

# 1. Introduction

Welcome to the series of e-learning modules on Indian Applied Statistical System. We will focus on the concept, features, objectivity, processes of working and emerging challenges of the Indian Applied Statistical System.

By the end of this session, you will be able to explain:

- Concept of Indian Applied Statistical System
- Statistical System at the centre and state
- Features of the Indian statistical system
- Pros and Cons of the statistical system
- Objectivity
- Emerging challenges

## Introduction

A strong database enumerating the levels and trends of a nation's material and social resources has always been a requisite for the formulation of government policies. India has a long tradition of both data collection and dissemination, made even more extensive by the requirements of planned economic development. Sound statistics lead to informed decision-making and effective formulation and monitoring of public policies.

The Indian Statistical System functions within the federal structure of the Government of India. Responsibility for administration is divided between the central government and the provincial or state governments. Under the Indian Constitution, duties are divided according to a three-fold classification of all subjects to the Union List, the State List or the Concurrent List. The Concurrent list represents the subjects where both the Union and State Governments can operate, and it includes the subject Statistics.

A further division of responsibility at the central and state levels, by subjects or groups of subjects is among the different central ministries and among the state government departments respectively. The State Directorates of Economics and Statistics (DEs) carry out the responsibility of coordination of all statistical activities at the State level and keeping liaison with the MOSPI for the purpose of maintaining uniformity and consistency in the data produced and consolidated at different levels.

The authority and responsibility for collection of statistics relating to a particular subject field is determined by the overall responsibility for the subject under the Constitution.

A process of aggregation of state-level data obtains the national-level data for sectors that are state subjects. However, the central government acts as the coordinating agency for presentation of statistics on an all-India basis even in fields where the states have the primary authority and responsibility for collection of statistics. The Indian Statistical System, therefore, may be treated as both decentralized and centralized system.

Functioning of the Indian Statistical system can be bifurcated as the large-scale statistical operations conducted all over the country like Population Census, Economic Census, Agricultural Census and Livestock Census, as well as nation-wide sample surveys including

the Annual Survey of Industries and the Socio-Economic surveys. The responsibility of Central agencies is compilation of national accounts, preparation of all-India Prices and Industrial production indices. In the case of States, the State statistical organizations collect and generate data on a number of variables

## 2. Statistical System at the Centre

### Statistical System at the Centre

The Ministry of Statistics and Programme Implementation (MOSPI) is the nodal agency for planning and facilitating the integrated development of the statistical system in the country including laying down norms and standards in the field of official statistics, evolving concepts and definitions, suggesting methodologies of data collection, processing and dissemination of results.

The Ministry has two wings viz. National Statistical Organization (NSO), commonly called 'Statistics Wing' and the 'Programme Implementation (PI) Wing'. The NSO consists of the Central Statistics Office (CSO) including Computer Centre and the National Sample Survey Office (NSSO). The Programme Implementation Wing has four Divisions viz. Twenty Point Programme Division, Infrastructure Monitoring Division, Project Monitoring Division, and Member of Parliament Local Area Development Division.

In addition to a number of publications brought out by the MOSPI, both NSO and PI wing generate a lot of statistical information which is used by policy planners, researchers and other users. The MOSPI also has an autonomous Organization viz. the Indian Statistical Institute (ISI) which is a premier statistical institute of international repute.

Besides the NSO, most of the line Ministries or Departments in the Government of India dealing with different subjects such as Agriculture, Water, Health, Rural development sectors etc. have statistical establishments to perform statistical activities for the respective Ministry or Department, and which are generally headed by senior level statistical functionaries to facilitate proper coordination with NSO. Most of these departments bring out respective statistical data or publications.

### Central Statistics Office (CSO)

The Central Statistical Office is responsible for the coordination of statistical activities in the country, and evolving and maintaining statistical standards. Its activities mainly include National Income Accounting; conducting 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.

The other activities of the CSO 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 the 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.

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.

The Computer Centre under CSO:

- Handles the data processing jobs of the MOSPI
- Provides training to statistical personnel on software
- Maintains the MOSPI's website and the National Data Warehouse of Official Statistics.

#### National Sample Survey Office (NSSO)

The activities of National Sample Survey Office (NSSO) include:

- Conducting large scale sample surveys including socio-economic surveys
- Annual Survey of Industrial sector
- Collecting of price data for rural and urban sectors etc.
- Sample checks on area enumeration and crop estimation surveys
- Preparing 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.

# 3. Statistical System in Indian States or Union Territories (UT)

## Statistical System in Indian States or Union Territories (UT)

The Directorates of Economic and Statistics (DES's) in the States or union territories act as the nodal agencies for coordination of all statistical activities in the States or union territories.

While most of the States or union territories 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 or union territory .

The DES's perform almost the same functions in the States or union territories as the NSO at the Centre viz. bringing out some key statistics, coordination with the Central and State statistical agencies, dissemination of statistics, etc.

Most of the States or union territories have District Statistical Offices (DSO's) which act as the field offices of the DES's for collection and compilation of statistical data for the districts.

The Indian Statistical System is a system built upwards from district offices to the state government departments and from there to the corresponding ministries at the center.

It is a collection of state-level systems forming a national system.

In the current context, making the national system the starting point, from the perspective of an inverted view, the system can be described as laterally decentralized among the Ministries of the Government of India (GOI), and in every one of them, vertically decentralized, between the center and the states.

The main features of the Indian Statistical System can be thus summarized as:

1. The Administrative Statistics System is its major component
2. It is laterally and vertically decentralized
3. The ISS, not only helps in data collection but also compilation, processing and preparation of results, and are carried out by the states for most of the sectors
4. It is the state-wise results which flow to the Centre, and statistics at the all-India level are obtained as the aggregates of state-level statistics

## Centralized and Decentralized Systems of Collection of Statistics

- Subjects such as money and finance, international trade and balance of payments have meaning only at the all-India level.
- There are sectors which cover more than one state and for which statistics are collected directly by central agencies such as railways, postal services and telecommunications.
- The Central Administrative Statistical System (concerned Central Ministries) collects statistics on both types of subjects.
- The State Statistical System collects all other Statistics.

## Administrative Statistics

- Administrative Statistics provide information that is relevant to the working of the

Departments.

- They serve the major purpose of aiding the departments in the execution of their administrative functions of implementation and execution of different Acts, Rules and Regulations with which the departments are charged.
- Consequently, the concerned departments have a vital interest in the proper collection of the administrative statistics.

Advantages in the decentralized system of collection of statistics through the administrative set up include:

- The collection of data by departmental agencies does not involve special costs.
- The collection is oriented to definite purposes, and the record and verification of information is part of administration.
- Departmental agencies and officials have not only good knowledge of the subject, but also of local language and local conditions, especially in rural areas.
- Information collected is relevant and direct, and is handled by agencies that have special knowledge of the subject.
- Finally, there is an identifiable purpose in their data collection and they are in the best position to interpret the data.

These advantages have lent a solid foundation to the decentralized administrative statistical system, and in turn, to the Indian Statistical System.

As against these advantages of the decentralized Administrative Statistical System, it will be appropriate to point out the disadvantages of a centralized system.

- First, it is an unmanageable system for a large country such as India, except when it is a sample survey system of reasonable size.
- Second, on the very same counts on which a decentralized system possesses advantages, the centralized system fares poorly
- It is a difficult, if not impossible, task for a single centralized organization to cater to all information needs of the country.

It is highly desirable that the information provided by various agencies conforms to some specified norms. For this, there should be more focus on the coordination role of CSO to make the data collected by different agencies on uniform concepts and definitions.

The success of the CSO in its role as a coordinator depends, on the one hand, upon the degree of its initiative and ability to persuade, and on the other hand, on the cooperation of the ministries, and their willingness to participate in this process as a team and to be persuaded to accept the conclusions of the team about their statistical work.

# 4. Legal Support for Data Collection

## Legal Support for Data Collection

### Collection of Statistics Act

- Data collection in India has been largely based on a voluntary response except for the statutory support provided through the erstwhile 'Collection of Statistics Act, 1953' to collect industrial data.
- Statutory support provided through erstwhile 'Collection of Statistics Act' to collect industrial data. This Act has since been amended as the new 'Collection of Statistics Act 2008' which is much more comprehensive to enable collection of various socio-economic data.
- The 'Collection of Statistics Act 2008' is administered by the Ministry of Statistics and Programme Implementation

### Census Act

- Census Act 1948 is administered by the Office of the Registrar General of India under the Ministry of Home Affairs, to collect population and other demographic data.

### Other Acts, Rules and Procedures

- Administered by concerned subject ministries or Departments, to collect statutory administrative returns which help in generating different subject related data.

### Steps to Achieve Objectivity

- The Indian Statistical System should review the data needs in today's context.
- The private sector has come to dominate the economy in a manner that did not exist earlier when the public sector was the major player.
- The private sector is in strong demand of appropriate data and spends considerable amounts in acquiring such data from diverse sources.

The areas of Department of Statistics (DoS) that need special focus are as follows:

- Divergence in similar data released by two agencies
- New areas of study
- Advance calendar for release of data
- Simplification of schedules
- Creation of a data dissemination center and a central database in the CSO
- Subject panels
- Interaction with data users

### 1. Divergence in similar data released by two agencies:

Considerations when two agencies are involved in the collection and processing of data on similar subjects:

- Uniformity in Coverage, Concepts, Definition and Methodology
- The limitations of data, if any, should be clearly brought out for the benefit of the concerned data users.

This is required to minimize the divergence in the estimated values of similar characteristics between the two sources of data on the same item.

## 2. New areas of study:

Due to liberalization and globalization of economic activities, the existing activity scenario is rapidly changing such that new areas of study and their contribution to GDP will require estimation.

Some pilot studies may be undertaken to assess the effect of newly emerging areas.

## 3. Advance calendar for release of data:

In order to improve time lag for the release of data, an advance calendar for release of data in respect of at least important statistical activities may be published through public notification at the beginning of each calendar year, so that processing personnel may have the time frame in advance on the responsibility to be accomplished.

Further, a close monitoring system (fortnightly or monthly) should be introduced to achieve the target date of release fixed at the beginning of the year

## 4. Simplification of schedules:

The schedules or questionnaires used for collecting statistical information should, as far as possible, be short and simple.

It needs to be ensured that data on items that are not included in the tabulation program are not collected.

This would not only help reduce delays in compilation and processing but would also minimize informant fatigue and resistance to supplying information.

## 5. Creation of a data dissemination centre and a central database in the CSO:

To provide easy access for the users to the data available at the national level, a comprehensive central database can be set up at the CSO in respect of data available in the CSO, NSSO and the central ministries.

The database should keep detailed information on availability of different types of data, periodicity, and sources along with some explanatory notes on concepts, coverage, time-lag, level of aggregation or disaggregation and so on.



# 5. Subject Panels

## 6. Subject panels

In a dynamic situation, concepts and definitions need to be reviewed from time to time to take into account the requirements of the data users while ensuring that comparability is maintained as far as possible.

## 7. Interaction with data users:

A significant investment is made in collecting data through census and sample surveys.

It is advisable that regular interaction occurs between the data-collecting agencies and the data users regarding the usefulness and demand of such data and also on the periodicity or time intervals at which the survey data on different subjects are required.

Furthermore, users question the quality of the past available data on a subject. An improved methodology may be developed before collecting such data again in the future.

The Indian Statistical system has played an important role in facilitating informed decision-making, and greatly contributed in planned social and economic development in the country.

A large variety of data is produced by the statistical system and extensive statistical database have been created which helps in meeting the data requirements of not only the internal agencies but also the international agencies besides a large number of other users such as researchers.

The system is undergoing steady transformation to meet the ever increasing information needs following challenges arising out of the globalization and liberalization of economy.

- It involves many significant structural and operational changes in the statistical system both at the Centre and in the State-level.
- It includes constitution of National Statistical Commission (NSC) to revamp the statistical system in the country with a view to improving the credibility, timeliness and adequacy of data.
- A comprehensive India Statistical Strengthening Project (ISSP) has been initiated with the collaboration of the World Bank to strengthen the statistical system in different States, in addition to an extensive program undertaken to strengthen statistical capacity and infrastructure at sub-State level.
- Further, keeping in view the need to modernize the statistical system, there is an increasing thrust on deploying latest information and communication technology in data collection, data management and data dissemination for improving efficiency of statistical operations and activities.

For example, e-collection of industrial and price data has been in operation already and an e-system for dissemination of various data including e-publications has been initiated to facilitate wider and faster access of such data.

Steps are also being taken to accelerate e-governance to engage citizens' directly in the process of data sector reforms.

Steps taken by the the official statistical to meet the growing aspirations of different stakeholders in the emerging fast-changing environment include:

- Providing requisite data as reliably and timely as possible

- Undertaking appropriate measures to upgrade statistical skills and capacity through elaborate training programs
- Promoting coordination between Central and State statistical agencies

India had a head start in statistics over many other countries - both developed and developing.

India does not lack in expertise or in understanding. All that is needed is to integrate and consolidate the available expertise and resources to initiate concerted action.

Indian Statistical System is still very unresponsive to data demands of non-government organizations. Though the data situation in India is improving, the rapidity of change needs to be further increased to meet the challenges of the constantly evolving situation.

Here's a summary of our learning in this session:

We have understood the:

- Concept of Indian Applied Statistical System.
- Statistical System at the centre and the state.
- Features of the Indian statistical System.
- Pros and Cons of the statistical system.
- Objectivity.