



# Country Paper

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*Presentation by*

*INDIA*

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## INTRODUCTION

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- **Agriculture plays a vital role in the Indian economy.**
- **Over 70 per cent of the rural households depend on agriculture as their principal means of livelihood.**
- **Agriculture along with fisheries and forestry accounts for about 18% of the nation's Gross Domestic Product (GDP)**
- **Agricultural exports constitute a fifth of the total exports of the country.**

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- well-established, a decentralized (both horizontally and vertically) Agricultural Statistics System.
  - The Agricultural Statistics System is very comprehensive and provides data on a wide range of topics such as crop area and production, land use, irrigation, land holdings, agricultural prices and market intelligence, livestock, fisheries, forestry, etc.

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## Agencies Involved

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- Directorate of Economics and Statistics, Ministry of Agriculture (DESMOA) at the Centre/National is the pivotal agency for compilation at the all-India level.
- Primary Statistics collected by State Government (sub-national)
- State Agricultural Statistics Authorities (SASAs) play a major role in the collection and compilation of Agricultural Statistics at the State level.
- the Village Revenue Agency

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- The other principal data-gathering agencies involved are the National Sample Survey Organisation (NSSO), and the State Directorates of Economics and Statistics (DESS).
  - Department of Animal Husbandry, Dairying and Fisheries
  - Directorate General of Commercial Intelligence and Statistics (DGCI&S)
  - National Institute of Rural Development (NIRD)-Rural Development Statistics
  - Ministry of Environment and forests- forestry and environment statistics including forest produce
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## Crop Area Statistics

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- The first has 17 states and 4 union territories where cadastral surveys have been carried out and area and land use statistics form part of the land records maintained by the revenue agency. This accounts for 86 per cent of the reporting area.
- The second consists of seven states where no village level revenue agency exists and crop and land use statistics are collected by sample surveys. This accounts for 9 per cent of the reporting area.
- The third consists of 3 states and 3 union territories which also have no reporting system. This accounts for the remaining 5 per cent of the reporting area.

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- Statistics of crop area are compiled with the help of the village revenue agency (commonly known as *patwari* agency) in the temporarily states.
  - By specially appointed field staff in the permanently settled States under a scheme known as "Establishment of an Agency for Reporting Agricultural Statistics (EARAS)".
  - In the remaining eight States do not have a reporting system, they compile what are called conventional crop estimates based on personal assessment of the village chowkidars.

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## Timely Reporting Scheme (TRS)

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- Crop area statistics of the temporarily settled areas are comprehensive, being based on the complete enumeration method. However, due to an increasing range of functions assigned to the *patwari*, - tend to receive low priority.
- Under the TRS, the *patwari* is required to complete the work (girdawari) on a priority basis in a 20 per cent random sample of villages
- The TRS sample of villages is also selected in such a way that the entire temporarily settled parts of the country are covered over a period of five years
- It provides the sampling frame for selection of crop-growing fields for crop cutting experiments.

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## Improvement of Crop Statistics Scheme

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In the ICS scheme, an independent agency of supervisors carries out a physical verification of the *patwari's girdawari* in a sub-sample of the TRS sample villages to make an assessment of the extent of discrepancies between the supervisor's and *patwari's* crop area entries in the sample clusters.

- The ICS also covers the permanently settled States and the supervisory agency in this case too carries out the check in a sub-sample of EARAS sample villages using the same methodology followed in the temporarily settled States.
- In all, 10,000 sample villages are covered by the ICS, roughly 8,500 in the temporarily settled States and 1,500 in the permanently settled States.

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## Use of Remote Sensing Techniques

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- Since 1990, an attempt is underway to use Remote Sensing (RS) technology for estimation of crop areas and land use through a Centrally sponsored scheme, "Crop Acreage and Production Estimation (CAPE)".
- The objective of CAPE, among others, is to provide State-level crop area estimates using the remote sensing data covering mainly the crop growing parts of the States.

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## CROP PRODUCTION

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- Estimates of crop production are obtained by multiplying the area under crop and the yield rate.
- The yield rate estimates are based on scientifically designed crop cutting experiments conducted under the General Crop Estimation Survey (GCES).
- Around 5,00,000 experiments are conducted every year with the help of State revenue and agricultural staff of a rank higher than the primary field staff of the departments.

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- The Improvement of Crop Statistics (ICS) scheme carries out a quality check on the field operations of GCES.
  - Around 30,000 experiments are supervised by the ICS staff at the harvesting stage, one half by the Assistant Superintendents of the Field Operations Division (FOD) of NSSO and the remaining half by the staff of the State Agricultural Statistics Authority (SASA).

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- The method of crop cutting experiments is objective and unbiased and if properly followed provides reliable estimates of yield rates.
  - The supervisory check by ICS staff controls a variety of non- sampling errors.

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## Crop Forecasts

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- The Directorate of Economics & Statistics, Ministry of Agriculture releases four advance estimates of crop area and production in respect of principal food and non-food crops (food grains, oil seeds, sugarcane, fibres, etc.), which account for nearly 87 per cent of agricultural output.
  - The first advance estimate in the middle of September, the second in January, the third towards the end of March and the fourth by the end of June.
  - **“Final Estimates” of crop area and production in December.**

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## Horticultural Crops

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- DES,MOA which operates a Centrally sponsored scheme "Crop Estimation Survey on Fruits and Vegetables" in 11 States covering 7 fruit and 7 vegetable and spice crops for estimating area and production.
- The fruit crops covered are mango, banana, apple, citrus, grapes, pineapple and guava.
- The vegetable and spice crops are potato, onion, tomato, cabbage, cauliflower, ginger and turmeric.
- The results of the DESMOA survey are published in its "*Report and Database of Pilot Scheme on Major Fruits and Vegetables*".

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## Irrigation Statistics

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- In the temporarily settled States, irrigation statistics are compiled from the village *girdawari*.
- The same are estimated on the basis of sample surveys in respect of the permanently settled States of Kerala, Orissa and West Bengal.
- The data are collated and published by the DES,MOA.

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## Agricultural Census

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- Agricultural Censuses in the country are conducted at intervals of five years.
- The census provides detailed statistics on the structure of operational holdings and their main characteristics like number and area, land use, irrigation, tenancy and cropping pattern. It is carried out in three phases.
- In Phase I, a list is made of all the operational holdings and their primary characteristics like location, area, gender and social group of the holder.
- In Phase II, detailed data on tenure, tenancy, land use, irrigation, crop areas, etc. are collected.
- Phase III, popularly known as input survey, relates to collection of data on agricultural inputs (seeds, fertilisers, pesticides, etc.) according to five size groups of the holdings.

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## AGRICULTURAL PRICES

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- DES, MOA is responsible for the collection, compilation and dissemination of the price data of agricultural commodities.
- The price data are collected in terms of (a) weekly and daily wholesales prices, (b) retail prices of essential commodities, and (c) farm harvest prices.
- Weekly wholesale price data collected by price reporters appointed by the State Governments or Agricultural Marketing Committees and forwarded to the State Directorates of Economics and Statistics (DESS).

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## LIVESTOCK NUMBERS

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- Data on livestock numbers are collected through a quinquennial Livestock Census that is a complete enumeration of all households with regard to livestock population, poultry, agricultural machinery and fishing craft. The data collected are quite detailed; the livestock is classified according to various species of animals by breed, sex and age.

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## FISHERIES STATISTICS

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- The Fisheries Statistics Section of the Department of Animal Husbandry and Dairying in the Ministry of Agriculture is in charge of compiling the data relating to this sector. At present data on items like fish production, prawn production, fish seed production, disposal of fish catch, preserved and processed items and aquaculture are being collected from State Governments.
- A multistage sample survey is used to estimate the fish production from the marine sector.

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## INDEX NUMBERS IN AGRICULTURE

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- Index Numbers in Agriculture are required in order to study the trends over time in respect of area, yield, production, productivity, prices, etc. and for studying the comparative picture of the performance of agricultural sector *vis-à-vis* other sectors.
- The index numbers constructed by the Ministry of Agriculture can be grouped into two broad categories: (a) Index Numbers of Area, Production and Yield, and (b) Index Numbers of Terms of Trade between Agricultural and Non-agricultural Sectors.

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## Index Numbers of Area, Production and Yield

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- The Directorate of Economics and Statistics, Ministry of Agriculture (DESMOA) constructs the index number of area, index number of production and index number of yield separately for each State covering 46 crops.
- Besides the State index numbers, the DESMOA also constructs the national level indices. The base year for the present series of "Index of Area, Production and Yield in Agriculture" is the triennium ending 1993-94

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## Dissemination & Outputs

- DES is the nodal agency for compiling, documenting and disseminating the basic data and the key indicators at the national level.
- Agricultural Statistics at a Glance – <http://agricoop.nic.in>  
[http://dacnet.nic.in/eands.](http://dacnet.nic.in/eands)

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## Dissemination & Outputs

Title of Publication	Medium	Format	Periodicity Frequency	Release Calendar
Agricultural Statistics at a Glance	English	Book/ Web-based	Annual	Usually November
Agricultural Situation in India	English & Hindi (National Language)	Journal	Monthly	No fixed date
Agricultural Prices in India	English	Book	Periodically	No fixed date
Index of Agricultural Production, area and Yield	English	Book	Periodically	No fixed date
Agricultural Wages in India	English	Book	Periodically	No fixed date
Cost of Cultivation of Principal Crops	English	Book	Periodically	No fixed date
District-wise Area and Production of Principal Crops in India	English	Book/ Web-based	Periodically	No fixed date
Land Use Statistics at a Glance	English	Book/ Web-based	Periodically	No fixed date
Bulletin on Food Statistics	English	Book	Periodically	No fixed date
Farm Harvest Prices of Principal Crops in India	English	Book	Periodically	No fixed date

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## Other Information

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- <http://dadf.gov.in> **Animal Husbandry-** quantitative data on livestock population and its products, which include cattle, poultry, wool, meat, and meat products; production data on milk, egg, wool, fish & fish seed; Data on marine fisheries resources, inland water resources and livestock products are also available
- [www.rural.nic.in](http://www.rural.nic.in)
- <http://censusindia.gov.in/> data profile on village authorities and give rural population including agricultural workers
- [www.mospi.nic.in](http://www.mospi.nic.in) Environmental Statistics India

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## Dialogue with Data Users

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- Interaction with data users is a continuous exercise.
- Whenever required and feasible, modifications in the design, coverage etc. are done.
- data more user-friendly.
- The report of ICS is discussed in the “High Level Coordination Committee (HLCC) on Agricultural Statistics” in the States to enable them to take remedial action.
- The Commission on Agricultural Costs and Prices (CACP) who is one of the major users of agricultural also gives suggestions/ recommendation.

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## Training

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- The staff of NSSO and CSO undergoes both induction training and also in-service training at their training institute National Statistical System Training Academy (NSSTA);
- also Indian Agricultural Statistics Research Institute (IASRI);
- The staff of SASAs also undergoes training which is demand based customized at NSSTA and more often at IASRI and other Agriculture Research Institutes and University in India;

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# Thank you

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