# Integration of Agricultural Statistics System in India

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With an estimated 1138 million people in 2007, India has the second largest population in the world. About 65 percent of this population depends on agriculture. The agriculture and allied sectors contribute about 20 percent to the national GDP. The share of agricultural exports to the national exports is about 10 percent. The agriculture sector, therefore, assumes great importance in the country.

## 1. The Present System

## 1.1 Ministry of Agriculture

In India, agricultural statistics system is decentralized both horizontally and vertically. Primary statistics are collected by the provincial governments and consolidated for the country by the national Ministry of Agriculture. Major data sources for agriculture statistics are

   (i).     Agriculture Census
   (ii).    Livestock Census
   (iii).   Marine Fisheries Census
   (iv).    Input Survey
   (v).     Land Use Survey
   (vi).    Land Use Survey of National Remote Sensing Agency
   (vii).   General Crop Estimation Survey
   (viii).  Integrated Sample Survey of Major Livestock Products

The agriculture census is conducted once in 5 years. The data collected in the agriculture census pertain to number and area under operational holdings by various size-classes, sex and social groups, tenancy, crop and land use pattern, irrigation status, etc. The input survey is the follow-up survey of the agriculture census.

Marine Fisheries Census is conducted to collect data on inland fishery.

The livestock census is conducted quinquinnially and collects information on livestock population, category-wise, along with age and sex. It also provides disaggregated information on poultry, agricultural implements & machinery.

The land use survey is conducted annually and is based on 9-fold classification. The nine categories are (i) forests, (ii) area under non-agricultural uses, (iii) barren and uncultivable land, (iv) permanent pastures & other grazing land, (v) land under miscellaneous tree crops, (vi) culturable waste land, (vii) follow land other than current fallows, (viii) current fallows, and (ix) net area sown. The National Remote Sensing Agency (NRSA) of India conducted a land use survey using remote sensing technique in the year 1988-89 in which the land was classified into 22 categories.

An integrated sample survey is conducted annually to estimate data on major livestock products such as milk, wool and eggs.

The general crop estimation survey is done for the estimation of crop yields through crop cutting experiments. It covers 68 crops (52 food and 16 non-food) which are important from the point of view of crop production. The estimates of crop production are obtained by multiplication of area estimates by corresponding yield estimates. From the point of view of collection of area statistics, the provinces in the country are divided into three broad categories: The first category covers provinces which have been cadastrally surveyed and where area and land use statistics are built up as a part of the land records maintained by the revenue agencies. These provinces account for about 86% of reporting area. The second category covers provinces where area statistics are collected on the basis of sample surveys. These provinces account for about 9% of reporting area. The third category covers hilly provinces where area estimates are based on the impressionistic approach. These provinces account for about 5% of reporting area.

Final estimates of crop production based on complete enumeration of area and yield through crop cutting experiments become available much after the crops are actually harvested. However, considering the requirement of these estimates for taking various policy decisions, advance estimates are prepared and released at four points of time during a year.

## 1.2 Other Ministries

Apart from the Ministry of Agriculture, there are several other Ministries at the national level which are engaged in generation of related statistics as part of their functioning. Table below gives a quick look of that:

Table 1: Decentralized agriculture statistics in India

| Domain | National Ministry |
|---|---|
| Fertilizers | Ministry of Chemicals & Fertilizers |
| Agricultural Trade | Ministry of Commerce |
| Rainfall | Ministry of Science & Technology |
| Reservoirs | Ministry of Water Resources |
| Agricultural Population | Ministry of Home Affairs (decadal), Ministry of Rural Development,  Ministry of Statistics (periodical) |
| Floods | Ministry of Home Affairs |
| Agriculture GDP | Ministry of Statistics |

While the table above is not exhaustive, it gives an idea as to how widely spread is the domain of agricultural statistics in India.

## 2. Integration

Integration is envisaged for optimum utilization of available resources, both human and financial, so as to cover maximum possible domains for generating timely and reliable statistics. For this purpose, a "Core Group" should be formed of which every ministry producing agricultural statistics should be a member. In India, it is being attempted through the National Statistical Commission.

## 2.1 The National Statistical Commission

The National Statistical Commission (NSC), which is the nodal and empowered body for all core statistical activities of the country, is in the process of evolution. It was set up on 12th July 2005. Some major functions of the NSC are to identify the core statistics which are critical to the development of

the economy, to lay down national quality standards on core statistics, to evolve national strategies for the collection, tabulation and dissemination of core statistics including the release calendar for various data sets, to exercise statistical co-ordination between ministries, departments and other agencies of the national government and to evolve measures for improving public trust in official statistics. A number of meetings have been taken by the NSC of the ministries involved in producing agricultural statistics. The strategic plans and actions of the NSC would follow from the functions assigned to them and their directions to the statistical organizations/offices. One such direction has been to conduct a pilot survey to study the feasibility of integrating the agriculture & live stock censuses. Figure 1 gives schematic representation of the model of integration at the national level.
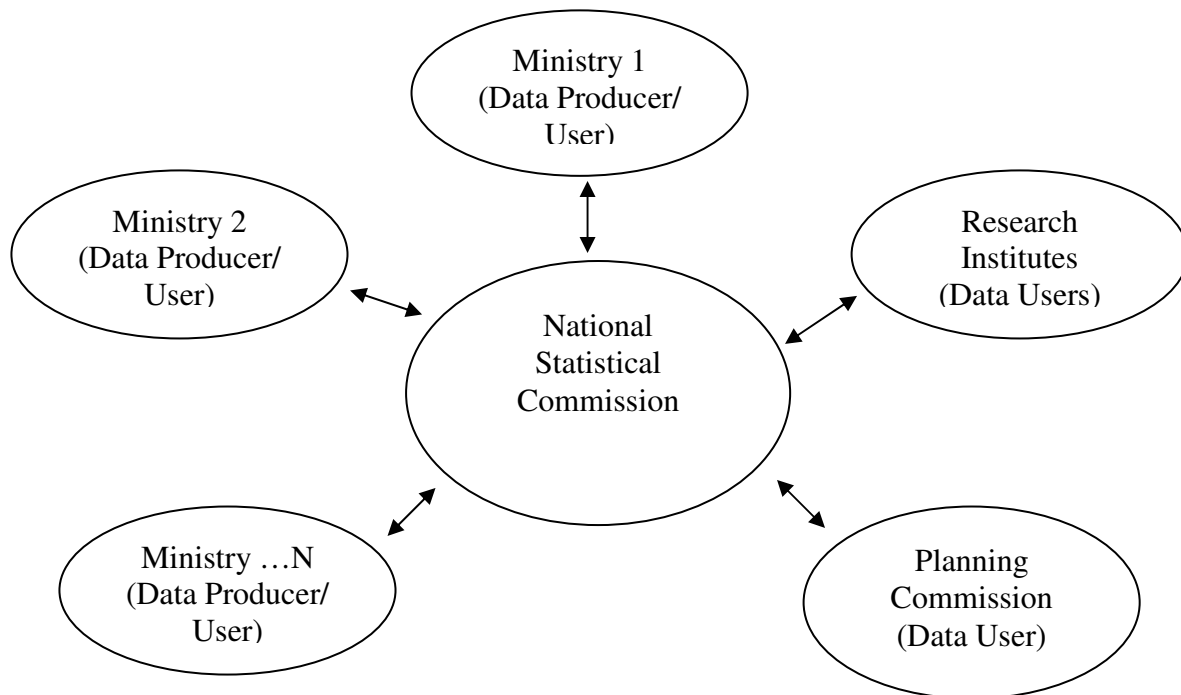


Figure 1: Model of Integration at the National Level

Some of the ways to achieve the integration could be:

1. Reducing the number of ministries responsible for producing the agricultural statistics to a bear minimum. This can be done by transferring the mandate and resources to the best suited ministry.
2. Merging the surveys wherever feasible
3. Synchronizing the start/end of various surveys and processing of data

2.2     It may be reiterated that while the national level agricultural statistics are compiled by the national ministry of agriculture, the ground level work is done by the provincial machinery. However, the National Sample Survey Organisation (NSSO) under Ministry of Statistics & Programme Implementation is one national organization which is engaged in carrying out surveys in the country on the matters of national importance. NSSO carries out these surveys in various rounds. On the request and funding of the national ministry of agriculture, NSSO in its 59th Round (January – December 2003) conducted a very comprehensive "Situation Assessment Survey on Farmers" and published the national and provincial level findings under the heads: household ownership holding, some aspects of operational land holdings, livestock ownership across operational land holding

classes, seasonal variation in the operational land holdings, consumption expenditure of farmer households, some aspects of farming, income, expenditure and productive assets of farmer households, indebtedness of farmer households, and, access to modern technology for farming. This survey has been extremely useful in knowing the diverse facets of Indian agriculture and of those dependent on it. It is important to continue this survey with small time intervals for effective monitoring of the agriculture sector.

2.3    As mentioned earlier, while the integration of agricultural statistics within itself aims at optimum utilization of resources, better management of various surveys and generation of timely and reliable data, a larger picture envisages better and improved life for the population involved in and dependent on agriculture. Eradicating extreme poverty and hunger, raising education levels, taking care of health needs, promoting gender equality and ensuring environmental sustainability necessitate integration of agricultural statistics with education, health, gender and environment statistics, among others. To put proper policy interventions in place, it is necessary that all the relevant data are available and are easily accessible. This may not be possible all the time. However, to ensure this, the following model is suggested:

- Set up a Statistical Research Division (SRD) in the Agriculture Ministry
- Set up an Information & Communication Technology Division (ICTD)

The job of the SRD would be to:
- Identify the data domains with data items
- Check the availability of data (web based/printed document)
  (Identify data gaps – Go to the National Statistical Office for identifying the Agency for filling the data gap)
- Identify the Source Agencies
- Be in touch with the Source Agencies
- Decide the way in which data should be disseminated
- Pass on the cleaned data to ICT Division

The job of the ICTD would be to:
- Digitise the data where they are available in the printed form
- Disseminate data through web
- Design a Home Page giving links to each independent data domain as identified by the SRD
- Maintain the database

Figure 2 below gives the scheme of functioning of SRD and ICTD.

## 3. Partnership with the Private Organisations:

A large number of industries are agro-based. Besides carrying out their own market surveys, theses industries heavily depend upon the government for their data requirements. The government data are generally available at very low prices. The industry bodies may be asked to part share the financial burden of carrying out these surveys. An analysis may be carried out to determine the extent of government data usage by these industries and get revenues from them appropriately.

Also, many popular web portals are making profits out of the advertisement revenues generated by them through their portals. The government portals have been found to not carrying any such advertisement on their portals. However, there are a large number of companies in the areas like production of seeds, farm implements, chemical manures, tractors, etc which would like to advertise their products on a web page which is very frequently hit by the users requiring data. A lot of revenue may be generated by placing these advertisements on the portals. Serious thought should be given to this by those for whom funding of surveys has been a problem area.
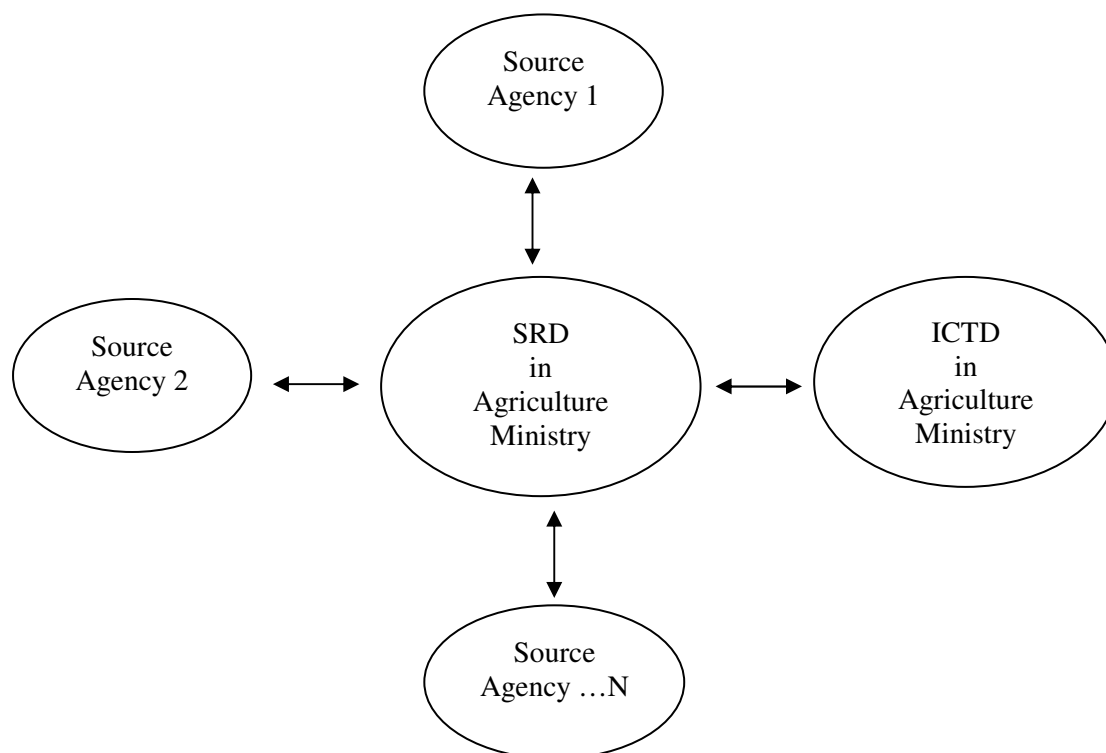
Figure 2: Scheme of functioning of SRD and ICTD

4.    The administrative set up in the provinces is almost the same as that at the national level. The national level model of integration may be adopted by the provinces for integration of agricultural statistics. However, the national government may give impetus to their efforts by sharing with them the enormous knowledge and expertise of the National Statistical Commission.

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