COUNTRY REPORT

By

Subash Chandra Malik
Director

GOVERNMENT OF INDIA
MINISTRY OF STATISTICS AND PROGRAMME IMPLEMENTATION
CENTRAL STATISTICS OFFICE (CSO)
NATIONAL ACCOUNTS DIVISION
(I). STATISTICAL SYSTEM IN INDIA:

The Indian Statistical System functions within the overall administrative set up of the country. India has a federal structure of Government. The division of responsibility for administration between the Union Government and the State Governments is on the basis of three-fold classification of all subjects, namely, the Union List, the State List, and the Concurrent List. The last category represents the areas where both the Union and State Governments can operate. The subject Statistics is in this list. There is a further division of responsibility, by subjects or groups of subjects, among the different Ministries/Departments of the Union Government and among the Departments of State Governments, on the basis of their administrative functions.

In accordance with this structure, the Indian Statistical System is largely decentralised with elements of central supervision. All-India large-scale statistical operations, such as Population Census, Economic Census, Agricultural Census and Livestock Census, and nation-wide sample surveys, including the Annual Survey of Industries and the Socio-Economic Surveys, as well as compilation of macro-economic aggregates like national accounts, All-India Price Indices and industrial production, are mainly Central activities, with substantial involvement of State agencies in data collection.

The Ministry of Statistics and Programme Implementation (MOSPI) is the nodal agency for all statistical activities at all-India level. The State Directorates of Economics and Statistics (DESs) carry out the responsibility of coordination of all statistical activities at the State level and keeping liaison with the MOSPI for the purpose of coordination at All-India level, and for maintaining norms and standards in the field of official statistics.

1. CENTRAL STATISTICS OFFICE (CSO):
CSO is headed by a Director General with the headquarters located in New Delhi. It consists of five major Divisions viz. National Accounts Division (NAD), Economic Statistics Division (ESD), Social Statistics Division (SSD), Training Division, and Coordination & Publication Division (CAP). Besides, the National Statistical Systems Training Academy (NSSTA), a central training institution of the Ministry of Statistics and programme Implementation (MoSPI) is established in 2009 for providing to central and State officers with newer practices in the statistical applications in official statistics, techniques of data management, survey techniques, monitoring & Evaluation, management, Information technology, GIS, forecasting, SNA and administration of official statistical system.
The Central Statistical Office is responsible for coordination of statistical activities in the country, and evolving and maintaining statistical standards. Its activities mainly include National Income Accounting; conduct of Economic Census and its follow up surveys, processing of data collected through Annual Survey of Industries and preparation of Reports, compilation of Index of Industrial Production, as well as Consumer price Indices, Gender Statistics, and imparting training on Official Statistics.

CSO brings out a number of publications periodically including Statistical Year Book, Monthly Statistical Abstract, India in figures, Statistical Pocket book, Energy Statistics, Infrastructure Statistics, Environment Statistics etc. besides disseminating various statistical data to various national and international agencies. The other activities include preparation of Five Year Plan and Annual Plans, holding conferences with the Central and State statistical agencies, revision of National Industrial Classification, preparation and implementation of Strategic Plans to make available data on key parameters, to improve the quality and reliability of existing data sets, to make available new data sets on emerging fields to meet increasing data demands, and, to reduce time lag in dissemination of data.

The Computer Centre under CSO, handles the data processing jobs of the MOSPI, provides training to statistical personnel on software, maintain the MOSPI's website (www.mospi.gov.in) and the National Data Warehouse of Official Statistics.

2. NATIONAL SAMPLE SURVEY OFFICE (NSSO):

The NSSO functions under the overall direction of a Steering Committee with requisite independence and autonomy in the matter of collection, processing and publication of NSS data. In additional to the non-official Chairman, the Steering Committee is composed of academicians, data users from Central and State Government departments and senior officers of the Ministry. The NSSO is headed by the Director General and Chief Executive Officer (DG&CEO), who is also the Member-Secretary of the Steering Committee. The National Sample Survey Office (NSSO) conducts large scale sample surveys including socio-economic surveys, Annual Survey of Industrial, collection of price data for rural and urban sectors etc., besides carrying out sample checks on area enumeration and crop estimation surveys and prepares the urban frames useful in drawing of urban samples. The major activities of the NSSO pertain to Survey Design, Field Operations, Processing of NSSO data and Publication of NSSO Reports. Statistical System in the States
3. STATISTICAL SYSTEM IN THE STATES:

The Directorates of Economic and Statistics (DESs) in the States / UTs act as the nodal agencies for coordination of all statistical activities in the States/UTs. While most of the States/UTs have been formally declared by the State Governments as the Nodal Agencies on all statistical activities, the remaining few though not yet formally declared, continue to act as coordinating agency on statistical matters in the State/UT. Most of the States/UTs have District Statistical Offices (DSOs) which act as the field offices of the DESs for collection and compilation of statistical data for the districts. The DESs perform almost the same functions in the States/UTs as the NSO at the Centre viz. bringing out some key statistics, coordination with the Central and State statistical agencies, dissemination of statistics, etc.

4. LEGAL SUPPORT FOR COLLECTION OF DATA:

The Central Government’s Allocation of Business Rules, 1961 (as amended from time to time) provides for the roles and responsibilities of the MOSPI. The main Statistics Act under which data is collected by the MOSPI is the ‘Collection of Statistics Act, 2008”. The other most important Act for collection of statistics on demographic aspects of population is the ‘Population Census Act 1948’, which is administered by the Office of the Registrar General of India, functioning under the Ministry of Home Affairs. Besides these two important Acts, there are a number of Acts, Rules and Procedures being administered by various administrative agencies on their subjects, through which statutory returns are collected by these Ministries/Departments.

5. STATUS OF NATIONAL ACCOUNTS COMPILATION IN INDIA

5.1. BACKGROUND:

The first set of estimates of national income for the entire Indian Union was compiled by the ‘National Income Committee’, a High Powered Expert Committee set up by the Government of India under the Chairmanship of Prof. P.C. Mahalanobis in 1949. The estimates of national income and details of methodology adopted by the Committee were published in the First and Final reports of the National Income Committee brought out in April 1951 and February 1954 respectively.

Following the methodology recommended by the National Income Committee, the Central Statistics Office, earlier called the Central Statistical Organisation (CSO) prepared the first official estimates of national income with base year 1948-49 at constant
prices. The CSO published these estimates at constant (1948-49) prices along with the corresponding estimates at current prices and the accounts of the Public Authorities in the publication, "Estimates of National Income" in 1956. With the gradual improvement in the availability of basic data over the years, a comprehensive review of methodology for national accounts statistics has constantly been undertaken by the CSO with a view to updating the data base and shifting the base year to a more recent year.

The base year of national accounts were revised in the following chronological order:

i. From 1948-49 to 1960-61 in August 1967;
iii. From 1970-71 to 1980-81 in February 1988;
iv. From 1980-81 to 1993-94 in February 1999;
vi. From 1999-2000 to 2004-05 in January 2010; and

Along with the shifting of base years of national accounts series, the CSO also had been making improvements in the compilation of national accounts series, in terms of coverage of activities, incorporation of latest datasets and latest international guidelines. The reason for changing the base year of the national accounts periodically is to take into account the structural changes which have been taking place in the economy and to depict a true picture of the economy through macro aggregates like Gross Domestic Product (GDP), National Income, consumption expenditure of Government and individuals, capital formation etc. For examining the performance of the economy in real terms, estimates of these macro-economic aggregates are prepared at the prices of selected year known as base year. The estimates at the prevailing prices of the current year are termed as “at current prices”, while those prepared at base year prices are termed as “at constant prices”. The comparison of the estimates at constant prices, which means “in real terms”, over the years gives the measure of real growth.

5.2. New Base of National Accounts Statistics 2011-12:

The Central Statistics Office (CSO) introduced the new series of national accounts statistics with base year 2011-12, in place of the previous series with base year 2004-05 on January 30, 2015, which provides the new series Estimates of National Income, Consumption Expenditure, Saving and Capital Formation. The new series on National Accounts Statistics has been introduced after a comprehensive review of both the database and the methodology
employed in the estimation of various aggregates. Besides shifting the base year from 2004-05 to 2011-12, the series incorporates latest available data from surveys and Censuses, new economic activities, expansion of coverage of activities, improvements in procedures and to the extent possible, the latest recommendations of System of National Accounts, 2008 in the compilation of national accounts.

5.3. Choice of Base Year:

In the past, National Accounts Statistics were revised decennially changing the base to a year, which ends with 1. With the informal/unorganised sector playing a major role in the Indian economy, this was primarily because in the base year estimates of national accounts aggregates, the work force estimates especially that for the unorganised sector were obtained from the Population Census conducted decennially in the years ending with 1. This practice continued up to the series with base year 1980-81.

Since the 1993-94 series, the CSO started using the work force estimates from the results of Quinquennial Employment and Unemployment Surveys of National Sample Survey Organisation (NSSO), which are conducted once in every five years, and consequently started revising the base years of national accounts statistics once in every five years coinciding with the years for which the NSSO conducts the Quinquennial Employment and Unemployment Surveys (EUS). The National Statistical Commission has also recommended that all economic indices should be rebased at least once in every five years.

The NSS 61st Round Quinquennial EUS conducted in the year 2004-05, on which the previous series of national accounts was based, was followed by a quinquennial EUS in 2009-10. However, the year was not considered a “normal” year since it succeeded the global slowdown of 2008. Therefore, a fresh EUS was conducted in 2011-12. The results of this survey have been used for the compilation of the estimates in the new series with base year 2011-12.

6. SALIENT FEATURES OF NEW SERIES OF NATIONAL ACCOUNTS STATISTICS 2011-12:

A. IMPROVEMENTS IN COVERAGE

i) Corporate Sector – The Private Corporate Sector in 2004-05 series was being covered using the RBI (Central Bank) Study on Company Finances, wherein estimates were compiled on the basis of financial results of around 2500 companies. In the new series, comprehensive
coverage of Corporate Sector has been ensured in mining, manufacturing and services by incorporation of annual accounts of companies as filed with the Ministry of Corporate Affairs (MCA) under their e-governance initiative, MCA21. Accounts of about 5 lakh companies have been analysed and incorporated for the years 2011-12 and 2012-13, while the number of common companies (companies for which accounts are available for the year 2012-13) is around 3 lakh for the year 2013-14.

ii) **Financial Corporations**- Financial corporations in the private sector, other than banking and insurance, in the earlier series was limited to a few mutual funds and estimates for the Non-Government Non-Banking Finance Companies as compiled by Central Bank viz. Reserve Bank of India (RBI). In the new series, the coverage of financial sector has been expanded by including stock brokers, stock exchanges, asset management companies, mutual funds and pension funds, as well as the regulatory bodies, SEBI, PFRDA and IRDA.

iii) **Local bodies and autonomous institutions** – Earlier, estimates for local bodies and autonomous institutions were prepared on the basis of information received for seven autonomous institutions and local bodies of four States – Delhi, Himachal Pradesh, Meghalaya and Uttar Pradesh. In the new series, there has been an improved coverage of local bodies and autonomous institutions, covering around 60% of the grants/transfers provided to these institutions.

iv) **Use of results of recent surveys and censuses and type studies** - In the new series, efforts have been made to make use of as much current data as possible. Further, the results of latest available surveys have also been made use of. Some of the important sources of data, which have been used in the new series, are as follows:

(i) NSS 68th round (2011-12) – Survey on employment and unemployment and consumer expenditure;
(ii) NSS 67th round (2010-11) - Survey on Unincorporated Non-agricultural Enterprises (Excluding Construction);
(iii) All India Livestock Census, 2012;
(iv) NSS 70th round (2013) - All India Debt and Investment Survey and Situation Assessment Survey;
(v) Population Census, 2011;
(vi) Study on yield rates of meat products & by-products of different livestock species conducted by National Research Centre on Meat, Hyderabad;
(vii) Study on the inputs in the Construction sector by Central Building Research Institute (CBRI), Roorkee.
(viii) Study on ‘Harvest and Post-harvest losses of major crops and livestock products in India’ conducted by Central Institute of Post-Harvest Engineering and Technology (CIPHET), Ludhiana.

v) **Consultation with Expert Bodies** - The Advisory Committee on National Accounts Statistics (ACNAS) under the chairmanship of Prof. K. Sundaram, constituted the following sub-committees to look into the issues in the compilation of national accounts and make necessary recommendations for the new series of national accounts:

| a) Sub-Committee on Unorganised Manufacturing & Services Sectors |
| b) Sub-Committee on Agriculture and Allied Sectors Chairman |
| c) Sub-Committee on Private Corporate Sector including PPPs |
| d) Sub-Committee on System of Indian National Accounts Chairman |
| e) Committee on Private Final Consumption Expenditure Chairman |

**B. IMPLEMENTATION OF 2008 SNA**

While revising the base year, efforts have also been made to implement the recommendations of the System of National Accounts (SNA) 2008 to the extent data are available. Some of the recommendations which presently form part of the new series are:

i. Valuation of various GVA, NVA and related aggregates at basic prices and GDP at market prices instead of factor cost.

ii. Estimates of the institutional sectors – Non-financial and financial Corporations, General Government and households are shown separately, in view of their ‘intrinsic difference in their economic objectives, functions and behaviour’.

iii. Distinction between General Government and public corporations has been made and units have been allocated to institutional sectors so that general government and other public units can be identified separately.

iv. Unincorporated enterprises belonging to households, which have complete sets of accounts, tend to behave in the same way as corporations. Therefore, as recommended by SNA 2008, such enterprises have been treated as quasi-corporations. Some examples of quasi-corporations in the Indian context are proprietorship and partnership enterprises, maintaining accounts.

v. The head office has been allocated to the non-financial corporations sector unless all or most of its subsidiaries are financial corporations, in which case it is treated as a financial auxiliary in the financial corporations sector. In the 2004-05 series, the recommendation had been adopted for service sector wherein GVA estimates were compiled from enterprises in this sector. In the new series, this approach has been adopted for the mining and organised manufacturing sectors also.
vi. Sub-sectoring of Non-Profit Institutions (NPIs) in the corporate and government sectors has been done in respect of autonomous bodies and Section 25 companies.

vii. Expenditure on Research & Development (R&D) has been capitalised in Government, Public Corporations and Private Corporations and hence has become part of capital formation.

viii. Output of Financial Intermediation Services Indirectly Measured (FISIM) has been calculated using a reference rate for the financial sector, except in the case of central bank (Reserve Bank of India).

ix. Output of central bank (RBI) is measured at cost.

x. Non-financial assets in the earlier series were classified as ‘construction’ and ‘machinery’. In the new series, as recommended by SNA2008, non-financial assets have been classified as ‘dwellings, other buildings and structures’, ‘machinery and equipment’, ‘cultivated biological resources’ and ‘intellectual property products’.

xi. Consumption of fixed capital has been measured at the average prices of the period with respect to a constant-quality price index of the asset concerned.

xii. Harmonisation between SNA and BPM in respect of the external sector transactions has been achieved since RBI has adopted BPM6 in its compilation.

In view of the implementation of the above-mentioned recommendations of SNA 2008, specifically those stated at (ii), (iii) and (iv) above, the classification of enterprises in the new series has undergone change. The details of the institutional sector classification are given below:

C. Organised Sector:

a. General Government

b. Public Financial/Non-Financial Corporations
   1. Departmental Enterprises (DE) or Departmental Commercial Undertakings (DCU)
   2. Non-Departmental Enterprises (NDE) or Non-Departmental Commercial Undertakings (NDCUs)

c. Private Financial/Non-Financial Corporations
   1. Private Incorporated Enterprises
   2. Quasi-corporations

These include -

i. Crop production in plantations, other than those covered in private corporate sector.

ii. Unincorporated Enterprises covered in Annual Survey of Industries (ASI).
iii. Unincorporated enterprises of manufacturing that are not covered under Annual Survey of Industries (ASI) but maintain accounts.
iv. Co-operatives providing non-financial services.
v. Unincorporated enterprises providing non-financial services maintaining accounts.
vi. Unorganised financial enterprises.

The following points need to be noted with reference to this categorization of organised sector-

- In the earlier series, only quasi-corporations under i, ii and iv above were included in the organised sector.
- ‘Registered Manufacturing’ in the national accounts earlier referred to DEs and all factories registered under the Factories Act under Section 2m(i) & 2m(ii) employing more than 10 workers with power or 20 workers without power.

Therefore, apart from factories of the Incorporated Enterprises, it also included factories of unincorporated enterprises which were registered under the Factories Act. The organised manufacturing sector in this series is a super-set of the registered sector.

D. Households or Unorganised sector

Enterprises not covered in ‘C’ above, i.e, all non-Government Unincorporated Enterprises that have not been classified as quasi-corporations
- Includes Non-Profit Institutions Serving Households (NPISH)

E. METHODOLOGICAL CHANGES IN COMPILATION

i) Estimation of GVA for the unincorporated manufacturing and non-financial enterprises.

In the absence of annual enterprise surveys, the GVA estimates in respect of unorganised segments of manufacturing and services sectors are compiled indirectly through Labour Input Method (LI Method) using the benchmark-indicator procedure. In this procedure, the benchmark GVA estimates are initially prepared at detailed activity level for the base year of national accounts series using the estimated labour input (which is the total of principal and subsidiary activity of workers engaged in the activity) and the value added per worker (VAPW) in the activity. For subsequent years, the GVA is estimated by extrapolation using appropriate indicators relevant to the economic activity. Therefore, for estimation of GVA for these unorganised segments of economy, data on labour input and VAPW are required for the base year. It is pertinent to mention here that
the labour input used in the national accounts relates to the number of jobs performed in the economic activities, rather than the number of persons employed. This means that a person performing two jobs is counted twice in the labour input procedure. This labour input corresponds conceptually to the labour input used in estimating the value added per worker from the NSS enterprise surveys.

In the national accounts statistics, the estimates of value added are compiled at detailed activity level, known as ‘compilation categories’. These compilation categories are determined by regrouping the economic activities at different levels described in the National Industrial Classification (NIC), 2008, which, in turn, follows the International Standards Industrial Classification of All Economic Activities, Rev.4 (ISIC Rev.4) of the United Nations. There are some differences in compilation categories in 2011-12 from 2004-05 due to change of NIC from NIC, 2004 to NIC, 2008. Major differences are given below:

i. The activities, ‘Recycling of metal waste and scrap + non-metal waste and scrap’, which was earlier part of manufacturing and ‘Sewerage and other waste management services’ have been clubbed to form the category ‘Remediation and other utility services’, and will be reflected in the group ‘Electricity, gas, water supply and other utility services’.
ii. ‘Repair of computers’, which was earlier part of computer related activities, to be a part of ‘Repair of personal and household goods” and reflected in ‘Trade & Repair Services’.
iii. ‘Recording, Publishing and Broadcasting Services’ to form a new category, and reflected in the group ‘Communication & Services related to broadcasting’.
iv. Sewage activities removed from services sector and made a part of Electricity, Gas, Water Supply and Utility Services.

In the new series, a new method called “Effective Labour Input Method” (ELI Method) has been adopted for the following enterprises:

- All unincorporated manufacturing enterprises, except those covered under the Annual Survey of Industries.
- Unincorporated service enterprises, except those of ‘Trade & Repair Services’.
- ‘Hotels and Restaurants’, ‘Non-mechanized Road transport’ and ‘Telecommunication’.

In the Labour Input Method (LI Method), as was being used in the earlier series, while compiling GVAPW from the Enterprise Survey, it is assumed that there is equal contribution from all categories of
workers engaged in an economic activity i.e. the productivity of an employer, a casual wage worker, or a family worker is equal. The new method addresses differential labour productivity issue by assigning weights to the different categories of workers engaged in an economic activity based on their productivity. The weights were compiled using the data on establishments covered in the NSS 67th round Survey on Unincorporated Enterprises, 2010-11 (hereinafter referred to as ES). A nested Cobb-Douglas function has been used for computing the weights of different categories of workers.

F. Other changes in the compilation procedure

Some of the other key changes that have been incorporated in the new series of national accounts are described in the following paragraphs.

(i) FISIM- In the earlier series, output of Financial Intermediation Services Indirectly Measured (FISIM), which gives an estimate of the ‘net interest margin’ of the financial corporations, was based on the difference between total property receipts (dividend+ interest+ net profit on sale of investments) and total interest payments by the financial corporations. In the new series, as recommended in the SNA 2008, the estimates of FISIM have been compiled, using the Reference Rate (RR) approach.

(ii) Output of (Central Bank) RBI. The estimates of GVA of the Central Bank, i.e., the Reserve Bank of India (RBI), in the earlier series were computed using a mix of market and non-market approach. The issue department of the RBI was considered as non-market and a part of the General Government. The banking operations of the RBI were considered as market operations. In the new series, the entire operation of the RBI has been considered as non-market, as recommended in the SNA 2008 and the value of its output has been computed using the cost approach2.

(iii) Unorganised financial enterprises (other than insurance agents). In the financial services, in the 2004-05 series, the GVA of the unorganised sector was estimated as a fixed ratio (1/3rd) of the GVA of Government Companies and the Non-Government Non-Banking Financial Companies (NGBNFCS). This sector consisted of private moneylenders and unincorporated financial enterprises. In the new series, the estimates for private moneylenders have been derived using the information available from the NSS 70th round All India Debt and Investment Survey (AIDIS), 2013, RBI’s annual publication - Basic Statistical Returns of Scheduled Commercial Banks in India, RBI’s “Report of the Technical Group to review legislations on moneylenders”, 2007 and NSS 67th round Survey on Unincorporated Enterprises, 2010-11. For the remaining unorganised financial
enterprises, the estimates of GVA have been derived from NSS 67th round Survey on Unincorporated Enterprises, 2010-11.

(iv) **Sand.** The estimate of ‘extraction of sand’ as part of minor minerals in the earlier series was found to be negligible as compared to its apparent use in construction. Therefore, in the new series, an indirect estimate of the value of output of ‘extraction of sand’ at basic prices has been derived through the value of commodities used for ‘construction’.

(v) **Inclusion of construction materials as basic materials.** Two new construction materials, namely, bitumen & bitumen mixtures and glass & glass products have been included in the list of basic materials used for estimation of value of output of construction activity. The output for these items has been derived from the Annual Survey of Industries, 2011-12. In addition, for the output of glass & glass products, information has also been taken from the manufacturing enterprises covered in NSS 67th round Survey on Unincorporated Enterprises, 2010-11. Due adjustments are then made on these estimates of output for excise duty, net imports and import duty, as also the value of these products used in the manufacturing sector as inputs, to derive the estimates of these two materials as used in construction.

(vi) **Use of Consumer Price Indices – Rural/Urban/Combined.** Price indices are used for compiling the estimates in two cases – (i) as a deflator when current price estimates are available through firm data sources (e.g. annual financial reports) and (ii) for converting the constant price estimate to that at current prices, when quantum indicators are used in compilation. In the earlier series, CPI-AL/IW was being used as an indicator for the movement in retail prices. In the new series, these have been replaced by the broader based CPI-Rural/Urban/Combined, which have since become available.

7. **CHANGES IN GVA ESTIMATES, BY INDUSTRY, GDP AND NATIONAL INCOME**

The consequential impact in the estimates of Gross Domestic Product by Economic Activity and other income aggregates like gross and net national income, per capita national income and growth pattern of macro aggregates due changes made in the new series in terms of methodology and in sources of data, have also been discussed below;

8. **OVERALL ESTIMATES OF GROSS DOMESTIC PRODUCT (GDP)**

The estimates of GVA by economic activity for the year 2011-12, according to the new series and the 2004-05 series, have been presented in Table 1. It may be noted that estimates of GVA had been prepared at factor cost in the earlier series, while these are being prepared at basic prices in the new series. Further, the
The classification of economic activities across industry groups has also been change in accordance with NIC 2008. Therefore, though the estimates have been presented side by side, these are not strictly comparable. The key industries with significant change are ‘manufacturing’, ‘trade & repair services’ and ‘other services’.

Table 1. Estimates of GVA by economic activity at current prices, 2011-12
(At factor cost for old series and at basic prices for new series)

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Item</th>
<th>2004-05 Series</th>
<th>2011-12 Series</th>
<th>% Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Agriculture, forestry and fishing</td>
<td>1499098</td>
<td>1505580</td>
<td>0.4</td>
</tr>
<tr>
<td>1.1</td>
<td>crops</td>
<td>960445</td>
<td>986604</td>
<td>2.7</td>
</tr>
<tr>
<td>1.2</td>
<td>livestock</td>
<td>340124</td>
<td>324013</td>
<td>-4.7</td>
</tr>
<tr>
<td>1.3</td>
<td>forestry and logging</td>
<td>131667</td>
<td>129105</td>
<td>-1.9</td>
</tr>
<tr>
<td>1.4</td>
<td>fishing and aquaculture</td>
<td>66862</td>
<td>65858</td>
<td>-1.5</td>
</tr>
<tr>
<td>2.</td>
<td>Mining and quarrying</td>
<td>222716</td>
<td>262813</td>
<td>18.0</td>
</tr>
<tr>
<td>3.</td>
<td>Manufacturing</td>
<td>1236182</td>
<td>1482158</td>
<td>19.9</td>
</tr>
<tr>
<td>4.</td>
<td>Electricity, gas, water supply &amp; other utility services*</td>
<td>135670</td>
<td>194403</td>
<td>43.3</td>
</tr>
<tr>
<td>5.</td>
<td>Construction</td>
<td>689798</td>
<td>774093</td>
<td>12.2</td>
</tr>
<tr>
<td>6.</td>
<td>Trade, repair, hotels and restaurants</td>
<td>1457565</td>
<td>882957</td>
<td>-39.4</td>
</tr>
<tr>
<td>6.1</td>
<td>Trade &amp; repair services</td>
<td>1330489</td>
<td>792996</td>
<td>-40.4</td>
</tr>
<tr>
<td>6.2</td>
<td>Hotels &amp; restaurants</td>
<td>127076</td>
<td>89962</td>
<td>-29.2</td>
</tr>
<tr>
<td>7.</td>
<td>Transport, storage, communication &amp; services related to broadcasting</td>
<td>614707</td>
<td>530163</td>
<td>-13.8</td>
</tr>
<tr>
<td>7.1</td>
<td>Railways</td>
<td>62710</td>
<td>61210</td>
<td>-2.4</td>
</tr>
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<td>7.2</td>
<td>Transport by means other than railways</td>
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<td>7.3</td>
<td>Storage</td>
<td>5496</td>
<td>5292</td>
<td>-3.7</td>
</tr>
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<td>7.4</td>
<td>Communication &amp; services related to broadcasting</td>
<td>89747</td>
<td>127553</td>
<td>42.1</td>
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<td>8.</td>
<td>Financial services</td>
<td>481495</td>
<td>480232</td>
<td>-0.3</td>
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<td>9.</td>
<td>Real estate, ownership of dwelling &amp; professional services</td>
<td>900029</td>
<td>1059342</td>
<td>17.7</td>
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<td>10.</td>
<td>Public administration and defence</td>
<td>498346</td>
<td>492405</td>
<td>-1.2</td>
</tr>
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<td>11.</td>
<td>Other services</td>
<td>656085</td>
<td>531398</td>
<td>-19.0</td>
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<td>12.</td>
<td>TOTAL GVA</td>
<td>8391691</td>
<td>8195546</td>
<td>-2.3</td>
</tr>
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</table>
9. **SPECIFIC SECTORS**

**Ownership of dwellings**

As per the production boundary defined for national accounts, ‘production of housing services for owner occupiers' own final consumption’ has to be taken into consideration in the estimation of GDP. Therefore, this economic activity apart from capturing the housing services generated from rented residential houses, also includes the imputed value of owner occupied dwellings. Services rendered by non-residential buildings are considered to be a subsidiary activity of the industries, which occupy the buildings and therefore, are not included in this sector.

In the old series, GVA estimates for the ownership of dwellings of urban areas were estimated as the gross rental (actual rent paid and imputed rent for owned dwellings) of the residential census houses less the cost of repairs and maintenance. The user cost approach was used for estimating the value added from rural dwellings. The same methodology has been followed in the new series also, duly updated with the latest Data on dwellings and rent per dwelling for urban areas has been taken from the Population Census, 2011 and the results of NSS 68th round Consumer Expenditure Survey respectively. For estimating the services in the rural areas, the user cost approach has been updated using the AIDIS, 2013, Population Census 2011. The estimates of GVA for the year 2011-12 in the new series is more than of old series.

10. **DATA DISSEMINATION/RELEASES**

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12. ESTIMATION OF GROSS DOMESTIC PRODUCT (GDP)

GDP of a Country is estimated using three approaches:

- Production approach
- Income approach
- Expenditure approach

In theory the three approaches give same result of GDP of the economy.

A. Estimation of GDP-Production Approach:

In production approach the GDP is obtained as the sum of gross value added (GVA) of all resident producer units (institutional units/sectors, or industries) at basic prices plus taxes less subsidies on products. GVA at basic prices of a producer unit/industry is estimated as the difference between its output and intermediate consumption(IC).

\[ \text{GVA} = \text{OUTPUT} - \text{MATERIAL INPUTS} \]

Output may be market output, produced for own final use, or non-market output. Total value of output produced for own final use includes. Total value of output produced by household enterprise and consumed by same household. Total value of fixed assets produced by a unit that are retained by it for use in future production. Total value of change in inventories of finished goods and work-in-progress. Non-market output is valued at cost basis.

Thus the value of non-market output =

\[ \text{Value of intermediate consumption at purchaser’s price} \]
\[ + \text{Compensation of Employees (CE)} + \text{Consumption of Fixed Capital (no operating surplus)} \]

Output of a trading enterprise/unit is the margin it gets, computed as Sales value – Purchase value + Additions to stocks of the products it trades.

Output of financial intermediaries is the sum of actual sales (charges) it receives for its services and financial intermediation services indirectly measured (FISIM). FISIM is computed as total interest received minus total interest paid. To avoid double counting FISIM is allocated to the industries as intermediate consumption (thus subtracted from the GVA of various industries) and final uses in proportion to the services used by them.
B. Estimation of GDP- Income approach

In income approach estimation the income that generates to the owners of resources while the industry produces goods and services are to be captured. Thus for each of the industry the following components of GVA are to be obtained; (i) Compensation of employees (payments made to the owner of human resource for labour), (ii) Net Operating Surplus and (iii) Consumption of fixed capital (CFC).

Gross Operating Surplus is Net Operating Surplus + CFC. Gross Operating Surplus includes payments made to the owners of all other resources such as rent to the owner of natural resource, interest to the owner of financial resource, profit/loss to the entrepreneurship, capital services to the owner of produced resource, in short all primary incomes other than compensation for labour. Taxes less subsidies on production (which are irrespective of sales or profitability) are inside the GVA and thus inside the operating surplus.

C. Estimation of GDP- Expenditure Approach:

GDP at market price is estimated as the sum total of following final uses: Household Final Consumption Expenditure, Non-profit Institutions serving households (NPISH) Final Consumption Expenditure, Government Final Consumption Expenditure, Gross Fixed Capital Formation, Change in Stocks, Acquisition less disposals of Valuables and Net Exports (Exports less Imports)

13. CLASSIFICATION OF FINAL CONSUMPTION EXPENDITURE:

There are three international classification schemes of expenditure according to purposes that help to aggregate final consumption expenditure and actual final consumption for comparison purposes:

a) The Classification of Individual Consumption According to Purpose (COICOP).

b) The Classification of the Purposes of Non-Profit Institutions Serving Households (COPNI).

c) The Classification of the Functions of Government (COFOG).

14. MAIN CLASSES OF CONSUMPTION BY PURPOSES:

a) Food and non-alcoholic beverages, b) Alcoholic beverages, tobacco and narcotics, c) Clothing and footwear, d) Housing, water, electricity, gas and other fuels, e) Furnishings, household equipment and routine maintenance, f) Health, g) Transport, h) Communication, i) Recreation and culture, j) Education, k) Restaurant and hotels and l) Miscellaneous goods and services.
• Individual consumption of NPISH


(II). ESTIMATION OF QUARTERLY ACCOUNTS IN INDIA

Introduction:

The CSO compiles estimates of Quarterly Gross Domestic Product (QGDP) with a time-lag of 2 months. The release includes the Quarterly Gross Value Added estimates compiled through production approach (QGVA) and quarterly expenditures of GDP (QGDE) compiled through expenditure approach. The QGVA compiled through production approach is treated as the firmer estimate. The difference between QGVA and QGDE is presented as statistical discrepancy. The industry classification followed is the National Industrial Classification 2008.

QGVA ESTIMATES BY PRODUCTION APPROACH.

The QGVA estimates are compiled for about 110 economic activities, but the estimates released are only for 8 industry groups, (1) agriculture, forestry & fishing, (2) mining & quarrying, (3) manufacturing, (4) electricity, gas & water supply, (5) construction, (6) trade, hotels, transport and communication, (7) financing, insurance, real estate & business services, and (8) community, social & personal services.

For each of the above 110 economic activities, quarterly value of output or QGVA is compiled using the benchmark-indicator procedure. In this method, for each activity, a key indicator or a set of key indicators for which data in volume or quantity terms is available on quarterly basis, is used to extrapolate the value of output or value added estimate of the previous year.

Firstly, the QGVA is compiled at constant prices, as quantity or volume indicators are used for each of the 110 economic activities to extrapolate previous year’s GVA of the same activity. The QGVA at current prices is then prepared by multiplying the constant price QGVA with quarterly implicit price indexes (IPD). The IPD for the QGVA is prepared using the wholesale and consumer price index, for each of the broad industry groups. The implicit price index (IPD) is the ratio of current price GVA to constant price GVA.

The QGVA estimates of different activities at constant prices are compiled according to two alternative methods, depending upon whether the value added estimates are to be derived as value of output minus value of inputs, or as GVA estimates directly. In the case of activities, agriculture, forestry, fishing and mining, value added
estimates derived as value of outputs (- ) value of inputs , the commodity-level value of output at constant prices of the previous year is extrapolated with the growth in production of the particular commodity during the reference quarter. In these industries, for those commodities for which quarterly production data is not available, their values of output are first estimated for the entire year using the trend available from the past years’ data, and the annual estimate is apportioned equally among the four quarters of the year. The quarterly value of output of each of these four industries is the sum of value of output of individual commodities within these four industries. For estimating the quarterly value of inputs in these four industries, the previous year’s input-output ratio is applied on the quarterly estimated value of output, separately for each of these four industries.

In the case of all other industries, the gross value added estimate for the reference quarter is directly estimated at different disaggregated levels.

The indicators used for QGVA estimates at constant prices are as follows:

(i) Agriculture: Quarterly agriculture production estimates of forecast crops, 
(ii) Livestock: Quarterly production of milk, egg and wool. (iii) Forestry: Annual forecast is apportioned equally in all four quarters. (iv) Fishing: Quarterly production of inland and marine fish , (v) Mining and quarrying: Monthly production of coal, crude petroleum and Index of Industrial Production (Mining), vi) Manufacturing: Monthly Index of Industrial Production (Manufacturing) , (vii) Electricity, gas and water supply: Monthly Index of Industrial Production (Electricity), For water supply, the government expenditures , (viii) Construction: Monthly production of cement, steel and bricks. (ix) Trade, hotels and restaurants: Quarterly Gross Trading Index, which is computed using the value of output of commodity producing sectors and imports. (x) Railways: Monthly data on Net tonne Kms. and Net passenger Kms. (xi) Transport by other means: Production of commercial vehicles for the road transport, cargo handled at major ports for water transport and passenger kilometers flown and freight tonne kilometers flown for the air transport. (xii) Communication: total stock of telephone connections , (xiii) Banking and insurance: The sum of aggregate deposits and bank credits deflated by the wholesale price index (WPI) for banking, life insurance (sum assured) and life fund deflated by WPI for life insurance and non-life fund (gross less claims) deflated by WPI for non-life insurance. (xiv) Public administration: Data on revenue expenditure of central government, excluding interest payments deflated by consumer price index for industrial workers. (xv) Other services: For the public component, central government revenue expenditure. For private part, apportioning equally the forecast in all the four quarters.

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QGDP ESTIMATES BY EXPENDITURE APPROACH (QGDE)

The QGDE estimates are compiled for about 50 expenditure categories. However, estimates are released only for 7 categories, (1) private final consumption expenditure (PFCE), (2) government final consumption expenditure (GFCE), (3) gross fixed capital formation (GFCF), (4) change in stocks (CIS), (5) valuables, (6) exports, and less (7) imports, besides the statistical discrepancy. With the available limited information and using the data available on the supply side, consistent estimates of QGDE are compiled.

For each of the 50 expenditure categories, QGDE is compiled using the benchmark-indicator procedure. The data on indicators is mainly collected from respective administrative ministries/departments of Government of India. The purpose classifications followed for PFCE is the SNA 2008 classification and for GFCE, it is the COFOG recommended in SNA 2008. The indicators used for quarterly GDP expenditures are as follows:

(i) Private Final Consumption Expenditure (PFCE): The PFCE comprises of expenditures of households and non-profit institutions serving households (NPISH). India conducts large scale consumer expenditure surveys of households once in 5 years. This survey is conducted in four sub-rounds from July to June, coinciding with the quarters of the year. From these surveys, expenditures made by households on various commodities is available sub-round-wise. This sub-round-wise data available from the latest 5-yearly survey is adjusted on pro-rata basis with the annual estimates of PFCE (annual estimates are compiled broadly following the commodity-flow method). These quarterised PFCE data in the year in which the consumer expenditure survey was conducted, forms the benchmark estimates. For the commodity-wise quarterly estimates of PFCE in subsequent years, physical indicators are used for each commodity of expenditure. These indicators in respect of agricultural commodities are the net availability for consumption, after accounting for production, imports, exports, stocks and inter-industry consumption. For the manufactured goods the indicators used are the IIP and the tax data. For the services, indicator used is the output of services, as estimated for compiling Gross value added (GVA) of services.

(ii) Government Final Consumption Expenditure (GFCE): The monthly account of Central Government forms the basis for estimating the quarterly GFCE.

(iii) Gross Fixed Capital Formation (GFCF): Estimates of GFCF are compiled separately for (a) construction, (b) machinery and equipment, and (c) software. The procedure followed for annual estimates is the commodity flow method, through which the total value of output of the three assets from supply side is estimated. This is taken to be the same as that acquired by institutions. For the quarterly GFCF in respect of
construction, the indicator used is the GVA of construction sector. While estimating the GVA of construction sector, the value of output of construction is also estimated. From this value of output, the value of repair and maintenance is subtracted to arrive at GFCF in respect of construction component. The GFCF in respect of machinery and equipment includes the domestic output of machinery and equipment and imports of machinery and equipment, suitably adjusted for other intermediate and final uses. For the quarterly GFCF estimates in respect of machinery and equipment, the two indicators used are (a) production of capital goods available from the use-based classification of Index of Industrial Production (IIP) and (b) the data on imports/exports of machinery and equipment. For estimating the GFCF in respect of software, the total output of software services is used as an indicator. (iv) Change in Stocks: The indicators used are (a) food stocks with government agencies, (b) estimated stocks with traders using data on bank credits, and (c) estimated output of manufacturing sector.

(v) Valuables: The GFCF in respect of valuables (mainly covering gold, and gems and jewelry) is broadly from three sources, (a) net imports (b) value addition done in India on the imported valuables, and (c) domestic production. The indicator used for this item is the net imports of valuables. (vi) Exports and Imports: Requisite detailed data for exports and imports is available from the quarterly balance of payments statistics. The deflators used to arrive at constant prices are the unit value indices of imports and exports.

IV Challenges: Quarterly retail trade survey, quarterly enterprise surveys and quarterly general government accounts are not available. The deflators or inflators for QGDP estimates are based on detailed data available from the wholesale price index, consumer price index for industrial workers and unit value indices of imports and exports.

(II.I) ESTIMATION OF GDP- IN INDIAN NATIONAL ACCOUNTS:

In Indian national accounts, a mixed (production and income) approach is followed in different sectors. The economy is divided broadly by economic activity following National Industrial Classification (NIC 2008) that is fully compatible with the International Standard on Industrial Classification.

GVA is estimated by economic activity by following broad classes as well as at disaggregated level:

1. Agriculture, Forestry and Fishing
2. Mining and Quarrying
3. Manufacturing- Registered and Unregistered,
4. Electricity, Gas, Water supply and other utility services,
5. Construction,
6. Trade, Repair, Hotels and Restaurants,
7. Transport, Storage, Communication & Services related to broadcasting,
8. Financial Services (Banking, Insurance), Real Estate, Ownership of dwellings and professional services,
9. Community, social and personal services: Public Administration and Defence, and Other services.

(a). GVA from Agriculture and allied activities

Datasets are obtained from Directorate of Economics and statistics, M/o Agriculture, integrated Sample Survey for livestock for MLP. Indian Livestock census (ILC), inter-census growth for estimating increment in stock; Directorate of Marketing and Inspection (DMI), NSSO, , all India debt and investment Survey (IADIS-2013), Central Silk Board, Khadi and Village Industry Commission (KVIC), Tea Board, Coffee Board, rubber Board, Central Board of Narcotic, Government budgets for GVA of OGIS, Area and Price from State DES. Value of output is estimated both for current prices and constant prices by multiplying production quantity with respective prices. Output is estimated by multiplying area with quantity per hectare.

Inputs: Seed, Chemical Fertilizers, Organic Manure, Livestock Feed, Irrigation charges, Market charges, Pesticides and Insecticides, Diesel oil, Repair and Maintenance of fixed assets, Operational costs, FISIM

(b). GVA from Forestry:

Economic activities included in the sector are: Planting and conservation of forests, Logging, cutting of trees, transportation of forest products to sale depots, Farmyard wood (industrial and fuel wood), Minor products: bamboo, fodder, lac, sandalwood, honey, resin, gum, tendu leaves, cork, etc.

Sources of data: State DES, India State Forest report (IFSI-2011, 2013), Fuel wood from Surveys on Consumer Expenditure by NSSO 68th round-2011-12. Fire wood-ASI, Central and State Govt. budget document. GVA recorded at current prices is value of output = production * current year price. Total =1.1* value of output of recorded production. In constant prices, recorded value of output = production * base year price.
(c) GVA from Fishing:

Economic activities included in the sector are: Commercial fishing in ocean, coastal and off shore waters, inland waters, subsistence fishing, gathering of sea weeds, sea shells, pearls, sponges, fish curing, sun drying of fish.

Source of data: State Fisheries Department (SFDs): Fish production is captured under (i) marine- (a) coastal marine, (b) deep sea; and (ii) Inland- (a) aquaculture, (b) capture fisheries. Estimates of production by sample surveys in all maritime states.

Inputs: Operational and R&M in case of marine fish, prawns, inland, Fish salting-sun dried subsistence fish. GVA is estimated Quantity of fish sold in raw form * current price and GVA at constant price is estimated by multiplying current year price with base year price.

(d) GVA from Mining and Quarrying:

Economic activities included in the sector are: Mining and agglomeration of coal, lignite, peat. Extraction of crude petroleum, natural gas & incidental services, Mining of uranium, iron ores, non-ferrous ores, Quarrying of stone, sand and clay, Other mining/quarrying.

Sources of data: Annual report of Public Sector Companies, MCA21 database for the annual reports of Private Sector Companies, Coal Controller of India, Basic Statistics on Indian Petroleum and Natural Gas, ONGC, OIL, IBM Monthly Statistics of Mineral Production for input rate, Department of Atomic Energy, Indian Rare Earths Ltd, Kerala Minerals and Metals Ltd. WPI from Ministry of Commerce and Industries. Salt commission Office, Minor Mineral-from State Geological departments for value of Output and CBRI study for sand.

Inputs: Coal India Ltd. and its subsidiaries for coal; Neyveli Lignite Corporation for lignite; ONGC and OIL for petroleum and natural gas, output of crude valued at Central Tank Farm at basic price deducting cess and sales tax.

Mining expenses (deductible rates), state wise for major minerals by Indian Bureau of Mines (IBM), salt; State Geological Departments for minor minerals, sand and Atomic Minerals. GVA is estimated by production approach both for constant and current prices. Current year estimates are deflected using WPI to arrive at constant prices.

(e) GVA from Manufacturing:

Economic activities included in the sector are: As per NIC 2008 the manufacturing covered under codes 101 to 332.
Registered Manufacturing:

GVA from manufacturing is estimated using production approach in case of public sector companies and income approach in case of Departmental Enterprises (DEs) at current prices and deflected by WPI to arrive in constant prices both in two complementary sectors: Registered and Unregistered Manufacturing;

Registered Manufacturing sector covers all factories registered under Indian Factories Act, 1948 employing 10+ workers and using power; and employing 20+ workers but not using power; and Bidi and Cigar establishments registered under Bidi and Cigar Workers Act 1966.

Sources of data: Annual Survey of Industries (ASI) conducted by CSO provides all information on outputs and inputs. MCA21 database for the annual reports of Private Sector Companies, NSS 67th round ES(2010-11) for (quasi-corporations) and 68th Round EUS, 2011-12, Contribution of defence production units, railway workshops, coinage, mints and security printing presses is duly taken into account in the GVA from manufacturing. The source of information is the concerned government department/ budget documents. Ministry of Commerce and Industries for WPI, IIP data for private and households NSS 76th round ES ,2010-11( for enterprises excluding quasi-corporations) and 68th round EUS, 2011-12.

GVA from Unregistered /Unincorporated Manufacturing:

In the absence of annual enterprise surveys, the GVA estimates in respect of unorganised segments of manufacturing and services sectors are compiled indirectly through Labour Input Method (LI Method) using the benchmark-indicator procedure. In this procedure, the benchmark GVA estimates are initially prepared at detailed activity level for the base year of national accounts series using the estimated labour input (which is the total of principal and subsidiary activity of workers engaged in the activity) and the value added per worker (VAPW) in the activity. For subsequent years, the GVA is estimated by extrapolation using appropriate indicators relevant to the economic activity. Therefore, for estimation of GVA for these unorganised segments of economy, data on labour input and VAPW are required for the base year. It is pertinent to mention here that the labour input used in the national accounts relates to the number of jobs performed in the economic activities, rather than the number of persons employed. This means that a person performing two jobs is counted twice in the labour input procedure. This labour input corresponds conceptually to the labour input used in estimating the value added per worker from the NSS enterprise surveys.

In the national accounts statistics, the estimates of value added are compiled at detailed activity level, known as ‘compilation categories’. These compilation categories are determined by regrouping the economic activities at different levels described in the National Industrial Classification (NIC), 2008, which, in turn, follows the International Standards Industrial Classification of All Economic Activities, Rev.4
(ISIC Rev.4) of the United Nations. There are some differences in compilation categories in 2011-12 from 2004-05 due to change of NIC from NIC, 2004 to NIC, 2008. Major differences are given below:

i. The activities, ‘Recycling of metal waste and scrap + non-metal waste and scrap’, which was earlier part of manufacturing and ‘Sewerage and other waste management services’ have been clubbed to form the category ‘Remediation and other utility services’, and will be reflected in the group ‘Electricity, gas, water supply and other utility services’.

ii. ‘Repair of computers’, which was earlier part of computer related activities, to be a part of ‘Repair of personal and household goods” and reflected in ‘Trade & Repair Services’.

iii. ‘Recording, Publishing and Broadcasting Services’ to form a new category, and reflected in the group ‘Communication & Services related to broadcasting’.

iv. Sewage activities removed from services sector and made a part of Electricity, Gas, Water Supply and Utility Services.

In the new series, a new method called “Effective Labour Input Method” (ELI Method) has been adopted for the following enterprises:

- All unincorporated manufacturing enterprises, except those covered under the Annual Survey of Industries.
- Unincorporated service enterprises, except those of ‘Trade & Repair Services’.
- ‘Hotels and Restaurants’, ‘Non-mechanized Road transport’ and ‘Telecommunication’.

In the Labour Input Method (LI Method), as was being used in the earlier series, while compiling GVAPW from the Enterprise Survey, it is assumed that there is equal contribution from all categories of workers engaged in an economic activity i.e. the productivity of an employer, a casual wage worker, or a family worker is equal. The new method addresses differential labour productivity issue by assigning weights to the different categories of workers engaged in an economic activity based on their productivity. The weights were compiled using the data on establishments covered in the NSS 67th round Survey on Unincorporated Enterprises, 2010-11 (hereinafter referred to as ES). A nested Cobb-Douglas function has been used for computing the weights of different categories of workers.

(f). GVA from Construction:

Construction broadly comprises of two components; (i) Accounted Construction (Pucca Construction) and (ii) Un-accounted Construction (Kutcha Construction). Output of Pucca Construction is estimated by commodity flow method while of Kutcha Construction by expenditure method. Commodity flow approach covers basic materials, other construction materials, and primary inputs – compensation and operating surplus.
Basic construction materials include: (i) Cement and Cement Products, (ii) Iron and Steel, (iii) Bricks and Tiles, (iv) Timber and Round Wood and (v) Fixtures and Fittings, Glass and Glass products. Bitumen and bitumen Products.

Data Sources: Cement and Cement Production-Index of 8 core industries from Office of Economic Adviser, DIPP. Consumption data received from Cement manufactures association 2011-12. Price-Ex-factory value of Output from ASI 2011-12 and price data from State DES and Excise duty from ( Central Board of Excise and custom) CBEC. Iron and Steel- value of output ASI 2011-12. Export and Import data EXIM data bank, M/o commerce, Excise and Custom from CBEC, Bricks , tiles , Timber & round wood , Bitumen and Bitumen Products, Glass and Glass Products, Fixtures and fittings ex-factory output value from ASI 2011-12, Unorganised value of Output( Bricks and tiles) from NSS 67th round (2010-12) data. Excise and Custom from CBEC.

Value of output estimates compiled from the availability of basic materials through the commodity flow approach. Total value of construction materials estimated as total value of basic materials and factor inputs estimated as 53.9 of value of construction materials. Hence value of output is equal to total value of construction materials plus factor inputs. Total value of output is then adjusted for own accounts construction as included in the output of enterprises with major economic activity other than construction.

Value of cement and cement product are estimated at current price= cement available for construction* price of cement +TTM + value of cement products covered through ASI inclusive of excise duty +TTM. Current price estimates are deflected by index of pucca construction to arrive at constant price. Similarly value of Iron and Steel is estimated as above method with addition of net import and import duty.

(g) GVA from Electricity, Gas, Water Supply and other utility services:

GVA of Electricity, gas, Water Supply and other utility services are estimated by Production approach in current prices and base year estimates at current prices are moved with index of quantum sales to arrive at constant prices.

Sources of data: for electricity is General Review of the Public Electric Supply- All India Statistics, Annual publication of Central Electricity Authority- provides information for both public and private sector. Budget documents of DEs and Annual Reports of public sector companies, MCA21 database for the annual reports of Private Sector Companies.

Sources of data: for gas /Bio-gas are (i) Annual accounts of Gas Authority of India (GAIL), (ii) Annual report of KVIC and (ii) Number of bio-gas plants from Ministry of Non-conventional Energy Sources.
Sources of data: for Water Supply in organised sector-Budget documents of DEs and Annual Reports of public sector companies, MCA21 database for the annual reports of Private Sector Companies,. For unorganised water supply- NSS 68th round EUS, 2011-12 and CPI for price.

NSS 67th Round ES, 2010 -11 and 68th round UES, 2011-12 (for the unorganised portion of re-cycling) and Remediation & other utility services, ASI, IIP and Ministry of Commerce for WPI , MCA21 data base for annual report of Public sector Companies and Budget documents of departmental enterprises.

(h). **GVA from Trade:**

Economic activities included in the sector are: Repair and Maintenance of Motor Vehicles, Sale of Motor vehicles, Repair of personal household goods, Wholesale trade except motor vehicles, Auctioning activities, Retail trade except motor vehicles.

GVA estimates of Trade sector are prepared separately for public Corporations, Private Corporate (Excluding quasi-corporations] and Private unincorporated sector (quasi-corporations and Household sector).

Data Sources: For public corporations annual reports of NDEs, budget documents of DEs and WPI for M/o commerce and Industries. Data source of Private corporate sector are prepared using MCA21 data base for the annual reports of private sectors using WPI, NABARD publication, Statistical Statements relating to cooperative movement in India 2004-05. Data source for private unincorporated sector (quasi corporations and household sector) is estimated using NSS 67th ES(2010-11) 68th round EUS (2011-12) and population Census 2011 and WPI from Ministry of Commerce, CPI and service tax from M/o Finance.

GVA of public Corporations are compiled using income approach in case of DEs and production approach in case of NDEs in current prices. Current prices estimates are deflected using WPI to get constant prices. GVA for Private Corporate [Excluding quasi-corporations] units are compiled using production approach. Base year GVA for private unincorporated sector complied by LI method, i.e GVA= LIR x GVAPWR(Est) +LIU GVAPWU (Directory Establishment. For subsequent years current prices estimates are obtained by inflecting estimates at constant price by WPI etc. for current year prices , the base year estimates are moved with sale growth of motor vehicles and other items are deflected by CPI/WPI.

(i) **GVA from Hotels and Restaurants:**

Economic activities included in the sector are: Hotels, camping sites, Restaurants, bars, canteens. GVA estimates are prepared separately for Public Sector units, Private Sector and Private unincorporated Sector units.
Data Source: Annual reports of NDEs/Budget documents of DEs are used for public corporations with WPI. Private corporate excluding quasi corporations sector are prepared using MCA21 data base for the annual reports of private sectors cooperatives projected from 63rd round ES, 2006-07 with WPI. Private unincorporated sectors (Quasi corporations and household sectors) are prepared using NSS 67th ES (2010-11) 68th round EUS (2011-12) and population Census 2011 data with WPI.

GVA for Public Sector units, Private Sector and Private unincorporated Sector units are estimated using Income approach for DEs & Production approach for NDEs, Production approach and LI method as above para respectively. For subsequent years LI method current prices estimates are moved using growth in the corporate sector. The in all case current prices are deflected by WPI to obtained the Constant prices.

(j) **GVA from Transport Communication:**

Economic activities included in the sector are: Transport via Railways, Other Land transport, Air transport, Water transport, Supporting and auxiliary transport activities/services, Storage and Warehousing, Posts and Courier activities, Telecommunications.

Railways: Annual Railway budget, Annual reports of NDEs and MCA21 data base for the annual report of the private sector Companies are main sources of data. Analysis of the Budgets and the above said reports the GVA is estimated by using income approach in case of DEs and Production approach in case of NDEs and private corporate companies at current price. Base year estimates moved with combined indicator of passenger kilometre and net tonne km, combined with their earnings in base year as weight to obtained GVA at constant prices.

Transport other than Railways-Public corporations Includes Mechanised Road transport, Non-mechanised Road transport. Mechanised Road transport includes transport by buses, other vehicles, trucks. Estimates of GVA are prepared separately for organised (public & private) and unorganised parts.

Data sources for organised (public Corporation) part are obtained from the budget document of DE, annual reports of NDEs, motor transport statistics from Ministry of Transport for registered vehicles and data from Ministry of Civil aviation for cargo handled and passenger.

GVA for Organised (Public Corporation) is estimated by using income approach in case of DEs and Production approach in case of NDEs and private corporate companies at current prices. Base year estimates moved with volume index of
transport /cargo index (water transport)/air volume index/storage index to obtained GVA at constant prices.

Datasets for private corporate( Excluding quasi corporations) are MCA21 data base annual report of private sector companies, NSS 63rd round ES (2006-07) for cooperatives (for land and water transport), M/o transport for registered vehicles, M/o Civil aviation for cargo handle and passenger data and M/o shipping for cargo handle at ports. GVA is estimated using Production approach.

Datasets for private unincorporated sector (quasi corporations and household sector) are prepared using NSS 67th ES (2010-11) 68th round EUS (2011-12) and population Census 2011 with WPI. Current price estimates are inflated using CPI (Transport & Communication) and GVA at constant prices are estimated as per LU method described above.

(k) GVA from Storage and Warehousing:

Storage and Warehousing: Include Warehousing corporations, Cold storage, storage n.e.c. Data sources for storage and warehousing are NSS 67th ES (2010-11) 68th round EUS (2011-12) and population Census 2011 using WPI.

GVA is estimated at current price for base year using the effective Li method i.e. GVA= effective Li x GVA per effective worker (GVAPEW). For subsequent year, previous year’s current price estimate is moved using corporate growth. GVA is estimated at Constant price by deflating current price estimates using WPI.

(l) GVA from Communication & Services related to Broadcasting:

Communication sectors include Courier activities, Cable operators and other communications. Communication Services are divided into three parts. (I) Public Corporations, (ii) private Corporate (excluding quasi Corporations) (iii) Private unincorporated (quasi corporations and Household sectors):

Data source for public corporations are budget documents of department of post and annual reports of BSNL and MTNL. GVA is estimated using the above data in production approach in current prices and GVA at constant price is obtained using CPI (transport & Communication).

Data sources for Private Corporate (excluding quasi Corporations) sector are MCA21 database for the annual reports of private sector companies and NSS 63rd round ES, 2006-07 for cooperatives (for telecommunication). GVA for Private Corporate (excluding quasi Corporations) sector at current prices are estimated using production approach. Again current prices estimates are deflated using CPI (transport & communication) to arrive GVA at constant prices.
Data source for Private unincorporated (quasi corporations and Household sectors) sector is estimated using NSS 68th round EUS (2011-12), Population Census 2011, NSS 67th round ES (2010-11) and Ministry of finance data for service tax. GVA is estimated at current prices using LI method and subsequent years, estimates are moved using growth in service tax of the relevant year. Current prices estimates are deflated using CPI (transport & communication) to arrive GVA at constant prices.

(m) GVA from Financial Services (Banking and Insurance):

Economic activities included in the sector are: Banks (deposit taking Corporations), Banking department of RBI, Organised Non-banking financial enterprises, Unorganised Non-banking financial institutions, Post Office Saving Bank, Cooperative Credit Societies. Life Insurance, postal life Insurance, Non-life insurance, Pension fund.

Data sources for deposit taking corporations are annual accounts from all the nationalised banks, for RRBs, Foreign Banks and OSCBs and cooperative banks data contained in different RBI publications are taken. For central bank data from RBI on income and expenditure. For post office saving bank (POSB) budget documents, other financial intermediaries except insurance corporations and pension fund data were taken from annual reports of non-departmental non-banking financial companies and corporation containing their annual accounts. Also data received from RBI for top companies i.e. 195 companies in case of base year revision.

Financial auxiliaries, the information is collected from SEBI, MCA and annual accounts of insurance companies, Captive financial institutions and money lender-data taken from annual accounts of companies and corporations. For money lender, NSS 67th round ES, 2010-11 along with AIDIS 2012 data is used.

Life Insurance (including PLI): Annual report of Life Insurance Corporation (LIC) and private life insurance companies data. Postal life insurance- budget documents data is used. Non-life insurance – annual Reports of public and private insurance companies for economic classification data is used. Data for pension fund is taken from annual financial reports of Pension fund.

Broadly GVA at current price is estimated by production approach and subsequently deflated by appropriate index or price to arrive GVA at Constant prices.

(n). GVA from Real Estate, Ownership of dwellings and professional Services:

Real estates is divided into three parts such as (a) public sector( general govt. and Public Corporation), (b) Private corporate( Excluding quasi corporations and (c) Private unincorporated sector( quasi corporations and household sectors). Incase of public sector for real estates and professional services, data is taken from annual accounts of NDEs and budget documents of DEs for GVA estimation using CPI. For
ownership of dwelling, budget documents are used to estimate the GVA. GVA of Private corporate (Excluding quasi corporations) are prepared using MCA21 database for the annual reports of private sector companies and NSS 63rd round ES, 2006-07 for cooperatives along with CPI. For Private unincorporated sector (quasi corporations and household sectors) GVA is estimated using NSS 68th round EUS (2011-12), Population Census 2011 and NSS 67th round ES (2010-11) with CPI.

GVA for ownership of dwellings is estimated for urban dwelling using population census 2011 for no. of residential houses, CPI(u) and NSS 68th round CES 2011-12 for rent per household. In case of rural dwelling, GVA is estimated using capital stock of rural residential building as estimated through annual; capital formation and CPI(R).

(a). In real estates and professional services GVA is estimated using income approach in case of DEs and production approach in case of NDEs at current prices. Income approach is followed to estimate GVA for ownership of dwelling.

(b). GVA is estimated for real estates and professional services using production approach.

(c). In case of private unincorporated sector GVA is estimated using modified effective method. GVA = effective LI (r) x GVAPW (r est.) + LI(u) x GVAPW (U DEs) for real estates activities and administrative support services. GVA for ownership of dwelling is the equivalent gross rent of the residential census houses less cost of maintenance and repair.

(o). GVA from Public Administration and Defence:

Data source for Public Administration and Defence are budget documents from central and State Govts., and annual accounts of local bodies. For autonomous institutions the data is obtained from annual financial accounts of sampled central autonomous institutions.

Estimate GVA at current prices is compiled using production approach for central, state and local bodies. Similarly for autonomous institutions, GVA current prices are worked out from the production approach of the sample autonomous institutions for the base year and these bench mark estimates have been projected with the help of total grants given to all autonomous institutions. GVA at constant prices for both the institutions are estimated by deflating current price estimate using CPI.

(p). GVA of other services:

Other Services such as public sector (General Govt. & public Corporations) estimated through budget documents of DEs and annual report of the NDEs for health, education and recreation with CPI and Private Corporate (excluding quasi corporations) includes coaching centres, heath club, recreational, cultural and
sporting activities, washing, hair dressing, beauty treatment and tailoring services and data for these items are obtained using MCA21 database for the annual reports of private sector companies and NSS 63rd round ES, 2006-07 for cooperatives along with CPI. Private unincorporated sector (quasi corporations and household sectors) includes coaching centres, heath club, recreational, cultural and sporting activities, washing, hair dressing, beauty treatment and tailoring services and private households with employed persons. The data sources are NSS 68th round EUS, 2011-12, NSS 61st and 68th round CES 2004-05 and 2011-12 respectively. Population census 2011, NSS 67th round ES 2010-11 along with CPI.

In case of DEs in public sector GVA is estimated using income approach and in case of NDEs by production approach. Private Corporate (excluding quasi corporations) GVA is estimated by using production approach. However in case of Private unincorporated sector, GVA is estimated by using modified effective LI method. All the above three cases GVA at constant prices are estimated by deflating current price estimates using CPI.

(II.2) Estimation of Gross State Domestic Product (GSDP).
Estimates of income at State level are prepared following income originating rather than income accruing approach due to practical reasons. Estimation of GVA of supra-regional sectors which cut across the boundary of states (Railways, Communication, Banking and Insurance and Central Government Administration) are done centrally by CSO by allocating the country level estimate to the states on the basis of appropriate indicators. Methodology of estimation of GVA of all sectors (except supra-regional) is similar to the one at country level.

Estimation of GVA of supra-regional sectors: Railways: All India GVA figure segregated into CE and operating surplus are extracted from budget documents. General Manager’s annual report of nine zones and Indian Railways Annual Statistical Statements (IRASS) help in segregating GVA to nine zones. CE of Railway Board and its offices is allocated to the states where the offices are located.

GVA at current prices on account of passenger and goods traffic for each zone is distributed to different states on the basis of indicators like section-wise passenger and freight earnings, state-wise number of employees and the capital-at-charge and net tonne km per route km per day respectively among different states falling within a zone. GVA at constant prices estimates at the national level are estimated using the Implicit Price Deflator at the national level.

Banking and Insurance: Data sources are Number of employees, deposits, credits, life insurance premiums, etc. from various financial institutions. GVA at current prices at state level are splitted into CE, Rent, Profit, etc. and are allocated by CSO at the enterprise level using the information like state-wise salaries, deposits, premiums.
and number of employees. GVA at constant prices at State level are estimated using Current price estimates by deflated by the implicit price deflator for financial services as derived at the national level.

For Post Office data sources are Budget document of Department of Posts, Annual reports of NDEs and CPI from MOSPI. Estimates of GVA on current prices are compiled using production approach. Estimates of GVA allocated in the case of Deptt of Posts and Central NDEs of communication on the basis of indicators like receipts, rent, interest, etc. In case of broadcasting (Prasar Bharati), it has been allocated on the basis of sanctioned strength. In case of constant prices, Current prices estimates are deflated using CPI (transport and communication).

For Central Government Administration CE of defence employees, offices abroad, para military forces, Issue Dept of RBI, atomic energy are netted and Estimates of GVA at current prices are allocated on the basis of number of central government employees across States. Current price estimates deflated by the CPI (General) to get GVA at constant prices.

Air and water transport data sources are Annual reports of the NDEs, MCA21 database for the annual reports of Private Sector Companies, M/o Civil Aviation for passenger traffic and CPI from MOSPI. Estimates of GVA at current prices compiled using production approach. GVA at the national level is allocated to states on the basis of passengers handled by the airports in the state during the year. Current price estimates are deflated by CPI (transport & communication) to obtained GVA at constant prices.

<table>
<thead>
<tr>
<th>GDP percentage</th>
<th>Growth rate of India on the base year 2011-12</th>
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<tr>
<td></td>
<td>At Current prices</td>
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<tr>
<td>year</td>
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<tr>
<td>2012-13</td>
<td>13.9*</td>
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<td>2013-14</td>
<td>13.3*</td>
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<tr>
<td>2014-15</td>
<td>10.8**</td>
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<tr>
<td>2015-16</td>
<td>8.7**</td>
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* As per the press note on Advance Estimates of National Income 2015-16 and Quarterly Estimates of GDP for the Third Quarter of 2015-16 release on 08/02/2016

** as per the press note on Provisional Estimates of Annual National Income 2015-16 Quarterly Estimates of GDP for the Fourth Quarter of 2015-16 release on 31/05/2016
(III). QUALITY PRACTICES.

A. QUALITY ASSURANCE at PLANNING STAGE and DATA COLLECTION STAGE:

1. The Ministry of Statistics and Programme Implementation attaches considerable importance to coverage and quality aspects of statistics released in the country. The statistics released are based on administrative sources, surveys and censuses conducted by the Centre and State Governments and non-official sources and studies. The surveys conducted by the Ministry are based on scientific sampling methods. The National sample Survey Organization (NSSO) functions under the overall direction of a Steering Committee with requisite independence and autonomy in the matter of collection, processing and publication of NSS data. In addition to the non-official Chairman, the Steering Committee is composed of academicians, data users from Central and State Government departments and senior officers of the Ministry. The experts at Survey Design and Research Division (SDRD) of NSSO are responsible to finalise survey concepts, definitions, sampling design as per the international standards. They also finalise the schedules and pre-testing of the survey in the field as per the overall guidance of the working group Chairman, before the full-fledged survey launched. SDRD also provides trainers training to the field staff before the survey started.

2. The National Sample Survey Office (NSSO) conducts large scale sample surveys including socio-economic surveys, Annual Survey of Industrial, collection of price data for rural and urban sectors etc., besides carrying out sample checks on area enumeration and crop estimation surveys and prepares the urban frames useful in drawing of urban samples. The Field Operations Division (FOD) is located in almost every corner of the country. The field staffs are well trained and experienced to take large scale sample surveys. The field work is conducted with supervision of the senior officers of Indian statistical Service. Three tier supervision/inspection is mandatory in the field at the time of actual data collection by the field investigator and similar type of provision is there to scrutinize the filed in schedules too.

B. QUALITY ASSURANCE at TABULATION STAGE:

1. Field data are collected through dedicated field staff with adequate no. supervision, inspection followed by two tier table scrutiny, before the data send to tabulation. The task of transforming large volume of raw data into the final form of Key Indicators or Estimates in Tabular Format with due process of scrutiny and validation is carried out by a large number of trained and experienced technical officials in Electronic Data Processing Division (DPD) under the overall supervision and guidance of the Senior officers of Indian Statistical Service. The role of DPD starts from the initial stage of formulation of the Sample Design for NSS by Survey Design and Research division (SDRD) wherein apart from providing input for the formulation it undertakes the job of sample selection.

2. DPD also undertakes the job of software development for Data Entry, Data Verification, Data Validation, Coverage Checks, Howler Checks, Computer Edit,
Tabulation, etc. DPD also assists the States by providing Data Processing Instruments including Software and technical guidance in all their data processing related activities and also through periodic training/workshop and other interactive methods. With the advent of Information Technology, DPD is now introducing modern technology to reduce time and effort in data capturing and transmission besides improving quality of unit level data.

C. QUALITY ASSURANCE at ESTIMATION STAGE:

1. Further the data are transferred to National Accounts Division for estimation of various macro-economic indicators. Experienced officers again had various checks and balances before the estimates are released. The estimates are discussed and deliberated in various forums such as National Statistical Commission, and Advisory committee on National Accounts (ACNAS) before the estimates are released to ensure the integrity, methodological soundness, accuracy and reliability, serviceability, and accessibility.

D. TRAINING and WORKSHOP to ENSURE QUALITY:

We also organise data users’ conference to address the issues related to user’s side. Besides regular training, seminars, workshops, Group discussions are organised for the staff and Officers in our national training institute to update their knowledge with latest developments. All India trainers training was also organised by SDRD, before launch of any survey followed by regional training. Instruction manuals are developed by the experts and provided to all officers and staff too along with scrutiny programme.

E. CONSULTATION WITH EXPERT BODIES.

1. In line with the emphasis on the quality of statistics released by the Ministry, the methodological issues concerning the compilation of national accounts are overseen Committees like Advisory Committee on National Accounts, Standing Committee on Industrial Statistics, Technical Advisory Committee on Price Indices. The Ministry compiles datasets based on current data, after applying standard statistical techniques and extensive scrutiny and supervision.

2. The Advisory Committee on National Accounts Statistics (ACNAS) under the chairmanship of Prof.K.Sundaram, constituted the following sub-committees to look into the issues in the compilation of national accounts and make necessary recommendations for the new series of national accounts:
   a) Sub-Committee on Unorganised Manufacturing & Services Sectors
      Chairman: Prof.K.Sundaram
   b) Sub-Committee on Agriculture and Allied Sectors
      Chairman: Prof. S. Mahendra Dev
   c) Sub-Committee on Private Corporate Sector including PPPs
      Chairman: Prof.B.N.Goldar
d) Sub-Committee on System of Indian National Accounts  
   Chairman: Dr.A.C.Kulshreshtha  
e) Committee on Private Final Consumption Expenditure  
   Chairman: Prof.A.K.Adhikari

F. SPECIAL DATA DISSEMINATION STANDARDS (SDDS)

1. India is a subscriber to the International Monetary Fund’s (IMF) Special Data Dissemination Standards (SDDS) and is currently fulfilling the Standards. The Ministry maintains an ‘Advance Release Calendar’ for its data categories covered under the SDDS, which is disseminated on the Ministry’s website as well as on the Dissemination Standards Bulletin Board (DSBB) of the IMF. The Ministry organizes technical meetings on a regular basis on various topics to assess the data-gaps in the system and the quality of statistics currently released. The CSO staff participates in meetings and seminars organized by international and regional organizations such as the United Nations Economic and Social Commission for Asia and the Pacific, on statistical compilations and international practices.

2. The Indian statistical system is one of the best systems in the world. The Ministry’s officials have been associated with international agencies on the development of methodologies, particularly in the areas of national accounts, informal sector statistics, large-scale sample surveys, conduct of censuses, service sector statistics, non-observed economy, social sector statistics, environmental statistics and classifications. The contribution of the Ministry’s officials in international meetings on these subjects is highly appreciated.

G. IMPLEMENTATION OF 2008 SNA

While revising the base year, efforts have also been made to implement the recommendations of the System of National Accounts (SNA) 2008 to the extent data are available. Some of the recommendations which presently form part of the new are given earlier.

H. LEGAL SUPPORT FOR COLLECTION OF DATA:

The Central Government’s Allocation of Business Rules, 1961 (as amended from time to time) provides for the roles and responsibilities of the MOSPI. The main Statistics Act under which data is collected by the MOSPI is the ‘Collection of Statistics Act, 2008”. The other most important Act for collection of statistics on demographic aspects of population is the ‘Population Census Act 1948’, which is administered by the Office of the Registrar General of India, functioning under the Ministry of Home Affairs. Besides these two important Acts, there are a number of Acts, Rules and Procedures being administered by various administrative agencies on their subjects, through which statutory returns are collected by these Ministries/Departments.

I. IS/ISO 9001:2008 CERTIFICATION:
Bureau of Indian Standard issued licence for “Quality Managements Systems Certification” to National Accounts Division after vigorous external audit by the Bureau Editors. The certificate may be seen below.
Schedule to Licence No CRO/QSC/L- 8003638

Issued to: National Accounts Division, Central Statistics Office, Ministry of Statistics and Programme Implementation, Government of India, Sardar Patel Bhawan, Sansad Marg, New Delhi – 110 001

अनुरूपी असूची

SCHEDULE

Products/Services/Processes with respect to which the firm has been granted/awarded the licence for Quality Management Systems Certification:

“Compilation and dissemination of macro-economic indicators including national income and consumer price indices excluding design & development activities (Clause 7.3) Purchasing (Clause 7.4), Validation of processes for production & service provisions (Clause 7.5.2) Customer Property (Clause 7.5.4) and control of monitoring and measurement equipment (Clause 7.6)”

for BUREAU OF INDIAN STANDARDS

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(III.I). CHALLENGES THAT NEED TO BE ADDRESSED IN FUTURE

1. Regular of flow of data and updating methodology for valid estimates of unincorporated enterprises including financial services.

2. Reliable information for estimates of Intellectual Property Products (IPP).

3. Evaluation of “Valuables”.

4. Valid source of information for estimating fixed assets like dwellings, other buildings & structures.

5. Methodology for estimating Cultivated Biological Resources (CBR)


References:


Changes in Methodology and data sources in the new series of National Accounts, Base year 2011-12.