.55 **Air Transport :** The gross value added for this part is being estimated by CSO at national level and apportioned to the states based on relevant indicators. The estimates thus prepared by CSO are made available to the states.
- 6.56 **Unorganised transport:** It covers non-mechanised road transport, supporting services to land transport, unorganised water transport and services incidental to transport. The estimates of gross value added for the base year are prepared category-wise using workforce and corresponding estimates of VAPW obtained from NSS 57<sup>th</sup> Round survey results. The estimates of gross value added for subsequent years are worked out by carrying forward the base year estimates with the help of index of gross value of output of commodity producing sector at current prices.

### **Storage**

- 6.57 The estimates in respect of public warehousing (other than Central Warehousing Corporation) are based on the analysis of annual accounts of state warehousing corporations. These are prepared by the CSO and made available to states. The value added from Central Warehousing Corporation are also prepared by the CSO and allocated to the states in proportion to the average capacity of central warehousing in various states. All India estimates of GDP from storage n.e.c.

are allocated to different states by the CSO in proportion to the number of workers as in the base year.

### **Real Estate, Ownership of Dwellings, Business Services and Legal Services**

- 6.58 **Real estate:** This sub-sector includes buying, selling, renting and operating of self-owned or leased real estate such as apartment building and dwellings, non-residential buildings, developing and subdividing real estate into plots, etc. Also included are developments and sale of land and cemetery lots, operating of apartment hotels and residential mobile home sites. Purchase, sale, letting and operating of real estate – residential and non-residential buildings, developing and subdividing real estate into lots, lessors of real property, Real estate activities with own or leased property, real estate activities on a fee or contract basis.
- 6.59 The estimates of Value Added for the base year (1999-2000) from these services are prepared using the estimates of VAPW from NSS 57<sup>th</sup> Round and the estimated workforce from NSS 55<sup>th</sup> Round, separately for rural / urban /organized/unorganized sectors.
- 6.60 **Renting of machinery and equipment without operator:** The activities covered under this compilation category are the activities of renting of machinery and equipment without operator and personal and household goods. The estimates of GVA for these activities are compiled separately by using the estimated VAPW and workforce in the activity, from the results of NSS 57<sup>th</sup> Round and NSS 55<sup>th</sup> Round, respectively.
- 6.61 **Computer and related activities in private sector:** The activities covered under this compilation category are hardware consultancy, software consultancy and supply, data processing, database activities, maintenance and repair of office/ accounting/ computing machinery and other computer related activities. The estimates of GVA are compiled for organised and unorganised segments, separately. The GVA estimates for organised sector are prepared using NASSCOM's data on production of software services and the value added ratio estimated from the analysis of annual reports of few software companies. The national level estimates are allocated to the states on the basis of workforce in the activity at state level. The constant price estimates are prepared by deflating the current price estimates by the CPI (IW).

The estimates of GVA for the year 1999-2000 for the unorganised segment are prepared using the data on workforce and VAPW from the results of NSS 55<sup>th</sup> Round and NSS 57<sup>th</sup> rounds, respectively.

- 6.62 **Legal activities:** The activities covered in this category are legal services such as those rendered by advocates, barristers, solicitors, pleaders, mukatiars, etc. The estimates of GVA for legal services for the year 1999-2000 are prepared using the data on workforce and VAPW from the the results of NSS 55<sup>th</sup> Round and NSS 57<sup>th</sup> rounds, respectively, also separately for rural / urban / organized / un-organised sectors. For subsequent years, the inter-survey growth rate for workforce and the CPIs for VAPW are adopted.
- 6.63 **Accounting, book-keeping and related activities in private sector:** The activities covered under this compilation category are accounting, book-keeping and auditing activities and tax consultancy services. The estimates of GVA for accounting and book-keeping services etc. in the private sector in the new series for the year 1999-2000 are prepared following the labour input method by using the data on workforce and VAPW from the results of NSS 55<sup>th</sup> Round and NSS 57<sup>th</sup> rounds, respectively, separately for rural and urban areas. For subsequent years, the inter-survey growth rate for workforce and the CPIs for VAPW are adopted
- 6.64 **Research and development, market research and public opinion polling, business and management consultancy, architectural, engineering and other technical activities, advertising and business activities n. e. c. excluding auctioning:** This compilation category has been introduced after re-grouping the activities under business services and other services. In NIC-98, this activity is classified under code 73, which is under 'business services', and as such in the new series this activity has been included under 'business services'. Similarly, the GVA estimates of 'press agency activities' falling under NIC-87 code 897 were being compiled, though not exclusively, under the category of 'business services' in the 1993-94 series. Now, this activity falls under 'news agency activities', which is classified under NIC-98 code 922, and the GVA estimates for this activity have been included under 'other services' in the new series. The estimates of GVA for this compilation category are prepared separately for organized and unorganised segments and for rural and urban areas for

the base year in the new series by using the data on workforce and VAPW from the the results of NSS 55<sup>th</sup> Round and NSS 57<sup>th</sup> rounds, respectively. For annual estimates, the workforce is projected with growth in population and the VAPW with the CPI(AL)/CPI(IW) for rural and urban areas.

- 6.65 **Ownership of dwellings:** The economic activities covered in this sector are ownership of dwellings (occupied residential houses) including imputed value of owner occupied dwellings also. The data on dwellings and rent per dwelling, separately for rural and urban areas is taken from the Population Census, 2001 and the results of NSS 55<sup>th</sup> Round on consumer expenditure. The procedure followed for estimating the GVA of ownership of dwellings for base year is to estimate the number of dwellings from the Population Census and multiply it with the average rent per dwelling (data from NSS 55<sup>th</sup> Round), separately for rural and urban areas. For subsequent years, inter census growth rate in dwellings and the increase in rent component of CPIs is used.

### Public Administration

- 6.66 The estimates of value added in respect of Central Government Administration, being a supra-regional activity, are prepared by the CSO by undertaking the analysis of Central Government Budget documents and are supplied to states. The estimates relating to State Government are prepared by respective states by undertaking an economic analysis of the State Government budget documents. The estimates of income in respect of local authorities are based on the information on compensation of employees obtained by the DESs in respect of the local authorities. These are added to the state-wise estimates of Central Government Administration to obtain the state-wise estimates of public administration. The estimates at current prices are deflated by CPI (IW) to obtain the estimates at constant prices.

### Other Services

- 6.67 The economic activities covered under this sector are (i) coaching and tuition (NIC-98 codes 80903 and 80904), (ii) education excluding coaching and tuition (NIC-98 code 80 (-) 80903 (-) 80904), (iii) human health activities including veterinary activities, (iv) sewage and refuse disposal, sanitation activities (nic-98 code 90), (v) activities of membership organisations (+) social work (NIC-98, code 91+ 853), (vi) recreational cultural and sporting activities (NIC-98, code 92), (vii) washing and cleaning of textiles and fur products (NIC-98, code-

9301), (viii) hair dressing and other beauty treatment (NIC-98, code 9302) (ix) funeral and related activities (NIC-98 code 9303+9309), (x) private households with employed person (NIC-98 code 95), (xi) custom tailoring (NIC-98, code 18105), and (xii) extra territorial organisations and bodies (NIC-98 code 99).

6.68 The method generally followed for estimation of value added for different categories of services in the non-public segment is the labour input method (estimated workforce multiplied by the average value added per person in the activity). For the public sector part, estimates are compiled by analyzing the budget documents of central and state governments and annual reports of public undertakings. For the private organized part, estimates of workforce are from the DGET source and the VAPW from the NSS 57<sup>th</sup> Round in respect of the enterprises recorded as companies. For the private unorganized part, estimates of workforce are from the NSS 55<sup>th</sup> Round (total workforce in each economic activity), reduced by the workforce in the public and private organised sectors (available from the DGET), and the VAPW from the NSS 57<sup>th</sup> Round in respect of enterprises recorded as non-corporate. Generally, for the public sector segment, estimates at current prices are prepared by analyzing the budget documents. For compiling the estimates at constant prices for the public sector segments, the current price estimates are deflated by the consumer price index (industrial workers). For the private sector segments, the benchmark estimates are prepared first for the base year, and for annual estimates the base year estimates are moved forward with auxiliary indicators. Following are the major data sources used for the compilation of estimates of GVA in the new series:

- NSS 55<sup>th</sup> Round (1999-2000) EUS
- Population Census, 2001
- DGET-Employment Review, annual data
- NSS 57<sup>th</sup> Round (2001-02) on services
- Budget documents and annual reports for data relating to activities of these services under public sector
- Consumer price indices of agricultural labourers and industrial workers

6.69 *Educational services: Coaching and tuition:* The activities covered under this compilation category are the activities of coaching centres and individuals providing tuitions. For the private sector segment, the

base year estimates are prepared as a product of workforce and VAPW, using the results of NSS 55<sup>th</sup> Round on employment and unemployment and NSS 57<sup>th</sup> Round on services sectors. For annual estimates, the indicator used for projecting the workforce is the trend in consumer expenditure of educational services in real terms and for VAPW, it is index of CPI (AL) and CPI (IW) respectively for rural and urban areas. For the annual estimates at constant prices, the current price estimates are deflated with CPI(AL) and CPI(IW) respectively for rural and urban areas.

6.70 *Education excluding coaching and tuition:* The activities covered under this compilation category are the activities of private education institutions, excluding those of coaching centres and individuals providing tuitions. The GVA estimates are prepared separately for recognized and non-recognised institutions. The GVA for the recognised institutions under public sector is taken to be equivalent to the expenditure on salaries and wages of teaching and non-teaching staff of educational services as available from the budget documents of centre and states and consumption of fixed capital (CFC). The estimates for recognized institutions under private sector are prepared following the labour input method using the data on workforce available from the DGET and the estimated VAPW from the NSS 57<sup>th</sup> Round (corporate sector part). The GVA estimates for private un-recognized institutions in the year 1999-2000 are compiled following the labour input method separately for rural and urban areas, using the results of NSS 55<sup>th</sup> Round (after excluding the workforce in the organised sector from the DGET source) and the results of NSS 57<sup>th</sup> Round on VAPW (unorganised part). For the annual estimates, the procedures followed are the same as those for coaching and tuition services.

6.71 *Human health activities and veterinary activities:* The activities covered under this compilation category are the activities of human health and veterinary services. Estimates of GVA in human health and veterinary services are prepared separately for public, private organised and private unorganised sectors using the labour input method. The GVA for the public sector is taken to be equivalent to the expenditure on salaries and wages of medical personnel obtained from the analysis of the budget documents plus the consumption of fixed capital. The GVA for private organised

sector is estimated using workforce estimates from DGET, and VAPW of corporate sector estimated from the results of NSS 57<sup>th</sup> Round survey on services sectors. For the unorganised segment, the labour input method was followed for estimating GVA for 1999-2000, with work force estimates in the unorganised sector compiled as a residual by subtracting the organised sector workforce (DGET source) from the total workforce as per NSS 55<sup>th</sup> Round survey on employment and unemployment; and the VAPW for the unorganised segment estimated from the NSS 57<sup>th</sup> Round survey results. For the annual estimates, the procedures followed are the same as those for coaching and tuition services, with the exception that for these services the trends in consumer expenditure of medical services are adopted.

- 6.72 *Sewage and refuse disposal, sanitation activities:* The activities covered in this category are the sewage and refuse disposal, sanitation and similar activities. The GVA estimates for these activities for are prepared separately for public and private sectors. Public sector estimates are the sum of expenditure on salaries and wages of activities covered under government and consumption of fixed capital. The public sector workforce (WF) as obtained from DGET has been subtracted from the total EUS workforce estimate from NSS 55<sup>th</sup> Round to get the WF estimates for private segment. Thus obtained private sector WF estimates are divided into rural and urban areas and are multiplied with VAPW of sanitary workers (data obtained from municipal returns) to get the GVA estimates for the base year. For the annual estimates at current prices, estimate of WF is projected using population growth rate and VAPW is projected with the index of CPI (AL) and CPI (IW) for rural/urban areas, while these are deflated by CPI(AL) and CPI(IW) for constant price estimates.
- 6.73 *Activities of membership organisations and social work:* This sub-sector includes the activities of associations of writers, painters, lawyers, doctors, journalists and other similar organizations, activities of trade unions, interested chiefly in the representation of their views concerning their work situation, activities of other membership organizations, activities of religious organisations, activities of political organizations, activities of other membership organizations, social work with accommodation, and social work without accommodation. The GVA estimates for the

base year (1999-2000) from these services are compiled using NSS 57<sup>th</sup> Round (2001-02) survey results for estimating the VAPW and NSS 55<sup>th</sup> Round EUS survey results for estimating the workforce. This has been done separately for rural, urban areas and also by organized and unorganized sectors. For annual estimates, the procedure adopted is the same as that for sewage, sanitary services, etc., except that the workforce is projected with inter-survey growth rate.

- 6.74 *Recreational, cultural and sporting activities:* The activities covered in this category are recreational, cultural and sporting activities. In the new series, the estimates of GVA for this activity are compiled for the base year 1999-2000, separately for public, private organized and private unorganized segments. While the estimates of GVA for the Public Sector are from the budget documents and annual reports of public undertakings, those of private organized and private unorganized have been compiled following the labour input method, with workforce data from the DGET and the NSS 55<sup>th</sup> rounds (total workforce), respectively, and the estimates of VAPW for these two segments from the NSS 57<sup>th</sup> Round survey results. For annual estimates, the procedure adopted is the same as that mentioned in para 6.73.
- 6.75 *Washing and cleaning of textiles and fur products:* The activities covered in this category are washing and dry cleaning of textile and fur products. The GVA estimates for the base year (1999-2000) in the new series in respect of these services are prepared using NSS 57<sup>th</sup> Round (2001-02) survey results for the estimates of VAPW and the NSS 55<sup>th</sup> Round EUS results for workforce, separately for rural and urban areas. For annual estimates, the procedure adopted is the same as that mentioned in para 6.73.
- 6.76 *Hair dressing and other beauty treatment:* The activities covered in this category are hairdressing and other beauty treatment. The GVA estimates for the base year (1999-2000) in the new series from these services are prepared using NSS 57<sup>th</sup> Round (2001-02) survey results for VAPW and NSS 55<sup>th</sup> Round EUS results for the workforce, and following the labour input method, separately for rural and urban areas. For annual estimates, the procedure adopted is the same as that mentioned in para 6.73.
- 6.77 *Custom tailoring:* The GVA for these services in the base year is estimated using

- NSS 56<sup>th</sup> Round (unorganized manufacturing) data on VAPW and NSS 55<sup>th</sup> Round data on work force, separately for rural and urban areas. For annual estimates, the procedure adopted is the same as that mentioned in para 6.73.
- 6.78 *Funeral and related activities:* The activities covered in this category are funeral and related activities (NIC-98, code 9303) and other service activities, n. e. c. (NIC-98, code 9309). The GVA estimates for the base year (1999-2000) in respect of these services are prepared using NSS 57<sup>th</sup> Round (2001-02) results for the VAPW estimates and NSS 55<sup>th</sup> Round EUS results for workforce, following the labour input method, separately for rural and urban areas. For annual estimates, the procedure adopted is the same as that mentioned in para 6.73.
- 6.79 *Private households with employed persons:* The activities covered in this category are private households with employed persons. Data on private households with employed persons was not collected in the NSS 57<sup>th</sup> Round survey on services sectors, as it was not found to be feasible to identify such households as enterprises. The value added generated by this activity relates to wages paid to 'employed persons' by the households. Therefore, the VAPW for this activity in the new series for 1999-2000 is estimated on the basis of wage data collected in the NSS 55<sup>th</sup> Round Employment Unemployment Survey. The total weekly earnings of the workers falling under this category is divided by the number of workers to arrive at weekly wages/salaries. The GVA estimates in respect of these services are compiled using average weekly wage per unit of labour input (adjusted for annual wages), separately for rural and urban areas in the base year. For annual estimates, the procedure adopted is the same as that mentioned in para 6.73.
- 6.80 *Extra territorial organisations and bodies:* The activities covered in this category (NIC-98, Code 99) are extra territorial organisations and bodies including the activities of international organizations such as United Nations and its agencies, regional bodies etc., and of International Monetary Fund, World Bank, European Commission, etc. The estimates of GVA of these services are prepared using the results of NSS 55<sup>th</sup> Round workforce and thrice the VAPW of Public Administration and Defence (as a proxy), separately for rural and urban areas.
- Supra Regional Sectors**
- 6.81 In the preparation of estimates of SDP, certain economic activities transcend State boundaries and thus their economic contribution can not be assigned to any one state. Such activities are Railways, Communication, Banking & Insurance and Public Administration, known as the supra-regional activities. These sectors are known as supra-regional sectors and the state level estimates for these sectors are prepared by Central Statistical Organisation (CSO) by allocation of the national estimates and supplied to the States, as per the recommendations of the Working Group on State Income. The estimates in respect of supra-regional sectors were prepared at current prices only till 1979. The meeting of directors of State DESs and CSO on State Income and Regional Accounts held on 23-24 January, 1979 recommended that such estimates may be prepared at constant prices also. The CSO now prepares the estimates at current and constant prices and supplies the same to the State DESs for their use. The methodology used for allocating estimates of GDP of the supra-regional activities to the states is given below.
- 6.82 *Railways:* GSDP estimates at current and constant prices are compiled by extracting the information from General Manager's annual reports of nine railway zones and Indian Railways Annual Statistical Statement (IRASS) and other documents. All India GVA figures at current prices, segregated into Compensation of Employees (CE), interest, and surplus and rent (including depreciation) for Railways are extracted from the budget documents. A share of CE attributable to Railway Board and other offices of railways extracted from IRASS of railways is first subtracted from the all-India CE and is distributed among the respective states where these Railway Board and other offices are actually located. In the absence of direct availability of Head Offices (HO) share in CE, an amount of 5% of the balance CE is presumed to be the share attributable to HO and is also subtracted from balance CE. The CE share of Railway Board, other offices and HO is later included in the respective states where these offices are actually located.
- 6.83 These all India figures are further segregated into nine zones of railways. To arrive at zonal GVA, all India values of CE as obtained above, interest and surplus & rent (including depreciation) are distributed among the nine zones on the basis of cost of staff, capital at charge and net earnings



respectively. The zonal GVA is further distributed for passenger and goods traffic (including miscellaneous activities) based on the zonal earnings for passenger and goods traffic respectively. The GVA on account of passenger traffic and goods traffic for each zone is distributed among different states on the basis of average total daily number of vehicles run on the section and net tonne kilometres per route km per day respectively among different states falling within a zone. It is quite likely that some states may fall in two and more zones. Final GVA at current prices for each state is first compiled separately for passenger and goods traffic by aggregating their share in each zone and then added up to get state share of GSDP at current prices in railways. To the state wise estimates of GSDP so arrived, the share of CE in respect of Railway Board, other offices and HO is also added to respective states.

6.84 For compiling the constant price estimates, the base year estimates for passenger and goods traffic of each zone are moved forward based on the growth indicators as compiled from the total passenger km and net tonne km respectively. These figures are further adjusted based on the total all India constant price estimates after excluding total CE of Railway Board, Head Offices and other offices (obtained by deflating the current prices estimates by consumer prices index of industrial worker). These zonal constant price estimates are further distributed among different states using the same indicators as used for current price estimates. To the state-wise estimates of GSDP so arrived, the share of CE at constant price in respect of Railway Board, other offices and HO is also added to respective states. The portion of private railway (Konkan Railway) is directly distributed among the three states where actually the Konkan Railway runs viz. Maharashtra, Goa and Karnataka on the basis of track length

6.85 **Banking & Insurance:** The estimates for this sector are prepared separately for (i) Commercial Banks, (ii) Banking Department of Reserve Bank of India (RBI), (iii) Non-banking financial companies/corporations, (iv) Post Office Saving Bank, (v) Co-operative Credit Societies, (vi) Life Insurance (from Life Insurance Corporation (LIC) only), (vii) Postal Life Insurance (PLI), (viii) Non-life insurance, (ix) Employees State Insurance (ESI) and (x) Employees Provident Fund Organisation (EPFO).

- (i) For commercial banks, all-India estimates of CE and rent are distributed among the states in the ratio of number of employees, data on which is available from RBI. Surplus is distributed in the ratio of credit of scheduled commercial banks obtained from the RBI annual publication 'Banking Statistics'.
- (ii) For Banking Department of RBI, the all-India estimates of CE, rent and surplus are allocated among states in the ratios of W&S, rent & taxes and deposits respectively, data on which is available from the RBI.
- (iii) For non banking financial companies, the all-India estimates of total GDP are allocated among states using their paid-up capital. For non banking financial corporations, the following is the procedure:
  - IFCI:** The all-India estimates of CE, rent and surplus are allocated on the basis of W&S, rent & taxes, and loan outstanding.
  - SFC:** The GSDP for all the states are extracted from the annual reports of state financial corporations.
  - UTI:** The all-India estimates of CE are allocated on the basis of wages and salaries of UTI staff in each state and surplus is distributed in the ratio of financial disbursement of states.
  - IRBI, NABARD & IDBI:** All-India estimates of GDP are allocated on the basis of state wise disbursement data available in their annual report.
  - OIDB:** All India estimates of GDP are allocated on the basis of state-wise loan outstanding.
  - NCDC:** All India estimates of GDP are allocated on the basis state wise loan released for central and corporation sponsored schemes.
  - EXIM & ECGC:** All India estimates of GDP are allocated on the basis of state wise data on value of export and re-export obtained from DGCIS, Calcutta.
  - AFC:** All India estimates of GDP are allocated on the basis of the share of each state in total for all the above categories.
- (iv) **Post Office savings Bank:** All India estimates of GDP are allocated in the ratio of state wise Gross collections under small saving schemes.
- (v) **Co-operative Credit Societies:** All India estimates of CE, rent, depreciation & profit are allocated in the ratio of state wise W&S, rent, profit and depreciation, data received from NABARD.

- (vi) *Life Insurance Corporation*: All India CE and rent are distributed in the ratio of state-wise number of employees and surplus and commission to agents are distributed in the proportion of state wise net premium income.
- (vii) *PLI*: All India estimates of GDP are distributed in the proportion of W&S of PLI staff.
- (viii) *Non-life Insurance*:  
*Fire Insurance* All India estimates of GDP are distributed in the ratio of state wise income from business and property assessed to income tax as obtained from the Income Tax Department.  
*Marine Insurance*: All India estimates of GDP are distributed in the ratio of value of export and re-export.  
*Deposit Insurance*: All India GDP is allocated on the basis of state wise deposits of scheduled commercial banks.  
*Misc. Insurance*: All India estimates of GDP are allocated on the basis of state wise number of registered vehicles obtained from the Ministry of Transport.  
*ESIC*: All India CE is allocated among these states in the proportion of state-wise wages & salaries of Employees State Insurance Corporation (ESIC) and all-India operating surplus is distributed among the states in the ratio of state-wise revenue expenditure, excluding wages & salaries as supplied by ESIC.
- (ix) *Employees Provident Fund Organisation*: All India estimates of GDP are allocated on the basis of share of each state in total for all the above nine categories.
- 6.86 Estimates of GSDP from Banking & Insurance Sector at constant prices are prepared only for three sub-sectors namely, Commercial Banks, Co-operative Credit Societies and Life Insurance Corporation. For Commercial Banks segment, base year estimates are moved using average index of state-wise deposits and credits deflated by CPI (UNME). For Co-operative Societies segment, the base year estimates are moved using average index of deflated deposits and membership of Co-operative Societies. For LIC segment, the base year estimates are moved using index of deflated net premium income of LIC. Further the ratio of constant/current price estimates of these three sectors is used to obtain the residual of constant price estimates. The difference in constant price estimates is further adjusted using the same ratio.
- 6.87 *Communication*: The GSDP estimates for communication are compiled separately for Posts and Telecommunication, on the basis of data received from Department of Posts, and Department of Telecommunication.
- 6.88 All India estimates at current prices for Posts, Telecommunication, MTNL and VSNL segments are compiled in the form of compensation of employees, interest, rent and surplus (profit and depreciation). These estimates at current prices for each of the communication activities are further distributed/allocated to different states and UTs based on some indicators as explained in the following paragraphs.
- 6.89 *Posts & Telecommunication*: Data for developing indicators for the activities covered under post and telecom services is received directly from Department of Posts and Department of Telecommunication respectively. For both Posts and Telecom, the component of compensation of employees is distributed among the circles on the basis of circle-wise wages and salaries; interest component on the basis of cumulative expenditure, telecom surplus component is distributed in the ratio net operating income and postal surplus component is distributed in the proportion of circle-wise wages & salaries of postal staff. These circle wise estimates are distributed among co-terminus states on the basis of workforce. However, rent for P&T combined is directly distributed state-wise on the basis of number of Post Offices.
- 6.90 *MTNL*: Data for development of indicators for distribution of GVA components (CE, interest, rent and surplus) for both metropolies Delhi and Bombay are received from MTNL. Compensation of employees is distributed in two metropolies on the basis of wages and salaries, interest on the basis of capital expenditure during the year, rent on the basis of rent and surplus on the basis of difference of gross receipt and gross expenditure.
- 6.91 *VSNL*: Data for development of indicators for distribution of GVA components (CE, interest, rent and surplus) for different states are received from VSNL.
- 6.92 All-India estimates of GDP for communication at constant prices are

allocated among the states according to their share in current price estimates.

- 6.93 *Central Government Administration:* Estimates of net value added (NVA) for Central Government Administration are prepared using the income method, the Compensation of Employees (CE) being the only factor income. For current price estimates, the total all-India CE of Central Government Administration are extracted from Central Government Budget documents, from which the CE of Defence employees, Offices Abroad, Para Military Forces, UTs covered under Home Ministry Budget, Issue Department of RBI and Atomic Energy are subtracted and the balance is distributed among various states & UTs in the ratio of state wise number of Central Government employees. To these estimates of CE, state wise estimates of CE in respect of Issue Department of RBI, as received from RBI, and Atomic Energy as extracted from the budget of Department of Atomic Energy are added to get the final state wise estimates of CE for Central Govt. Administration. The current price estimates are deflated by CPI (IW) to obtain estimates at constant prices.

#### **DISTRICT DOMESTIC PRODUCT (DDP)**

- 6.94 The information / statistics / indicators on economic activities at levels lower than state are often required by the central and state authorities as well as research institutions for planning and policy purposes to know the development as well as levels of living of the people etc. at that level. Districts have well been recognized as the areas for such requirements. Estimates of income of a district (DDP) is thought to be one of the most important indicator/barometer to measure the economic growth/development of a district, vis-à-vis, other districts and the estimates of per capita income in the district is considered to be the indicator / barometer to measure the level / standard of living of the inhabitants of the district. Preparation of DDP estimates has recently gained added importance, as it is one of the three indicators to construct a composite Human Development Index (HDI) for inclusion in the Human Development Report being prepared by some of the states of India. Other two indicators forming part of HDI are life expectancy and educational attainment.
- 6.95 The Regional Accounts Committee (RAC) recognized the need of the estimates at a level lower than state as early as in 1974.

Two more important groups set up for the purpose were (1) working group on regional level statistics set by the CSO in 1975; and (2) working group on district planning set up by the Planning Commission in 1982. The Seventh Conference of Central and State Statistical Organisations held at Hyderabad in December 1985 also discussed the issues relating to the preparation of the income at district and rural/urban levels. Keeping in view the demand from the Planning Commission and the state governments for the income estimates at the district and rural/urban levels the Conference recommended constitution of a Technical Group to examine the requirements of data and recommend appropriate methodology for compilation of these estimates. In pursuance of this recommendation the then Department of Statistics constituted a Technical Group for Estimation of Income at District and Rural/Urban Levels in January 1987 under the Chairmanship of Shri Jagdish Kumar, the then Director, National Accounts Division, Central Statistical Organization, Department of Statistics, New Delhi. The Group in its Report submitted in September 1988 recommended that:

- (i) To start with, attempts should be made to compile the district income estimates following the standard methodology, based on the income originating approach, as used for compilation of state income estimates. Due to the free flow of goods and services across the borders of the districts and the non-availability of net factor income earned by the residents from other districts/states/countries, the income accruing approach was not feasible.
- (ii) Even to compile the estimates by following the income originating approach a lot of additional data, as detailed in the Report, need to be collected.
- (iii) For district income estimates, tremendous amount of information would need to be collected and compiled at the district as well as at state levels. The Group felt that the state governments should assess the precise requirements of additional resources for implementing the recommendations of the Group and make necessary provisions in their core schemes.
- (iv) Since the estimates at the district level would be utilized for the purpose of determining the backwardness/development of a district, and as consequence for allocation of resources, it would be necessary to make necessary adjustments in these estimates in regard to significant flow of income from and to across the territories of typical districts

which are rich in minerals and/or forest resources or where flow of daily commuters, migration of labour and cattle are involved.

- (v) With the present availability of data at the district level it would be sufficient to compile these estimates at an interval of five years.

6.96 Further, on the recommendations of Second Regional Conference on Statistical Matters, the Government of Karnataka and Uttar Pradesh jointly prepared a draft methodology for compiling the estimates of District Domestic Product and submitted the report to CSO in August, 1996. This draft methodology prepared jointly by the Governments of Karnataka and Uttar Pradesh was circulated among State Directorates of Economics & Statistics for their comments in order to prepare a standard methodology for compiling the DDP estimates and implement the system of District Domestic Product in States.

6.97 The recently set up National Statistical Commission (NSC) under the chairmanship of Dr. C. Rangarajan, the then Governor of Andhra Pradesh, also recognized the need for the estimates of DDP in the context of calculating district level human development index. The NSC noted that (a) the DDP estimates, wherever currently available, cover mostly major agricultural crops only, or at best commodity producing sectors covering agriculture and industry because of problems of data availability at the district level; (b) available DDP estimates are calculated by income-originating (by sector of origin) method; (c) conceptually, for HDI, what are needed are DDP estimates by the income accruing method in order to reflect district-level living standards; and (d) currently available data do not permit calculation of DDP by the income-accruing method. It would be desirable to develop some appropriate indicators of the living standards at the village / block / district level. NSC has suggested that the techniques of small area statistics may be used to estimate these indicators on the basis of State/regional level statistics capabilities. Also, a National Workshop on "State Human Development Reports and the Estimation of District Income and Poverty" sponsored by Planning Commission and UNDP, New Delhi was organized in Bangalore during July 20-21, 2001.

6.98 The estimation of income at district level is beset with the problems of availability of data, collection and analysis of information

etc. Nevertheless, all these Committees, Groups and Workshops have recommended the compilation of the estimates of DDP, which is the need of the hour for planning and policy making at a level lower than state. Further, DDP is considered to be one of the important indicators to construct a composite Human Development Index (HDI). They have strongly recommended the compilation of the estimates of DDP for commodity producing sectors, for which most of the data is readily available, with immediate effect. For other sectors / activities, they have recommended to allocate the State Level Estimates among districts using relevant indicators.

### Concepts and Definitions

6.99 The estimates of District Income can conceptually be prepared by adopting two approaches, namely, income originating and income accruing. In the Income originating approach, the measurement corresponds to income originating to the factors of production physically located within the geographical boundaries of district and represents net value of goods and services produced within the district. It is the income originating as a result of the utilization of the physical assets and the labour force of the region, even though some of the income might flow to residents outside the region. The income accruing approach relates to the income accruing to the normal residents of a district. In other words, it is the income received by the residents of a region, even though some of it might have accrued outside the region. Since this measures the income that becomes available to the residents of a district, it provides a better measure of the welfare of the residents of the region. Therefore, for a realistic measurement of income received, account needs to be taken of net inflow/outflow of income between districts. But in an open economy like that of a district in this country, it is very doubtful whether such an estimate can be prepared unless special effort is made for the collection of this data.

6.100 Presently, most states are compiling DDP estimates by following the income originating approach. For estimating the District Domestic Product, the economy is divided into various economic activities like agriculture, forestry fishing, mining, manufacturing, construction, electricity, transport, communication, trade etc. In the commodity producing sectors like agriculture, forestry, fishing, mining and manufacturing (registered), the estimates of DDP are prepared using the production

approach i.e., gross value added = value of output *minus* value of inputs used in the process of production. In the services sectors like trade, transport, hotel and restaurants etc., the estimates for the public sector are prepared by income approach, i.e., gross domestic income = compensation of employees *plus* gross operating surplus. For the unorganized sectors like manufacturing unregistered and the unorganised segments of the remaining sectors of the economy i.e. unorganised trade, unorganised hotels and restaurant, unorganised road transport, unrecognised educational institutions, unorganised medical and health services, etc. the estimates of GVA are compiled as a product of work force and gross value added (GVA) per worker. While the GVA per worker is derived from the follow-up surveys of economic censuses carried out by the NSSO, the work force is estimated from the quinquennial surveys of employment and unemployment of the NSSO and the population censuses.

6.101 **Supra regional sectors:** There are certain activities which are supra regional in nature i.e. they cut across the boundaries of the states/districts, for example, the activities of railways, communication, banking and insurance and central government administration. The estimates for these supra regional activities are compiled for the economy as a whole and allocated to the states and further to the districts on the basis of relevant indicators.

6.102 The estimates of district domestic product are prepared by the State DESs broadly by compiling the actual estimates for the agriculture, forestry, fishing, mining and registered manufacturing sectors, and the public sector component of all other sectors, from the district level available data; and by allocating the state level estimates to the districts on the basis of work-force data for other sectors.

### Sources and Methods of DDP Compilation

6.103 The agencies/personnel responsible for collecting district level data are mainly District Statistical Office (DSO), District Forest Officer, District Fisheries Deptt, etc. It has been observed that the availability of district-wise basic data required for estimation of income at the district level is still not satisfactory in most of the States. The data in respect of commodity producing sectors viz. Primary Sectors and Manufacturing (regd.) sector, are available but in respect of remaining sectors, it is

very scanty. As such, wherever district-wise basic data are available, the same are utilised to compute the direct district income estimates following the state level methodology. In case of non-commodity producing sectors, where district-wise basic data are not available, the state level estimates are allocated to the districts on the basis of suitable district-wise indicators. Further, in some of the commodity producing sectors, though district-wise production data are available, the corresponding prices are not available. In such cases, district-wise production and state average prices are utilised for preparation of District Income estimates. Similarly, wherever, certain ratios/norms, yield rates, etc. are used for the State estimates and which are normally not available at the district level, the State level ratios/yield rates, etc. are utilised for district income estimates also.

6.104 Broadly the methodology of computation of sectoral estimates is the same as adopted for estimates of State Domestic Product (SDP).

### Agriculture including Animal Husbandry

#### - Value of Output

6.105 **Agriculture (Proper):** As in the case of state level estimates, the estimates at district level are compiled by 'production approach'. But district level data on production and prices are generally not available uniformly for all the crops. Hence, for estimation purpose, crops are classified in different categories as follows:-

6.106 **Crops for which reliable district-wise data on area, production and prices are available:** In such cases district-wise value of output for each crop are compiled by using district-wise production and prices. The wholesale prices of primary market during peak marketing period are used in this context.

6.107 **Crops for which though district-wise production are available, corresponding district-wise prices are not available:** For this category of crops, district-wise value of output are computed by using district-wise production and neighboring district prices, if available. In case neighboring district prices are also not available, regional prices are used. If these are also not available, the state prices are utilised.

6.108 **Crops for which district-wise data, both on production and prices, are not available but area figures are available:** In such cases,

- district-wise value of output of these crops are compiled by allocating the state level value of output on the basis of district-wise area under the crops.
- 6.109 *Miscellaneous and unspecified crops for which production and price data are not available even at the State level but district-wise area is available:* In such cases, the value of output is worked out by multiplying the district-wise area by the state level value per hectare of similar crops.
- 6.110 *By-products or miscellaneous type of products,* wherever possible, cost of cultivation studies (CCS) data is used, otherwise data from latest studies is used. In case such data are not available, state level ratios, whether in relation to output or in relation to area as used in current series of estimates of SDP, are adopted uniformly for all the districts. The type of by-products may vary from state to state or even district to district.
- 6.111 For the quantity of food grains, which are procured on Government account, the prices are different from the prevailing market rates. As such, adjustments are made in the value of such agricultural produces by evaluating separately the quantity procured and sold in primary market by their respective prices.
- 6.112 **Animal Husbandry:** Similar procedure as adopted at the state level is followed at the district level also. District-wise estimates of number of different categories of animals and poultry is worked out from the results of latest two livestock census assuming linear/compound growth rates and utilised along with relevant yield rates to obtain the estimates of production of various livestock products and by-products and poultry meat.
- 6.113 The results of Integrated Sample Survey (ISS) conducted by State Animal Husbandry Department provide State/District level data on production of milk, meat, wool and egg. It also provides estimates of category wise number of slaughtered animals. Wherever, ISS results are available only for the State, the estimates for district are obtained by allocating the same to the districts on the basis of relevant livestock population. To estimate district-wise production of all other items (i.e. other than milk, meat, egg and wool), state level yield rates and ratios are utilised along with district estimates of number of relevant population of animals/poultry.
- 6.114 District-wise value of output is estimated by evaluating the production obtained as above, by the corresponding district prices, wherever available. In the absence of district level prices, the state prices are utilised for evaluating the district production. The totals of the value of output thus worked out are then adjusted to the state level estimates.
- 6.115 In case of other animal products, the state level estimated value is distributed between the districts in proportion to the number of animals in each category separately.
- 6.116 District-wise increment in stock for each category of animal/poultry is estimated as at the State level and these are evaluated by corresponding district prices.
- 6.117 The value of silkworm cocoons arrived at the state level, after adjusting the cost of rearing silkworm cocoons, are allocated to districts in proportion to the area under Mulberry in each district.
- Value of Inputs**
- 6.118 As at the state level estimates, to arrive at the district-wise Gross Value Added (GVA) from agriculture including Animal Husbandry sector, value of various input items are to be first deducted from the Gross Value of Output of these sectors and then the gross product from operation of Government Irrigation System is added to that. The deductible inputs are same as used at the State level viz. i) Seed, ii) Organic manure (Cattle and Buffalo dung), iii) Chemical Fertilizers iv) feed of livestock, v) Pesticides & Insecticides, vi) Diesel oil consumption vii) electricity, viii) Irrigation charges, ix) market charge, x) Repairs and Maintenance of fixed assets and other operational costs and (xi) FISIM.
- 6.119 To work out the value of these input items at the district level, the state level estimates arrived at independently under the Current series of state income estimates are distributed to various districts on the basis of certain proportions as indicated below:-
- 6.120 **Seed:** The district-wise value of seed is estimated as follows:
- in proportion to the products of district area under the crop and the district price of the product, where seed rate used in State Income Estimates is on the basis of quantum per hectare, and
  - in proportion to the district value of output of the crop (evaluated at district price), where seed rates used is taken

as some percentage of the value of output.

6.121 **Organic Manure:** The district-wise estimates of value of output of dung manure as estimated in Animal Husbandry sector are used.

6.122 **Chemical Fertilizers:** State level value is distributed to districts in proportion to total quantity of chemical fertilizers distributed as obtained from the Agriculture Department.

6.123 **Feed of livestock:** District-wise value of roughages is estimated by adopting the same methodology as followed for estimating the roughage for State Domestic Product. For estimating the quantity of concentrates consumed, the rates of concentrates as adopted for State level estimates for different types of animals and poultry is used for working out district level estimates also.

6.124 **Pesticides and Insecticides:** The State level value is distributed to the districts in proportion to area treated by chemical pesticides in different districts.

6.125 **Diesel Oil Consumption:** State level value of consumption of diesel oil by tractors and oil engines is distributed to districts in proportion to the district weighted totals of no. of tractors, oil engines/oil engine pump used for irrigation as per latest livestock census with weights appropriate for each state/district.

6.126 **Electricity:** The state level value is distributed on the basis of district-wise no. of private and Government electric tube-wells and energized pump-sets.

6.127 **Irrigation Charges:** The district-wise irrigation charges, as collected from the district administration (D.C.'s) is used for this purpose. In the absence of such data, the state level value is distributed to the districts in proportion to the area irrigated by Government canals.

6.128 **Market Charges:** The state level norms in respect of Agriculture (Proper) and Animal Husbandry sectors are used for district income estimates also.

6.129 **Repair and Maintenance of fixed assets and operational cost:** District-wise data on fixed assets as available from latest AIDIS/Livestock Census are used.

6.130 **FISIM:** State level value of FISIM is distributed on the basis of total value of output of the district.

6.131 **Gross Product from Operation Of Government Irrigation System:** This is added to the gross value of output of Agriculture after deducting the value of inputs. The state level value of contribution by Government Irrigation system is distributed among the districts in proportion to the district-wise area irrigated by Government canals.

### Forestry and Logging

6.132 **Major Forest Products:** The district-wise value of output of timber is worked out using the district-wise production and prices for different varieties. In case of firewood, (wherever NSSO results on consumption data are utilized) the district value of output is obtained by allocating state level estimates to the district in proportion to district-wise rural population.

6.133 **Minor Forest Products:** The district-wise value of output is worked out using the district-wise production and prices of different varieties. In the absence of district-wise data the state level value of minor forest produce is allocated to districts in proportion to the forest area in different districts.

6.134 **Repairs, Maintenance and other Operational Costs:** State level ratio is utilised for working out district-wise estimates of repair, maintenance and other operational costs.

### Fishing

6.135 In the case of Marine fishing, the district-wise value of output is estimated by multiplying the district-wise production by corresponding district prices. Similar procedure is followed in estimating district-wise value of output of inland fish also. The district wise production of marine and inland fish is likely to be available through district fishery officer. But, if the district-wise prices are not available, then district-wise value is worked out using district-wise production and state level prices. To work out the value of subsistence fish and operational costs including repairs and maintenance, the state level norm/ratios are used for district income estimates also.

### Mining and Quarrying

6.136 For major minerals including petroleum (crude) and natural gas (utilized), the district-wise value of output as collected from Indian Bureau of Mines, Nagpur, are

used. District wise value of production of coal is also be obtained from Coal India Ltd. and that of natural gas and crude oil from ONGC. For minor minerals, the district-wise value of output is collected from the State Mines and Geology Department. If the data are not available, the value of output of minor minerals is worked out in proportion to the royalty value. For working out input costs, the state level input rates are adopted for district estimates also.

### Manufacturing

- 6.137 *Manufacturing (Registered)*: The district wise estimates of value added from registered manufacturing sector are available from Annual Survey of Industries (ASI) in respect of some smaller States/UTs, for which ASI covers the factories on census basis. Some major states are also canvassing the ASI schedule for the part of the sample sector left out by NSSO and hence district-wise information are compiled for these States. In other cases, the state level value is distributed in proportion to the district-wise no. of workers available in the ASI frame. To work out FISIM, state level proportion to GVA is adopted.
- 6.138 *Manufacturing (Un-registered)*: For this sub-sector, the district-wise projected working force and the value added per worker from the latest NSS surveys are used to estimate the GVA of the sector. From the total of GVA, FISIM is deducted using the state level ratio of FISIM to GVA.

### Electricity, Gas and Water Supply

- 6.139 *Electricity*: The state level value added from this sub-sector is distributed to districts in proportion to district-wise working force.
- 6.140 *Gas*: State level value added from bio-gas is distributed according to number of Bio-Gas plants in each district. For remaining gas sector, the state level estimates are allocated to the districts on the basis of working force.
- 6.141 *Water supply*: State level value added is allocated to districts in proportion to the district-wise salaries and wages collected from local bodies located in the district.

### Construction

- 6.142 The estimates of state income from this sector is allocated to the districts on the basis of working force for public (except local bodies) and private sector separately. In respect of local bodies, direct district-wise data as available is utilized.

### Transport, Storage and Communication

- 6.143 *Railways*: State level estimates, as provided by CSO, is allocated to districts in proportion to the working force engaged in Railways at district level.
- 6.144 *Transport by other Means- Mechanised Road Transport - Public Sector*: The value added from this sub-sector at the state level is allocated to districts on the basis of district-wise working force (public) in this activity.
- 6.145 *Transport by other Means- Mechanised Road Transport - Private Sector*: The value added from private sector is allocated to districts on the basis of district wise working force in private sector.
- 6.146 *Water Transport*: State level estimates are allocated to the districts in proportion to the working force.
- 6.147 *Air Transport*: The state income from this sub-sector is allocated to the districts on the basis of district wise working force.
- 6.148 *Non Mechanised road Transport and Un-Organised Transport*: The state level estimates is allocated to districts in proportion to gross value of output of commodity producing sectors.
- 6.149 *Storage: Warehousing (State and Central)*: State level estimates are allocated to districts on the basis of average storage capacity.
- 6.150 *Cold Storage*: State level estimates are allocated on the basis of district wise working force.
- 6.151 *Storage not elsewhere classified*: State level estimates are allocated to districts on the basis of working force.
- 6.152 *Communication*: State level estimates are allocated to districts in proportion to the working force.
- Trade, Hotels and Restaurants**
- 6.153 The domestic product relating to 'Trade, Hotels and Restaurants' is estimated district wise separately for public and private sector. SDP relating to public sector is allocated to districts on the basis of district wise working force in the public sector. SDP relating to the private segment of the economy relating to this sector is allocated by district in proportion to the gross value of output of commodity producing sectors in



each district. In case the estimates of SDP of this sector are not computed separately for public and private sectors, then the gross value added at State level is allocated to districts in proportion to the gross value of output of commodity producing sectors in each district.

### **Banking and Insurance**

- 6.154 The state income estimates of this sector is allocated to the districts on the basis of district wise working force.

### **Real Estate, Ownership of Dwellings and Business Services**

- 6.155 *Real Estate and Business services:* State level estimates from these sub-sectors are allocated to districts in proportion to the working force in these activities.
- 6.156 *Ownership of Dwellings:* State level estimates may be allocated to districts in proportion to number of dwellings (Rural/Urban) in each district based on census data.

### **Public Administration**

- 6.157 The state income estimates of Central Government Administration, as provided by CSO, and those of state government administration are distributed in proportion to the number of central/state government employees in each district. In case of local bodies district wise data is collected from local bodies and used.

### **Other Services**

- 6.158 *Education, Research and Scientific Services:* State level estimates are allocated to districts on the basis of number of employees (Teaching and Non-Teaching) in each district.
- 6.159 *Medical and Health Service-Public Sector:* State level estimates are allocated to districts on the basis of public sector working force in medical and health profession.
- 6.160 *Medical and Health Service-Private Sector:* State level estimates are allocated to the districts on the basis of private sector working force which is obtained by deducting public sector working force from working force engaged in these activities.
- 6.161 *Legal Services:* State level estimate is allocated to the districts in proportion to district wise number of advocates registered in Bar Council. In case the data from Bar Council is not available district wise, working force engaged in legal services is used for allocation purpose.

- 6.162 *Sanitary Services:* District wise data (Rural/Urban) is collected from local bodies and used.

- 6.163 *Rest of Other Services:* State level estimates are allocated to the districts on the basis of working force.

### **Consumption of Fixed Capital**

- 6.164 Sector wise ratio of consumption of fixed capital to Gross value added is adopted for the district level estimates.

### **Estimates at Constant Prices**

- 6.165 The methodology for working out estimates at constant prices is more or less the same as that for current prices in the sectors of Agriculture and Animal Husbandry, Forestry and Logging, Fishing, Mining and Quarrying, Manufacturing (unregistered), Construction, Real Estate, Ownership of dwellings and Business services and Trade, Hotels and Restaurants. In the sectors where estimates are worked out by 'Production approach' the current year production is evaluated on the basis of base year prices to obtain the value of output at base year prices.
- 6.166 For the remaining sectors, the District Income estimates at constant prices are worked out using the state level deflator of current to constant prices. In Mining and Quarrying sector, the district prices differentials are introduced by multiplying the district wise gross value added at current prices by the ratio between the wages of non-agricultural and rural labour for the base year and for current year. Depending on the availability of data this procedure is adopted.
- 6.167 The above methodology takes into account the available data at the district level for the commodity producing sectors and the results of the surveys, both relating to socio-economic aspects and unorganised sectors of the economy, conducted by the National Sample Survey Organisation (NSSO) and states DESs. For many of the sectors of the economy, the methodology purposely avoids allocation of state estimates to districts in proportion to the district-wise work force, as allocation does not take into account the income disparity at the district level.

**RECOMMENDATIONS OF COMMITTEE ON REGIONAL ACCOUNTS**

- A6.1 The Committee emphasized that improvement of estimates at the regional level and filling up data gaps for the purpose would automatically lead to improvement of the estimates at the national level. It would, therefore be desirable that co-coordinated efforts are made to improve the data position in all the states simultaneously so that the fruits of such labour can also benefit and improve the estimates prepared at the centre.
- A6.2 The reliability of the estimates can be broadly grouped into three main categories according to data base:
- (a) where data are collected every year (e.g. production of principal crops, mining, registered factories, etc.)
  - (b) where 'bench-mark' estimates can be worked out reasonably satisfactorily every few years and the estimates for the intervening years can be worked out by moving the bench mark estimates by means of appropriate indicators of physical output and prices (e.g. livestock products, unregistered manufacturing, construction, trade, services etc.) and
  - (c) where national totals are allocated among states by the use of some meaningful indicators (e.g. banking, insurance, railways, central government administration. etc.).
- A6.3 The improvement in the quality of estimates will have to be brought about by improving the data base and priorities will have to be assigned in the task so that a coordinated and planned performance of data improvement can be taken up in accordance with the importance of the sectors or sub-sectors where the reliability of estimates is at present weak. It is recognised that all the three types of estimates (a), (b) and (c) mentioned above may have to continue for quite some time and in the case of some sub-sectors no change may be possible in the foreseeable future. However, even here, improvements will be necessary. For instance, in regard to estimates listed under (a) above, time-lags can be reduced to a minimum; in regard to those under (b), better 'bench-mark' period estimates can be made and their frequencies might be increased. Also the appropriateness of the indicators used may be improved, whereas for the estimates under (c), allocation methods may need improvement.
- A6.4 It may be, that, in course of time, some of the sectoral estimates of (b) type may have to be upgraded to (a) type estimates and wherever possible, this type of improvement will have to be brought about. One would, for instance, desire that, considering their importance, the estimates of income from construction, or registered trade establishments are worked out through (a) type data base. These factors will have to be taken into account while working out the priorities in the programme of improving the data base.
- A6.5 Each regional economy may be divided broadly into (i) public sector and (ii) the private sector. The latter can be further classified into (i) private organised sector and (ii) private unorganised sector. The private organised sector can be defined to include those enterprises or establishments owned by non-government economic agents, which are registered or covered under one or the other of the widely applied Acts. It is assumed that, in the manufacturing sector, establishments which are registered under the Indian Factories Act belong to the organised sector. In the trade sector, such establishments or business which are registered under the Sales Tax Act (which are prevalent in almost all the states in one form or another) and in the mining sector, mines registered under the Mineral Conservation and Development Rules may be considered as falling under the organised sector. The rest of the economic entities or establishments can be considered as falling under the unorganised sector. The division is purely one of convenience since the establishments classified as 'organised' enable one to set up a frame for sampling or a frame for identification of the establishments and have, generally speaking, better records and readily available annual accounts.
- A6.6 The problems of data improvement are, however, not necessarily related to the organised or unorganised parts of any given sector. For instance, income estimates from registered trade rest today on weak data base, whereas agriculture which definitionally belongs to the unorganised part of the private sector has much better data base at least for the principal crops. But, by and large, the unorganised parts of the economy will need much better data base than the one they have now.

A6.7 The specific steps to be taken for improving the data base in each sector or sub-sector for estimating regional incomes, expenditures, etc., are recommended here. It must, however, be underlined that the Committee has recommended a set of accounts and supporting tables which would involve compilation of additional information. Saving of the region, mixed income of the self-employed in the region and income due to free or reduced cost services furnished by government, private non-profit bodies and by industries, are some instances. Estimation of such additional items increases the magnitude of the task on hand. Here also, priorities will have to be assigned to the construction of accounts and tables. It may be that Account 5 on total consumption and income of the population will have to be given low priority. Another feature of the regional accounts and tables is the conceptual framework which one will have to grasp before the work can be started, and the figures, properly understood and interpreted.

### **Agriculture and livestock**

A6.8 Regular annual estimates of yield rates based on crop cutting experiments are available only for the principal crops. We recommend that crop cutting experiments may be extended to cover all important minor crops in each state. This list of such minor crops may differ between regions. In the case of unspecified crops, other products and by-products, we feel that surveys should be undertaken at least once in three years to estimate the yield rates and input structure apart from conducting type studies at shorter intervals.

A6.9 Data on livestock population become available once in five years through quinquennial livestock censuses. Yield rates of various livestock products are available only from occasional or ad-hoc surveys conducted by IARS or DMI and are not uniform between states in terms of reference period, etc. There is a requirement of annual estimates of yield rates for providing figures or estimates of livestock products year by year. The Committee recommends that a set of annual surveys be undertaken furnishing estimates of livestock numbers and yield rate of major livestock products in all the states. Surveys may be conducted less frequently for estimating the average yield rates of various other items of livestock products including the subsequent processed products as well as the input

structure of different products. The NSSO survey on livestock and livestock products undertaken in the 30<sup>th</sup> Round if repeated at regular intervals would meet the latter requirement.

A6.10 For agricultural and livestock products, it is necessary to collect prices for more items and from more markets, the selection of markets being reviewed periodically. Collection of prices of livestock products, particularly in rural areas, should be intensified. For livestock products, producer prices are usually not available and in order to obtain the estimates of gross output at producer prices, adjustments for trade and transport margins become necessary. This could be avoided by collecting prices regularly from producers.

A6.11 Data on intermediate consumption in respect of agricultural crops and livestock products are inadequate. Recently a comprehensive survey of studying the cost of cultivation or principal crops has been launched by the Ministry of Agriculture on a continuing basis and the requisite data are to be collected for different crops by rotation. The results in respect of individual crops as and when available should be put to use. Each state should examine the crops which are important to their economy and left out of this programme, and organise surveys to collect for such crops data on intermediate consumption and consumption of fixed capital. All such surveys on cost of cultivation or livestock should collect data on fixed capital formation as well.

### **Forestry and logging**

A6.12 Output of major forest products by varieties and out-turn and prices of minor forest products have to be collected on a regular basis by state forest departments and the time-lag in the availability of data should be reduced. Studies may be conducted, say once in five years, to estimate the unauthorized/recorded production. Surveys to collect data on intermediate consumption, consumption of fixed capital as well as fixed capital formation need be conducted at least once in five years.

### **Fishing**

A6.13 Surveys to estimate the catch of inland fishing and subsistent fishing may be conducted by all the states through the collecting agencies in the states. Wherever two sets of estimates of production are available (e.g. CMFRI, Mandapam and state agency), efforts should be made to bring

about reconciliation to the extent possible. This is essential as often widely divergent figures are reported. It is also necessary to get data on inputs, repair and maintenance, consumption of fixed capital and addition to capital during the year for both inland and marine fishing. Such information may be collected periodically at least once in five years. For the evaluation of output at 'producer prices' wholesale prices have to be adjusted for trade and transport margins. Attempt therefore should be made to collect producer prices at least from a small sample.

### **Mining and quarrying**

- A6.14 Data on output of all minor minerals as well as the details about intermediate consumption and consumption of fixed capital are not available. Information on inputs and consumption of fixed capital has to be collected in the case of the two major products as well, viz., coal and petroleum. The IBM or state departments of mining and geology may collect such information annually.

### **Other organised sectors**

- A6.15 For manufacturing, while ASI data are available to the states, both for the census and the sample sectors, it is necessary that the states develop their own index number series for industrial production and prices similar to the All-India series. This would provide an appropriate indicator to the states to move the latest available estimates based on ASI data to obtain current year estimates on a provisional basis.
- A6.16 Although a part of the trade sector belongs to the organised part, hardly any data are available. Available estimates of various aggregates like the value added, capital formation, total turnover and input costs, etc., are very weak. It is necessary that the establishments registered under Sales Tax Act is used as a frame and the turnover figures, also collected in this context, are used to stratify the various establishments covered under the Act. It is generally observed that a very small proportion of the trading establishments account for a large proportion of the total turnover. From the sampling point of view this is a great advantage. It should therefore be possible to organise an all-India survey of distributive trade at the interval of every five years through an appropriate agency. The state statistical agencies will need to co-operate in this matter by updating the frame, and also maintaining turnover figures on an annual basis for estimating

figures of value added, etc. for inter-survey years. Similar surveys should also be undertaken for organised transport and professions. Registration under the appropriate act and similar other provisions may supply the appropriate frames.

- A6.17 For construction, the feasible approach would be through the agencies making outlays rather than from institutions like construction companies. For example, in manufacturing, the ASI returns should provide the necessary information.

### **Unorganised sector**

- A6.18 In the case of manufacturing, construction, transport, trade, hotels, etc., and services, some information on the organised/corporate components will be available.
- A6.19 In the case of the unorganised components of these sectors, it would be necessary to collect comprehensive information on various aspects for a bench-mark year. These bench-mark data are to be supplemented by current data on major indicators of trends of each of the transactions/macro-aggregates for each of the activities on an annual basis for estimation for the intervening years. Till now it has not been possible to organise collection of annual data in these sectors.
- A6.20 As the Committee has observed country-wide periodic censuses/ surveys covering all these economic activities simultaneously will help in obtaining the bench-mark information. It is understood that the CSO has already initiated action for conducting the first economic census in the country to be followed by sample surveys by types of activities. Considering the magnitude of the sectors to be covered, the collection of data has been planned in two stages. The first stage consists of listing of all establishments, both household and non household, collecting information on some basic characteristics at the listing stage. The sample surveys at the second stage would provide detailed information on inputs, outputs, employment capital formation, sources of finances, factor incomes, etc., on individual economic activities. The project would be comprehensive to the extent of covering all non-agricultural establishments in the unorganised sector and activities like wholesale and retail trade barring public and private corporate enterprises. The Committee hopes that the scheme will be expeditiously implemented and thus the major data gap in these sectors filled to a large extent.

- A6.21 It is also important to ensure that both household and non-household enterprises are covered in the course of data collection both for the census as well as the sample surveys. In other words, the household and non-household surveys should be tied up in such a way that the same set of economic activities are covered at the same time in the household and non-household sectors and the complete results for any particular economic activity are obtained for the same period. Such economic censuses and surveys should be repeated periodically so that adequate bench-mark information relating to the unorganised sectors of the economy flows continuously.
- A6.22 Obviously, however, this programme will not provide the annual output indicators, and these can best be obtained by freezing a fraction of the NSSO and the Economic Census samples and canvassing the same would provide estimates of a limited set of variables that could serve as surrogates of gross output for the unorganised sector. Once there is an agreement about this plan the Committee feels confident that the CSO in consultation with the SSBs could work out the relevant variable or their surrogates.
- A6.23 It will be observed that all private activities except construction have been covered above. The analysis of balance sheets and annual accounts is not likely to prove useful for state level estimates in these sectors. The best way to estimate value added, capital formation etc. is to use information available from the ASI for organised manufacturing. For other establishments covered under sales tax registration, shop establishments, etc. It should be possible to obtain regularly information on output, input etc. For construction activity the most satisfactory answer for data on output, capital formation etc., may be organisation of sample surveys on the basis of area sampling and details available from ASI etc. For non-registered manufacturing as well as other non-registered establishments which are not so covered, it will be necessary to organise large scale sample surveys at least once in five years giving details of output, input, capital formation etc. The estimates for inter-survey years should be built up with suitable indicators based on information on important inputs.
- A6.24 In the municipal areas, there is usually a system of approving building plans and issuing commencement and/or completion certificates. These records also provide a suitable frame for conducting sample surveys in urban areas. In the rural areas, surveys will be necessary to estimate the various aggregates related to the construction sector. These surveys can cover households and unorganised factories, trading establishments, etc., in the private sector.
- Public sector**
- A6.25 For the public sector, the most outstanding gap in information is with respect to local authorities. Detailed information on income and expenditure of local authorities needs to be collected regularly on an annual basis. The number of local bodies within a region is likely to be large depending upon its size and tiers of local administration. However, the collection of data alone will not suffice and economic analysis of the details would be necessary. The task of analysis would require considerable resources and the problem is enhanced as the presentation of the budget is not uniform and does not provide information in sufficient details. The Committee therefore feels that a uniform system of presentation and classification of accounts of the local bodies is necessary as in the case of state government budgets. The question of collection of the minimum necessary information in a specially devised form for the purpose might facilitate the collection of relevant data as well as their analysis.
- A6.26 At present CSO, besides analysing the central government budgets, is also engaged in the analysis of budgets of all state governments and local bodies and accounts of non-departmental enterprises for the preparation of the public sector accounts. Once all the state governments undertake the analysis of the budgets of administrative departments and non-departmental commercial undertakings falling within their jurisdiction within a specified time schedule following uniform classificatory system, the CSO can make use of these results for consolidation thus avoiding the present duplication of work. The CSO can, in turn, concentrate in preparing more detailed analysis of the corresponding counterparts at the centre providing the detailed break-up of various aggregates of the central government, the administrative departments as well as departmental and non-departmental enterprises located in the various states.
- Private final consumption expenditure**
- A6.27 According to the present long-term programmes of the NSSO, the household

consumer expenditure surveys are to be carried out once every five years. The major gaps in the data system in this respect would therefore be relating to the annual indicators which would be needed to carry forward the bench-mark estimates of private consumption expenditure which would be built up in the basis of the NSS data. The SSBs may have to make special efforts in carrying out surveys on a smaller scale in order to build up indicators of consumption of at least the major commodities or built up series of net availability of such commodities to the households for current consumption. However, if the NSSO uses a frozen sample recommended by the Committee, the sample could throw annual estimates of size distribution of an important segment of household consumption. Also surveys should be organised to obtain size distribution of income suitably defined.

### Capital formation

- A6.28 Wherever a producing sector is studied in detail through a census/survey, the Committee recommends that the query should cover all capital outlays of the enterprise. This has been mentioned in some of the above sections also, but this specific mention should be considered as the general recommendation of the Committee for all producing sectors.

### Problems of inter-state comparability

- A6.29 In the past, the Planning Commission, the Finance Commission and the Ministry of Finance have been handicapped in the use of SDP estimates, not merely, due to conceptual and methodological non-comparability between the estimates prepared by SSBs but also due to the price differentials that exist between the states. The conceptual and methodological problems have received good deal of attention and have been resolved to some extent. But the problem of differential prices and its effect on the inter-state comparability has not yet received the attention it deserves. The United Nations project on International Comparison of National Accounts aggregates and purchasing power of currencies is devoted to the problem corresponding to price differentials between various countries and the associated question of comparability of per capita incomes. The method used is suitable for a realistic inter-state comparison. India happens to be a participating country of this Project. In view of this, the Committee recommends that the CSO should pursue the project,

already initiated, to study the purchasing power parities of the rupee in different states for a more meaningful comparison of domestic product between states. The Committee feels that to pursue this point, it would be desirable to have final outlays on consumption and capital formation by states at intervals more frequent than five year.

### The co-coordinating function of the CSO

- A6.30 The SSBs and the CSO in the past have played distinctive roles in the development of regional income studies in the various states. The CSO assisted by a Working Group on State Income which included several Directors of SSBs evolved standard methodologies whose adoption by SSBs has helped in achieving comparability in the estimates prepared by individual states. However, the present expanded work on the subject, as recommended by the Committee in its two Reports, would call for much more important role to be played by CSO and SSBs mainly because of the broader coverage and scope of the work involved. The methodologies suggested, though, broadly conforming to the standard methodologies adopted earlier provide enough flexibility for the states to use better available data. This will call for examination of the methodologies from the point of view of uniformity of concepts as well as representativeness of the data used at the state level. Moreover, the preparation of regional accounts is an entirely new experience for the state. Estimation of the aggregates like capital formation, consumption expenditure and household income is likely to present both conceptual and methodological problems and some SSBs may require guidance from the CSO at least in the initial stages. The preparation of SRA and the supporting tables will also necessitate collection of fresh data through sample surveys and type studies at the local level and unless these are enthusiastically pursued by SSBs and co-coordinated by the CSO by providing guidelines at the technical level as well as ensuring their simultaneous implementation, it is unlikely that comparable estimates for all the states will become available soon.
- A6.31 It would be clear from the report that for a large number of items of the accounts and tables the sources of data lie beyond the ambit of the SSBs. Apart from this some of the estimates to be entered in these accounts are to be based on notional calculations and certain uniformity in these calculations is

necessary so that their allocation to all states add up to what in aggregate was allocated initially. This points, therefore, to the necessity of a central agency securing the necessary data, making the calculation of allocation and communicating them to the

state. The CSO would thus have to take up this additional role if the SRA is to be put into practice. Without its active participation in this endeavour the states would not be able to prepare the accounts.

Source: *Final report of the Committee on Regional Accounts, Central Statistical Organisation, Department of Statistics, Ministry of Planning, Government of India, September, 1976.*

\*\*\*