

# **AGRICULTURE CENSUS**

## **INDIAN EXPERIENCE**

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**Government of India**

# AGRICULTURE PROFILE OF INDIA



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- Agriculture-dominated country
- Agriculture contributes 27% to GDP
- Agriculture provides employment to 70% of population
- Total Geographical area :329 million hectares
- Agriculture covers 50% of country's geographical area
- Reporting area : 93% of geographical area



# AGRICULTURAL DIVERSITY IN INDIA



# AGRICULTURAL DIVERSITY IN INDIA

- 15 Agro climatic zones
  - variation in soil type, rainfall , temperature, water resources
- 4 Major crop seasons
  - Early Kharif, Late Kharif, Rabi and Summer
- 6 Lakh cadastrally surveyed villages
  - around 1000 fields spread in area of 600 ha in a village
- More than 100 food and non food crops grown
  - cereals, pulses, fruits ,vegetables, spices, oil seeds, fibres, , drugs and narcotics,

# FARMERS PROFILE IN INDIA

Marginal : land below one hectare (62%)

Small : land between one and two hectares (19%)

Semi-medium : between two and four hectares (12%)

Medium : land between four and ten hectares (6%)

Large farmers : land more than ten hectares (1%)



# LAND USE STATISTICS

- Forests (23%)
- Area under non-agricultural use (8%)
- Barren and un-culturable land ((6%)
- Permanent pastures and other grazing lands (3%)
- Miscellaneous tree crops and goves not included in the net area sown (1%)
- Culturable waste ( 4%)
- Fallow land other than current fallow ( 3%)
- Current fallow (5%)
- Net area sown (47%)



# LAND RECORD SYSTEM





# LAND RECORD SYSTEM

- Villages cadastrally surveyed for revenue collection
- Primary agency-Patwari lowest level functionary of Revenue Department
- Patwari to carry out field to field inspection every year and every season
- Details of ownership, crop enumeration and land utilization recorded in 'Khasra register'
- Abstract of 9 fold utilisation and crop wise area transmitted to successive revenue hierarchy



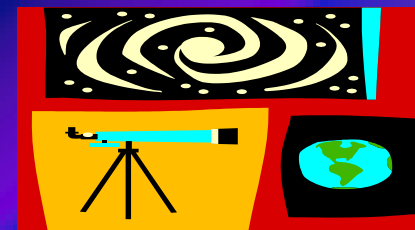
# LAND BASED SURVEYS





# LAND BASED SURVEYS

- Annual **Crop area and land utilisation survey** through complete enumeration of villages
- Decennial **Land holding and live stock holding survey** for ownership and operational holdings through household enquiry
- Quinquennial **Agriculture Census** through re - tabulation of land records
- Quniquennial **Input survey** for agriculture inputs fertilizers, seeds, pesticides, implements



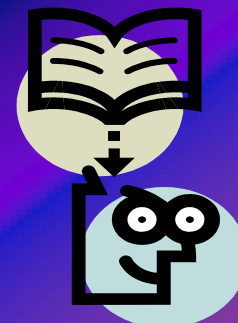
# AGRICULTURE CENSUS

- Need
- Objective
- History
- Approach
- Operationalisation
- Organisation
- Methodology
- Processing
- Output
- Use of data



# WHY AGRICULTURE CENSUS ?

- Predominance of Agriculture sector in Indian economy
- Area distribution by size class, social group and gender of farmers needed for micro and macro level planning
- International comparability of characteristics of holdings
- Agricultural Census result throws light on the structural changes in Indian agriculture brought about by socio-economic and technological factors



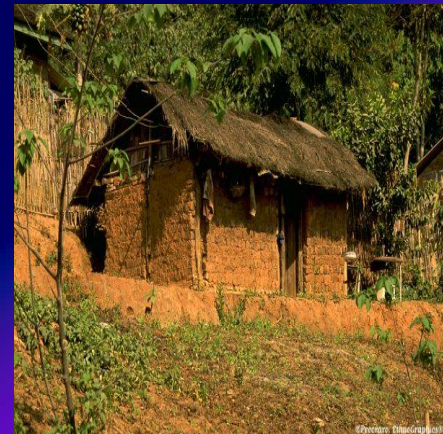


# OBJECTIVE OF CENSUS

- Describe agricultural structure and related characteristics by providing statistical data on operational holdings, including land utilization, live-stock, agricultural machinery and implements, use of fertilizers etc.
- Provide benchmark data needed for formulating new agricultural development programmes and evaluating their progress.
- Provide basic frames of households and operational holdings for future agricultural surveys
- Lay a basis for developing an integrated programme for current Agricultural Statistics

# APPROACH

- Land record data available through field to field enumeration re-tabulated by size class of holding in all villages
- Sample survey through house hold enquiry adopted where land records not available
- Detail characteristics of holdings collected in sample villages only



# CHRONOLOGY OF CENSUS

- House hold Land holding surveys by National Sample Survey of India conducted with World Agriculture census in 1950 and 1960.
- First Agriculture Census in India conducted in 1970-71 along with World Agriculture Census.
- Successive eight Census conducted at 5 years interval up to 2005-06
- Next Census planned in 2010-11



# ORGANISATION

## Union Government

- Agriculture Census Division, headed by Sr. Administrative Grade officer of Indian Statistical Service in the Ministry of Agriculture is the nodal authority.
- High level Steering Committee with officers from National Statistical Organisation and other line departments decides all aspects of census operation.



# ORGANISATION

## State Government

- State Department of Revenue/ Agriculture/ Statistics are incharge for organising the census in states
- District Collectors are in- charge of field level data collection.
- Village Administrative Officers at the lowest level collect the data.



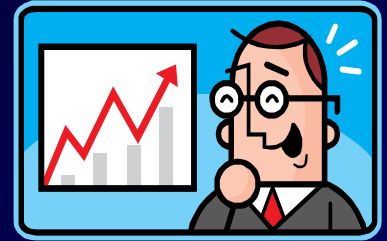


# OPERATIONALISATION

- Agriculture Census in India requires high degree of coordination, statistical control and supervision over the States.
- In a large geographical spread of the country with 35 states/UTs, 65 Districts, 5767 Tehsils and around 6 lakh villages, the census is conducted in 3 phases for detail information on operational holdings



# METHODOLOGY



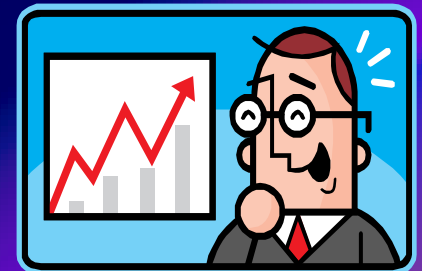
## Phase 1

- Re tabulation of data available in the land records through complete enumeration
- Sample survey household enquiry adopted where land records not in available
- Information compiled on gender and social group of ownership and area operated.
- Number and area of operational holdings at various administrative levels tabulated

# METHODOLOGY

## Phase 2

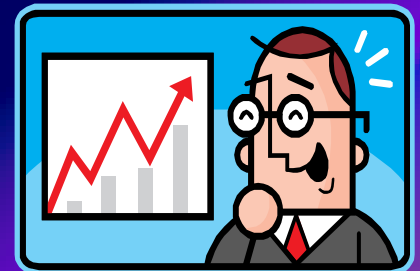
- 20 percent villages in each Tehsil / Block selected
- Detail information on tenancy, land use, irrigation, cropping pattern of all the operational holdings collected through house hold enquiry



# METHODOLOGY

## Phase 3

- Input Survey conducted in 7% villages
- Data on application of inputs like fertilizers, machineries and equipments, seed and live stock collected.
- The information based on household enquiry approach



# ACTIVITIES IN CENSUS OPERATION

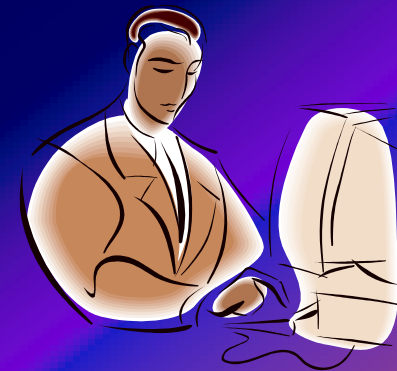
- **Printing of Schedules and Instructions by States.**
- **Training of primary and supervisory staff for Agricultural Census.**
- **Commencement of fieldwork (immediately after training).**
- **Manual Scrutiny/Coding of Schedule**
- **Completion of data entry for Schedule including validation/error-correction.**
- **Generation of district tables and approval by State Government.**
- **Submission of final State Table by States / UTs to GOI for approval.**
- **Submission of State Reports to GOI**





# DATA PROCESSING

- De-centralised data processing
- National Informatics Centre of Government of India developed software
- State Governments carried out data entry and tabulations
- Results at various administrative levels, village, block, district and State are successively pooled



# AGRICULTURE CENSUS OUTPUT

- Number of operational holding by size class, social group, gender and infrastructural facilities
- Number and area by tenancy status, terms of lease, land use, irrigation status and source of irrigation, cropping pattern
- Area under multiple cropping, application of fertilizers, seed variety, livestock and agricultural machineries and equipments

# SIZE CLASS OF FARMERS

<u>Group</u>	<u>Classes</u>	<u>Area (in hectares)</u>
<b>Marginal</b>	1.	Below 0.5
	2.	0.5 – 1.0
<b>Small</b>	3.	1.0 - 2.0
<b>Semi-Medium</b>	4.	2.0 - 3.0
	5.	3.0 - 4.0
<b>Medium</b>	6.	4.0 - 5.0
	7.	5.0 - 7.5
	8.	7.5 - 10.0
<b>Large</b>	9.	10.0 - 20.0
	10.	20.0 and above

# DISTRIBUTION OF HOLDINGS

Year	number holding	Area operated (million hectares)	Average area per (in hectares)
	(million)		
1970-71	71.0	162.1	2.28
1976-77	81.6	163.3	2.00
1980-81	88.9	163.8	1.84
1985-86	97.2	164.6	1.69
1990-91	106.6	165.5	1.55
1995-96	115.6	163.4	1.41
2000-01	119.9	159.4	1.33

# HOLDINGS AND AREA OPERATED

Group (ha)	Number (million)	Area operated (million ha)	Average area per holding	%holding	%area
Marginal Below 1.0	71.12	28.12	0.40	61.58	17.22
Small 1.0 – 2.0	21.64	30.72	1.42	18.73	18.81
Semi-medium 2.0 – 4.0	14.26	38.95	2.73	12.34	23.85
Medium 4.0 – 10.0	7.09	1.40	5.84	6.14	25.34
Large 10.0 & Above	1.40	24.16	17.21	1.21	14.79



# APPLICATION OF CENSUS DATA

- Planning and resource allocation to States
- Implementation of land reform
- Targetting irrigation programmes
- Monitoring impact of land ceiling and consolidation
- Assessing cropping intensity by irrigation
- Planning production, import and distribution of seeds and fertilisers
- Framing policies on subsidy for implements
- Study on holding pattern of animals

# LIVE STOCK CENSUS

- Quinquennial exercise of count of live stock species
- Latest 18<sup>th</sup> census : Conducted in 2007
- Household enquiry approach
- Species covered
  - Cattle, Buffalo, Yaks, Mithuns, Sheeps, Horses and Ponies, Mules, Donkeys, Camels, Pigs, Dogs, Rabbits, Fowls, Ducks



# CLASSIFICATORY CHARACTERS

- Sex (male / female)
- Age
- Variety (exotic / crossbreed / indigenous)
- Use (breeding purpose / work)
- Agriculture implements  
(manually operated / mechanically operated)
- Machinery  
(Tractor, harvester/ tiller/ chaff cutter)

# THANK YOU





