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भारत में फसल सांख्यिकी सुधार योजना
के माध्यम से
फसल सांख्यिकी प्रणाली का पुनरावलोकन
**REVIEW OF CROP STATISTICS SYSTEM
IN INDIA THROUGH THE SCHEME OF IMPROVEMENT OF
CROP STATISTICS**



2018-19

भारत सरकार
सांख्यिकी एवं कार्यक्रम कार्यान्वयन मंत्रालय
राष्ट्रीय सांख्यिकीय कार्यालय (क्षेत्र संकार्य प्रभाग)
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फरीदाबाद

GOVERNMENT OF INDIA
MINISTRY OF STATISTICS & PROGRAMME IMPLEMENTATION
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प्रस्तावना

राष्ट्रीय अर्थव्यवस्था में कृषि क्षेत्र द्वारा निभाई गई महत्वपूर्ण भूमिका को देखते हुए फसलों के अंतर्गत क्षेत्रफल और फसल उत्पादन पर समयबद्ध, विश्वसनीय तथा विस्तृत कृषि सांख्यिकी संग्रहण की आवश्यकता विशेष महत्व रखती है। निर्धारित कार्य प्रणाली का पालन करते हुए भू-उपयोग तथा फसलाधीन क्षेत्र के सांख्यिकी संग्रहण की प्राथमिक जिम्मेदारी राज्य प्राधिकारों की होती है। मुख्य फसलों की उपज दरों का आकलन राज्य की विभिन्न एजेंसियों द्वारा यादृच्छिक प्रतिचयन की वैज्ञानिक तकनीकों का पालन करते हुये सामान्य फसल प्राक्कलन सर्वेक्षण (सा0 फ0 प्रा0 सर्वे0) के माध्यम से किया जाता है।

2. 1952 के कैबिनेट प्रस्ताव के परिणामस्वरूप खाद्य उत्पादन के अनुमान और बड़े पैमाने पर प्रतिदर्श सर्वेक्षण से संबन्धित कार्य को भारतीय कृषि अनुसंधान परिषद (आई.सी.ए.आर.) से एन.एस.एस को स्थानांतरित होने के उपरांत एन.एस.एस. (क्षे.सं.प्र.) ने भारत में फसल सांख्यिकी के लिए सांख्यिकीय ढांचा विकसित करने के व्यवस्थित प्रयास में अग्रणी भूमिका निभाई है। इसमें प्रमुख फसलों के अंतर्गत क्षेत्र की जांच, पूर्वानुमान और आकलन और फसलवार उपज का आकलन शामिल था। 1970 तक दो सर्वेक्षण नामतः भूमि उपयोग सर्वेक्षण (एल.यू.एस) और फसल उपज सांख्यिकी (सी.वाई.एस.) ने फसल सांख्यिकी से संबन्धित बड़े पैमाने पर प्रतिदर्श सर्वेक्षण में सांख्यिकीय तकनीकों के संस्थागत अनुप्रयोग को सुदृढ़ किया और कई राज्य सरकारों के लिए समान क्षमता के कार्यालय अपने कार्यक्षेत्र के अंतर्गत फसल सांख्यिकी से संबन्धित सांख्यिकीय कार्य नियमित करने के लिए प्रेरित किया।

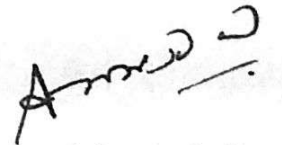
3. वर्तमान में राष्ट्रीय सांख्यिकीय कार्यालय (रा0 सां0 का0), सांख्यिकी एवं कार्यक्रम कार्यान्वयन मंत्रालय, भारत सरकार की यह समग्र जिम्मेदारी है कि वह विश्वसनीय फसल प्राक्कलन हेतु उचित सर्वेक्षण तकनीक विकसित करने के लिए राज्यों के कर्मचारियों को प्रशिक्षण, तकनीकी सहयोग एवं पर्यवेक्षण का कार्य करे। फसल सांख्यिकी सुधार (फ.सां.सु.) योजना, जो कि 1973-74 से लागू है, का उद्देश्य राष्ट्रीय सांख्यिकीय कार्यालय तथा राज्य सरकारों के संयुक्त प्रयासों से प्राथमिक क्षेत्र कार्य में तकनीकी पर्यवेक्षण द्वारा राज्यों में प्रचलित फसल सांख्यिकी संग्रहण प्रणाली की कमियों का पता लगाना और प्रणाली में सुधार के लिए उपाय सुझाना है। इसे प्राप्त करने के लिए क्षेत्रफल परिगणना तथा समुच्चयीकरण पर प्रतिदर्श जाँच का कार्य प्रत्येक मौसम में लगभग 10,000 प्रतिदर्श ग्रामों में किया जाता है तथा वर्ष भर में लगभग 32,000 फसल कटाई प्रयोगों का निरीक्षण भी किया जाता है।

4. फसल सांख्यिकी सुधार योजना के निष्कर्ष सभी शामिल राज्यों का समुच्चयन कर “भारत में फसल सांख्यिकी योजना के माध्यम से फसल सांख्यिकी प्रणाली का पुनरावलोकन” के अन्तर्गत प्रतिवेदन के रूप में प्रकाशित किए जाते हैं। यह प्रतिवेदन श्रृंखला में 44वीं है जो कि अखिल भारतीय स्तर पर कृषि वर्ष 2018-19 के दौरान फसल सांख्यिकी सुधार योजना के निष्कर्षों को प्रस्तुत करता है।

5. मैं इस प्रतिवेदन को तैयार करने में श्री अनिंद्य बनर्जी, उप महानिदेशक, रा.सां.का. (क्षे.सं.प्र.), कृषि सांख्यिकी मुख्यालय फरीदाबाद के मार्गदर्शन में अधिकारियों की टीम, जो इस कार्य में सम्मिलित रही हैं, की निष्ठा एवं अथक प्रयासों की सराहना करता हूँ। आंकड़ों का संग्रहण, संसाधन तथा सम्बन्धित अन्य कार्य सम्पन्न करने वाले सभी अधिकारियों का योगदान भी प्रशंसनीय है। मैं सम्बन्धित राज्य कृषि सांख्यिकी प्राधिकारों एवं अन्य राज्यीय पदाधिकारियों, जो कि फसल सांख्यिकी सुधार योजना को कृषि वर्ष 2018-19 में सफलतापूर्वक संचालित करने में सहयोग देते रहे हैं, का हृदय से आभार व्यक्त करता हूँ।

6. प्रतिवेदन की विषयवस्तु व प्रस्तुतीकरण में सुधार हेतु सुझावों का स्वागत है।

दिसम्बर, 2022



(डॉ बिभास चौधरी)
अपर महानिदेशक

PREFACE

The need for timely, reliable and comprehensive statistics on area under crops and crop production assumes special significance in view of the vital role played by the Agricultural Sector in the Indian economy. The primary responsibility for collection of statistics of land use and area under crops following prescribed procedures rests with various State Authorities. The yield rates of principal crops are estimated through General Crop Estimation Surveys (GCES) conducted by State agencies following scientific techniques of random sampling.

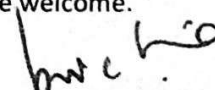
2. The Field Operations Division of NSS as a consequence of the Cabinet Resolution of 1952 that transferred work related to the estimation of food production and large-scale sample survey from the Indian Council Of Agricultural Research (I.C.A.R) to the National Sample Survey (NSS) spearheaded the systematic attempt to develop Statistical architecture for Crop Statistics in India. This involved monitoring, forecasting and estimation of area under major crops and estimation of crop wise yield. The twin surveys namely Land Utilizations Surveys (LUS) and Crop Yield Statistics (CYS) till 1970 institutionalized application of Statistical techniques in large scale sample survey related to crop statistics and acted as the hand holding exercise for many State governments to develop equivalent-capacity and offices to carry out statistical work related to crop statistics under their domain.

3. Currently, National Statistical Office (Field Operations Division) has the overall responsibility of providing technical support to the States in developing suitable survey techniques for obtaining reliable estimates, assistance in training of staff and exercising supervision. The Scheme of Improvement of Crop Statistics (ICS) was taken up in the year 1973-74 with the objective of pointing out, through joint efforts of NSO and State Governments, the deficiencies in the system of crop statistics by exercising technical supervision over the primary field work and suggesting remedial measures for strengthening the system. To achieve this, sample checks on area enumeration and area aggregation are carried out in a sample of about 10,000 villages in each season and conduct of around 32,000 crop cutting experiments in a year.

4. The findings of the ICS scheme are brought out in the form of Report "Review of Crop Statistics System in India through the scheme of Improvement of Crop Statistics" for the aggregate of the States covered. This report is forty fourth in the series and deals with the findings of the ICS scheme during the agricultural year 2018-19 at all India level.

5. I place on record my deep appreciation for the dedicated and painstaking efforts made by the team of officers under the guidance of Sh. Anindya Banerjee, Deputy Director General of NSO (FOD), Agriculture Statistics Headquarters, Faridabad who have been associated with the work of bringing out this report. The contribution of field officials in data collection and other related work is also appreciated. I also acknowledge with gratitude the support and cooperation received from State Agriculture Statistics Authorities and other State officials engaged in the field for the successful conduct of the ICS scheme during the year 2018-19.

6. Suggestions for improving the content and presentation of the report are welcome.



(Dr Bivas Chaudhuri)
Additional Director General

December, 2022



प्रकाशन से जुड़े अधिकारीगण

1	श्री अनिंद्य बनर्जी	उप महानिदेशक
2	श्री बी.एस.नेगी	निदेशक
3	श्री रणविजय उपाध्याय	वरिष्ठ सांख्यिकीय अधिकारी
4	श्रीमती गरिमा चानना	कनिष्ठ सांख्यिकीय अधिकारी
5	श्री पंकज कुमार चोटिया	कनिष्ठ सांख्यिकीय अधिकारी

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A. Organization and Agriculture Statistics Schemes

1. National Statistical Commission (NSC)

The National Statistical Commission set up by the Government in January 2000 under the Chairmanship of Dr. C. Rangarajan, reviewed the statistical system and the entire gamut of Official Statistics in the country. The Rangarajan Commission submitted its report to the Government in August 2001. In line with the recommendations of the Rangarajan Commission, the Government of India resolved to set up a permanent National Statistical Commission (NSC), vide Notification No. 85 dated 1st June 2005 published in the Gazette of India, Extraordinary, Part-III-Section. The NSC was initially constituted on 12th July 2006 to serve as a nodal and empowered body for all core statistical activities of the country and to evolve, monitor and enforce statistical priorities and standards and ensure statistical co-ordination. The Commission consists of a part-time Chairman, four part-time Members and CEO, NITI Ayog as an ex-officio Member. The Chief Statistician of India (CSI) is the Secretary to the Commission. He has a dual role, as he is also the Secretary to the Government of India in the Ministry of Statistics and Programme Implementation (MOSPI). The National Statistical Commission took note of the findings and recommendations of all important bodies in the context of the prevailing status of Agricultural Statistics and attempted a fresh analysis focusing its attention on identification of the deficiencies of the system and the remedial measures required to set them right.

2. National Statistical Office (NSO)

The Directorate of National Sample Survey (NSS) established in 1950 was re-structured into the present National Statistical Office (NSO) under the Government of India's Order of 23rd May, 2019. The organization now consists of four functional Divisions with a Director General (DG) at the apex level. Each of the Divisions viz. (i) Survey Design and Research Division, (ii) Data Quality Assurance Division (iii) Survey Coordination and (iv) Field Operations Division is headed by an Additional Director General.

The Field Operations Division (FOD) undertakes the field work relating to Socio-Economic Surveys, Industrial Surveys, Surveys for collection of retail prices in urban and rural areas, Urban Frame Survey for updation of area frame in Urban areas for use in Socio-economic surveys & Methodological Surveys/Studies and Sample Check on Agriculture Surveys under the scheme for Improvement of Crop Statistics (ICS).

3. National Commission on Agriculture

National Commission on Agriculture, under the Ministry of Agriculture & Farmers Welfare, was founded in 1976 to advise the Government on enhancing agricultural productivity.

4. Agriculture Statistics

The Agriculture Statistics System is 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.

5. Agriculture Surveys under NSO (FOD)

In the context of agriculture surveys, the Field Operations Division (FOD) was instrumental in the creation of institutional framework through the Land Utilization Surveys (LUS) and CES (Crop Estimation Surveys) as large scale sample surveys by NSS during early 1950s. NSO (FOD) is responsible for all activities including survey design, field operations, data processing and preparation of reports under the ICS scheme. The major functions of Agriculture Statistics Hqrs. NSO (FOD) include supervision and control of the field work under the scheme for Improvement of Crop Statistics (ICS) and processing of data collected through schedules AS 1.0, AS 1.1 and AS 2.0 prescribed for ICS work. FOD undertakes the fieldwork relating to the scheme for Improvement of Crop Statistics through its network of field offices spread all over the country. NSO (FOD) is also entrusted with the responsibility of providing technical guidance and assistance to the states in developing suitable survey techniques for obtaining timely and reliable estimates of crop area and yield, and imparting training to State Govt. field personnel. The training courses on Agricultural Statistics for Senior Statistical Officers of FOD and State Govt. officers are also conducted AS Hqrs. Faridabad of NSO (FOD).

6. Improvement of Crop Statistics (ICS)

The scheme of ICS, which had a modest beginning in the year 1973-74, reached to the optimum coverage in the subsequent years. The scheme is closely related to the schemes of TRS, EARAS and GCES and was initiated with the objective of pointing out the deficiencies in the system of collection of area and yield statistics through the joint efforts of the NSO (FOD) and State Agricultural Statistics Authority (SASA) and to suggest remedial measures. NSO (FOD) is also entrusted with the responsibility of providing technical guidance and assistance to the States in developing suitable survey techniques for obtaining timely and reliable estimates of crop area & yield, and imparting training to State Govt. field personnel. The scheme is operational in 21 States and 1 U.T. covering about 44 crops.

7. General Crop Estimation Surveys (GCES)

GCES consists of performing a specified number of crop cutting experiments in randomly selected fields. Crop cutting experiment conducted under well designed estimation survey, is an effective technique for estimating the average yield by selecting the field, randomly locating a plot of a specified size, harvesting, threshing, weighing and recording the weight of the produce from the plot.

8. Timely Reporting Scheme (TRS)

The Ministry of Agriculture & Farmers Welfare initiated TRS in 1968-69 in land record states in order to reduce the time lag between (a) completion of sowing and the availability of estimates of area sown and (b) the completion of harvesting and availability of estimates of production in respect of important crops.

9. Establishment of an Agency for Reporting Agriculture Statistics (EARAS)

The Ministry of Agriculture & Farmers Welfare sponsored a scheme in 1975-76 for Establishment of an Agency for Reporting Agriculture Statistics (EARAS) in three permanently settled States of Kerala, Odisha and West Bengal and also extended the same to Arunachal Pradesh, Nagaland, Sikkim and Tripura.



B. Concepts & Definitions

1. Area Statistics

1.1 Schedule AS 1.0

Schedule AS 1.0 is designed to record the observations based on sample check on area enumeration, which consists of selecting and locating a sample of 20 serial/survey numbers in each selected village, with the help of the village map and records and noting down the actual utilization to which they are put in each season.

1.2 Schedule AS 1.1

Schedule AS 1.1 is designed to study the discrepancies between the figures of area under the crops/crop mixtures/non-crop utilizations (i) as totalled by the patwari, (ii) as reported by him in TRS statements/crop abstract/ non-crop utilization statements and (iii) as checked by the Senior Statistical Officers/State Supervisors. For arriving at (iii), the Supervisor has to total page by page the survey/Sub-survey number wise area figures recorded by the patwari in the Khasra register.

2. Yield Statistics

2.1 Yield rate of crops are obtained by conducting General Crop Estimation Surveys (GCES) using the objective technique of crop cutting experiments. The planning, organisation of field work, processing of data and bringing out the results of Crop Estimation Surveys(CES) are the responsibility of State Agriculture Statistical Authority (SASA). The objective of the sample check is to point out departures from the procedures prescribed for the conduct of experiments and inaccuracies in reporting ancillary information under the CES, thereby improving the quality of yield data.

2.2 The Schedule AS 2.0

Schedule AS 2.0 is designed for recording the observations of the supervisory staff by conducting sample check on crop cutting experiments. On the basis of the data collected

through schedule AS 2.0, AS Hqrs. prepares estimates of yield rates of the principal crops along-with their percentage standard error. All these estimates mentioned above are expressed in gms / plot, which are converted to Kg / hectare by using suitable conversion factor.

2.3 Standard Error

The calculation of standard errors and their study is helpful in assessing the adequacy of the sample size, trend of changes in yield rates and in planning other allied studies.

$$\% \text{ Standard Error} = \frac{\text{S.E. of the Estimate}}{\text{Estimate}} \times 100$$

2.4 Conversion factor

Converting the yield from Grams per plot to Kg. per hectare

$$\frac{\text{Weight of produce in Gms.}}{\text{Plot size in Meters.}} \times \frac{10000}{1000}$$

3. Reference period

The reference period for a survey is the Agriculture Year (July to June) e.g. agriculture year 2018-19 corresponds to the period starting from July 2018 to June 2019.

4. Seasons

Agriculture Year can be broadly divided into the following three seasons based on the periods of sowing and harvesting:

Kharif	-	July to December
Rabi	-	January to March
Summer (or Zaid Rabi)	-	April to June

Periods of area enumeration or Girdawari vary from State to State and are fixed according to the sowing periods of various seasonal crops.

5. Survey Records

Khasra register, maps, jamabandi (list of land holdings) etc. are maintained by the Patwari (primary worker of the revenue department of the State) and these are updated from time to time. These records are useful for identification of survey / sub-survey numbers and also for checking the area aggregation figures.

6. Design of Sample Check

The design for crop survey is generally a composite one without any stratification according to inputs such as irrigation and / or seed. The design adopted for selection of villages for the sample check on area is that of stratified simple random sampling, where a

tehsil/ anchal/ sub-division/ block/ taluka or a group of them based on geographical contiguity forms a 'Stratum' except Kerala and West Bengal where District is Stratum. For the supervision of crop cutting experiments, District is the 'Stratum'.

7. Crop mixtures

Two or more crops of the same season grown in the same field constitute a crop mixture. The constituent crops may be raised in different rows of pure nature or may be intermixed in lines.

8. Nine Fold Classification of Area

The land utilization is broadly classified in terms of following nine fold classifications:-

i. Forests

Area not available for cultivation

ii. Area under non-agricultural uses

iii. Barren and unculturable land or within cultivated holdings

Other uncultivated land excluding Current fallow

iv. Permanent pastures and other grazing lands

v. Miscellaneous tree crops and groves not included in the area sown

vi. Culturable waste

Fallow land

vii. Fallow land other than current fallow

viii. Current fallow

ix. Net area sown

9. Geographical Area

India has an area of 3,287,263 sq. km. It is the seventh largest country of the world after Russia, Canada, China, the U.S.A., Brazil and Australia. India accounts for about 2.4 per cent of the total surface area of the world occupying 3.28 million square kms of land.

10. Net Area Sown

This represents the total area sown with crops and orchards. Area sown more than once in the same year is counted only once.

11. Gross Cropped Area

This represents the total area sown once and/or more than once in a particular year, i.e. the area is counted as many times as there are sowings in a year. This total area is also known as total cropped area or total area sown.

12. Current Fallow

This represents cropped area which is kept fallow during the current year.

13. Area Sown more than once

This represents the areas on which crops are cultivated more than once during the agriculture year. This is obtained by deducting Net Area Sown from Gross Cropped Area.

14. Irrigated Area

The area is assumed to be irrigated for cultivation through such sources as canals (Govt. & Private), tanks, tube-wells, other wells and other sources.

15. Cropping Intensity

Cropping Intensity refers to raising of a number of crops from the same field during one agriculture year; it can be expressed as

$$\text{Cropping Intensity} = (\text{Gross Cropped Area} / \text{Net Area Sown}) \times 100$$

16. Recovery ratio:

The ratio between the cobs to grain (wet), Paddy to rice (after taking away husk) is known as recovery ratio. The first weight of the produce taken out from the plants is in terms of cobs in case of Jowar, Bajra, Maize, weight of grains in case of Paddy, Wheat, Barley and Gram etc.

i) Driage ratio:

The ratio of weight between the wet grains or produce to dried and marketable produce.

ii) Ginning ratio:

The weight of cotton to lint Cotton without seeds i.e. (cotton – seeds). This ratio is obtained from ginning factories.

iii) Net weight:

While reporting the weight of the produce of a crop, when sown in mixture, the percentage of the experimental crop sown in that mixture is also given. In this case, we have to work out the produce, had it been sown pure. In Agriculture Statistics, the net weight will always be more than gross weight.



C. Data Processing under ICS Scheme

1. Scrutiny of data

As per the existing procedure, all Agriculture Statistics schedules are to be scrutinized at field level by the officers concerned of Regional Offices (ROs) & Sub Regional Offices (SROs)/ NSROs in case of Central sample and by the State officials in case of State sample as per the Scrutiny Programme. A second level scrutiny is done at FOD Hqrs., Faridabad as per the prescribed scrutiny instructions to ensure completeness, correctness and quality of data.

2. Coding of data

Prior to the dispatch of schedules for further processing, local units are converted into standard units of area as per the conversion factors given in Agriculture Statistics(AS) schedule and as per coding programme for the purpose of facilitating smooth data processing.

3. Data Processing

After the scrutiny and coding of data, the subsequent stages of processing of data at FOD Hqrs. are data entry, data validation and generation of tables and annexures. The tabulation programme is drawn up keeping in view the objectives of the ICS scheme. The tabulation of data from the Central and State samples is done independently both by NSO (FOD) and the SASAs concerned.

4. Data Validation

The data entry is done in specified record layouts from the data available in the AS schedules. The data entered are stored as “dbf” files. A validation programme is executed on the data files for ensuring accuracy with reference to certain important lines of information.

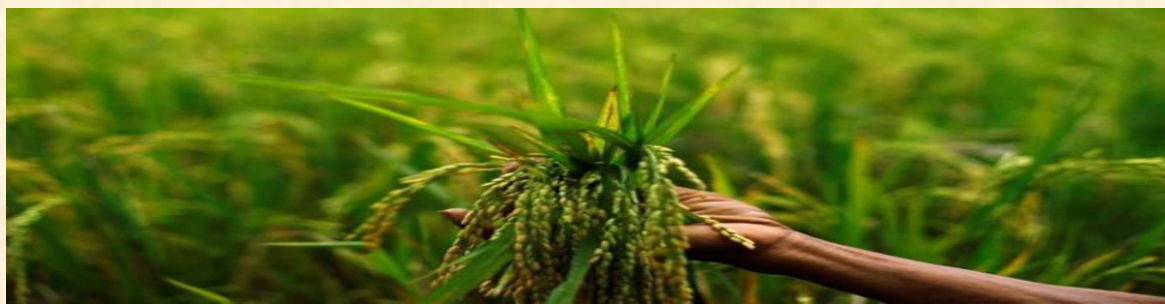
5. Data Tabulation

After the data are validated and made error free, different tables are generated. The A-series tables are generated for Area statistics and Y-series tables are generated for Yield

statistics. These tables are checked in State units at AS Hqrs. for consistency of data. Discrepancies, if any, are rectified and tables are regenerated. After the tables are found consistent, State wise annexures are generated using in-house software. These annexures are also scrutinized for any abnormal or inconsistent entries and regenerated, if required.

6. Preparation of Status Reports

The Status Reports for each season and for each State contains full account of the present position of estimation of crop production, the procedures followed for enumeration of area and yield, deficiencies observed in the system of crop statistics and the steps to be taken for improving the system of collection of agricultural statistics. The season-wise, state-wise Reports entitled, “Review of Crop Statistics System in States through Scheme for Improvement of Crop Statistics” and an all India report on the “Review of Crop Statistics System in India through Scheme for Improvement of Crop Statistics” are prepared on the basis of the analyzed data of ICS Scheme.



कार्य सारांश

फसल सांख्यिकी सुधार योजना को 1973-74 के रबी मौसम से लागू किया गया है जिसका मुख्य उद्देश्य भारत सरकार के राष्ट्रीय सांख्यिकीय कार्यालय क्षेत्र संकार्य प्रभाग तथा राज्य कृषि सांख्यिकी प्राधिकारों के संयुक्त प्रयास से क्षेत्रफल तथा उपज सांख्यिकी संग्रहण की राज्य प्रणाली की कमियों का पता लगाकर उपचारी कदमों द्वारा क्षेत्रफल तथा उपज सांख्यिकी की गुणवत्ता एवं विश्वसनीयता में सुधार करना है। वर्ष 2018-19 के दौरान इस योजना में देश के जिन 21 राज्यों तथा 1 केन्द्र शासित प्रदेश को शामिल किया गया है वे हैं: आन्ध्र प्रदेश, असम, बिहार, छत्तीसगढ़, गुजरात, हरियाणा, हिमाचल प्रदेश, झारखंड, जम्मू एवं कश्मीर, कर्नाटक, केरल, मध्य प्रदेश, महाराष्ट्र, ओडिशा, पंजाब, राजस्थान, तमिलनाडु, तेलंगाना, उत्तर प्रदेश, उत्तराखंड, पश्चिम बंगाल तथा पुडुचेरी। तेलंगाना एक नवनिर्मित राज्य है जो क आंध्र प्रदेश राज्य से पृथक किया गया है। वर्ष 2018-19 के लिए सम्पूर्ण भारत के स्तर पर योजना के निष्कर्षों की मुख्य बातें निम्न प्रकार हैं:

1. 18 राज्यों एवं पुडुचेरी केन्द्र शासित प्रदेश में भू-अभिलेखों की प्रणाली का पालन किया जा रहा है, जो अखिल भारतीय रिपोर्टिंग क्षेत्र का लगभग 86 प्रतिशत है। गैर-भू अभिलेख राज्यों / स्थायी रूप से बसे राज्यों या ईएआरएस राज्यों का अखिल भारतीय स्तर पर रिपोर्टिंग क्षेत्र लगभग 9 प्रतिशत है परंतु कुछ राज्यों (देश के कुल रिपोर्टिंग क्षेत्र में शेष 5 प्रतिशत) में क्षेत्रफल सांख्यिकी संग्रह की प्रणाली संतोषजनक नहीं है। इन राज्यों में फसल सांख्यिकी का संकलन मुख्यतः पारम्परिक प्रणाली से ही किया जाता है। इनमें से कुछ राज्यों में स्थिति में सुधार लाने के लिए छिटपुट प्रयास किये गये हैं लेकिन एक नियमित प्रणाली अभी भी वकसत की जानी शेष है। (पैरा 2.1.5)

2. अखिल भारतीय स्तर पर 2018-19 के दौरान फसल सांख्यिकी सुधार के अनुसार प्रति प्राथमिक कर्मों का औसत कार्य भार 8 गाँव है जिसमें प्रति गाँव औसतन भौगोलिक क्षेत्रफल 600 हेक्टेयर है, तथा 1300 सर्वेक्षण संख्या निहित है। राष्ट्रीय कृषि आयोग ने सफारिश की है कि जहाँ कहीं भी पटवारी का कार्य क्षेत्र वृहद है तो इसे घटा दिया जाना चाहिए। (सारणी- 2) (पैरा 2.4.1)

3. छत्तीसगढ़, मध्य प्रदेश, उत्तर प्रदेश तथा उत्तराखंड में अमान्य मश्रत फसलों के लघु संघटकों के अधीन क्षेत्रफल को नजर अंदाज करके उसके सम्पूर्ण क्षेत्र को मुख्य संघटकों के अन्तर्गत दर्ज किया जाता है जिससे मुख्य फसलों के अन्तर्गत क्षेत्र का आंकलन ज्यादा हो जाता है। इस प्रणाली में सुधार की आवश्यकता है। (पैरा 2.4.2 iii)

4. वर्ष 1973-74 के फसल सांख्यिकी सुधार योजना के आरंभ होने के समय सामान्य फसल प्राक्कलन योजना के अंतर्गत 1,73,097 प्रयोग नियोजित किए गए। वर्ष 2017-18 में ये प्रयोग बढ़कर 16,95,660 हो गए। ये प्रयोग 19 भू-अभिलेख राज्यों /संघ शासित प्रदेशों, 3 ईएआरएस राज्यों- केरल, ओडिशा, पश्चिम बंगाल और अन्य राज्यों- गोवा, मेघालय एवं दादरा और नगर, हवेली और दमन और दीव के केंद्र शासित प्रदेशों के अन्य राज्यों में किए गए तथा जो वर्ष 2018-19 के लिए फसल सांख्यिकी सुधार योजना के अंतर्गत प्रतिदर्श चयन का आधार बने। फसल प्राक्कलन सर्वेक्षण नागालैंड और सक्किम में अभी तक आयोजित नहीं किए जा सके हैं। (पैरा 3.1.2)

5. जी0सी0ई0एस0 के अधीन यह देखा गया है कि कुछ राज्यों में कम क्षेत्रफल की फसलों को भी शामिल किया जाता है, जबकि अन्य राज्यों के अन्तर्गत ज्यादा क्षेत्रफल रहने के बावजूद इन फसलों को शामिल नहीं किया जाता है। इस वषमता को दूर करने के लिए इन राज्यों में जी0 सी0 ई0 एस0 वस्तु-वस्तु की समय-समय पर समीक्षा की सलाह दी जाती है। (पैरा 3.1.5)

6. कई राज्यों में कुछ फसलों के लिए उपज दर की मानक त्रुटि की गणना नहीं की जा रही है। यह सलाह दी जाती है कि सभी राज्य प्राधिकारों द्वारा सभी फसलों के लिए औसत उपज अनुमान के लिए मानक त्रुटि(स्टैंडर्ड एरर) का परिगणन किया जाए ताकि प्रतिदर्श आकार की पर्याप्तता तथा अनुमानों की विश्वसनीयता का भी सही आंकलन किया जा सके। (पैरा 3.1.6)

7. सभी सम्बन्धित राज्य प्राधिकारों के ठोस प्रयासों एवं सहयोग के कारण वर्ष 2018-19 के दौरान तीन राज्यों- कर्नाटक, बिहार और हरियाणा में उच्च स्तरीय समन्वय समिति (एच0एल0सी0सी0) की बैठक आयोजित करना सम्भव हो सका। एच0 एल0 सी0 सी0 / एस0 टी0 सी0 की बैठकें नियमित अंतराल पर आयोजित किये जाने की आवश्यकता है। (पैरा 4.1.3)

8. 2018-19 के दौरान वभिन्न मौसमों में क्षेत्रफल परिगणना की प्रतिदर्श जांच पर कुल मिलाकर केन्द्रीय प्रतिदर्श एवं 10 राज्यों में राज्य व एकीकृत प्रतिदर्श में प्रत्युत्तर लगभग शत-प्रतिशत तथा शेष राज्य प्रतिदर्श में 51 प्रतिशत से 76 प्रतिशत व एकीकृत प्रतिदर्श 76 प्रतिशत से 87 प्रतिशत के मध्य था। राज्य प्रतिदर्श के प्रत्युत्तर-दर में संकलित आँकड़ों की गुणवत्ता में सुधार हेतु सम्बन्धित राज्यों को समुचित उपाय करने की आवश्यकता है। (पैरा 8.1.1)

9. **2018-19** के दौरान कुछ राज्यों में गरदावरी की सामयिक संपूर्ति की गई परंतु कुछ राज्य जैसे क आंध्र प्रदेश, असम, बिहार, गुजरात, झारखंड, महाराष्ट्र, पंजाब, तेलंगाना एवं पश्चिम बंगाल में गरदावरी की गैर-संपूर्ति चंताजनक रही परिणामस्वरूप अखल भारतीय स्तर पर गरदावरी की सामयिक संपूर्ति पूर्व खरीफ मौसम में प्रतिदर्श ग्रामों की **45** प्रतिशत, खरीफ मौसम में **51** प्रतिशत, रबी में **48** प्रतिशत तथा ग्रीष्म मौसम में **33** प्रतिशत मामलों में पायी गयी। सामान्य रूप से सभी राज्यों में समय पर गरदावरी -संपूर्ति को सुनिश्चित करने के लए समुचित कदम उठाये जाने की आवश्यकता है।
(पैरा 8.1.3)

10. **2018-19** के दौरान अखल भारतीय स्तर पर व भन्न मौसमों में गरदावरी होने के बाद ही टी0 आर0 एस0 ववरण प्रस्तुत करने की प्रवृत्ति 50 प्रतिशत से अधिक मामलों में देखी गई जिसके परिणामस्वरूप पूर्व खरीफ में **42** प्रतिशत प्रतिदर्श ग्रामों, खरीफ मौसम में **43** प्रतिशत प्रतिदर्श ग्रामों, रबी में **41** प्रतिशत प्रतिदर्श ग्रामों तथा ग्रीष्म में **28** प्रतिशत प्रतिदर्श ग्रामों में समय पर टी0 आर0 एस0 ववरण प्रस्तुत किया गया। इसके साथ ही वर्ष **2018-19** के दौरान पूर्व खरीफ, खरीफ, रबी तथा ग्रीष्म में क्रमशः **8, 11, 11** तथा **5** प्रतिशत प्रतिदर्श ग्रामों में गरदावरी कये बिना ही टी0 आर0 एस0 ववरण प्रस्तुत किया गया। गरदावर - संपूर्ति के उपरान्त टी0 आर0 एस0 ववरण की समय पर प्रस्तुति को सुनिश्चित करने के लए उपचारी कदम उठाने की आवश्यकता है।

(सारणी-7, पैरा 8.1.4)

11. **88** प्रतिशत मामलों में प्राथमिक कर्मियों के पास उपलब्ध नक्शे उपयोगी पाए गए। **65** प्रतिशत मामलों में पाया गया क प्राथमिक कार्यकर्ता के पास उपलब्ध नक्शों का अंतिम अद्यतन **20** वर्षों से भी पहले कया गया था। राज्य प्रणाली की कार्यकुशलता के लये गाँवों के नक्शों का नियमित रूप से अद्यतन होना आवश्यक है।
(पैरा 8.1.4)

12. अखल भारतीय स्तर पर **2018-19** के दौरान क्षेत्रफल परिगणना के समय फसल तथा फसल क्षेत्रफल को दर्ज करने में वभन्न राज्यों में पूर्व खरीफ में **71** प्रतिशत, खरीफ में **80** प्रतिशत, रबी में **86** प्रतिशत तथा ग्रीष्म मौसम में **88** प्रतिशत सर्वेक्षण संख्याओं में सामंजस्य पाया गया। शेष 29 प्रतिशत, 20 प्रतिशत, 13 प्रतिशत, 9 प्रतिशत पूर्व खरीफ, खरीफ, रबी क्रमशः ग्रीष्म मौसम में वसंगतियाँ पाई गई। इस तरह की वसंगतियाँ फसल क्षेत्रफल के आँकड़ों पर पर्याप्त असर डालती हैं।

(पैरा 8.1.6 से 8.1.8)

13. अखल भारतीय स्तर (एकीकृत प्रतिदर्श) पर समग्र रूप से वर्ष **2018-19** के दौरान कटाई स्तर पर फसल कटाई प्रयोगों का प्रत्युत्तर कुछ राज्यों (असम, बिहार, गुजरात, जम्मू-कश्मीर, झारखंड,

कर्नाटक, मध्य प्रदेश, महाराष्ट्र, तेलंगाना, उत्तर प्रदेश एवं पश्चिम बंगाल) को छोड़कर 80 प्रतिशत से अधिक रहा जिसके कारण यह प्रत्युत्तर पूर्व खरीफ में 58 प्रतिशत, खरीफ में 69 प्रतिशत, रबी में 71 प्रतिशत तथा ग्रीष्म में 74 प्रतिशत रहा। कटाई स्तर पर फसल कटाई प्रयोगों के शत-प्रतिशत पर्यवेक्षण का लक्ष्य प्राप्त करने के लिए कदम उठाये जाने की आवश्यकता है। (पैरा 8.2.1)

14. 2018-19 के दौरान 66 प्रतिशत प्रयोगों को निर्धारित प्रक्रियाओं के अनुसार संचालित किया गया। तथापि, प्रतिदर्श जांच के द्वारा पायी गयी कमियों को राज्यों के प्राथमिक कर्मियों के लिए आयोजित प्रशिक्षण कैम्पों में चर्चा के लिए उठाने की आवश्यकता है। (पैरा 8.2.3)

15. सहायक ववरणों को दर्ज करने में अत्यधिक त्रुटियाँ, विशेषकर रजब ऐसी जानकारी स्तरीकरण उपरांत वश्लेषण के लिए आधार बनती हो, तो एक चन्ता का वषय है। (पैरा 8.2.3)

16. कुछ राज्यों में फसल कटाई प्रयोगों के संचालन के लिए उपकरणों की आपूर्ति की गई तथा प्राथमिक कर्मियों द्वारा उनका प्रयोग भी किया गया परंतु कुछ राज्यों में अभी भी उपकरणों की आपूर्ति तथा प्राथमिक कर्मियों द्वारा उनके प्रयोग की स्थिति के सन्दर्भ में सभी राज्यों में सुधार की आवश्यकता है। (पैरा 8.2.4)

17. फसल कटाई प्रयोगों के संचालन में कनिष्ठ कर्मचारियों सहित अन्य को कार्य का प्रत्यायोजन वर्ष के दौरान उत्तराखंड में अधिक रहा। बिहार, झारखंड व उत्तर प्रदेश में स्थिति और चंताजनक हो जाती है जहां पर अप्रशिक्षित कर्मियों द्वारा प्रयोगों का अधिक संचालन किया गया। (पैरा 8.2.5)

18. कुछ राज्यों में वभन्न कारणों से फसल कटाई प्रयोगों के लिए चयनित गांवों / क्षेत्रों का प्रतिस्थापन किया गया। प्रयोगात्मक फसल की अनुपलब्धता के कारण मूल रूप से चयनित गांव का प्रतिस्थापन 2018-19 के दौरान 8% से 15% के बीच रहा। इसे प्रतिदर्श गांवों के उचित चयन, समय पर क्षेत्र के चयन तथा किसानों के साथ उचित संपर्क के द्वारा कम किया जा सकता है, जिसके लिए प्राथमिक कर्मियों पर दबाव डालने की आवश्यकता है। प्रायोगिक कर्मियों के प्रशिक्षण एवं फसल कटाई प्रयोगों के नियोजन के समय इस वषय पर ध्यान देने योग्य देने की आवश्यकता है।

(पैरा 8.2.6 तथा 8.2.7)

19. आई.सी.एस.पर्यवेक्षक द्वारा की गयी रिपोर्टिंग पर आधारित तथा राज्य प्राथमिक कर्मचारियों द्वारा तदनुसूची (फसल क्षेत्रफल आकलनों) की तुलना में राज्य प्राथमिक कर्मचारियों द्वारा क्षेत्रफल को कम आँके जाने (under-estimation) की सामान्य प्रवृत्ति का संकेत देता है।

(पैरा 9.1.1 एवं 9.1.2)



Executive Summary

The Scheme for Improvement of Crop Statistics (ICS) was introduced from Rabi season of 1973-74 with the main objective of improving the quality and reliability of area and yield statistics by pointing out, through joint efforts of Field Operations Division (FOD) of National Statistical Office (NSO) of Government of India and State Agricultural Statistics Authority (SASA), deficiencies in the State system of collection of area and yield statistics and suggest remedial measures. During 2018-19, the scheme covered 21 States and 1 Union Territory of the country namely, Andhra Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, Uttarakhand, West Bengal and Puducherry. The highlights of the findings of the scheme at all India level for the year 2018-19 are as follows:-

1. The system of land records is being followed in 18 States and UT of Puducherry which account for about 86% of the All-India reporting area. The Non-Land Records States/ Permanently Settled States or EARAS states (the area statistics are generated on the basis of sample surveys) account for about 9% of the reporting area. A few States (accounting for remaining 5% of the total reporting area of the country) do not have a satisfactory system for collecting area statistics. Crop statistics are compiled in these States mainly by conventional methods. There have been sporadic attempts to improve the situation in some of these States, but a regular system is yet to be evolved. **(Para – 2.1.3, 2.1.4 & 2.1.5)**

2. The average workload per Primary worker (Patwari) as per ICS scheme during 2018-19 at all India level was found to be 8 villages having 1300 survey numbers and 600 hectares of geographical area per village. National Commission for Agriculture has suggested that there is need to reduce the jurisdiction of Patwari, wherever it is extensive. **(Table-2) (Para-2.4.1)**

3. For unrecognized mixtures, the entire area under minor constituents of crop mixtures in Chhattisgarh, Madhya Pradesh, Uttar Pradesh and Uttarakhand is ignored as per the state

specific procedure. As a result, the entire area there of is recorded under major constituents with the result that area under major crops tends to get overestimated. The system needs revision. **(Para-2.4.2 iii)**

4. At the time of inception of Improvement of Crop Statistics (ICS) Scheme, during the year 1973-74, a total of **1,73,097** experiments were planned under GCES. These experiments increased to **16,95,660** in number under GCES 2017-18, which formed the basis for sample selection for supervision of Crop Cutting Experiments under the ICS Scheme during agricultural year 2018-19 on various crops covering the 19 Land Records States/ UTs, 3 EARAS States of Kerala, Odisha and West Bengal and other States of Goa and Meghalaya and Union Territory of Dadra & Nagar Haveli and Daman & Diu. Crop Estimation Surveys are not conducted in Nagaland and Sikkim as yet. **(Para-3.1.2)**

5. Under GCES, some of the States cover the crops with lesser area whereas other States do not cover these crops even though the area under them is more. To remove this anomaly, a periodical review of GCES coverage in the States is advised. **(Para-3.1.5)**

6. The Standard error of yield rates of a few crops are not being calculated in some States. It is advisable that all the SASAs may calculate the standard error for the estimate of average yield for all the crops so as to assess the adequacy of sample size and also the reliability of estimates. **(Para-3.1.6)**

7. High Level Co-ordination Committee (HLCC) meetings were organized in the three States namely Karnataka, Bihar and Haryana during 2018-19 owing to the co-operation of respective SASAs. Convening of meeting of HLCCs/ State Technical Committees (STCs) at regular intervals needs to be pursued. **(Para-4.1.3)**

8. The overall response for sample check on enumeration of area **was almost cent percent for the Central Sample and in almost 10 states for state and pooled sample** but ranged from **51% to 76%** in remaining states for State sample and **76% to 87%** for pooled sample during 2018-19. The response rate for State sample needs to be improved to bring about improvement in the quality of data collected. **(Para-8.1.1)**

9. During 2018-19, **some states are reporting timely completion of Girdawari** but Instances of non-completion of Girdawari in Andhra Pradesh, Assam, Bihar, Gujarat, Jharkhand, Maharashtra, Punjab, Rajasthan, Telangana, & West Bengal were alarmingly high resulting in timely completion of Girdawari in **45%** sample villages during Early Kharif, **51%** during Late Kharif, **48%** during Rabi and **33%** during Summer of 2018-19. Suitable action needs to be taken by the respective State authority to ensure timely completion of Girdawari in all the States in general. **(Para 8.1.3)**

10. During 2018-19, At all India level, over the various seasons, the tendency of submitting TRS statements after completion of Girdawari was observed in more than 50% of the cases result in 42% sample villages during Autumn, 43% during Winter, 41% during Rabi and 28% during Summer season in particular. Further, the cases of submission of TRS statement without completion of Girdawari was of the order of 8%, 11%, 11% and 5% sample villages during Early Kharif (Autumn), Late Kharif (Winter), Rabi and Summer respectively. Corrective action needs to be initiated for ensuring submission of TRS statements only after completion of Girdawari. (Table-7,Para-8.1.4)

11. Maps available with the Patwari workers were found usable in 88% cases. In 65% cases, the maps available with the Patwari worker were found to be last updated more than 20 years back. For efficient functioning of the State system, regular updation of village maps is essential. (Para-8.1.5)

12. During 2018-19, consonance in recording crops and crop areas at the time of area enumeration were observed in 71% of the survey numbers during Autumn, 80% during Winter, 86% during Rabi and 88% during Summer at all India level. The errors were observed in remaining 29%, 20%, 13%, 9% for Autumn, Winter, Rabi and Summer Season respectively. These discrepancies observed exert substantial impact on reporting of the crop area. (Para-8.1.6 to 8.1.8)

13. The response achieved in respect of all the States in different seasons was above 80% except for some states like Assam, Bihar, Gujarat, Jammu & Kashmir, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Odisha, Telangana, Uttar Pradesh and West Bengal) that leads to the overall response at all india level (Pooled Sample) for crop cutting experiments at harvest stage during 2018-19 was 58% for Autumn, 69% for Winter, 71% for Rabi and 74% for Summer. Steps need to be taken by State authority to achieve the target of cent percent supervision of crop cutting experiments at the harvest stage. (Para-8.2.1)

14. During 2018-19, the experiments were found to be conducted according to the prescribed procedures in 66% cases. However, deficiencies noticed through the sample checks need to be emphasized in the training camps organised for Patwari workers in the States. (Para-8.2.3)

15. The high incidence of errors in recording ancillary particulars is a matter of concern especially when such information forms the basis for post stratification analysis. (Para-8.2.3)

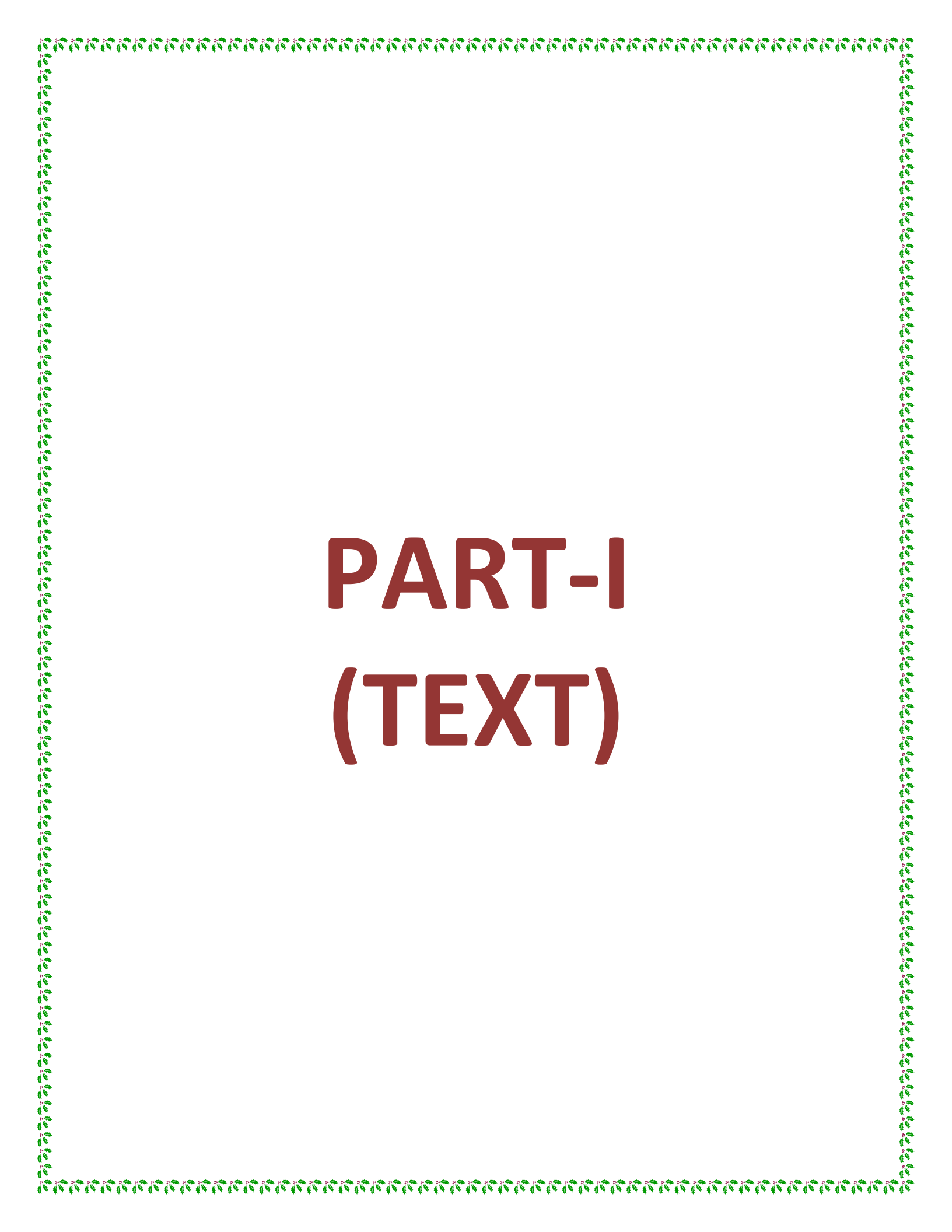
16. Primary workers were supplied with essential items of equipment and carry with them to the field for the conduct of crop cutting experiments at all India level in some of the States but position of supply of equipment for conduct of crop cutting experiments and their use by the Patwari workers needs improvement in some ICS implementing States.

(Para-8.2.4)

17. Delegation of work to others including juniors for conducting crop cutting experiments was found more frequent in **Uttarakhand** during 2018-19. Situation is found alarming in **Bihar, Jharkhand and Uttar Pradesh** where Crop Cutting experiments are being conducted by the untrained workers in larger proportion. **(Para-8.2.5)**

18. Instances of substitution of selected villages/fields for crop cutting experiments due to various reasons were observed in some States. The substitution of originally selected village due to non-availability of experimental crop was observed in the range of **8% to 15%** cases during 2018-19. These instances need to be reduced by proper selection of sample villages, timely selection of field and proper liaison with cultivators. This aspect needs to be stressed upon at the time of planning of the villages for crop cutting experiments as well as the training of the Patwari workers. **(Para-8.2.6 & 8.2.7)**

19. The comparison of estimates of crop area based on figures of the ICS Supervisor and by the State Patwari worker indicates a general trend of under-estimation of area by the State officials. **(Para-9.1.1 & 9.1.2)**



PART-I

(TEXT)

1



INTRODUCTION

1.1 Improvement of Crop Statistics (ICS)

1.1.1 The primary responsibility of collection of crop statistics rests with the State Governments. Crop statistics have two major components - Area sown and Average Yield. While collection of land use statistics is attempted through various methods by the State governments, the yield rates of principal crops are estimated through General Crop Estimation Surveys (GCES) conducted by them. The estimates of area and yield are compiled by State Agricultural Statistics Authorities (SASAs) for their use and also transmitted to the Directorate of Economics and Statistics (DES) in the Union Ministry of Agriculture & Farmers Welfare. The National Statistical Office (NSO) through its Agriculture Statistics headquarters in Field Operations Division (FOD), has the overall responsibility of (i) assisting the State and Union Territory (UT) governments in developing suitable survey techniques for obtaining reliable and timely estimates, (ii) bringing uniformity in definitions and concepts, (iii) providing guidance for training of the primary staff engaged in the conduct of GCES, (iv) examining documents relating to various stages of work pertaining to GCES and (v) exercising technical supervision over the primary field work through the scheme for Improvement of Crop Statistics (ICS) at the field level, right from planning stage till the release of the final reports at the Hqrs level. **This report throws light on the functioning of the system of reporting of crop statistics and also the quality of the data collected, based on the findings of the ICS scheme operational in 21 States and 1 UT.**

1.1.2 While Timely Reporting Scheme (TRS) was able to provide estimates of area within a short period, there was an imperative necessity to point out and to take action with a view to remove the errors in the system of collection of statistics not only of area, but also of yield. In order to meet this requirement, another scheme viz., scheme for Improvement of Crop Statistics (ICS) was initiated from Rabi season of **1973-74** with the main objective of pointing out, through the joint efforts of the Central and State agencies, deficiencies in the system of collection of crop statistics and suggesting remedial measures for strengthening the system. The programme of ICS was initiated with a special emphasis on wheat in 9 major wheat growing States. The scheme was extended to 5 more land record States and to Odisha in 1974-75, to Kerala and West Bengal in Rabi 1975-76 covering various crops. It was also extended to UTs of Delhi and Puducherry in 1978-79 and 1980-81 respectively and to 3 new Land Record States namely Chhattisgarh, Jharkhand and Uttarakhand carved out from Madhya Pradesh, Bihar and Uttar Pradesh respectively in 2001-02. The scheme has also started implementation in Telangana state from the year 2015-16 onwards ever since its carving out from Andhra Pradesh. Due to diminishing of

cropped area in Delhi over the years and lackluster co-operation of State field officials, the scheme has been discontinued from the year 2010-11.

1.1.3 In 1976, the Working Group on Agriculture Statistics of the NSO decided that reports be prepared regularly on the status of estimation of crop production in India, which would contain full account of the current position of estimation of crop production, the procedures followed for enumeration of area and yield in different States/UTs and the steps to be taken for improving the system. The reports should also give the position of training of staff entrusted with crop cutting work, the equipment supplied to them, the adequacy of experiments planned under General Crop Estimation Surveys (GCES), the response rate etc. Besides, the findings of the sample checks under ICS Scheme on the working of the system are also brought out indicating the remedial measures to rectify the deficiencies observed. Such status reports are being prepared every year from the Rabi season of **1973-74**. The reports are brought out separately for all India and the individual States/ UTs season-wise i.e. Kharif and Rabi. The All India report contains an overall account of the status of estimation of crop production in the country as also the technical details and results relating to the ICS Scheme for the States and UTs covered by it. It provides comparison of estimates based on sample checks under the various schemes viz. ICS, TRS, Final Forecasts and GCES.

1.1.4 The present report is the forty fourth in the existing series and relates to the Agriculture Year 2018-19. The first report was a combined report for 1973-74 (Rabi) and 1974-75 (Kharif & Rabi). From 1975-76 onwards, the reports are being published every year with an exception of the 5th report, which is a combined one for 1978-79 and 1979-80.

1.1.5 In the present report, the two components - Area Statistics and Yield Statistics are discussed in Chapters 2 and 3 respectively. The Chapters 4 to 7 deals with the Design and Methodology followed under the ICS scheme together with the NSO's responsibility for coordinating the Central and State agencies in collection of supervised data on Agriculture Statistics. The detailed findings under ICS are discussed in Chapter-8.

2



AREA STATISTICS

2.1 System of collection

2.1.1 According to the system adopted for collection of area statistics, the States and Union Territories (UTs) can be classified into three broad groups:

- i. The States where Area statistics are collected by complete enumeration (normally known as Land Record States or Temporarily Settled States)
- ii. The States where Area statistics are collected on the basis of sample surveys (normally known as Non-land Records States or Permanently Settled States)
- iii. The States where satisfactory system of collection of Area statistics is yet to be developed.

2.1.2 In the Land Records States, there exists a primary agency (commonly known as Patwari), in-charge of a village or group of villages to carry out field-to-field crop inspection in each crop season of an agriculture year and to record crop areas and land utilisation. The agency belongs to the Revenue (or Land Records) department and attends to the work along-with the collection of land revenue and other duties. The Patwari is required to note down the details of crop enumeration and land utilisation in a register, commonly known as the “Khasra Register”. After completion of entries for a village in a season, the Patwari prepares an abstract of area sown to various crops and sends a statement of crop abstract (Jinswar statement) to the next higher officer in revenue hierarchy. Similarly, at the end of the year, they prepare a land utilisation statement showing the abstract of area under different utilisations. The crop-wise and utilisation-wise area figures, so compiled for villages are successively aggregated at the circle, tehsil and district levels. The district-wise figures are then reported to the State Agricultural Statistics Authority (SASA), who may either be the Director of Statistical Bureau, the Director of Agriculture or the Director of Land Records. The State level figures compiled by SASAs are transmitted to the Directorate of Economics and Statistics (DES) in the Ministry of Agriculture & Cooperation, Government of India which is responsible for releasing the All-India estimates.

2.1.3 The system of land records is being followed in 18 States viz., Andhra Pradesh, Assam, (except two hill districts of North Cachar and Karbi Anglong), Bihar, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Jharkhand, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Telanagana, Uttar Pradesh and Uttarakhand as also in 4 Union Territories of Chandigarh, Delhi, Dadra & Nagar Haveli

and Puducherry. These States and UTs account for about 86% of the All-India reporting area. In the hilly districts of Uttarakhand, complete area enumeration is envisaged in only 20% of the villages of each tehsil each year according to a five yearly roster. The system of land records also exists in Andaman district of Andaman & Nicobar Islands.

2.1.4 In the Non-Land Records States or Permanently Settled States viz., Kerala, Odisha and West Bengal, the area statistics are generated on the basis of sample surveys. After the Establishment of an Agency for Reporting Agriculture Statistics (EARAS), 20 % villages in these States are covered each year on complete enumeration basis by regular reporting Agencies. The EARAS was later extended to Arunachal Pradesh, Nagaland, Sikkim and Tripura. These States account for about 9% of the reporting area.

2.1.5 For remaining 5% of the reporting area of the country, a satisfactory system of collection of area statistics is yet to be developed. These include parts of Manipur, Meghalaya, Nicobar district of Andaman & Nicobar and Mizoram which are mostly hilly, inaccessible and with a major portion of the area not cadastrally surveyed. Some hilly tracts in States like Andhra Pradesh, Assam, Chhattisgarh and Madhya Pradesh which are not cadastrally surveyed also belong to this category. In addition, some cadastrally surveyed areas like plains of Manipur, Goa, Daman & Diu and Lakshadweep do not have a satisfactory system of reporting. Crop statistics are compiled in these areas mainly by conventional methods. There have been sporadic attempts to improve the situation in some of these States but a regular system is yet to be evolved.

2.1.6 In order to improve the timeliness and quality of Agriculture Statistics, the Ministry of Agriculture & Farmers Welfare, Government of India introduced two schemes viz., the Timely Reporting Scheme (TRS) and the Scheme “Establishment of an Agency for Reporting Agricultural Statistics (EARAS)”. The State-wise year of introduction of the schemes of TRS, EARAS and ICS is given in **Table-1**.

2.1.7 While implementing the ICS scheme, NSO (FOD) is required to examine the working of these schemes and forward reports to the Union Ministry of Agriculture & Farmers’ Welfare, SASAs and other agencies for their information and necessary action.

2.2 Timely Reporting Scheme (TRS)

2.2.1 The objective of the Timely Reporting Scheme (TRS) initiated by the Union Ministry of Agriculture & Farmers Welfare in **1968-69** in land records States is to reduce the time lag between the completion of sowing and the availability of estimates of area sown and between completion of harvesting and availability of estimates of production in respect of important crops. Under this scheme, area enumeration is completed on a priority basis in a random sample of 20% of the villages during each crop season in a State. All the villages in a State are divided in five independent non-overlapping sets, the intention being to canvass one set in a year and thus covering the entire State in a period of five years. The scheme is intended to provide timely and reliable estimates of area under important crops. The scheme provides for supervision through whole time statistical staff. During the year covered by this report, the scheme was in operation in 18 States and 1 Union Territory of Puducherry.

Table – 1
State-wise year of introduction of TRS / EARAS and ICS Scheme

Sl. No.	Name of the State	Season and year of introduction	
		TRS / EARAS	ICS
1.	Andhra Pradesh	Kharif, 1971-72	Kharif, 1974-75
2.	Assam	Late Kharif 1973-74	Kharif, 1974-75
3.	Bihar	Late Kharif 1969-70	Rabi, 1973-74
4.	Chhattisgarh	Rabi, 2001-02	Rabi, 2001-02
5.	Gujarat	Kharif, 1972-73	Rabi, 1973-74
6.	Haryana	Rabi, 1973-74	Rabi, 1973-74
7.	Himachal Pradesh	Kharif, 1978-79	Kharif, 1974 -75*
8.	Jammu & Kashmir	Kharif, 1975-76	Rabi, 1974-75**
9.	Jharkhand	Rabi, 2001-02	Rabi, 2001-02
10.	Karnataka	Kharif, 1969-70	Rabi, 1973-74
11.	Madhya Pradesh	Rabi, 1972-73	Rabi, 1973-74
12.	Maharashtra	Kharif, 1968-69	Rabi, 1973-74
13.	Punjab	Kharif, 1975-76	Rabi, 1973-74***
14.	Rajasthan	Kharif, 1972-73	Rabi, 1973-74
15.	Tamil Nadu	1972-73	Kharif, 1974-75
16.	Telangana	Kharif, 2015-16	Kharif, 2015-16
17.	Uttar Pradesh	Kharif, 1968-69	Rabi, 1973-74
18.	Uttarakhand	Rabi, 2001-02	Rabi, 2001-02
19.	Puducherry	Kharif, 1980-81	Kharif, 1980-81
20.	Kerala #	1975-76	Early Kharif, 1975-76
21.	Odisha #	1976-77	Kharif, 1974 -75****
22.	West Bengal #	1981-82	Rabi, 1975-76*****

* The SASA Himachal Pradesh could participate in ICS from Kharif 78-79 as TRS started in the state from 1978-79 (Ref: A report on the status of estimation of Agricultural Production in Himachal Pradesh 1978-79, Chapter 2, Para-3).

** The ICS Scheme was introduced in J & K from Kharif 1974-75 (Ref: A report on the status of Estimation of Agricultural Production in J & K 1975-76, Chapter 7, Para-4.1).

*** The ICS Scheme was introduced in Punjab from Rabi 1973-74 (Ref: A report on the status of Estimation of Agricultural Production in Punjab 1975-76, Chapter 11, Para-4).

**** The ICS Scheme was introduced in Odisha from Winter 1974-75 (Ref: A report on the status of Estimation of Agricultural Production in Odisha 1976-77, Chapter 16, Para-2.1).

***** The ICS Scheme was introduced in West Bengal from Rabi 1975-76 (Ref: A report on the status of Estimation of Agricultural Production in West Bengal 1981-82, Chapter4, Para-4).

EARAS States, rest are TRS States.

2.3 Establishment of an Agency for Reporting Agriculture Statistics (EARAS)

2.3.1 As a sequel to the introduction of the TRS in the Land Records States, the Ministry of Agriculture & Farmers Welfare sponsored a scheme, 'Establishment of an Agency for Reporting Agriculture Statistics (EARAS)' in the States of Kerala, Odisha and West Bengal, which was also extended to Arunachal Pradesh, Nagaland, Sikkim and Tripura. This scheme provides for setting up, in a phased manner, a whole time agency

to cover a sample of 20 percent of the villages every year so that all the villages in the States can be covered once in a period of five years. In the sample villages, the scheme envisages that crop area may be reported on the basis of complete enumeration.

2.3.2 In Kerala, the scheme was initiated during **1975-76** with 10% sample size which was later increased to 20% in 1977-78. The method of collection of area statistics in Kerala has undergone a change from 1987-88 onwards. The State was divided into 811 Investigator Zones. A sample of 100 key plots is selected from each Investigator Zone. With respect to each key plot, a cluster consisting of five sub-survey division numbers is formed and land utilisation statistics are collected from these 100 clusters of five sub-survey division numbers each.

2.3.3 In Odisha, the scheme was introduced during **1976-77**, covering 6% of the villages which subsequently increased to 10% in 1977-78 and reached 20% level from 1981-82 onwards. For this purpose, each Community Development Block has been considered as a stratum.

2.3.4 In West Bengal, the scheme was implemented during **1981-82**, covering 7% of the villages. In 1982-83, the coverage was extended to about 10% of the villages. By 1985-86, the coverage reached to the level of 14%. From Kharif, 1996-97 the crop-wise area enumeration work is done in all EARAS Mouzas.

2.4 Major quality aspects of Area Statistics - Current Status

I -Workload of the Primary Workers

2.4.1 One aspect, which has a bearing on the quality of area statistics, is the workload per primary worker, commonly known as Patwari. The National Commission on Agriculture in its Report (1976) had also recommended that the jurisdiction of the Patwari should be reduced, wherever it is extensive. The factors that will have to be taken into account during the examination of the recommendation of the total workload involved in area enumeration are (a) physical jurisdiction of the Patwari (b) number of entries in each season and (c) workload with regard to other items of work entrusted to them due to multifarious nature of their duties. While the issue will have to be considered by each State in the light of the prevalent situation, the sample checks under ICS Scheme provide some idea of the average workload per primary worker for collection of land use statistics in terms of the number of villages, survey/serial numbers and total geographical area under their jurisdiction. The average workload per primary worker as revealed by the sample checks under ICS Scheme during 2018-19 in all TRS/EARAS States and Union Territory is given in **Table-2**. It can be observed that the workload of the primary worker in various States/UT varies from 2 villages in Tamil Nadu to 29 villages in Jharkhand, from 500 survey numbers per village in Assam and Maharashtra to 3400 survey numbers per village in Haryana, from 200 hectares of the geographical area per village in Assam, Bihar, Himachal Pradesh, Odisha and Uttarakhand to 1300 hectares in Andhra Pradesh.

Table - 2
Workload of Patwari during 2018-19

Sl.No.	State	No. of villages	Survey / Sub survey Nos. per village('000')	Geographical Area per village ('000' Ha.)
1	Andhra Pradesh	3	1.6	1.3
2	Assam	11	0.5	0.2
3	Bihar	20	1.4	0.2
4	Chhattisgarh	5	1.1	0.5
5	Gujarat	3	0.8	1.2
6	Haryana	4	3.4	0.9
7	Himachal Pradesh	11	1.0	0.2
8	Jammu & Kashmir	5	1.0	0.5
9	Jharkhand	29	1.0	0.3
10	Karnataka	4	0.7	1.0
11	Kerala	#	#	#
12	Madhya Pradesh	5	0.7	0.5
13	Maharashtra	4	0.5	1.0
14	Odisha	17	1.0	0.2
15	Punjab	8	2.5	0.6
16	Rajasthan	7	0.8	1.0
17	Tamil Nadu	2	2.5	0.8
18	Telangana	3	1.9	1.1
19	Uttar Pradesh	6	0.7	0.3
20	Uttarakhand	14	1.7	0.2
21	West Bengal	5	1.1	0.3
22	Puducherry	12	1.0	0.3
All India average		8	1.3	0.6

In Kerala, each Investigator is assigned with one Investigator zone within which 500 sub-survey division numbers (100 key plots and to each key plot, a cluster consisting of five sub-survey division numbers) are enumerated by him in each season.

II - Treatment of Crop mixtures

2.4.2 The major Land Records States of the country can be broadly divided into the following three categories according to the manner of treatment of areas under crops grown in mixtures:

(i) States where allocation of the area to the constituent crops grown in mixture is done at field level on the basis of seed ratio/eye estimation. This procedure is followed in Andhra Pradesh, Assam, Bihar, Haryana, Himachal Pradesh (except Kangra district), Jharkhand, Karnataka, Maharashtra and Tamil Nadu.

(ii) States where some major crop mixtures have been identified and area at the field level of the recognised mixtures is recorded as such for the mixtures. Allocation to the constituent crops is done at higher levels on the basis of fixed ratios. For unrecognized mixtures, the allocation of areas to the components is done at field level on the basis of seed ratio/ eye estimation. The States following this procedure are Gujarat, Kangra district of Himachal Pradesh, Jammu & Kashmir, Punjab and Rajasthan.

(iii) States where some major mixtures have been identified and area of these mixtures is recorded as such at field level, the allocation to the constituent crops being done at higher levels following fixed ratios. For unrecognized mixtures, the entire area is recorded against the major crop of crop mixture and the minor constituents are ignored. States of Chhattisgarh, Madhya Pradesh, Uttar Pradesh and Uttarakhand follow this procedure. A revision is felt necessary in these States in regard to the present system of recording areas of the constituents of the unrecognized crop mixtures. Under the existing system, area under minor constituents tends to be ignored while that under major constituents gets over estimated.

(iv) In three Non- land Records States viz., Kerala, Odisha and West Bengal, the practice of sowing crops in mixture is not much in vogue.

3



YIELD STATISTICS

3.1 General Crop Estimation Surveys

3.1.1 General Crop Estimation Surveys (GCES) consist of performing a specified number of crop cutting experiments in randomly selected fields. Crop cutting experiment conducted under well design

ed estimation survey, is an effective technique for estimating the average yield by selecting the field, randomly locating a plot of a specified size, harvesting, threshing, weighing and recording the weight of the produce from the plot. In a sub sample of experiments, further processing of the harvested produce is also done to determine the percentage recovery of dried grains or the marketable form of the produce, depending on the nature of the crop.

3.1.2 At the time of inception of Improvement of Crop Statistics (ICS) Scheme, during the year 1973-74, a total of 1,73,097 experiments were planned under GCES. These experiments increased to 16,95,660 in number under GCES 2017-18 which formed the basis for sample selection for supervision of Crop Cutting Experiments under the ICS Scheme during agriculture year 2018-19 on various crops covering 19 Land Records States/ UTs, 3 EARAS States of Kerala, Odisha and West Bengal and other States of Goa and Meghalaya and Union Territory of Dadra & Nagar Haveli and Daman & Diu. Crop Estimation Surveys are not conducted in Nagaland and Sikkim as yet.

3.1.3 The sampling design generally adopted for the CES is that of stratified multi-stage random sampling with Tehsils/ Talukas/Revenue Inspector Circles/CD Blocks/Anchals etc. as strata and village within a stratum as first stage unit of sampling, survey number/field within each selected village as sampling unit at the second stage and experimental plot of a specified shape and size as the ultimate sampling unit. In some States, the sampling design takes into account the stratification according to input viz., Irrigation and Seed variety for major crops. Experiments for a crop / variety are allotted to districts and then to strata within a district in proportion to area under the crop / variety in districts / strata within a district. In Land Record States, villages selected under Timely Reporting Scheme (TRS) in a stratum for the current year form the sampling frame for the first stage sampling units. Villages are selected through Simple Random Sampling Without Replacement (SRSWoR).

3.1.4 In 3 Non-Land Record States of Kerala, Odisha and West Bengal, both area and yield are estimated on the basis of sample surveys. The crop cutting experiments are planned in a sub-sample of the primary units selected for the purpose of area enumeration, while the general procedure for selection of sampling units at different stages is the same

as that in the other States. Some special features in these States which require specific mention are listed as follows:-

i) In Kerala, blocks / city corporations or municipalities with an area of 10 sq kms and above are treated as separate stratum. Municipalities with an area of less than 10 sq kms are merged with adjoining blocks and treated as a single stratum. The blocks are divided into a number of Investigator Zones depending on the area of a block, nature of land, etc. city corporation area is divided into three Investigator Zones. Each Municipality with an area more than 10 sq. kms is treated as a single Investigator Zone. The number of crop cutting experiments conducted in each Investigator Zone is 8 per season for Paddy, 3 each for Coconut and Banana, and 2 each for Tapioca, Arecanut, Cashewnut, Pepper, Plantain and Jackfruit in an agricultural year. In Municipal area having separate Investigator Zone, 10 crop cutting experiments are conducted in respect of Paddy per season. For city corporation areas, 8 experiments for Paddy per season in one Investigator Zone are conducted.

ii) In Odisha, crop-cutting experiments for Paddy are conducted in a sub-sample of 40% of EARAS villages having even serial numbers except serial numbers ending with "Zero" i. e. 10, 20, etc. in each block and for other crops, in 50 % of EARAS villages occurring against the even serial numbers i.e. 2, 4, 6, etc. during Autumn and Winter seasons. In summer season, all the villages selected for area enumeration under EARAS are covered under CES for Paddy and other crops. For Paddy, the crop cutting experiments are planned in proportion to crop area subject to minimum of two and maximum four experiments in a village. For other crops, only one experiment is conducted in a village.

iii) In West Bengal, the EARAS has not only become the primary source for area statistics but also for providing the frame for selection of villages for conduct of crop cutting experiments (CCEs) under GCES in the State. Ten mouzas out of all the EARAS mouzas in a block are randomly selected for CCEs. A 10% systematic sample (subject to a minimum of 100 plots) of all the plots in a selected mouza is taken and the type of land use for each plot in the sample is identified. In this way, a sub-frame of plots cultivating each crop is prepared for each such mouza. If the number of plots growing a crop in a mouza is too small, all the plots growing the crop are enumerated. The plots for conducting CCEs are sampled out of this sub-frame. In all, 20 plots are taken in the form of two inter-penetrating sub-samples of size 10 each for each block for a crop. On the basis of these, two independent estimates of yield rate are obtained for a block and these are later combined to give an overall estimate.

3.1.5 The coverage of crops under GCES in the States is constantly reviewed in order to ensure that yield rates are obtained scientifically by the method of crop cutting experiments for all the important crops of a State as well as in all major States for a crop. An examination of the coverage of crops in different States reveals that though some of the States with lesser area under certain crops are covering them under GCES, others with larger areas under that crop are not covering them. In order to remove this anomaly, a periodical review of GCES planning in the States is advised. However, the States are of the view that due to the large number of crops already covered, coupled with the constraints of staff resources, it may not be possible to extend GCES further.

3.1.6 The precision of the estimates of average yield is judged by the standard error of the estimate. The calculation of standard errors and their study is helpful in assessing the adequacy of the sample size, trend of changes in yield rates and in planning other allied studies. NSO has impressed upon the States, the need for calculation of the standard errors annually or at least periodically. For ensuring the reliability of the data collected, it is generally desired that the standard error of the yield rates of major crops at State level should not be more than 2 to 3 % and that of other crops should not be more than 5%. Judged by these norms, it is observed that standard errors are higher in a large number of cases, which calls for a review of existing process.

3.1.7 A study to ascertain whether the non-response was affecting the representative character of the sample was attempted using the data collected under ICS Scheme. The percentage of fields with Irrigation, High Yielding Variety of seeds and Fertilizers were computed for (a) fields where experiments were conducted and (b) all the fields chosen. The results of analysis presented in **Annex-VII** do not provide any clear evidence of distortion of the representativeness of the sample by the experiments lost. However, due to limited number of observations on which the comparisons have been made, no firm conclusion can be drawn.

3.1.8 The GCES covers principal cereals and pulses, major fibers like Cotton, Jute and Mesta, principal Oil seeds such as Groundnut, Sesamum, Linseed, Rape & Mustard and Castor as well as Sugarcane and Tobacco, wherever these crops are sown in larger tracts. A few minor food and non-food crops (like Fruits and Vegetables) are also covered in some States. The percentage coverage of area under major crops is generally high in most of the States. States where percentage coverage is the lowest for a crop are shown in **Table – 3**.

3.1.9 The design for crop survey is generally a composite one without any stratification according to inputs such as irrigation and / or seed. The differential yield rates are, however, worked out on a post stratification basis using the ancillary data regarding inputs applied, collected during the course of conduct of experiments. The National Commission on Agriculture had also recommended that the sampling design for crop cutting surveys should be reviewed with a view to introducing stratification according to irrigated and rain fed areas as well as high yield and local varieties of seed. The position during 2016-17 regarding pre-stratification on the basis of irrigation and variety of seeds is shown in **Table – 4**.

Table - 3
Percentage of crop area covered (lowest) under GCES for major crops
during 2017-18

Sl. No.	Crop	Minimum Area (% of the total area under the crop)	Name of State
1.	Rice (Autumn)	2	Kerala
2.	Rice (Winter)	3	Kerala
3.	Rice (Summer)	2	Kerala
4.	Rice (Combined)	37	Jammu & Kashmir
5.	Jowar (Kharif HYV- Tra- Combined)	27	Karnataka
6.	Bajra (Kharif)	50	Telangana
7.	Maize	7	Haryana
8.	Maize (Rabi)	50	Maharashtra
9.	Maize (Combined)	41	Jammu & Kashmir
10.	Ragi (Rabi)	52	Andhra Pradesh
11.	Wheat (Tra-Irr & UI)	60	Karnataka
12.	Barley	29	Haryana
13.	Gram	40	Haryana
14.	Redgram /Tur	21	Haryana
15.	Cotton	45	Haryana
16.	Mesta	91	Andhra Pradesh
17.	Jute	95	Assam, Meghalaya
19.	Groundnut	65	Chhattisgarh
20.	Groundnut (Rabi)	55	Andhra Pradesh
21.	Sesamum (Kharif)	42	Telangana
22.	Sesamum (Rabi)	53	Andhra Pradesh
23.	Castor	53	Telangana
24.	Sugarcane	0.04	Kerala
25.	Linseed	62	Chhattisgarh
26.	Rape & Mustard	49	Chhattisgarh
27.	Chillies (Rabi)	3	Chhattisgarh
28.	Tobacco	49	Telangana

Note:-

CES data pertains to the year 2017-18 as this forms the basis for sample selection on Crop Cutting Experiment under ICS scheme 2018-19.

Table – 4
Status of Pre-Stratification under CES during 2017-18

Sl. No.	State	Crops for which pre-stratification is done according to		
		Both Irrigation & Seed	Irrigation only	Seed only
1.	Andhra Pradesh	-	Paddy(Kharif & Rabi)	-
2.	Bihar	Paddy (Aghani) and Wheat	Paddy (Bhadai) and Sugarcane	Paddy (Garma) and Maize (Bhadai & Garma)
3.	Chhattisgarh	Paddy* and Wheat*	-	-
4.	Gujarat	-	Paddy (Kh.), Wheat and Cotton	-
5.	Jharkhand	-	-	Paddy (Aghani) and Wheat
6.	Karnataka	Paddy (Kh., Rabi* & Sum *), Jowar (Kh., Rabi & Summer**), Bajra (Kh.), Maize (Kh., Rabi & Summer**), Ragi (Kh., Rabi & Summer**) and Wheat	Groundnut @ (Kh., Rabi & Sum.), Cotton (Kh.), Gram and Sun flower (Kh., Rabi & Sum)	Maize (Summer)
7.	Madhya Pradesh	Paddy and Wheat	-	-
8.	Maharashtra	-	Paddy (Kh.), Jowar (Rabi), Bajra, Wheat and Cotton	-
9.	Rajasthan		Gram and Wheat	-
10.	Tamil Nadu	-	Jowar, Bajra, Maize, Ragi, Groundnut, Sesamum and Cotton	-

Note: Kh. – Kharif, Sum - Summer

@ - Pre-stratification only in the relevant districts and not for the State as a whole.

* - Pre-stratification according to seed is for irrigated category.

** - Pre-stratification according to irrigation is only for HYV.

3.1.10 In some of the States, the limitation of the official acreage statistics under Irrigation or under High Yielding crops has been a handicap in adopting pre-stratification. To obviate this difficulty, it is necessary that land records are maintained in each State for area under Irrigation and under High Yielding Variety of seed.

4



CO-ORDINATION

4.1. Forums for Coordination

4.1.1 The NSO (FOD) is vested with the responsibility of coordinating all the technical aspects between States and Central agencies besides performing the role of providing technical advice and ensuring adoption of uniform concepts, definitions and procedures in GCES in different States. It reviews the plans, details of implementation and the results of the surveys, participates in the training camps organised for the State field workers and undertakes inspection of fieldwork. It publishes annually a report titled “Consolidated Results of Crop Estimation Surveys on Principal Crops” covering different aspects of GCES, such as organisation, training, supervision, coverage, response and estimation etc. To guide NSO (FOD) in discharging these functions smoothly, following forums have been set up:

- National Statistical Commission
- High Level Coordination Committee at State level
- Zonal meetings of SASAs (State Agricultural Statistics Authority)
- The Conference of Central and State Statistical Organisations (COCSSO)

I – National Statistical Commission:

4.1.2 The National Statistical Commission, set up by the Government in January 2000 under the Chairmanship of Dr. C. Rangarajan, reviewed the statistical system and the entire gamut of Official Statistics in the country. The Rangarajan Commission submitted its report to the Government in August 2001. One of the key recommendations of this Commission was to establish a permanent National Commission on Statistics to serve as a nodal and empowered body for all core statistical activities of the country, evolve, monitor and enforce statistical priorities and standards and to ensure statistical co-ordination among the different agencies involved. In line with the recommendations of the Rangarajan Commission, the Government of India resolved to set up a permanent National Statistical Commission (NSC), vide Notification No. 85 dated 1st June 2005 published in the Gazette of India, Extraordinary, Part-III-Section. The NSC was initially constituted on 12th July 2006. The Commission consists of a part-time Chairman, four part-time Members and Secretary, Planning Commission as an ex-officio Member. The Chief Statistician of India (CSI) is the Secretary to the Commission and also the Secretary to the Government of India in the Ministry of Statistics and Programme Implementation (MOSPI). The NSC took note of the

findings and recommendations of all important bodies in the context of the prevailing status of Agriculture Statistics and attempted a fresh analysis focusing its attention on identification of the deficiencies of the system and the remedial measures required to set them right.

II – High Level Co-ordination Committees

4.1.3 High Level Co-ordination Committees (HLCCs) on Agriculture Statistics have been constituted at the State level. These committees include representatives at the highest possible level of executive in the State Government departments connected with area and yield estimation, Principal Advisor, Union Ministry of Agriculture & Farmers Welfare and the Additional Director General, NSO (FOD). The Committee is usually headed by a senior officer of the State Government at the level of Secretary like the Financial Commissioner, the Agricultural Production Commissioner, the Chairman or Member, Board of Revenue etc. Such committees have been formed in all Land Records States and Non Land Record States. In West Bengal, a Steering Technical Committee consisting of the concerned departments discharges similar functions. In Odisha, High Level Coordination Committee (HLCC) also carries out the functions of State Level Coordination Committee (SLCC) in the State. During the year under review viz. 2018-19, the three meetings of these committees were held in the States of Karnataka, Bihar and Haryana. In the meeting of these committees, various issues relating to area forecasts, estimates of yield rates and crop production, the functioning of TRS/ EARAS and ICS schemes and other aspects of Agriculture Statistics are discussed. These meetings have proved very useful in sorting out problems relating to coordination of the efforts of the associated departments of the States, other operational problems and in taking steps for improving the functioning of the system.

III – Zonal meetings of SASAs

4.1.4 In mid-seventies, the Governing Council of NSO recommended periodical meetings of State Agriculture Statistics Authorities (SASAs) in different zones of the country to discuss common technical issues. Accordingly, the States were grouped into 4 zones as under: -

- (i) Southern Zone:** Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and Puducherry.
- (ii) Western Zone:** Gujarat, Madhya Pradesh, Maharashtra, Goa, Daman & Diu, Dadra and Nagar Haveli.
- (iii) Northern Zone:** Haryana, Himachal Pradesh, Jammu & Kashmir, Punjab, Rajasthan, Uttar Pradesh and Delhi.
- (iv) Eastern Zone:** Assam, Bihar, Odisha and West Bengal.

Since 1977, three rounds of such meetings in each of the Eastern zone, Northern Zone, Southern Zone and Western Zone have been held. The issues discussed in the meetings included problems relating to area and yield estimation, review of the working of the TRS and ICS schemes, methodological aspects of crop surveys, collection and analysis of ancillary data, progress of implementation of the recommendations of National Commission on Agriculture and recording of area under high yielding varieties of crops. No such meetings have been held since 1986-87. It will be helpful, if such meetings are held

periodically as they could be useful in studying the technical aspects of agriculture survey in different States of a zone.

IV - The Conference of Central and State Statistical Organizations (COCSSO)

In order to strengthen the coordination of statistical activities among the Ministry of Statistics and Programme Implementation, other Central Ministries and State Statistical Organisations, the Conference of Central and State Statistical Organisations (COCSSO) was organized for the first time in the year 1971. Earlier, it was supposed to be organized once in every two years. The objectives of the conference are:

- To provide a platform for discussion on the statistical issues of common interest to the Central and the State Statistical Organizations;
- To provide an overall perspective to the development of statistical system and to make recommendations/suggestions on issues having bearing on the development of the statistical system;
- To solve the technical issues relating to statistics;
- To set up Working Groups on specific issues/tasks relating to official statistics;
- To provide guidelines in the collection of statistics and maintenance of statistical standards and quality, besides uniformity in statistical standards;
- To consider the Action Taken Report of the follow up action on the recommendations of the previous meetings(s) of COCSSO; and
- To review the role of the Statistical Advisers in the Central and States/UT Governments.

During the year 2018-19, 26th COCSSO was held at Dharamshala, Himachal Pradesh on 15th and 16th November, 2018. The theme of conference was “Quality Assurance in Official Statistics”.

5



IMPROVEMENT OF CROP STATISTICS (ICS) SCHEME

5.1.1 The ICS scheme, which had a modest beginning in the year 1973-74, reached to the optimum coverage in subsequent years as indicated in **Table – 5**. Since then, the scale of sample checks has been more or less stabilized. During 2018-19, the scheme was operational in 21 States and one Union Territory of Puducherry including EARAS States of Kerala, Odisha and West Bengal. The scheme is also being implemented in newly carved State Telangana starting from 2015-16. In these States/ UT, the sample checks were carried out by both the agencies. The work of checking of crop abstract statements was suspended in Central sample in 1993-94, it was revived in 1999-2000 and again suspended since 2008-09.

Table – 5
Sample size for various checks under ICS

Year	Sample check on Area Enumeration (Number of villages.)		Sample check on Area Aggregation (Number of villages)		Supervision on Crop Cutting Experiments (Number of experiments)	
	Central	State	Central	State	Central	State
1973-74	1648	1958	1648	1958	2308	2568
1974-75	3695	2566	1848	1283	9892	7244
1975-76	4017 +560 grids	4310	3837	4090	12906	11760
1976-77	4050 +560 grids	4852	3870	4740	13307	13338
1977-78	4742 +560 grids	4777	4379	4270	15692	14151
1978-79	4732 +560 grids	4993	4390	4650	15518	14970
1979-80	4742 +560 grids	4853	4390	4650	15480	14380
1980-81	4722 +560 grids	4960	4458	4498	15450	14700
1981-82	4755 +250 grids	4992	4265	4304	15670	14830
1982-83	4651 +250 grids	4901	4265	4304	15740	14929
1983-84	4757 +250 grids	5007	4271	4301	15420	14610
1984-85	4754 +250 grids	5004	4527	4567	15540	14726
1985-86	4754 +250 grids	5004	4639	4669	15562	14752
1986-87	5005	5415	4650	4680	15570	14712
1987-88	5004	5415	4650	4680	15570	14760
1988-89	4952	5362	4694	4734	15594	14984
1989-90	4952	5362	4694	4734	15398	14588
1990-91	4952	5362	4694	4734	15600	14700
1991-92	4952	5362	4692	4722	15660	14840
1992-93	4952	5352	4692	4722	15660	14840

Year	Sample check on Area Enumeration (Number of villages.)		Sample check on Area Aggregation (Number of villages)		Supervision on Crop Cutting Experiments (Number of experiments)	
	Central	State	Central	State	Central	State
1993-94	4952	5352	-	4739	15660	14840
19 94-95	4952	5352	-	4739	15660	14840
1995-96	4949	5349	-	4739	15660	14840
1996-97	4949	5349	-	4739	15660	14840
1997-98	4949	5349	-	4739	15660	14840
1998-99	4949	5349	-	4739	15660	14840
1999-2000	4948	5358	4698	4738	15658	14908
2000-01	4949	5359	4699	4739	15660	14910
2001-02	4949	5359	4699	4739	15660	15660
2002-03	4949	5359	4699	4739	15660	15660
2003-04	4949	5359	4699	4739	15732	15732
2004-05	4949	5359	4699	4739	15732	15732
2006-07	4949	5359	4699	4739	15732	15732
2007-08	4949	5359	4699	4739	15732	15732
2008-09	4949	5349	*	4739	15732	15732
2009-10	4949	5349	*	4739	15732	15732
2010-11	4939	5349	*	4739	15662	15662
2012-13	4939	5349	*	4739	15662	15662
2014-15	4939	5349	*	4739	15662	15662
2015-16	4939	5349	*	4739	15662	15662
2016-17	4939	5349	*	4739	15662	15662
2017-18	4939	5349	*	4739	15662	15662
2018-19	4939	5349	*	4739	15662	15662

* *Work was withheld in Central sample from 08.12.2008.*

5.1.2 The scheme accomplishes its objectives by conducting sample checks on the primary field work through :

- Physical verification of the crop enumeration done by the village primary workers in a sample of about 10,000 villages in each season,
- Checking of the aggregation of crop-wise area in the Khasra register of these villages, and
- Supervision on about 32,000 crop cutting experiments at harvest stage in a year.

5.1.3 The sample checks are undertaken by the supervisory staff of NSO (FOD) and of the State Governments on a matching basis in two non-overlapping samples. The basic data collected through these checks are exchanged between the two agencies. The scheme is operational in 21 States and 1 Union Territory.

5.1.4 Two schedules viz., Sch AS 1.0 and AS 2.0 for recording the findings of the sample check on (a) enumeration of area in a village and (b) the crop cutting experiments respectively, are designed to be filled-in by the supervisory staff of Central (NSO-FOD) and State agencies after conducting the sample checks. The filled-in schedules are sent to both the agencies on reciprocal basis for tabulation and analysis. The NSO (FOD) is responsible for all aspects of the scheme right from the primary stage of preparation of survey design, selection of sample units, field work, data processing till the end stage of report writing.

5.1.5 The programme of sample check on area enumeration actually consists of selecting and locating a sample of 20 survey/sub survey numbers (fields) in terms of 4 clusters of 5 survey/ sub survey nos. each, within each selected sample village with the help of the village maps and recording the actual utilisation to which the land under survey numbers are put during each season and comparing these with the corresponding entries by the primary workers in respect of these selected fields.

5.1.6 The concurrent inspection of crop cutting experiments at harvest stage consists of examining whether the conduct of the experiments by the State primary workers conforms to the procedures prescribed under the GCES. The inspection covers aspects such as the selection of fields and random coordinates, marking of experimental plots of specified shape and size, harvesting of plants, weighment of the produce etc. In addition, the position regarding the supply and use of equipment for conducting the experiments, training received by primary workers, crop condition, use of inputs etc. is also ascertained.

5.1.7 The observations of the supervisor on area enumeration are recorded in specially designed Schedule AS 1.0. As the sample for ICS Scheme is generally chosen as a sub-sample of the villages under TRS or EARAS, the data from these sample checks, serve as an important indicator of the manner in which both the schemes are functioning. The observations of the supervisor on conduct of crop cutting experiments are recorded in Schedule AS 2.0. The ICS sample villages for crop cutting experiments being part of GCES villages, reveal the manner of implementation of GCES in different States.

5.1.8 The data collected through the sample check programme under the ICS scheme are analysed facilitating factual appraisal of the State system with reference to the following:-

- Timeliness in completion of area enumeration and working of TRS.
- Discrepancies in recording crop and crop area, their frequency and impact.
- Discrepancies in recording ancillary information (viz. Irrigation, Seed Variety), their frequency and impact.
- Departures from the prescribed procedure for conducting crop cutting experiments and their impact.

5.1.9 The yield data from the supervised experiments are also used for obtaining the average yield rates and standard errors of specified crops. These estimates are forwarded to the Ministry of Agriculture & Farmers Welfare. They are used by the Ministry to validate the estimates provided by the State Governments.

5.1.10 Two features introduced later in the ICS programme are (a) sample check of aggregation of area figures above village level and (b) District Level Committee consisting of representatives of the Central and State Governments to probe into the reasons for large differences/no differences between the entries of the supervisor and primary worker in area enumeration.

6



DESIGN AND SAMPLE SELECTION FOR ICS SCHEME

6.1 Sample Check on Area Enumeration

6.1.1 The total sample size for sample check on area enumeration under the scheme is distributed among the different States on a joint consideration mainly of crop area and availability of man power resources. Then within a State, villages are allotted to the districts in proportion to the gross cropped area in the districts. The design adopted for selection of villages for the sample check on area is that of stratified simple random sampling, where a teshil/anchal/sub-division /block/ taluka or a group of them based on geographical contiguity forms a 'Stratum' except Kerala and West Bengal where District is the Stratum.

6.1.2 The sample size is allocated to the strata in proportion to average gross cropped area of last three years in the stratum. In a stratum, sample villages are then selected by Simple Random Sampling without Replacement (SRSWoR) from the list of TRS villages in Land Records States. It is ensured that at least two villages are selected from each stratum. In Odisha, sample villages for check on area are selected from the crop cutting villages for minor crops under GCES, which is a sub-sample of the EARAS villages. In West Bengal, from Kharif 1996-97, the crop-wise area enumeration work is being done by the Directorate of Land Records and Surveys (DLR&S) in all EARAS mouzas. The frame for selection of villages for sample check on area enumeration under ICS Scheme is the list of EARAS villages.

6.2 Sample Check on Crop Cutting Experiments

6.2.1 The total number of experiments to be supervised by each agency under the scheme is distributed among the specified crops and States taking into account mainly the crop area and availability of man power resources. District is the 'Stratum' for supervision of crop cutting experiments. Within a State, the experiments are allotted to the strata and crops in proportion to the number of crop cutting experiments planned under GCES. The number of villages in a district for inspecting experiments on a crop is determined at the rate of two experiments per village, except for minor crops in Odisha where it is one experiment per village.

6.2.2 While selecting the villages for sample check on crop cutting experiments, it is prescribed that as far as possible, the experiments are to be located in the list of the sample villages selected for check on area enumeration. Shortfall, if any, in the requisite quota of a stratum is to be made up by selecting from the corresponding GCES list for the stratum. In West Bengal, the sampling design for supervision of crop cutting experiments is that of stratified multistage sampling where districts are taken as strata. Blocks within a District are First Stage Units (FSU) and selected with Probability Proportion to Size (PPS), size being area under an experimental crop in the block. Mouzas within a selected block are Second Stage Units (SSUs) and selected through Simple Random Sampling without Replacement (SRSWOR). The total number of mouzas to be selected in a district for sample check on crop cutting experiments will be equal to the half of the number of crop cutting experiments (2 experiments on a crop in each mouza) indicated against a district in the plan of work.

7



ANALYSIS OF DATA

7.1 Check on Area Enumeration

7.1.1 Keeping in view the basic objective of the scheme of pointing out the deficiencies in the system of collection of area statistics and also the types of data collected through Schedule AS 1.0, the analysis of the information available in Schedules AS 1.0 aims at studying the following major aspects:-

- Timeliness in completion of area enumeration and submission of crop abstract
- Discrepancies in recording the basic area figures and their impact
- Discrepancies in recording ancillary information and their impact

7.1.2 Under the Timely Reporting Scheme (TRS), the primary worker is required to complete crop area enumeration (Girdawari) in the TRS villages in each season of the State on priority basis according to a prescribed time schedule, which is either in advance of the normal Girdawari period or in the first part of it. He is also expected to submit TRS statements to his higher authorities by pre-specified dates. A provision exists in Schedule AS 1.0 for collecting information on the due and actual dates of completion of Girdawari as well as the submission of TRS statement. Analysis of the data collected indicates how far the time programme under TRS is being adhered to by the primary workers and throws light on delays.

7.1.3 The possible errors of the primary worker while recording of area figures which may creep into the crop enumeration exercise are:-

- Non-Reporting of crops actually sown in the field,
- Reporting of crops not actually sown in the field,
- Incorrect assessment of area under the crop.

7.1.4 The occurrence of these errors can be assessed by comparing the entries of the ICS supervisors and that of State primary workers. Two measures are adopted for the purpose of the assessment. The first one is the simple proportion of the number of survey numbers/serial numbers in which the error is noticed to the total number of survey/serial number for which both the entries are available. As the tabulation is done crop-wise, a survey number will be counted as many times as the number of crops in it. The second measure is the ratio of total crop area in the sample reported by the primary worker to that

reported by the supervisor. This measure is worked out crop-wise and indicates the impact of the errors on crop area figures.

7.1.5 The State primary workers are also required to report ancillary items of information like Irrigation particulars and Varieties of Seeds. Discrepancies in recording these items in the sample clusters have been studied in the same manner as indicated in the previous paragraph.

7.1.6 For preparation of crop abstract, the primary workers are required to total the area figures of survey/sub-survey numbers under each crop or non-crop utilisation for each season. Under the ICS scheme, the supervisor also totals the area for different crops/ non-crop use independently. A comparison of the two totals helps to measure the extent of inaccuracy in the aggregation done by the primary worker.

7.1.7 The data collected under the scheme are analysed for other purposes as well. An illustration of this is the average workload per Patwari in the various States derived from the ICS data of 2018-19 and presented in Table-2 of Chapter-2. Detailed analysis undertaken in the reports of individual States would help to judge the extent to which the workload of the State primary workers had any bearing on lack of timeliness and inaccuracies noticed in area enumeration.

7.1.8 While the main objective of the scheme is to improve the system of collection of crop statistics in the States by finding out the deficiencies through sample checks, the sample observations have also been utilized for building up estimates of crop areas. These estimates are based on the supervisor and the primary worker's entries. Two estimates are prepared for each crop. For obtaining a measure of the effect of inaccuracies to measure the effect of errors in the area enumeration work done by the patwari, two estimates of area under a given crop are calculated on the basis of the patwari and supervisor's entries for the selected sample of 20 survey/serial numbers within the supervised villages as given in Schedule AS 1.0 and these estimates are denoted by A-III and A-IV respectively.

A-III: Estimates of crop area obtained from patwari's entries for 20 survey/serial numbers

A-IV: Estimates of crop area obtained from supervisor's entries for 20 survey/serial numbers

7.1.9 These estimates are compared with the corresponding TRS estimates and final estimates of DES, Ministry of Agriculture & Farmers Welfare and have been presented in Annex-XII. The method of estimation for these estimates is given in the Appendix.

7.2. Check on Crop Cutting Experiments

7.2.1 Unlike the sample check on area, the sample check on crop cutting experiments is concurrent. The supervisor is present during the conduct (specifically at harvest stage) of experiment. He observes the extent of the primary worker's adherence to the prescribed procedure and corrects mistakes, if any, observed on the spot. He also collects information on the supply and use of essential equipment, training received by the primary worker, arrangements for proper storage of grains for the purpose of drriage experiments, ancillary information on inputs like Irrigation, Seeds, Fertilizers etc. The analysis of data collected through Schedule AS 2.0, therefore, provides an insight of various aspects of crop cutting

experiments like availability of basic records, reasons for substitution of sampling units, types and frequency of various types of mistakes in conducting crop cutting experiments, supply and use of equipment etc.

7.2.2 Average yield rate of specified crops in a State based on the supervised experiments and their standard errors are also calculated by following the same procedure as adopted by the States for GCES and thus, these estimates can be compared with the corresponding GCES estimates. Appendix gives the formula for working out the estimate of average yield rate and the standard error thereof.

8



FINDINGS UNDER ICS SCHEME

8.1 Sample Check on Area Enumeration

I – Response

8.1.1 **Annex-I** gives the State-wise response achieved (i.e. the percentage of the filled-in Schedules AS 1.0 received) in sample check on enumeration of area under ICS Scheme during 2018-19. The overall response at all India level for all the States/UT covered was cent percent for Central Sample and for state as well as pooled sample in various states like Andhra Pradesh, Chhattisgarh, Himachal Pradesh, Karnataka, Kerala, Odisha, Rajasthan, Tamil Nadu, Uttarakhand and Puducherry. In case of remaining states, the overall response ranges from 51% to 76% for State sample and 76% to 87% for Pooled sample during 2018-19 in all the seasons as against cent percent for Central Sample, 51% to 79% for State Sample and 75% to 89% for Pooled Sample during 2017-18. There was no participation in State sample from Haryana during the Summer season. The response for the Central sample was cent percent except in Bihar (Kharif 99%, Rabi 99% and Summer 99%) Gujarat (Kharif 96%), Madhya Pradesh (Rabi 99%), Punjab (Kharif 99% and Rabi 99%), and Uttarakhand (Kharif 99%). The response for the State sample was below 51% in Maharashtra (Summer 39%), Uttar Pradesh (Kharif 38%, Rabi 27% and Summer 13%) and West Bengal (Early Kharif 16%, Late Kharif 16%, Rabi 17% and Summer 15%). The concerned States may take suitable measures to improve the response rate to improve the quality of data collected.

II - Completion of Girdawari (Area Enumeration) under TRS/EARAS

8.1.2 **Annex-II** shows the percentage of villages in which crop area enumeration (Girdawari) was found to have been completed in time, late or found not completed till the time of the sample check i.e. supervisor's visit, during each season of 2018-19. A summary showing agency wise brief picture of the timeliness in completing area enumeration by primary workers is given below in **Table-6** for 2018-19 and 2017-18. The graphic presentation of the status of completion of Girdawari at all India level for pooled sample is presented in **Chart-I** :

8.1.3 One of the main objectives of the TRS/EARAS is to reduce the time lag between completion of sowing and availability of estimation of area sown. Delays in completion of area enumeration, violating the prescribed time schedule and subsequent delays in submission of crop abstracts defeat the very purpose of the Scheme. Details of completion

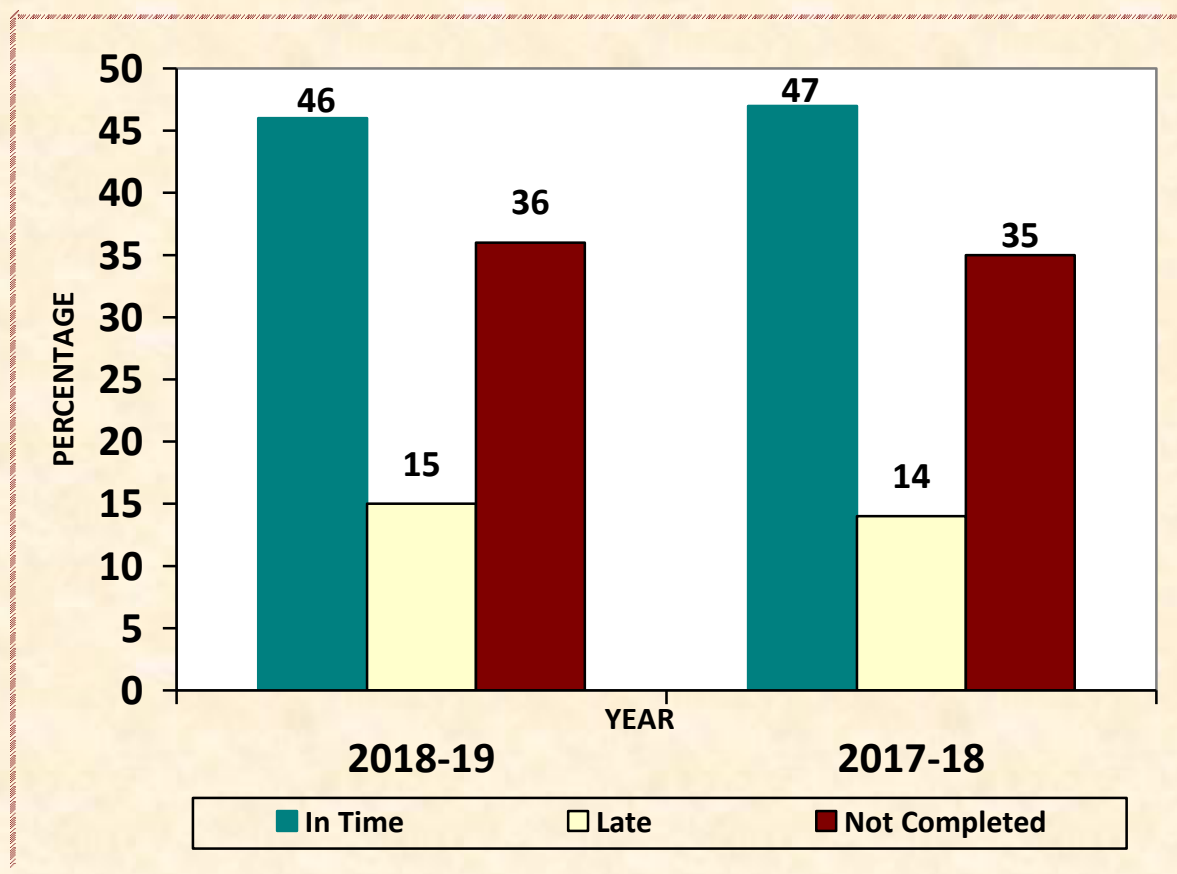
of area enumeration during 2018-19 are given in **Annex-II**. Some states like Chhattisgarh (95% in Kharif and 87% in Rabi), Haryana (96% in Kharif and Rabi), Himachal Pradesh (95% in Kharif and 96% in Rabi), Kerala (98% in Early Kharif, 99% in Late Kharif and 95% in Summer), Madhya Pradesh (95% in Kharif), Odisha (97 % in Early Kharif, 85% in Late Kharif and 99% in Summer), Tamil Nadu (100% in Rabi), Telangana (90% in Kharif), Uttarakhand (80% in Kharif) and Puducherry (100% in Kharif and Rabi I) are reporting timely completion of Girdawari. However, for all the States taken together on comparison of the position of timely completion of area enumeration work during 2018-19 with that of the last year, it is observed that, the timely completion of area enumeration was found to be of the order of 45% during Early Kharif, 51% during Late Kharif, 48% during Rabi and 33% during Summer of 2018-19 as against 45%, 54%, 46% and 37% during 2017-18. The position remains unsatisfactory for some of the States like Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Jharkhand, Maharashtra, Punjab and West Bengal. The estimates of area cannot be compiled with such high level of non-response at the basic level and these States need to take suitable administrative measures to improve the position so as to ensure the reliability of the area estimates.

Table – 6
All India Status of completion of Girdawari during 2018-19 and 2017-18

Status	Percentage of Villages					
	2018-19			2017-18		
	Central	State	Pooled	Central	State	Pooled
Early Kharif						
In time	44	47	45	41	51	45
Late	7	17	12	7	13	10
Not Completed	49	36	43	53	25	39
Late Kharif						
In time	48	53	51	49	59	54
Late	10	26	18	10	21	15
Not Completed	39	16	29	40	15	29
Rabi						
In time	44	54	48	40	54	46
Late	10	21	15	14	23	18
Not Completed	44	19	33	46	16	32
Summer						
In time	26	45	33	30	51	37
Late	6	18	10	7	12	9
Not Completed	65	32	54	62	27	51
All Seasons						
In time	41	52	46	41	55	47
Late	9	22	15	10	19	14
Not Completed	47	22	36	48	18	35

Note:- * Excluding information on completion of Girdawari not available (item- 7) and system of Girdawari does not exist (item-8) of Annex-V, State wise Status Report 2018-19 & 2017-18.

CHART - I
ALL INDIA STATUS OF COMPLETION OF GIRDWARI



III - Submission of TRS/EARAS Statements

8.1.4 The details of submission of TRS/EARAS statements during 2018-19 are presented in **Annex-III**. Timely submission of these statements needs considerable improvement. **At all India level, over the various seasons, the tendency of submitting these statements after completion of Girdawari was observed in more than 50% of the selected villages of various states like** Chhattisgarh (Kharif 96% & Rabi 97%), Haryana (Kharif 85% & Rabi 92%), Himachal Pradesh (Kharif 75% & Rabi 81%), Jammu & Kashmir (Kharif 59%, Rabi 51%), Karnataka (Kharif 88% & Rabi 82%, Summer 68%), Kerala (Autumn 99%, Winter 99% & Summer 99%), Madhya Pradesh (Kharif 91% & Rabi 91%), Odisha (Autumn 100%, Winter 100% & Summer 97%), Punjab (Kharif 55%, Rabi 61%), Rajasthan (Kharif 93%, Rabi 91%), Tamil Nadu (Phase-I 72%, Phase-II 94%, Phase-III 89%), Telangana (Kharif 54%), Uttar Pradesh (Rabi 54%), Uttarakhand (Kharif 92%, Rabi 92% and Summer 97%) and Puducherry (Kharif 100%, Rabi I 100% & Rabi II 100%). But here the matter of concern is 9% of those cases where submission of Statement made without completion of area enumeration work. The percentage of villages for which TRS statement was submitted without completion of Girdawari was found to be high in very few States, for instance Andhra Pradesh (Kharif 62% & Rabi 88%), Bihar (Rabi 10%, Summer 10%), Jharkhand (Early Kharif- 61%, Late Kharif- 58%, Rabi 20% & Summer- 11%), Karnataka (Summer-27%), Tamil Nadu (Phase I-15%, Phase-II - 11%) and Telangana (Kharif 45%, Rabi 50%). It is reiterated that these State governments may take appropriate administrative measures to curb this

recurring tendency. In 2018-19, TRS statements were submitted in time after completion of Girdawari only in 42% sample villages during Autumn, 43% during Winter, 41% during Rabi and 28% during Summer. Further, the submission of TRS statement without completion of Girdawari was 8%, 11%, 11% and 5% of the sample villages during Early Kharif (Autumn), Late Kharif (Winter), Rabi and Summer respectively. This is a matter of great concern. Remedial measures are required to be taken for ensuring timely submission of TRS statements only after completing the Girdawari. A brief summary of the season-wise status for the years **2018-19** and **2017-18** is presented in **Table-7**.

Table – 7**Status of Submission of TRS/EARAS Statement during 2018-19 and 2017-18**

Season	Percentage of villages for which TRS statement							Infor- mation about TRS not available
	Submitted					Not Submitted		
	Without completing Girdawari		After completing Girdawari		But date of submission not known	Though Girdawari completed	As Girdawari not completed	
	By due date	After due date	By due date	After due date				
2018-19								
Early Kharif	6	2	42	6	1	3	36	0
Late Kharif	10	1	43	16	3	8	19	0
Rabi	10	1	41	17	5	7	19	0
Summer	4	1	28	12	5	6	43	0
2017-18								
Early Kharif	2	2	46	7	1	2	31	8
Late Kharif	6	1	43	17	2	6	20	4
Rabi	5	2	45	17	2	5	19	4
Summer	1	2	30	11	2	4	44	5

*Note: - * Excluding percentages of TRS statements submitted but could not be compared with girdawari completion (Item-8) of Annex - VI, State wise Status Report 2018-19 & 2017-18.*

IV - Availability and Usability of village maps

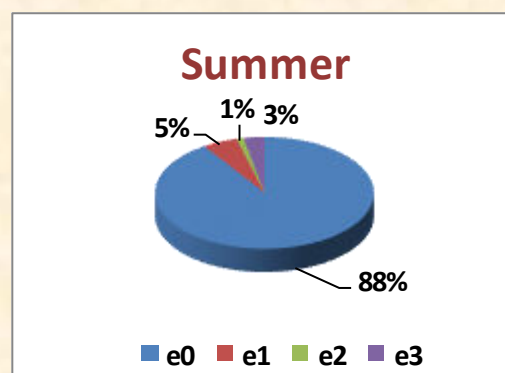
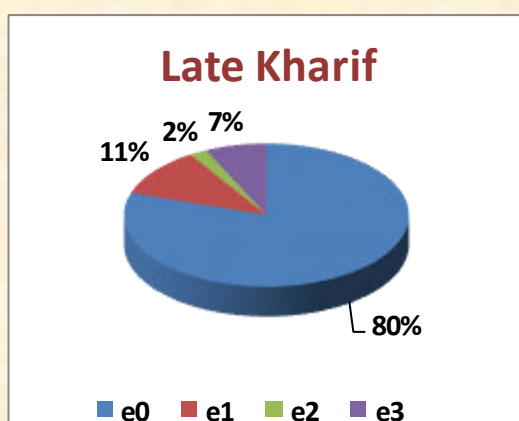
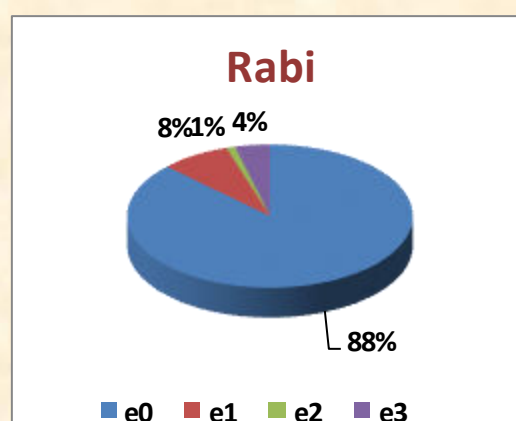
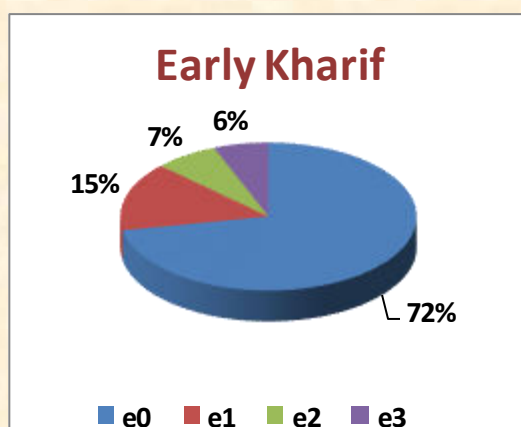
8.1.5 **Annex-IV** gives the details regarding updation of village maps, their availability and usability. It may be seen that at all India level, maps available with the primary workers were found usable for identification of the survey numbers in 88% cases during 2018-19. Information in respect of updation of the maps reveals that in 65 % cases, maps available were updated more than 20 years ago. Use of outdated maps leads to problems of identification of survey numbers. For efficient functioning of the State system, regular updation of maps is essential.

V - Accuracy of Girdawari

8.1.6 **Annex-IV (a)** and **Chart-II** show the percentage of survey numbers in which the three different types of discrepancies in recording the crop/ crop areas by the State primary workers were noticed (viz. e1, e2 and e3). It can be seen that at all India level, there were

no discrepancies observed in 71 % in Early Kharif, 80% in Late Kharif, 86% in Rabi and 88% in Summer. The magnitude of accuracy was found to be high in almost three-fourth of states like Bihar (86% Early Kharif and 97% Late Kharif), Chhattisgarh (93% Kharif and 94% Rabi), Gujarat (93% Kharif, 93% Rabi & 100% Summer), Haryana (91% Kharif, 91% Rabi, 100% Summer), Jammu & Kashmir (95% Kharif and Rabi 92%), Karnataka(81% Kharif, 81% Rabi & 82% Summer), Kerala (83% L.Kharif, 92% Summer), Madhya Pradesh (85% Kharif, 88% Rabi), Maharashtra (95% Rabi), Odisha (100% Kharif, 98% Summer), Rajasthan (84% Kharif, 86% Rabi), Telangana (97% Kharif), West Bengal (Late Kharif 95%, Rabi 88% and Summer 91%) and Puducherry (Kharif 96%, Rabi I 88%, Rabi II 94%). However, the discrepancy of one or the other type was observed in 29% of the selected survey numbers during Early Kharif, 20% during Late Kharif, 13% during Rabi and 9% during Summer 2018-19. The situation in States like Andhra Pradesh, Jharkhand, Tamil Nadu and Uttar Pradesh need some improvement. The accuracy of crop inspection could not be measured effectively in case of Assam because of abnormally low cases of completion of area enumeration by the State primary workers till the time of ICS supervision.

CHART –II
ERRORS OBSERVED IN AREA ENUMERATION DURING 2018-19



- e0 :** No error
e1 : Not reporting the crop actually sown
e2 : Reporting the crop not sown
e3 : Incorrect reporting of area under a crop

8.1.7 The most predominant error observed was that of **not recording the crops actually sown in the field (e_1)**, which occurred mostly in Andhra Pradesh (Late Kharif 43% & Rabi 38%), Bihar (Rabi 29% & Summer 7%), Jharkhand (Early Kharif 52% & Late Kharif 54%), Karnataka (Rabi 13% & Summer 10%), Maharashtra (Summer 45%), Tamil Nadu (Phase-I 21%, Phase II 18%, Phase III 51%) and Uttar Pradesh (Kharif 27% & Summer 14%). **Reporting of crops not actually sown (e_2) was the least occurring of the three errors.** It was found mostly in Haryana (Rabi 2%), Himachal Pradesh (Kharif 6%), Karnataka (Kharif 3%, Rabi 2%), Kerala (E Kharif 14%), Madhya Pradesh (Kharif 3% & Rabi 2%), Rajasthan (Kharif 3% & Rabi 2%), Tamil Nadu (Phase II 3% & Phase III 2%), Uttar Pradesh (Kharif 4%), Uttarakhand (Kharif 3% & Rabi 2%) and West Bengal (Kharif 5% & Rabi 6%). **The error of inaccurate assessment of area under crop (e_3)** was found dominant in Gujarat (Rabi 7%), Karnataka (Kharif 10% & Rabi 5%), Kerala (E Kharif 19%, Late Kharif 15% & Summer 7%), Madhya Pradesh (Rabi 6%), Maharashtra (Kharif 19%), Rajasthan (Kharif 8% & Rabi 6%), Uttar Pradesh (Kharif 9%, Rabi 9% & Summer 12%), and Puducherry (Rabi I 5% & Rabi II 4%).

8.1.8 The impact of errors in recording crops and crop areas on the estimates of area was studied for some major crops by calculating the ratio of area under crop in the sample clusters "as reported" by primary worker to area "as observed" by supervisors during the sample check. It can be observed from **Annex-IV (b)**, which presents this ratio that for most of the crops in various States, the impact of recording errors was not pronounced. One of the reasons for this may be the mutual cancellation of over and under reporting of areas under the crops, thus reducing the over-all impact. However, the cases of under-reporting of crop areas by the primary workers were observed to be high in respect of Haryana (Paddy winter), Jharkhand (Paddy Autumn, Paddy Winter & Maize), Maharashtra (Sugarcane), Tamil Nadu (Paddy Winter, Summer, Jowar Rabi) and Uttar Pradesh (Sugarcane).

VI - Discrepancies in recording Irrigation particulars

8.1. Annex-IV(c) reveals that there had been specific instances where the irrigation particulars recorded by the patwari differed considerably from that of the supervisor. During 2018-19, it was observed at all India level for all seasons taken together there had been a match of information regarding irrigation particulars as reported by patwari and that observed during sample check programmes in 87% of the survey numbers and in just 12% of the survey numbers there is mismatch. This percentage of mismatch found to be more than 20% in States like Andhra Pradesh (Kharif 44% Rabi 63%), Bihar (Rabi 29% Summer 86%), Haryana (Summer 100%), Jharkhand (E.Kharif 52%, L.Kharif 54%), Kerala (Autumn 23%), Maharashtra (Summer 46%), Tamil Nadu (Phase-I 26%, Phase II 23% & Phase-III 54%), Uttar Pradesh (Kharif 32%). The accuracy of crop inspection could not be measured in West Bengal due to non-availability of this information (as the same is not collected by the State primary workers). In case of Central Samples of Assam, Bihar (All Seasons), Gujarat (All Seasons) & Jharkhand (All Seasons) the observations in this respect could not either be incorporated as they are not reflecting the true picture because of low completion of area enumeration by the State primary workers.

VII - Discrepancies in recording variety particulars of seed used

8.1.10 Information on distribution of survey numbers as per the type of seed used is presented in **Annex-IV (d)**. There were almost 85% of the selected survey number where seed variety observed by technical personnel was in consonance with that of reported by the patwari at all India level for all seasons taken together, and there is difference in 14% of the selected survey numbers. The seed variety differed in more than 25% of the selected survey numbers in Andhra Pradesh (Kharif 44%, Rabi 38%), Bihar (Rabi 29%, Summer 86%), Jharkhand (E.Kharif 52% L.Kharif 54%), Maharashtra (Summer 46%), Punjab (Kharif 33% & Rabi 35%) Tamil Nadu (Phase-I 29%, Phase-II 26% & Phase-III 54%), Telangana (Rabi 33%) and Uttar Pradesh (Kharif 31%). This aspect requires adequate attention of the State Government for controlling the situation. In case of Assam, Bihar (All Seasons), Gujarat (All Seasons) & Jharkhand (All Seasons), the observations in this respect could not be incorporated as they are not reflecting the true picture because of low completion of area enumeration by the State primary workers.

8.2 Sample Check on Crop Cutting Experiments

I – Response

8.2.1 **Annex-VI** reflects the number of experiments planned and percentage response at harvest stage achieved under the sample checks on crop cutting experiments in each State during different seasons of 2018-19. **The response achieved in respect of all the States in different seasons was above 80%** except in Assam (Early Kharif 51%, Rabi 55%, Summer 63%), Bihar (Early Kharif 49%, Late Kharif 69%, Rabi 71% & Summer 53%), Gujarat (Kharif 60% & Rabi 49%), Haryana (Kharif 23%), Jammu & Kashmir (Kharif 61% & Rabi 60%), Jharkhand (Early Kharif 64%, Late Kharif 61% & Rabi 66%), Karnataka (Kharif 69%, Rabi 68% & Summer 58%), Madhya Pradesh (Kharif 77 % & Rabi 77%), Maharashtra (Kharif 34% & Rabi 46%), Odisha (E.Kharif 56%, L.Kharif 66%) Telangana (Rabi 61%), Uttar Pradesh (Kharif 54%, Rabi 60% & Summer 52%) and West Bengal (Early Kharif 58%, Late Kharif 66%, Rabi 66%, Summer 58%). The overall response at all India level (Pooled) was of the order of 58% for Autumn, 69% for Winter, 71% for Rabi and 74% for Summer during 2018-19 as against 79% for Autumn, 76% for Winter, 75% for Rabi and 82% for Summer in corresponding seasons during 2017-18.

II – Distribution of number of experiments conducted by important inputs

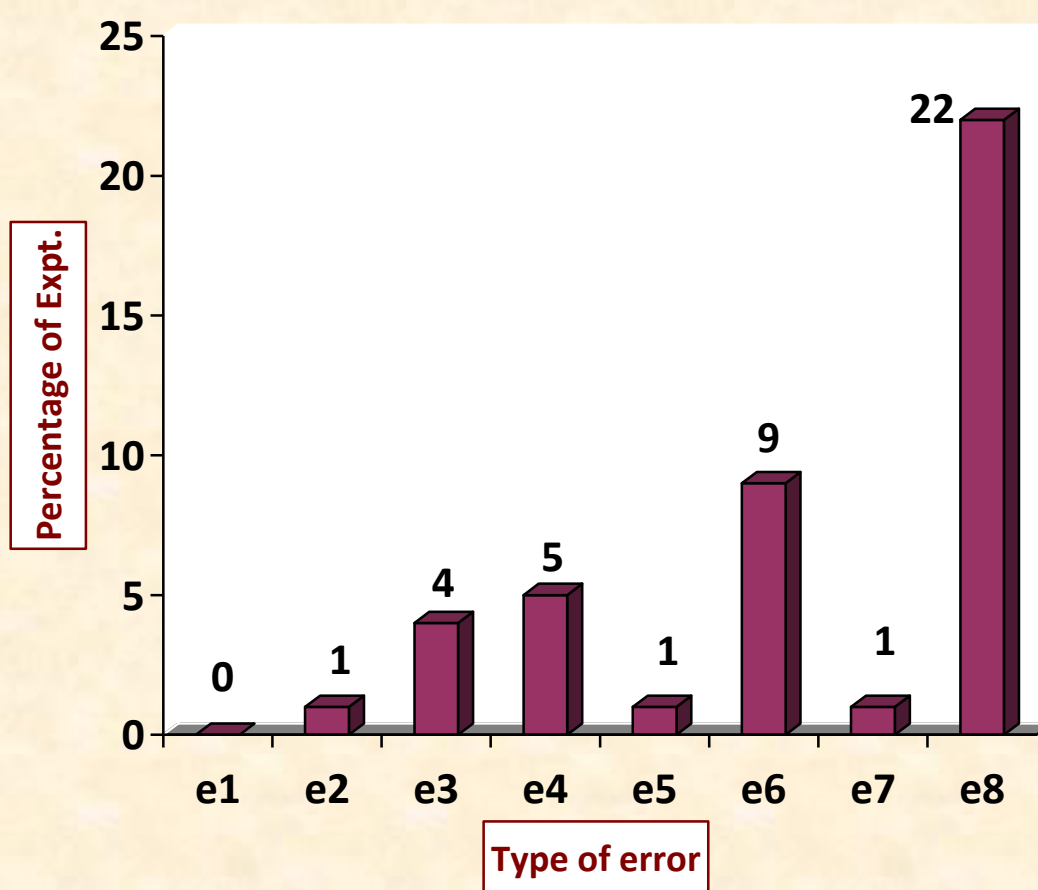
8.2.2 **Annex-VII** gives details of the crop-wise percentage distribution of experiments according to important inputs viz. Irrigation, High Yielding Varieties of Seeds and Fertilizers applied.

III - Departure from prescribed procedures

8.2.3 The type of departure from the prescribed procedure during the conduct of crop cutting experiments and the percentage of cases where State primary workers were observed to be deviating from the procedure is summarized in **Annex-VIII**. The graphical

representation of the incidence of errors in conducting crop cutting experiments is presented in **Chart-III**. In all, 66% cases of the experiments (during Autumn, Winter, Rabi and Summer taken together) were conducted in accordance with the prescribed procedures during 2018-19. There is need for further improvement. Therefore, it is necessary that these observations are taken with seriousness and strong administrative measures coupled with intensive training of the field staff may be taken to improve the quality of the data collected. It may be observed from the data presented that **e₆ error** i.e. reporting of ancillary particulars like irrigation, high yielding varieties of seed, fertilizer and manure used during 2018-19 was found in 9% experiments in all seasons taken together. In this regard, it is pertinent to note that correct information regarding ancillary data forms the basis for post stratification analysis and therefore, mistakes in their reporting needs to be checked properly.

CHART –III
INCIDENCE OF ERRORS IN CONDUCT OF CROP CUTTING EXPERIMENTS
DURING 2018-19



e₁ = Error in selection of survey/sub survey numbers.

e₂ = Error in selection of field within survey/sub survey numbers.

e₃ = Error in measurement of field.

e₄ = Error in selection of random numbers, location & marking of plots.

e₅ = Error in weighing of produce.

e₆ = Error in reporting ancillary information.

e₇ = Inadequate arrangement for storing of produce for driage and incorrect reporting of constituents in crop mixtures.

e₈ = Others (Comparison not possible between Supervisor & Primary Worker entries)

IV - Supply and Use of Equipment

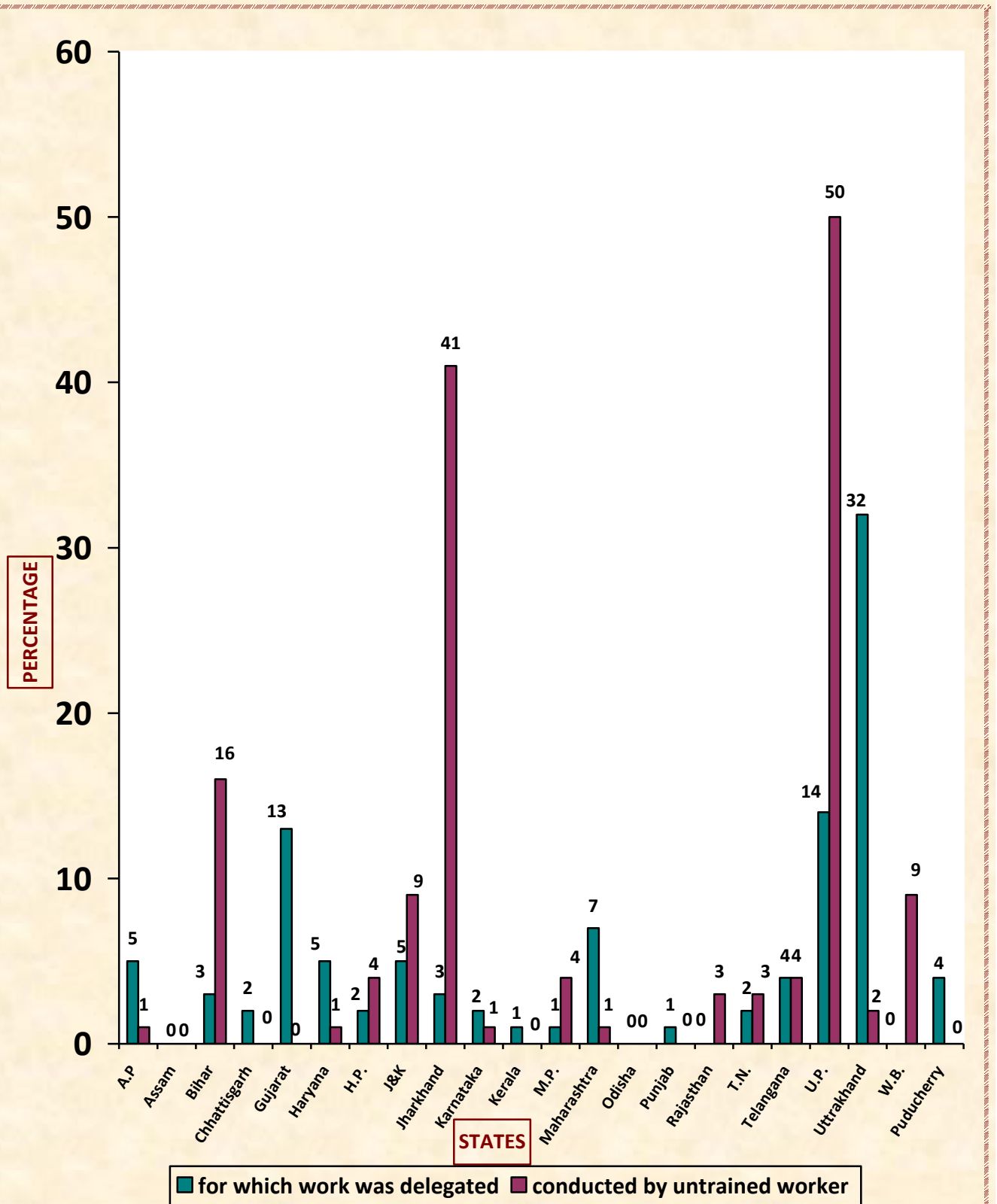
8.2.4 While an untrained or negligent worker cannot conduct the experiments properly, accuracy in their conduct also requires supply of essential equipment and their proper use. Information on these two latter aspects, collected during the sample checks of 2018-19, is presented in **Annex-IX**. It was found that the primary workers were supplied with essential items of equipment such as Tapes, Pegs, Balances and set of Weights in as many as 74%, 33%, 61% and 70% supervised experiments respectively during 2018-19 and not supplied with essential equipment 26%, 67%, 39% and 30% in as against 21%, 64%, 37% and 38% during 2017-18.

It was found that the primary workers were supplied with essential items of equipment such as Tapes, Pegs, Balances and set of Weights in as many as 17%, 8%, 17%, 14% during 2018-19 as against 20%, 10%, 19%, 18% during 2017-18 supervised experiments respectively but did not carry with them to the field for the conduct of crop cutting experiments at all India level and to a large extent in most of the States. This also calls for strong administrative measures for bringing about improvement in the situation since the use of non-standardized equipment brings in an element of subjectivity in the process of conducting the experiments.

V - Delegation of Work by Primary Workers

8.2.5 The fieldwork of General Crop Estimation Survey is entrusted to the officials of the State governments who are normally one rank higher than the primary workers for area enumeration. Cases of delegation of crop cutting work, particularly to the officials of junior & senior rank, were observed in several States as shown in **Annex-X and Chart - IV**. Delegation of work was observed for all the seasons taken together in Andhra Pradesh 5%, Bihar 3%, Chhattisgarh 2%, Gujarat 13%, Haryana 5%, Himachal Pradesh 2%, Jammu & Kashmir 5%, Jharkhand 3%, Kerala 1%, Madhya Pradesh 1%, Maharashtra 7%, Punjab 1%, Tamil Nadu 2%, Telangana 4%, Uttar Pradesh 14%, Uttarakhand 32% and 4% in Puducherry during 2018-19. The percentage of experiments conducted by workers for all the seasons taken together without proper training was 1% in Andhra Pradesh, 16% in Bihar, 1% in Haryana, 4% in Himachal Pradesh, 9% in Jammu & Kashmir, 41% in Jharkhand, 4% in Madhya Pradesh, 1% in Maharashtra, 3% in Rajasthan, 3% in Tamil Nadu, 4% in Telangana, 50% in Uttar Pradesh, 2% in Uttarakhand and 9% in West Bengal during 2018-19. Although these small percentages do not speak for themselves, the damage done to the quality of fieldwork is substantial. Proper arrangements are needed in this regard for ensuring training of the field worker entrusted with CES work especially for those who are joining these ranks after the regular training camps are over, or those entrusted with these duties as a stop gap arrangement.

CHART-IV
DELEGATION OF WORK BY PRIMARY WORKER FOR THE YEAR 2018-19

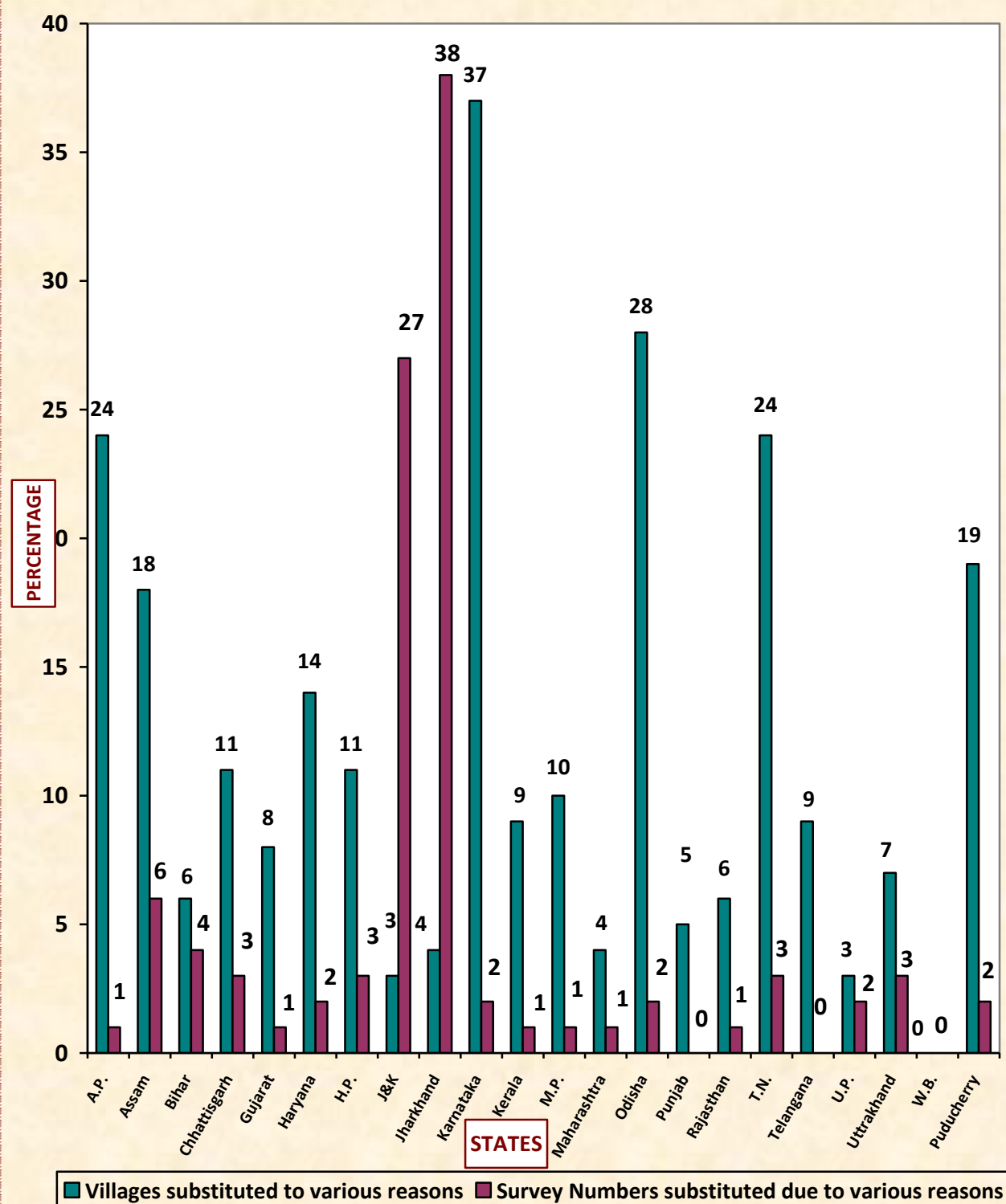


VI - Substitution of sampling units

8.2.6 Instructions for the conduct of GCES prohibit substitution of sampling units once selected, particularly at village level, except in case of inappropriate selection leading to units not growing the experimental crop at all or where the selected fields cannot accommodate the experimental plot of specified size or percentage of experimental crop is less than the prescribed one by the State Government for GCES. Instances of substitution of sampling units at village and field level are still noticed on continuous basis year after year during the sample check. The percentage of such substitutions is presented in **Annex-XI and Chart V**. Such instances relating to substitution of villages were 10% or more at least in one season due to various reasons in respect of all the States except Bihar, Jammu & Kashmir, Jharkhand, Maharashtra, Punjab, Rajasthan, Telangana, Uttar Pradesh, Uttarakhand, West Bengal and Puducherry during 2018-19. Barring other reasons, in some of the cases, the fields were substituted either because the crop was harvested prior to selection of field or crop was harvested before the date fixed for the experiment. However, better and regular liaison between the primary workers and the cultivators to ascertain the changes in the cultivator's programme of harvesting etc. would go a long way in controlling such high incidence of substitution.

8.2.7 Further, it has been observed in the field that the substitution of originally selected village due to non-availability of experimental crop i.e. "crop not sown" was of the order of 15%, 11%, 8% and 11% during Early Kharif, Late Kharif, Rabi and Summer during 2018-19 respectively. It varied around 24% of the experiments conducted in Andhra Pradesh, 8% to 26% in Assam, 0% to 8% in Bihar, 11% in Chhattisgarh, 7% to 12% in Gujarat, 11% to 14% in Haryana, 7% to 14% in Himachal Pradesh, 1% to 4% in Jammu & Kashmir, 0% to 4% in Jharkhand, 25% to 37% in Karnataka, 2% to 24% in Kerala, 7% to 11% in Madhya Pradesh, 3% to 4% in Maharashtra, 14% to 34% in Odisha, 5% in Punjab, 4% in Rajasthan, 20% to 25% in Tamil Nadu, 4% in Telangana, 1% to 3% in Uttar Pradesh, 2% to 7% in Uttarakhand and 0% to 40% in Puducherry in various seasons of 2018-19. There is a need to look into this aspect in all the States which are showing this trend and take corrective action.

CHART- V
SUBSTITUTION OF SAMPLING UNITS IN THE YEAR 2018-19



9



ESTIMATION OF AREA AND AVERAGE YIELD RATES

9.1 Estimation of Area

9.1.1 Annex-XII gives State-wise Area Estimates (1.0) based on Patwari's entries (A-III) and Supervisors' observation of crop area in sample village (A-IV) under each major crop. State wise estimates of crop area aggregation (1.1) are not being worked out due to suspension of work of area aggregation check for Central sample with effect from 2008-09. However, the estimates under A-III and A-IV have been compared with the corresponding (latest released) final estimates of area issued by the Ministry of Agriculture & Farmers Welfare and the TRS estimates. The ICS analysis enables observing the deviation in estimates of area under crops based on crop area reported by Supervisors and the primary workers in the sampled survey numbers. The ratio of estimates of crop area at all India level based on supervisory check under ICS (A-IV) and the entries of State primary workers (A-III) in the corresponding sampling units of ICS are given in Table below:

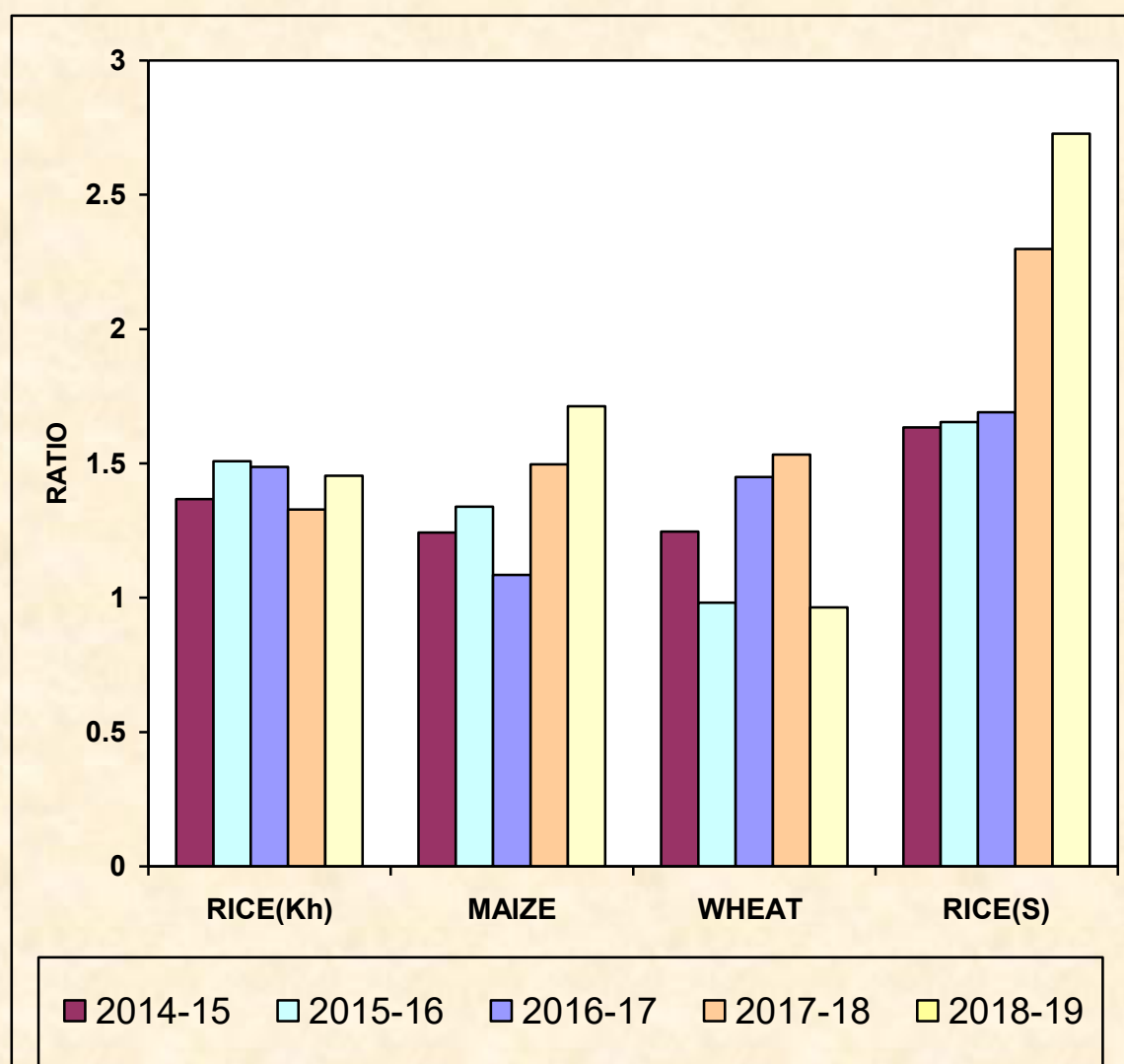
Table - 8
Ratio of Area Estimates (A-IV/A-III)

S. NO.	CROP	2018-19	2017-18	2016-17	2015-16	2014-15
1	Rice (Kh)	1.4539	1.3279	1.4875	1.5081	1.3667
2	Rice (Sum)	2.7242	2.2977	1.6896	1.6954	1.6340
3	Jowar (Kh)	0.9551	1.2485	1.3339	0.7962	0.7887
4	Jowar (R)	1.9360	2.4622	2.4125	1.8301	1.7178
5	Bajra	2.0017	1.3868	1.3113	1.2625	1.2666
6	Maize	1.7130	1.4962	1.0853	1.3399	1.2423
7	Ragi	0.9630	1.0721	1.1000	1.0242	1.0700
8	Cotton	1.4602	1.7712	1.7315	1.7311	1.7134
9	Groundnut	1.6185	2.3101	1.9809	1.6884	1.8089
10	Sugarcane	2.0148	1.8223	1.2769	1.6054	1.2953
11	Wheat	0.9638	1.5335	1.4493	0.9816	1.2455
12	Barley	1.0789	1.0556	1.1146	0.9773	1.0000
13	Gram	1.1721	1.3831	1.3367	1.2419	1.2125
14	R & M	1.2819	1.6108	1.4193	1.3864	1.3513

*Note: - A-III denotes estimates of area based on Patwari's entries
A-IV denotes estimates of area based on supervisor's entries*

9.1.2 The findings given bring to focus a trend of under reporting of area by the State primary worker for all major crops covered in the analysis during 2018-19. Therefore, the trend of under estimation of area under these crops requires serious consideration by the State and Central Government authorities for taking suitable remedial measures. Rice and Wheat account for more than sixty percent of the total cropped area under food grains and around three fourth of total food grains production in the country. A graphical presentation of the trend in terms of these ratios for the past five years starting from 2014-15 can be seen in **Chart-VI** for Rice (Kharif & Summer), Wheat and Maize. Table-8 clearly shows wide variation between supervisors reporting of area and the area recorded by primary workers which also indicates under-reporting of area figures from primary workers. The concerned State government should take suitable remedial measures for narrowing this gap.

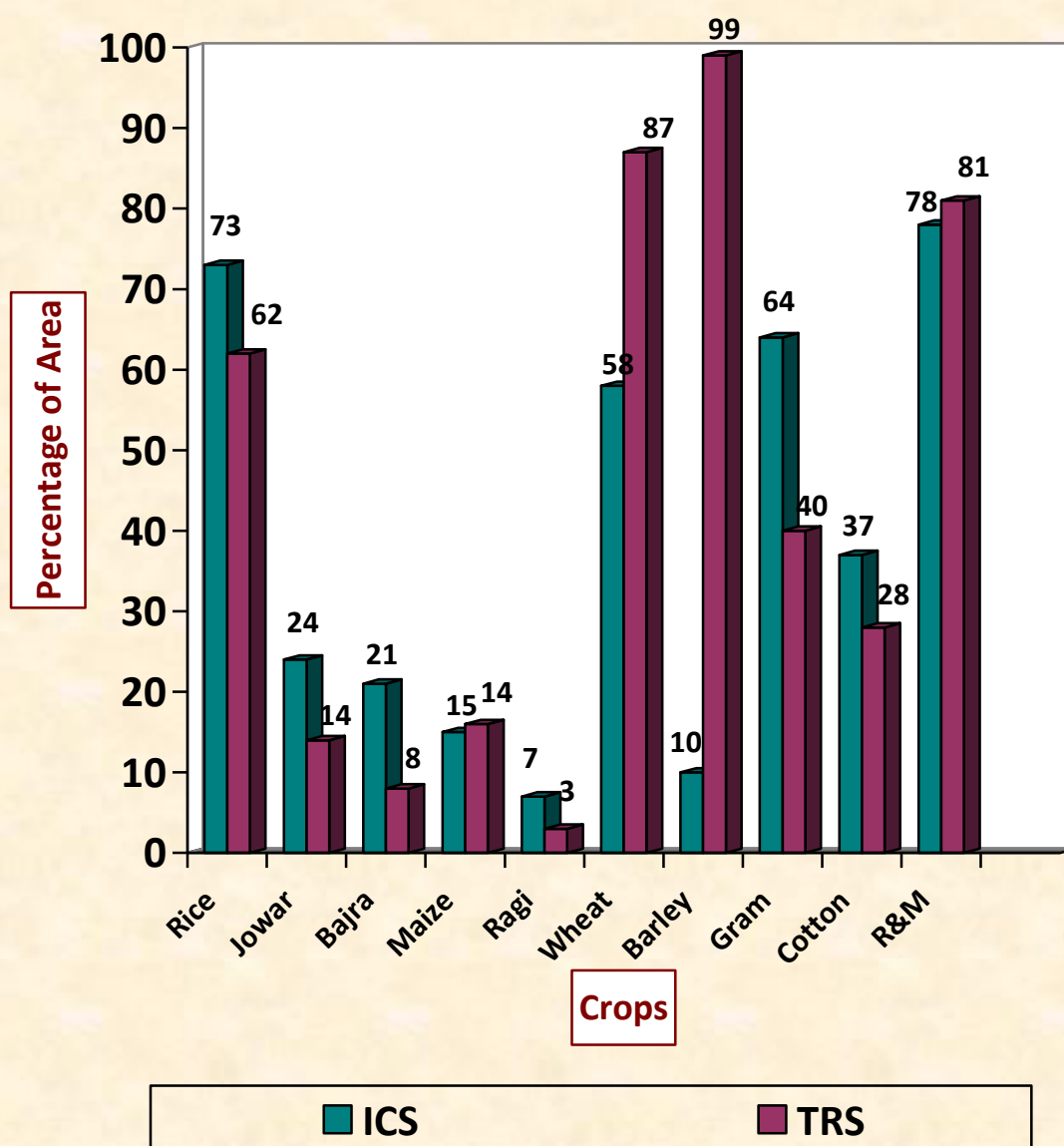
CHART-VI
RATIO OF AREA ESTIMATES (A-IV/A-III)



Note: A-III & A-IV denote estimated Area based on Patwari's and Supervisor's entries respectively

9.1.3 The percentage of area under various categories according to input factors viz. irrigation and high yielding variety of seeds for different crops as estimated from ICS data has been presented in **Annex-XIII** and corresponding graphical presentation of Irrigation in **Chart-VII**. The TRS estimates according to seed variety could not be compared due to non-availability of the relevant data for most of the States. On comparison of the ICS and TRS estimates of area according to irrigation, it is observed that the difference between these two estimates varies from crop to crop and State to State.

CHART-VII
PERCENTAGE OF IRRIGATED AREA UNDER ICS & TRS DURING 2018-19



9.2. Estimation of Yield Rates

9.2.1 Estimates of yield rates for important crops based on sample check on crop cutting experiments along with the percentage of standard errors and the corresponding CES estimates are presented in **Annex-XIV**. The percentage standard error at all India level for ICS estimates for 14 important crops varies from 1.3% (Wheat in Uttar Pradesh) to 28.8% (Maize in Bihar) for the year 2018-19. Ratio of estimates of yield rates under ICS and CES at all India level are given in **Table-9** for last five years since 2014-15. The yield rates under ICS Scheme are higher as compared to CES estimates in case of Rice (Kharif), Jowar (Kharif), Wheat, Barley and Rape & Mustard and lower in the case of Rice (Summer), Jowar (Rabi), Bajra, Maize, Ragi, Cotton, Groundnut, Sugarcane & Gram crops during 2018-19.

9.2.2 Moreover, for a comparative study, the trend of yield rates of the crops such as Rice (Kharif), Rice (Summer), Maize, Gram and Wheat at all India level under ICS and CES for the last available five years (2014-15 to 2018-19) are also presented in **Chart-VIII (a), (b), (c), (d) & (e)**.

9.2.3 The average yield rates of some important crops for different categories of input factors viz., Irrigated & Un-irrigated and High Yielding & Local variety of seeds have been calculated using the number of experiments falling under each category as weights and presented in **Annex-XV**. Similar data in respect of fields treated with Fertilizers & Manure have been calculated and presented in **Annex-XVI**.

Table - 9
Ratio of Yield Estimates (ICS/CES)

Sl. No	Crop	2018-19	2017-18	2016-17	2015-16	2014-15
(1)	(2)	(3)	(3)	(4)	(5)	(6)
1	Rice (Kh)	1.0585	0.9252	1.0804	0.8492	1.0368
2	Rice (S)	0.6753	0.9323	0.9177	1.1697	0.9220
3	Jowar (Kh)	1.1864	1.1801	0.7841	0.7210	1.0995
4	Jowar (R)	0.9284	1.1759	1.3944	0.7564	0.8325
5	Bajra	0.9430	0.8024	1.0280	0.8637	0.6627
6	Maize	0.8814	1.1754	0.8680	1.0095	1.0572
7	Ragi	0.7318	1.2466	0.2057	0.9078	0.8580
8	Cotton	0.4969	0.7148	0.6441	0.9038	0.5557
9	Groundnut	0.5975	1.5874	0.5247	0.9631	1.2810
10	Sugarcane	0.7263	1.1046	0.9027	1.0086	1.2385
11	Wheat	1.0039	0.9855	1.0901	1.1126	0.7782
12	Barley	1.0258	0.8393	0.9010	0.7443	0.7978
13	Gram	0.8369	1.0189	1.0632	0.8059	1.1286
14	R & M	1.0645	1.1124	1.1681	0.9930	0.8822

Note :- (1) CES data pertains to year 2017-18 in column 3.

(2) CES data pertains to year 2016-17 in column 4.

(3) CES data pertains to year 2015-16 in column 5.

(4) CES data pertains to year 2013-14 in column 6.

(5) CES data pertains to year 2011-12 in column 7.

Chart - VIII (a)
Trend of yield rates under ICS & CES
Rice Kharif

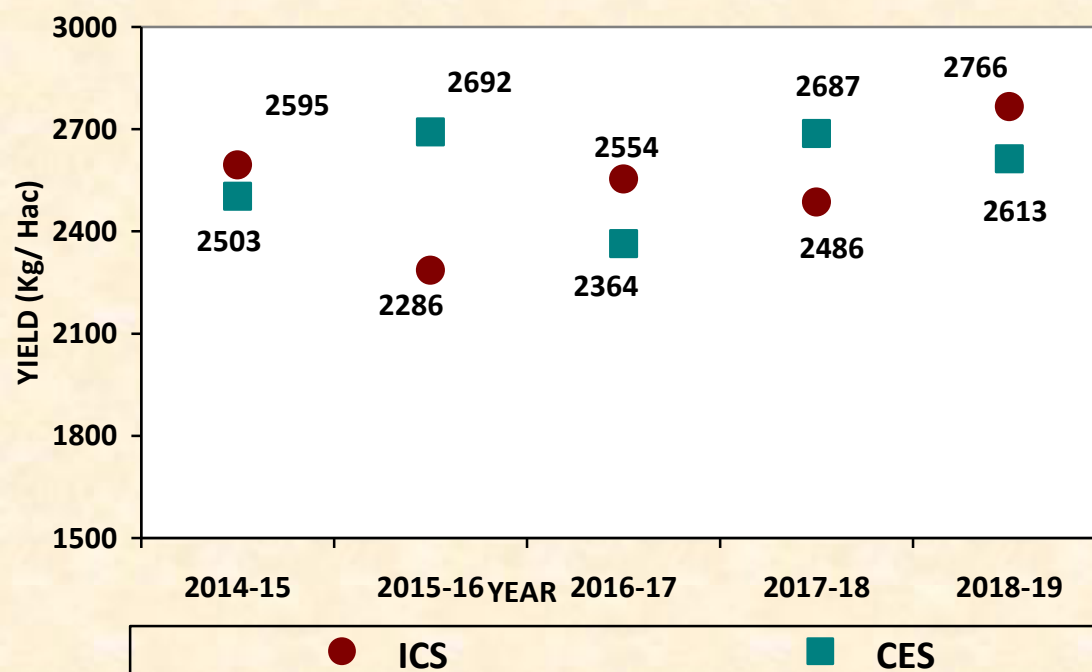


Chart - VIII (b)
Trend of yield rates under ICS & CES
Rice Summer

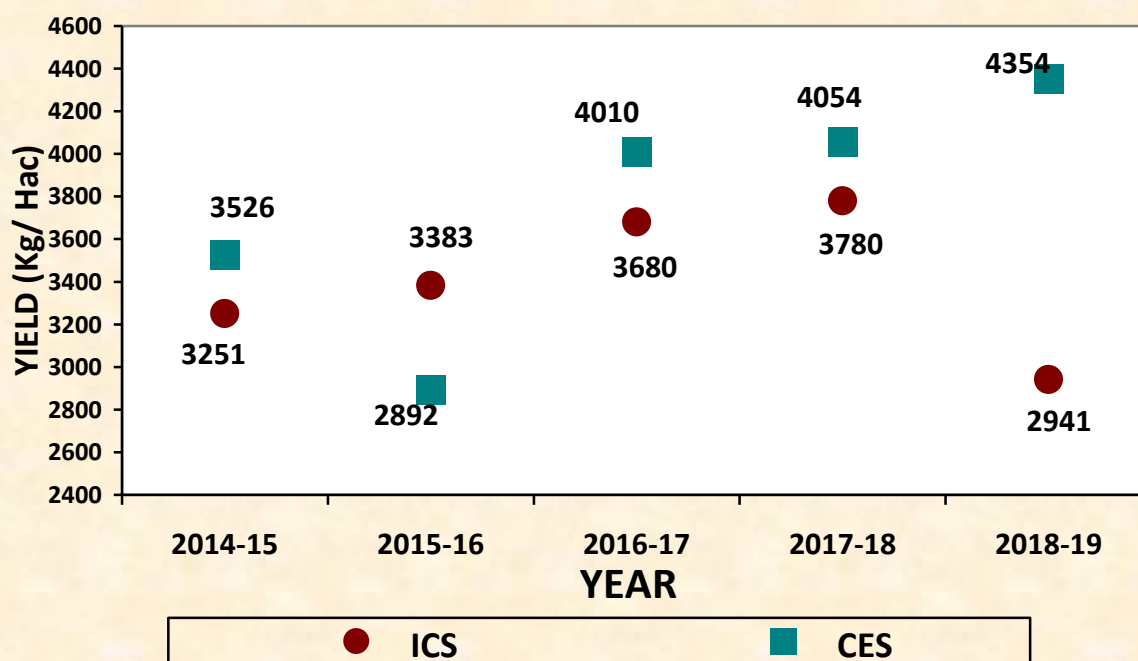


Chart-VIII(c)
Trend of yield rates under ICS & CES
Maize

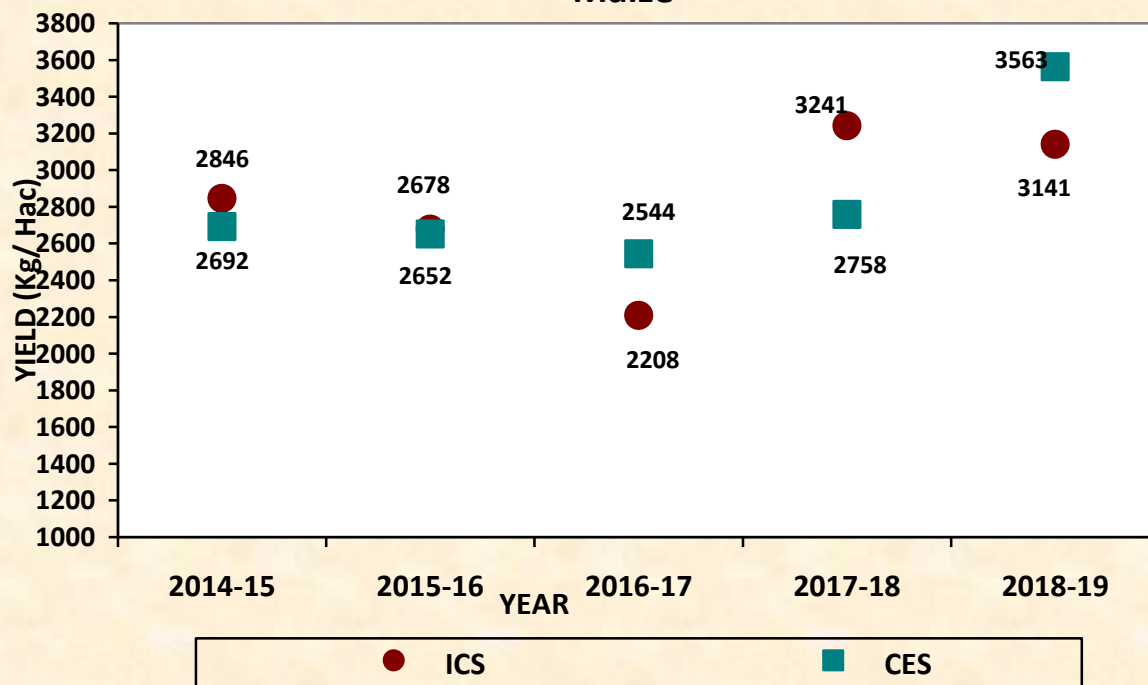
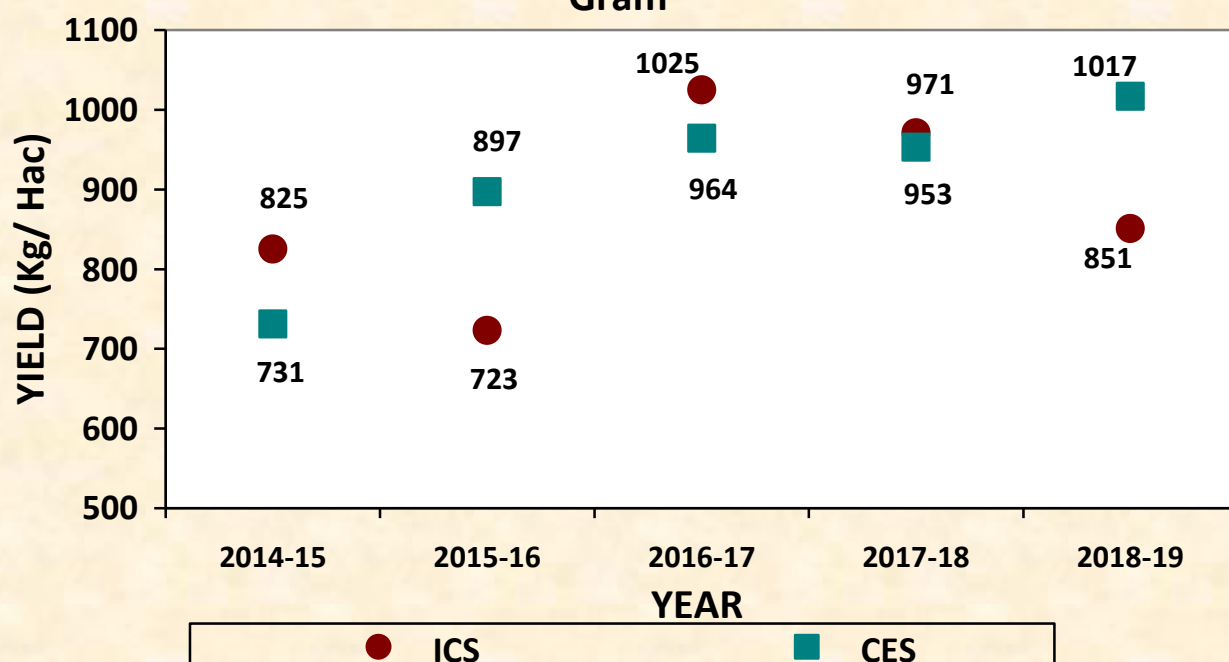
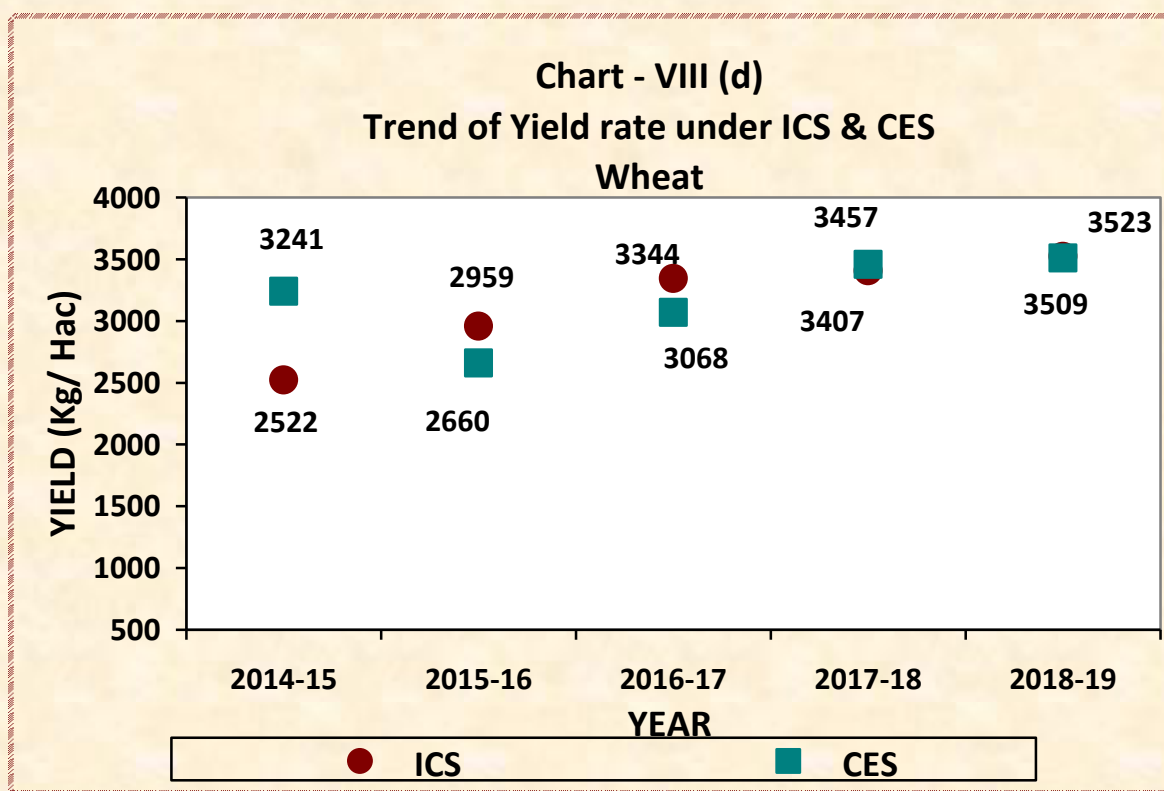
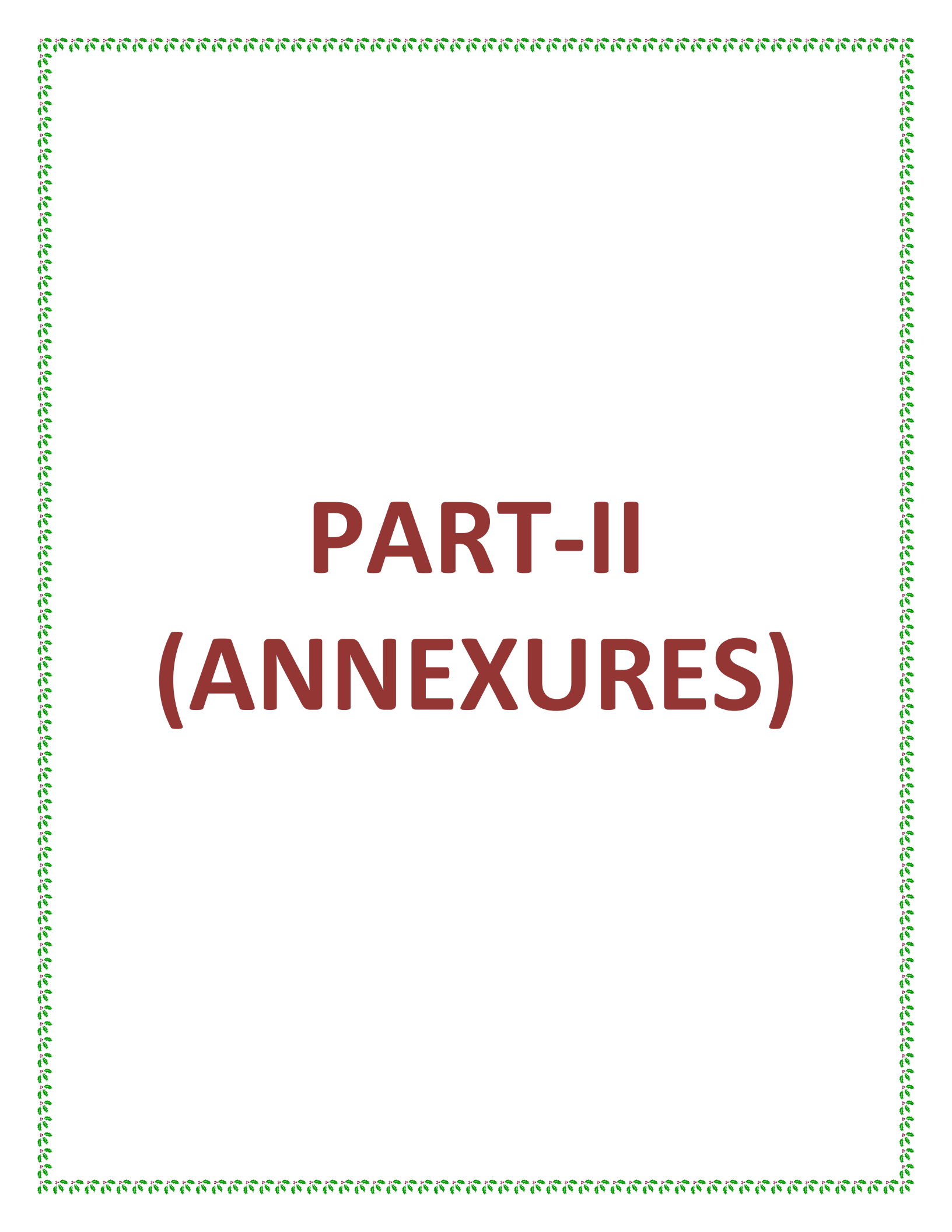


Chart - VIII (d)
Trend of yield rates under ICS & CES
Gram







PART-II

(ANNEXURES)

RESPONSE IN SAMPLE CHECK ON AREA ENUMERATION
DURING 2018-19

Sl. No.	State	A G E N C Y	Sample Size	Percentage Response			
				Kharif		Rabi	
				Early Kharif	Late Kharif	Rabi	Summer
1	2	3	4	5	6	7	8
1	Andhra Pradesh	C	220		100	100	
		S	350		100	100	
		P	570		100	100	
2	Assam	C	160	100	100	99	100
		S	160	94	89	81	76
		P	320	97	95	90	88
3	Bihar	C	240	99	99	99	99
		S	240	56	52	86	67
		P	480	78	76	92	83
4	Chhattisgarh	C	100		100	100	
		S	100		100	100	
		P	200		100	100	
5	Gujarat	C	340		96	100	100
		S	340		69	79	66
		P	680		85	90	83
6	Haryana @	C	200		100	100	100
		S	200		81	82	
		P	400		90	91	100
7	Himachal Pradesh	C	140		100	100	
		S	140		96	96	
		P	280		98	98	
8	Jammu & Kashmir	C	100		100	100	
		S	140		76	84	
		P	240		86	90	
9	Jharkhand	C	60	100	100	100	100
		S	60	72	90	68	65
		P	120	86	95	84	83
10	Karnataka	C	300		100	100	100
		S	300		98	100	100
		P	600		99	100	100
11	Kerala	C	80	100	100		100
		S	80	100	100		100
		P	160	100	100		100

Sl. No.	State	A G E N C Y	Sample Size	Percentage Response			
				Kharif		Rabi	
				Early Kharif	Late Kharif	Rabi	Summer
1	2	3	4	5	6	7	8
12	Madhya Pradesh	C	360		100	99	
		S	360		83	75	
		P	720		91	88	
13	Maharashtra	C	440		100	100	100
		S	440		65	61	39
		P	880		83	80	70
14	Odisha	C	220	100	100		100
		S	220	100	100		100
		P	440	100	100		100
15	Punjab	C	200		99	99	
		S	200		82	85	
		P	400		91	92	
16	Rajasthan	C	300		100	100	
		S	300		98	99	
		P	600		99	100	
17	Tamil Nadu	C	260	100	100	100	
		S	260	100	100	100	
		P	520	100	100	100	
18	Telangana	C	160		100	99	
		S	250		91	91	
		P	410		94	94	
19	Uttar Pradesh	C	690		100	100	100
		S	690		38	27	13
		P	1380		69	63	57
20	Uttarakhand	C	110		99	100	100
		S	110		95	99	96
		P	220		97	100	98
21	West Bengal	C	250	100	100	100	100
		S	400	16	16	17	15
		P	650	48	48	49	48
22	Puducherry	C	9		100	100	100
		S	9		100	100	100
		P	18		100	100	100
For States Covered		C	4939	100	99	100	100
		S	5349	74	76	73	51
		P	10288	86	87	86	76

- Note:
1. @- The Field work was not carried out for State sample during Summer season.
 2. \$- For Tamil Nadu: Autumn , Winter and Rabi indicate I, II & III phases respectively.

TIMELINESS IN COMPLETION OF GIRDAWARI DURING 2018-19

Sl. No.	State	A G E N C Y	Percentage of villages where Girdawari was completed during											
			Early Kharif			Late Kharif			Rabi			Summer		
			In time	Late	Not completed till Sample check visit	In time	Late	Not completed till Sample check visit	In time	Late	Not completed till Sample check visit	In time	Late	Not completed till Sample check visit
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Andhra Pradesh	C				0	0	100	0	0	100			
		S				31	51	18	53	32	15			
		P				19	31	50	33	20	48			
2	Assam	C	0	0	100	0	0	100	0	0	100	0	0	100
		S	0	0	99	0	0	100	1	2	98	0	0	100
		P	0	0	100	0	0	100	0	1	99	0	0	100
3	Bihar	C	0	0	100	0	0	100	0	0	100	0	0	100
		S	3	15	81	3	20	77	0	0	95	0	0	90
		P	2	7	91	2	9	89	0	0	98	0	0	96
4	Chhattisgarh	C				95	5	0	88	10	1			
		S				95	4	0	86	12	0			
		P				95	5	0	87	11	1			
5	Gujarat	C				0	0	100	0	0	99	0	0	100
		S				0	4	95	0	6	91	0	8	90
		P				0	2	98	0	2	95	0	3	89
6	Haryana @	C				94	2	5	93	4	2	18	0	83
		S				100	0	0	99	1	0	0	0	0
		P				96	1	2	96	2	1	18	0	83
7	Himachal Pradesh	C				94	6	0	97	3	0			
		S				96	4	1	96	1	0			
		P				95	5	0	96	2	0			
8	Jammu & Kashmir	C				69	30	0	59	32	2			
		S				48	43	0	58	35	0			
		P				58	37	0	58	34	1			
9	Jharkhand	C	0	0	100	0	0	100	0	0	100	0	0	100
		S	28	60	4	33	51	4	44	37	20	33	54	8
		P	13	27	56	16	24	54	18	15	67	13	21	64
10	Karnataka	C				66	25	8	55	29	15	30	18	52
		S				75	24	0	67	30	0	74	23	0
		P				71	24	4	61	29	7	52	20	26
11	Kerala	C	96	4	0	100	0	0				100	0	0
		S	99	1	0	98	3	0				90	8	0
		P	98	3	0	99	1	0				95	4	0
12	Madhya Pradesh	C				97	2	0	86	12	0			
		S				92	6	0	63	29	0			
		P				95	4	0	75	19	0			
13	Maharashtra	C				7	6	85	5	1	93	1	0	99
		S				22	36	7	61	0	8	34	32	8
		P				13	18	55	25	1	59	10	9	73
14	Odisha	C	96	4	0	88	11	0				99	0	1
		S	98	2	0	82	18	0				99	1	0
		P	97	3	0	85	15	0				99	1	0
15	Punjab	C				39	56	6	31	61	3			
		S				29	71	0	35	61	0			
		P				34	63	3	33	61	1			

Sl. No.	State	A G E N C Y	Percentage of villages where Girdawari was completed during											
			Early Kharif			Late Kharif			Rabi			Summer		
			In time	Late	Not completed till Sample check visit	In time	Late	Not completed till Sample check visit	In time	Late	Not completed till Sample check visit	In time	Late	Not completed till Sample check visit
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
16	Rajasthan	C				87	13	0	83	16	0			
		S				69	26	0	74	19	0			
		P				78	20	0	79	17	0			
17	Tamil Nadu	C	76	17	7	77	14	9	100	0	0			
		S	67	21	10	99	0	0	63	30	7			
		P	71	19	9	88	7	4	81	15	4			
18	Telangana	C				90	4	89	5	0	94			
		S				90	52	17	52	24	16			
		P				90	33	45	33	14	48			
19	Uttar Pradesh	C				48	14	26	44	13	36	41	15	35
		S				37	49	4	53	40	3	53	40	4
		P				45	24	20	46	19	29	43	18	31
20	Uttarakhand	C				87	6	6	76	21	3	84	14	2
		S				74	26	0	75	21	0	48	52	0
		P				80	16	3	76	21	1	66	33	1
21	West Bengal	C	26	16	58	21	11	64	34	2	64	16	12	72
		S	3	75	22	17	71	11	60	30	10	32	62	7
		P	22	28	50	20	23	54	39	8	53	19	21	60
22	Puducherry	C				100	0	0	100	0	0	78	22	0
		S				100	0	0	100	0	0	100	0	0
		P				100	0	0	100	0	0	89	11	0
For States covered		C	44	7	49	48	10	39	44	10	44	26	6	65
		S	47	17	36	53	26	16	54	21	19	45	18	32
		P	45	12	43	51	18	29	48	15	33	33	10	54

Note:

1. \$- For Tamil Nadu: Autumn , Winter and Rabi indicate I, II, & III phases respectively.
2. @- The Field work was not carried out for State sample during Summer season.

TIMELINESS IN SUBMISSION OF TRS/ EARAS STATEMENT DURING 2018-19

S. No.	State	S E A S O N	A G E N C Y	Percentage of Villages for which							
				TRS Statement submitted					TRS Statement not Submitted		
				Without completing Girdawari		After completing Girdawari		Information regarding date of submission not known	Though Girdawari completed	Girdawari not completed	Information regarding TRS submission not available
				By due date	After due date	By Due date	After due date				
1	2	3	4	5	6	7	8	9	10	11	12
1	Andhra Pradesh	Kharif	C	100	0	0	0	0	0	0	0
			S	38	0	61	1	0	0	0	0
			P	62	0	37	0	0	0	0	0
		Rabi	C	100	0	0	0	0	0	0	0
			S	81	0	18	0	0	0	0	0
			P	88	0	11	0	0	0	0	0
2	Assam	E.Kh.	C	2	0	0	0	0	0	98	0
			S	1	15	0	0	15	0	68	0
			P	2	7	0	0	7	0	83	0
		L.Kh.	C	0	0	0	0	0	0	100	0
			S	2	2	0	0	0	0	78	0
			P	1	1	0	0	0	0	90	0
		Rabi	C	2	5	0	0	0	0	93	0
			S	2	0	0	2	0	0	95	0
			P	2	3	0	1	0	1	94	0
		Summer	C	0	0	3	0	0	0	100	0
			S	0	9	0	0	0	0	100	0
			P	0	4	1	0	0	0	100	0
3	Bihar	Bhadhai	C	0	0	0	0	0	0	100	0
			S	0	2	0	9	0	0	80	0
			P	0	1	0	4	0	0	90	0
		Aghani	C	0	0	0	0	0	0	100	0
			S	0	3	0	11	0	10	76	0
			P	1	1	0	5	0	5	89	0
		Rabi	C	0	0	0	0	0	0	100	0
			S	0	21	0	0	30	0	45	0
			P	0	10	0	0	14	0	74	0
		Summer	C	0	0	0	0	0	0	100	0
			S	0	25	0	0	36	0	29	0
			P	0	10	0	0	14	0	72	0
4	Chhattisgarh	Kharif	C	2	0	84	12	1	1	0	0
			S	1	0	79	15	4	0	0	0
			P	2	0	82	14	3	1	0	0
		Rabi	C	1	0	78	18	1	1	1	0
			S	0	0	73	24	3	0	0	0
			P	1	0	76	21	2	1	1	0
5	Gujarat	Kharif	C	5	1	67	8	0	21	0	0
			S	0	0	0	0	0	0	100	0
			P	4	0	17	1	0	2	72	5
		Rabi	C	2	0	8	0	0	1	87	2
			S	0	0	0	0	0	1	100	0
			P	5	0	3	0	20	4	70	0
		Summer	C	2	0	1	0	9	2	87	0
			S	0	0	0	0	0	0	100	0
			P	3	0	0	1	24	4	65	0

S. No.	State	S E A S O N	A G E N C Y	Percentage of Villages for which							
				TR S Statement submitted					TR S Statement not Submitted		
				Without completing Girdawari		After completing Girdawari		Information regarding date of submission not known	Though Girdawari completed	Girdawari not completed	Information regarding TR S submission not available
				By due date	After due date	By Due date	After due date				
1	2	3	4	5	6	7	8	9	10	11	12
6	Haryana @	Kharif	C	1	0	67	8	0	21	0	0
			S	0	0	100	0	0	0	0	0
			P	2	0	81	4	0	11	0	0
		Rabi	C	0	0	70	16	0	12	2	14
			S	0	0	90	10	0	0	0	0
			P	0	0	79	13	0	6	1	7
		Summer	C	0	0	0	0	0	17	83	0
			S								
			P	0	0	0	0	0	17	83	1
7	Himachal Pradesh	Kharif	C	3	0	49	13	9	25	0	1
			S	2	0	64	23	3	7	0	0
			P	3	0	57	18	6	16	0	1
		Rabi	C	0	1	67	8	0	24	0	0
			S	0	0	74	11	4	10	0	0
			P	0	0	71	10	2	17	0	0
		Summer	C	3	0	43	22	1	31	0	0
			S	3	3	18	35	9	31	0	0
			P	3	1	30	29	5	31	0	0
8	Jammu & Kashmir	Kharif	C	3	0	43	22	1	31	0	0
			S	3	3	18	35	9	31	0	0
			P	3	1	30	29	5	31	0	0
		Rabi	C	0	0	32	20	0	44	2	0
			S	0	0	13	36	5	44	0	0
			P	0	0	22	29	3	44	1	0
		Summer	C	100	0	0	0	0	0	0	0
			S	4	10	0	62	0	18	0	0
			P	56	5	0	28	0	8	0	0
9	Jharkhand	Bhadhai	C	100	0	0	0	0	0	0	0
			S	4	10	0	62	0	18	0	0
			P	56	5	0	28	0	8	0	0
		Aghani	C	100	0	0	0	0	0	0	0
			S	7	4	2	40	0	47	0	0
			P	56	2	1	19	0	23	0	0
		Rabi	C	0	0	0	0	0	0	100	0
			S	2	5	2	46	0	27	17	0
			P	1	2	1	19	0	11	66	0
10	Karnataka	Summer	C	0	0	0	0	0	0	100	0
			S	18	10	0	38	0	23	0	0
			P	7	4	0	15	0	9	61	0
		Kharif	C	9	0	62	21	2	5	0	0
			S	0	1	63	31	5	0	0	0
			P	5	1	62	26	3	3	0	0
		Rabi	C	17	0	50	21	1	11	0	0
			S	1	0	60	33	4	1	0	0
			P	9	0	55	27	2	6	0	0
11	Kerala	Autumn	C	53	0	28	15	1	4	0	0
			S	1	0	66	28	5	0	0	0
			P	27	0	47	21	3	2	0	0
		Winter	C	0	0	93	6	1	0	0	0
			S	0	0	95	4	1	0	0	0
			P	0	0	94	5	1	0	0	0
		Summer	C	0	0	100	0	0	0	0	0
			S	0	0	99	0	1	0	0	0
			P	0	0	99	0	1	0	0	0

S. No.	State	S E A S O N	A G E N C Y	Percentage of Villages for which							
				TRS Statement submitted				TRS Statement not Submitted			
				Without completing Girdawari		After completing Girdawari		Information regarding date of submission not known	Though Girdawari completed	Girdawari not completed	Information regarding TRS submission not available
				By due date	After due date	By Due date	After due date				
1	2	3	4	5	6	7	8	9	10	11	12
12	Madhya Pradesh	Kharif	C	3	0	88	6	1	2	0	0
			S	3	0	76	12	8	0	0	0
			P	3	0	83	8	4	1	0	0
		Rabi	C	0	0	85	10	3	3	0	0
			S	0	0	59	28	12	0	0	0
			P	0	0	73	18	7	1	0	0
13	Mahara-shtra	Kharif	C	7	0	5	1	1	9	78	0
			S	2	0	19	20	24	24	4	0
			P	5	0	10	8	10	15	49	0
		Rabi	C	4	0	2	0	2	5	86	0
			S	4	3	1	40	34	7	6	0
			P	4	1	2	15	14	6	56	0
		Summer	C	1	0	0	0	0	1	98	0
			S	3	1	27	24	34	3	6	0
			P	1	0	8	7	10	2	72	0
		14	Odisha	Autumn	C	0	0	99	1	0	0
S	0				0	98	2	0	0	0	0
P	0				0	98	2	0	0	0	0
Winter	C			0	0	99	1	0	0	0	0
	S			2	0	100	0	0	0	0	0
	P			1	0	99	1	0	0	0	0
Summer	C			0	0	95	0	0	3	1	0
	S			0	0	100	0	0	0	0	0
15	Punjab	Kharif	C	6	1	8	19	0	66	0	0
			S	2	3	15	74	0	7	0	0
			P	4	2	11	44	0	39	0	0
		Rabi	C	0	0	10	24	0	64	2	0
			S	0	0	18	74	6	0	0	0
			P	0	0	14	47	3	35	1	0
16	Rajasthan	Kharif	C	0	0	67	32	0	1	0	0
			S	0	0	51	35	10	0	0	0
			P	0	0	59	34	5	1	0	0
		Rabi	C	0	0	66	32	1	0	0	0
			S	0	0	54	30	15	1	0	0
			P	0	0	60	31	8	0	0	0
17	Tamil Nadu	Phase-I	C	8	0	70	4	0	0	0	0
			S	17	4	60	10	0	2	0	0
			P	13	2	65	7	0	1	0	0
		Phase-II	C	10	0	65	25	0	0	0	0
			S	1	0	87	10	2	0	0	0
			P	5	0	76	18	1	0	0	0
		Phase-III	C	0	0	100	0	0	0	0	0
			S	20	3	61	17	0	0	0	0
			P	10	1	81	8	1	0	0	0
18	Telangana	Kharif	C	89	0	11	0	0	0	0	0
			S	17	0	63	20	0	1	0	0
			P	45	0	42	12	0	0	0	0
		Rabi	C	96	0	4	0	0	0	0	0
			S	18	0	67	8	0	0	0	0
			P	50	0	41	5	0	0	0	0

ANNEX III (Contd.....)

S. No.	State	S E A S O N	A G E N C Y	Percentage of Villages for which							
				TRS Statement submitted					TRS Statement not Submitted		
				Without completing Girdawari		After completing Girdawari		Information regarding date of submission not known	Though Girdawari completed	Girdawari not completed	Information regarding TRS submission not available
				By due date	After due date	By Due date	After due date				
1	2	3	4	5	6	7	8	9	10	11	12
19	Uttar Pradesh	Kharif	C	4	0	30	21	0	11	34	0
			S	2	4	25	50	12	0	1	1
			P	3	1	29	29	3	8	25	0
		Rabi	C	1	1	24	23	1	15	33	0
			S	0	2	16	64	14	2	1	0
			P	1	2	22	32	4	12	26	0
		Summer	C	0	0	21	22	0	21	34	0
			S	0	1	19	65	9	0	3	0
			P	0	1	21	27	1	18	31	0
20	Uttrakhand	Kharif	C	6	0	69	22	0	3	0	0
			S	4	0	42	53	2	0	0	0
			P	5	0	55	37	1	1	0	0
		Rabi	C	0	0	64	25	0	11	0	0
			S	0	0	65	30	4	0	0	0
			P	0	0	64	28	2	5	0	0
		Summer	C	0	0	56	38	0	4	2	0
			S	0	0	19	81	0	0	0	0
			P	0	0	38	59	0	2	1	0
21	West Bengal	E.Kharif	C	1	0	13	4	0	24	58	0
			S	2	8	14	55	0	0	22	0
			P	1	2	13	15	0	19	50	0
		L.Kharif	C	0	0	12	1	0	22	65	0
			S	2	8	43	21	0	14	13	0
			P	1	2	18	5	0	20	54	0
		Rabi	C	0	0	1	14	0	18	64	3
			S	0	0	16	49	0	0	12	7
			P	0	0	4	21	0	14	53	4
22	Puducherry	Kharif	C	0	0	100	0	0	0	0	0
			S	0	0	100	0	0	0	0	0
			P	0	0	100	0	0	0	0	0
		Rabi-I	C	0	0	100	0	0	0	0	0
			S	0	0	100	0	0	0	0	0
			P	0	0	100	0	0	0	0	0
		Rabi-II	C	0	0	100	0	0	0	0	0
			S	0	0	100	0	0	0	0	0
			P	0	0	100	0	0	0	0	0
FOR STATES COVERED		Early Kharif	C	7	0	40	2	0	5	42	0
			S	5	5	44	11	2	1	28	0
			P	6	2	42	6	1	3	36	0
		Late Kharif	C	11	0	36	11	2	9	31	0
			S	5	1	45	20	5	4	15	0
			P	10	1	43	16	3	8	19	0
		Rabi	C	9	0	37	11	1	9	32	1
			S	10	2	41	21	7	3	14	0
			P	10	1	41	17	5	7	19	0
All seasons		Summer	C	5	0	17	7	2	8	60	0
			S	1	3	37	16	9	1	32	0
			P	4	1	28	12	5	6	43	0
			C	9	0	32	9	1	8	39	0
			S	6	2	42	19	6	3	19	0
			P	8	1	39	14	4	7	25	0

Note:

@- The Field work was not carried out for State sample during Summer season.

**INFORMATION REGARDING UPDATION OF VILLAGE
MAPS AND THEIR USABILITY DURING 2018-19**

Sl. No.	State	Percentage of villages in which			
		Maps updated more than 20 years ago	Availability of Maps		Maps not available
			Usable	unusable	
1	2	3	4	5	6
1	Andhra Pradesh	76	92	2	7
2	Assam	84	94	3	3
3	Bihar	91	76	1	23
4	Chhattisgarh	43	97	2	1
5	Gujarat	37	62	19	19
6	Haryana	36	100	0	0
7	Himachal Pradesh	50	90	9	1
8	Jammu & Kashmir	55	70	18	12
9	Jharkhand	86	56	5	39
10	Karnataka	61	76	6	18
11	Kerala	77	100	0	0
12	Madhya Pradesh	34	99	1	1
13	Maharashtra	27	86	4	10
14	Odisha	93	100	0	0
15	Punjab	57	99	1	0
16	Rajasthan	61	98	1	1
17	Tamil Nadu	95	93	2	5
18	Telangana	84	60	10	29
19	Uttar Pradesh	80	95	4	2
20	Uttarakhand	92	98	2	0
21	West Bengal	97	99	0	1
22	Puducherry	100	100	0	0
For States Covered		65	88	4	8

**PERCENTAGE OF SURVEY NUMBERS IN WHICH ERRORS IN RECORDING CROP
AREA WERE OBSERVED DURING 2018-19**

Sl. No.	State	A G E N C Y	Percentage of survey numbers with different types of errors in enumeration of area during															
			KHARIF								RABI							
			Early Kharif				Late Kharif				RABI				SUMMER			
			e ₀	e ₁	e ₂	e ₃	e ₀	e ₁	e ₂	e ₃	e ₀	e ₁	e ₂	e ₃	e ₀	e ₁	e ₂	e ₃
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	Andhra Pradesh	C					2	97	0	0	2	98	0	0				
		S					92	7	0	1	91	8	0	1				
		P					56	43	0	1	61	38	0	1				
2	Assam @	C																
		S																
		P																
3	Bihar #	C	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		S	86	5	3	7	97	1	1	2	70	29	0	1	50	7	43	0
		P	86	5	3	7	97	1	1	2	70	29	0	1	50	7	43	0
4	Chhattisgarh	C					90	3	2	5	95	2	0	2				
		S					96	2	2	1	92	5	2	1				
		P					93	2	2	3	94	4	1	2				
5	Gujarat	C#																
		S					93	1	0	6	93	0	1	7	100	0	0	0
		P					93	1	0	6	93	0	1	7	100	0	0	0
6	Haryana *	C					85	7	4	4	86	7	3	5	0	100	0	0
		S					98	1	1	1	98	1	0	1	0	0	0	0
		P					91	4	2	2	91	5	2	3	0	100	0	0
7	Himachal Pradesh	C					75	9	9	6	93	3	1	3				
		S					95	2	2	1	99	0	0	0				
		P					85	5	6	4	96	2	1	2				
8	Jammu & Kashmir	C					91	4	2	3	85	9	1	4				
		S					99	0	0	0	99	0	0	1				
		P					95	2	1	2	92	4	1	3				
9	Jharkhand @	C	0	100	0	0	0	100	0	0	0	100	0	0				
		S	97	1	0	2	95	4	0	2	100	0	0	0				
		P	47	52	0	1	46	54	0	1	99	1	0	0				
10	Karnataka	C					64	11	5	19	55	29	4	12	71	25	0	4
		S					98	1	0	1	98	2	0	0	99	0	0	1
		P					81	6	3	10	81	13	2	5	88	10	1	2
11	Kerala	C	60	1	21	18	84	1	1	14					93	1	0	6
		S	75	1	4	21	82	1	1	17					90	1	0	9
		P	66	1	14	19	83	1	1	15					92	1	0	7
12	Madhya Pradesh	C					76	9	5	11	82	6	3	9				
		S					97	1	0	1	96	2	1	2				
		P					85	5	3	7	88	4	2	6				
13	Maharashtra	C					48	9	3	40	90	1	1	9	10	88	0	2
		S					93	2	0	5	97	1	0	2	94	4	0	1
		P					75	5	1	19	95	1	0	3	53	45	0	2

ANNEX IV (a) (Contd.....)

Sl. No.	State	A G E N C Y	Percentage of survey numbers with different types of errors in enumeration of area during															
			KHARIF								RABI							
			Early Kharif				Late Kharif				RABI				SUMMER			
			e ₀	e ₁	e ₂	e ₃	e ₀	e ₁	e ₂	e ₃	e ₀	e ₁	e ₂	e ₃	e ₀	e ₁	e ₂	e ₃
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
14	Odisha	C	100	0	0	0	100	0	0	0					99	0	0	1
		S	100	0	0	0	100	0	0	0					97	1	0	2
		P	100	0	0	0	100	0	0	0					98	1	0	1
15	Punjab	C					89	6	2	4	94	2	0	4				
		S					99	0	0	1	98	0	0	1				
		P					93	3	1	2	96	1	0	2				
16	Rajasthan	C					71	8	6	14	76	9	4	11				
		S					97	1	1	2	97	1	1	1				
		P					84	5	3	8	86	5	2	6				
17	Tamil Nadu	C	69	19	2	10	76	12	5	8	25	74	1	1				
		S	66	23	2	9	70	19	2	8	67	27	4	2				
		P	67	21	2	10	71	18	3	8	45	51	2	1				
18	Telangana	C					100	0	0	0	0	100	0	0				
		S					97	1	1	1	98	1	0	1				
		P					97	1	1	1	67	32	0	1				
19	Uttar Pradesh	C					50	34	4	12	80	9	2	10	72	15	1	12
		S					86	9	1	4	90	3	1	5	80	12	0	8
		P					60	27	4	9	83	7	1	9	73	14	1	12
20	Uttarakhand	C					83	11	3	3	90	5	2	2	88	9	1	2
		S					93	3	2	2	95	1	1	2	98	1	0	1
		P					89	7	3	2	93	3	2	2	93	5	0	2
21	West Bengal	C	91	6	2	1	100	0	0	0	94	5	0	1	93	4	0	3
		S	36	14	16	35	90	3	2	5	78	0	14	8	88	0	8	4
		P	76	8	5	10	95	2	1	2	88	3	6	4	91	3	3	3
22	Puducherry	C					93	6	0	1	85	7	0	8	86	4	2	8
		S					100	0	0	0	91	7	0	3	98	0	0	2
		P					96	3	0	1	88	7	0	5	94	1	1	4
For States covered		C	68	16	6	10	66	18	4	12	77	14	2	7	85	8	0	6
		S	73	15	3	10	94	3	1	3	95	2	1	2	91	2	1	7
		P	71	15	4	10	80	11	2	7	86	8	1	4	88	5	1	3

Note:

1. e₀ = No error2. e₁ = Not reporting the crop which is actually grown in the survey numbers .3. e₂ = Recording a crop as sown in the field when actually no crop has been sown in the field.4. e₃ = Under (or) over assessment of the area under the crop sown in the field.

5. @ = Data could not be tabulated due to non-completion of Girdwari.

6. # = Observations do not reflect true picture of discrepancies in the State since primary worker's entries are not available for comparison for large number of samples.

7.*- The Field work was not carried out for State sample during Summer season.

IMPACT OF ERRORS IN RECORDING CROP AREA DURING 2018-19

Sl. No.	State	A G E N C Y	Ratio of area based on Patwari's & Supervisor's entries in sample clusters														
			Paddy			Jowar		Bajra	Maize	Ragi	Cotton	Ground-nut	Sugar-cane	Wheat	Barley	Gram	Rape & Mustard
			Aut.	Wint.	Sum.	Kharif	Rabi										
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	Andhra Pradesh	C		0.9272	0.2452	1.0822	0.0000	0.0000	0.0000	NA	0.0000	0.0000	0.0000			0.0000	
		S		1.0031	1.0034	1.0034	0.0000	1.0000	0.0000		1.0055	0.9975	0.9978			1.0030	
		P		0.9987	1.0062	1.0062	0.0000	1.0000	0.0000		1.0055	0.9990	0.9981			1.0030	
2	Assam	C															
	@	S															
		P															
3	Bihar	C #	NR	NR	NR									NR		NR	NR
		S	0.9470	0.9957										0.7388		1.0000	0.0000
		P	0.9470	0.9957										0.7388		1.0000	0.0000
4	Chhattisgarh	C		0.9879					1.0430					1.0126		0.9869	0.9803
		S		0.9154					1.0065					0.8898		0.9572	1.0000
		P		0.9469					1.0223					0.9814		0.9703	0.9870
5	Gujarat	C #															
		S		0.9487				0.0000	1.0250		0.0000	0.0000		1.0282		1.0607	
		P		0.9487				0.0000	1.0250		0.0000	0.0000		1.0282		1.0607	
6	Haryana	C		0.7693				1.0040	1.0000		1.0138		0.8639	0.9770	0.9004	0.9684	0.9730
		S		0.6109				1.0054	0.0000		1.0069		1.0000	0.9949	1.0162	1.0000	0.9966
		P		0.6811				1.0045	1.0000		1.0107		0.9089	0.9850	0.9391	0.9751	0.9828
7	Himachal Pradesh	C		0.8666					1.2241					1.0216	0.7539		
		S		0.9549					0.9422					0.9985	0.9135		
		P		0.9288					1.0081					1.0076	0.8681		
8	Jammu & Kashmir	C		1.0021					0.9841					0.9308			
		S		1.0055					1.0004					0.9932			
		P		1.0040					0.9910					0.9651			
9	Jharkhand	C															
	@	S	0.9785	1.0127					0.9590					0.9967		1.0000	1.0000
		P	0.5359	0.4655					0.4202					0.9967		1.0000	1.0000
10	Karnataka	C		2.0238	0.9297	0.8948	0.8342	0.9959	0.8859	1.0096	0.9718	1.1018	0.9635	0.6435		1.4101	
		S		1.0301	0.9154	1.2111	0.9872	1.0042	0.9995	1.0003	0.9994	0.9752	0.9750	0.9847		0.9946	
		P		1.5190	0.9279	1.0254	0.9255	0.9992	0.9424	1.0044	0.9881	1.0328	0.9694	0.7925		1.2361	
11	Kerala	C	0.9907	0.9765	1.0376												
		S	1.0236	0.9759	1.0000												
		P	1.0034	0.9762	1.0251												
12	Madhya Pradesh	C		0.9988		0.9033			1.0714		0.9441	0.9441		0.9925		1.0132	0.9527
		S		1.0004		1.0000			0.9886		0.9836	1.0000		0.8737		1.0421	0.9859
		P		0.9995		0.9541			1.0354		0.9623	0.9558		0.9373		1.0262	0.9687
13	Maharashtra	C		0.9849		1.0243	1.0324	0.7557			0.9873	0.8011	0.7626	0.9904		0.9916	
		S		1.0073		0.9786	0.9911	0.9559			0.9769	0.7734	0.6574	0.8300		1.0014	
		P		0.9991		1.0043	0.9920	0.9183			0.9822	0.7783	0.6701	0.9010		0.9988	
14	Odisha	C	1.0000	1.0000	0.9979				1.0000								
		S	1.0000	1.0000	0.9788				1.0000								
		P	1.0000	1.0000	0.9876				1.0000								

ANNEX IV (b) (Contd.....)

Sl. No.	State	A G E N C Y	Ratio of area based on Patwari's & Supervisor's entries in sample clusters														
			Paddy			Jowar		Bajra	Maize	Ragi	Cotton	Ground-nut	Sugar-cane	Wheat	Barley	Gram	Rape & Mustard
			Aut.	Wint.	Sum.	Kharif	Rabi										
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
15	Punjab	C		1.6644					0.9807		0.9738		0.8962	0.9990			1.0038
		S		1.0106					1.0000		1.0000		0.9668	1.0112			0.8140
		P		1.3393					0.9946		0.9788		0.9131	1.0051			0.9832
16	Raja- sthan	C				0.8609		0.9745	0.7481		0.9764	1.0257	1.0000	0.7402	0.9401	1.0003	1.0545
		S				1.0008		1.0037	0.9785		1.0319	1.0797	1.0000	0.9927	0.9971	0.9962	1.3564
		P				0.9356		0.9886	0.8708		0.9955	1.0487	1.0000	0.8609	0.9744	0.9980	1.2099
17	Tamil Nadu	C	0.9058	0.6110	0.2363	0.9083	0.0436	0.7425	0.7443		0.9119	0.8505	0.8016				
		S	0.9581	0.9889	0.1224	0.8169	0.0000	0.7242	0.7624		0.5915	0.9712	0.7529				
		P	0.9236	0.7083	0.2205	0.8666	0.0409	0.7346	0.7477		0.7680	0.7801	1.2818				
18	Telangan	C	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		1.0000	0.0000	0.0000				
		S	1.0228	0.0000	0.9933	1.0000	0.9645	0.0000	1.1587		1.0307	1.0000	0.0000				
		P	1.0228	0.0000	0.9881	1.0000	0.9645	0.0000	1.1587		1.0289	1.0000	0.0000				
19	Uttar Pradesh	C		0.9681		1.0613		0.9362	0.9319				0.6995	1.5325		0.9873	1.5405
		S		2.6559		1.0013		1.0114	0.9167				0.4696	1.0029		1.0000	1.0000
		P		1.5307		1.0333		0.9633	0.9264				0.6097	1.4047		0.9921	1.4886
20	Uttara- khand	C		0.9948						1.0453			1.0247	0.9960			
		S		0.9837						1.0339			1.0347	1.0192			
		P		0.9888						1.0390			1.0292	1.0081			
21	West Bengal	C	0.9644	0.9995	0.8177									1.0000			0.9963
		S	1.0710	0.9894	0.9130									0.9634			1.2351
		P	0.9953	0.9954	0.8424									0.9690			1.0412
22	Pudu- cherry *	C		1.0000	1.0118												
		S		1.0000	3.7969												
		P		1.0000	1.7452												
For states covered		C	0.9119	1.1269	0.8923	0.9316	0.8315	0.9693	0.9829	1.0108	0.9818	1.0070	0.7922	1.0706	0.5893	1.0537	1.3101
		S	1.0041	1.1223	1.0242	0.9800	0.9885	0.9996	0.9700	1.0014	0.9949	1.0019	0.6838	0.9883	0.8747	1.0103	1.2463
		P	0.9669	1.1245	0.9654	0.9550	0.9534	0.9839	0.9752	1.0056	0.9896	1.0005	0.7302	1.0216	0.8793	1.0278	1.2891

Note:-

1. @ - Observations are not given due to insufficient data.
2. # - Observations do not reflect true picture of discrepancies in the State since primary worker's entries are not available for comparison for large number of samples. Since data from only one agency is available, the same has been taken against pooled agency for comparison purpose.
- 3 NA = Data Not available
- 4 NR= Data Not Reported

DISCREPANCIES IN RECORDING IRRIGATION PARTICULARS DURING 2018-19

S. No.	State	Season	A G E N C Y	Percentage of survey numbers in which particulars										
				Tallied			Not Tallied							
							Supervisor				Patwari			
				Irr	UI	Total	Irr	UI	NR	Total	Irr	UI	NR	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Andhra Pradesh	Kharif	C	2	0	2	56	39	0	96	0	0	97	97
			S	54	39	92	5	2	0	7	0	0	7	7
			P	33	23	56	26	13	1	43	1	0	43	44
		Rabi	C	2	0	2	57	40	0	97	0	0	98	98
			S	55	0	55	3	5	0	8	0	0	8	8
			P	37	0	37	21	17	0	38	0	0	38	38
2	Assam @	Early Kharif	C											
			S											
			P											
		Late Kharif	C											
			S											
			P											
		Rabi	C											
			S											
			P											
		Summer	C											
			S											
			P											
3	Bihar #	Bhadai	C	NR										
			S	45	47	93	3	2	3	7	2	0	5	7
			P^	45	47	93	3	2	3	7	2	0	5	7
		Aghani	C	NR										
			S	81	18	98	1	1	1	2	1	0	1	2
			P^	81	18	98	1	1	1	2	1	0	1	2
		Rabi	C	NR										
			S	71	0	71	11	18	0	29	0	0	29	29
			P^	71	0	71	11	18	0	29	0	0	29	29
		Summer	C	NR										
			S	14	0	14	76	10	0	86	0	0	86	86
			P^	14	0	14	76	10	0	86	0	0	86	86
4	Chhattisgarh	Kharif	C	25	69	94	1	3	2	6	1	2	3	6
			S	24	71	94	2	2	2	6	1	3	6	10
			P	24	70	94	2	2	2	6	1	3	4	8
		Rabi	C	43	53	96	1	3	0	4	1	1	2	4
			S	32	61	93	3	2	2	7	2	0	5	7
			P	37	57	94	2	2	1	6	2	1	4	6
5	Gujarat	Kharif	C	NR										
			S	34	63	97	1	2	0	3	1	1	1	3
			P^	34	63	97	1	2	0	3	1	1	1	3
		Rabi	C	NR										
			S	68	28	96	1	1	1	3	2	1	0	3
			P^	68	28	96	1	1	1	3	2	1	0	3
6	Haryana *	Kharif	C	NR										
			S	82	7	89	7	0	0	7	4	0	7	11
			P	92	7	98	1	0	1	1	1	0	1	1
		Rabi	C	86	7	93	4	1	0	4	2	1	4	7
			S	86	4	90	7	0	3	10	3	0	7	10
			P	95	4	98	0	1	0	2	0	0	1	2
		Summer	C	90	4	94	4	1	2	6	2	0	5	6
			S	0	0	0	100	0	0	100	0	0	100	100
			P	0	0	0	0	0	0	0	0	0	0	0
			C	0	0	0	100	0	0	100	0	0	100	100
			S	0	0	0	0	0	0	0	0	0	0	0
			P	0	0	0	0	0	0	0	0	0	0	0

S. No.	State	Season	A G E N C Y	Percentage of survey numbers in which particulars											
				Tallied			Not Tallied								
							Supervisor				Patwari				
				Irr	UI	Total	Irr	UI	NR	Total	Irr	UI	NR	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
7	Himachal Pradesh	Kharif	C	10	72	81	0	9	9	18	1	9	9	19	
			S	18	78	96	0	3	2	4	1	2	2	4	
			P	14	74	88	1	6	6	12	1	6	6	12	
		Rabi	C	12	83	95	1	3	1	5	0	2	3	5	
			S	23	75	99	0	0	0	1	0	0	0	1	
			P	18	79	97	0	1	1	3	0	1	2	3	
8	Jammu & Kashmir	Kharif	C	44	49	94	2	2	2	6	1	1	4	6	
			S	51	48	100	0	0	0	0	0	0	0	0	
			P	48	49	97	1	1	1	3	1	1	2	3	
		Rabi	C	36	53	89	5	4	1	11	1	1	9	11	
			S	52	48	99	0	1	0	1	0	0	0	1	
			P	45	50	95	2	2	1	5	0	1	4	5	
9	Jharkhand @	E. Kharif	C	NR											
			S	1	97	98	0	0	0	0	0	0	1	2	
			P^	0	48	48	0	51	0	51	0	0	1	1	
		L. Kharif	C	NR											
			S	3	92	95	0	5	0	5	1	0	4	5	
			P^	1	45	46	3	51	0	54	1	0	2	2	
		Rabi	C	NR											
			S	58	42	100	0	0	0	0	0	0	0	0	
			P^	58	42	100	0	0	0	0	0	0	0	0	
		Summer	C	NR											
			S	0	0	0	0	0	0	0	0	0	0	0	
			P^	0	0	0	0	0	0	0	0	0	0	0	
10	Karnataka	Kharif	C	25	56	81	5	8	5	18	2	5	11	18	
			S	33	65	98	0	1	0	1	0	0	1	1	
			P	29	60	89	3	4	3	10	1	3	6	10	
		Rabi	C	27	38	65	11	19	4	34	3	3	29	34	
			S	29	68	97	1	1	0	2	0	0	2	2	
			P	28	56	84	5	8	2	15	1	1	13	15	
		Summer	C	75	0	75	24	1	0	25	0	0	25	25	
			S	80	18	98	0	0	0	0	0	0	0	0	
			P	78	11	89	10	0	1	10	1	0	10	10	
		Autumn	C	2	69	72	1	1	21	24	0	21	1	22	
			S	13	73	85	1	1	4	0	0	3	1	5	
			P	7	71	77	1	1	14	16	1	14	1	15	
11	Kerala	Winter	C	24	64	89	1	2	1	3	0	1	1	3	
			S	20	66	86	0	1	1	2	0	1	1	2	
			P	22	65	87	1	1	1	3	0	1	1	3	
		Summer	C	17	72	89	0	1	0	2	0	0	1	2	
			S	16	74	89	0	1	0	2	0	1	1	2	
			P	16	73	89	0	1	0	2	0	1	1	2	
12	Madhya Pradesh	Kharif	C	10	76	86	2	8	5	14	1	5	9	14	
			S	10	87	97	1	1	0	2	0	1	1	2	
			P	10	81	91	2	5	3	9	0	3	5	9	
		Rabi	C	81	10	91	5	1	3	9	3	1	6	9	
			S	83	15	97	2	0	1	3	1	0	2	3	
			P	81	12	94	4	1	2	6	2	0	4	6	

S. No.	State	Season	A G E N C Y	Percentage of survey numbers in which particulars													
				Tallied			Not Tallied										
							Supervisor				Patwari						
				Irr	UI	Total	Irr	UI	NR	Total	Irr	UI	NR	Total			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			
13	Maharashtra	Kharif	C	19	65	84	5	7	3	15	2	4	9	15			
			S	29	67	96	1	2	0	3	1	1	2	3			
			P	25	67	91	3	4	1	8	1	2	5	8			
		Rabi	C	83	15	98	1	0	1	2	1	0	1	2			
			S	52	46	98	1	1	0	2	0	0	1	2			
			P	58	39	98	1	1	0	2	0	0	1	2			
		Summer	C	12	0	12	80	7	0	87	0	0	88	88			
			S	87	8	94	2	2	0	4	0	0	4	4			
			P	50	4	54	40	5	0	45	0	0	45	45			
14	Odisha	Autumn	C	9	89	99	0	0	0	1	0	0	0	0			
			S	2	97	100	0	0	0	0	0	0	0	0			
			P	6	93	99	0	0	0	0	0	0	0	0			
		Winter	C	29	70	99	0	1	0	1	0	0	0	1			
			S	26	74	100	0	0	0	0	0	0	0	0			
			P	27	72	99	0	0	0	0	0	0	0	0			
		Summer	C	48	51	99	0	0	0	1	0	0	0	1			
			S	69	29	98	1	1	0	2	0	0	1	1			
			P	58	41	99	0	1	0	1	0	0	1	1			
15	Punjab	Kharif	C	92	0	92	6	0	2	8	2	0	6	8			
			S	99	0	99	0	0	0	1	0	0	0	1			
			P	95	0	95	3	0	1	5	1	0	3	5			
		Rabi	C	97	0	97	2	0	0	3	1	0	2	3			
			S	99	0	99	0	0	0	1	0	0	0	1			
			P	98	0	98	1	0	0	2	1	0	1	2			
		16	Rajasthan	Kharif	C	16	68	84	2	7	6	15	1	6	8	15	
					S	18	79	97	0	1	1	2	0	1	1	2	
					P	17	73	91	1	4	3	9	1	3	5	9	
Rabi	C			80	7	87	8	1	4	13	4	1	9	13			
	S			88	10	98	1	0	1	2	1	0	1	2			
	P			84	8	92	5	1	2	8	2	1	5	8			
17	Tamil Nadu	Phase-I	C	42	35	76	7	12	1	20	2	2	19	22			
			S	43	29	72	9	14	2	25	2	2	23	27			
			P	42	32	74	8	13	1	23	2	2	21	25			
		Phase-II	C	67	14	81	11	3	5	19	4	3	12	19			
			S	49	27	75	9	9	2	21	3	2	19	24			
			P	52	24	77	10	8	3	20	3	2	18	23			
		Rabi	C	20	6	25	28	44	1	72	0	1	74	75			
			S	62	6	69	21	6	4	31	2	2	27	31			
			P	40	6	46	25	26	2	53	1	1	51	54			
18	Telangana	Kharif	C	0	0	0	0	0	0	0	0	0	0	0			
			S	56	43	99	0	0	0	1	0	0	0	1			
			P	56	43	99	0	0	0	1	0	0	0	1			
		Rabi	C	0	0	0	0	0	0	0	0	0	0	0			
			S	89	11	99	0	0	0	1	0	0	0	1			
			P	89	11	99	0	0	0	1	0	0	0	1			
19	Uttar Pradesh	Kharif	C	43	17	60	24	11	4	40	3	3	34	40			
			S	68	20	88	10	1	1	13	1	2	9	12			
			P	50	18	68	20	9	4	32	3	3	27	32			
		Rabi	C	85	4	89	8	1	2	11	2	1	9	11			
			S	88	6	95	4	0	1	5	1	1	3	5			
			P	86	5	91	7	1	1	9	2	1	7	9			
		Summer	C	78	5	82	15	1	1	17	1	1	15	17			
			S	76	12	88	11	0	0	12	0	0	12	12			
			P	77	6	83	14	1	1	16	1	1	14	16			

S. No.	State	Season	A G E N C Y	Percentage of survey numbers in which particulars												
				Tallied			Not Tallied									
							Supervisor				Patwari					
				Irr	UI	Total	Irr	UI	NR	Total	Irr	UI	NR	Total		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
20	Uttarakhand	Kharif	C	45	39	84	8	4	3	15	1	4	11	16		
			S	47	48	95	2	1	2	5	1	1	3	5		
			P	46	43	90	5	3	3	10	1	3	7	10		
		Rabi	C	60	32	92	3	2	2	7	0	2	5	7		
			S	59	38	97	1	0	1	3	1	0	1	3		
			P	59	35	95	2	1	2	5	1	1	3	5		
		Summer	C	85	5	89	8	2	1	10	1	0	9	10		
			S	99	0	99	1	0	0	1	0	0	1	1		
			P	93	2	95	4	1	0	5	1	1	5	5		
21	West Bengal	Early Kharif	C	NOT APPLICABLE												
			S													
			P													
		Late Kharif	C													
			S													
			P													
		Rabi	C													
			S													
			P													
		Summer	C													
			S													
			P													
22	Puducherry	Kharif	C	81	9	90	3	1	0	4	0	0	6	6		
			S	63	35	98	0	0	0	0	0	0	0	0		
			P	72	22	94	1	1	0	2	0	0	3	3		
		Rabi-I	C	83	3	86	5	2	0	7	0	0	7	7		
			S	76	17	93	7	0	0	7	0	0	7	7		
			P	79	11	90	6	1	0	7	0	0	7	7		
		Rabi-II	C	86	0	86	12	0	2	14	0	4	4	8		
			S	77	23	100	0	0	0	0	0	0	0	0		
			P	80	15	95	4	0	1	5	0	1	1	3		
		FOR STATES COVERED		Early Kharif	C	26	50	75	4	12	5	21	1	6	11	18
					S	31	48	79	6	9	3	16	2	2	15	18
P	28				49	77	5	11	4	19	1	4	13	18		
Late Kharif	C			32	45	76	10	9	3	23	2	3	17	22		
	S			41	54	95	2	1	1	4	1	1	3	4		
	P			36	49	86	6	5	2	13	1	2	10	13		
Rabi	C			72	14	86	8	3	2	14	2	1	11	14		
	S			73	21	94	1	1	1	3	1	0	2	3		
	P			72	18	90	5	2	1	8	1	0	7	8		
Summer	C			30	53	82	8	3	0	12	0	1	11	12		
	S			34	56	90	2	1	1	4	1	1	3	4		
	P			32	54	86	5	2	0	8	1	1	7	8		
All seasons			C	43	36	80	9	7	3	19	2	2	14	18		
			S	50	44	93	2	2	1	5	1	1	3	5		
			P	47	40	87	6	4	2	12	1	2	9	12		

Note:

1. @ - Observations are not given due to insufficient data.
2. # - Observations do not reflect the true picture of discrepancies in the State since primary worker's entries are not available for comparison for large number of samples.
3. * - The Field work was not carried out for State sample during Summer season.
4. \$ - Recording of irrigation particulars discontinued as per the decision taken in 21st STC meeting in 1988.
5. P^A - Since data from only one agency is available, the same has been taken against pooled agency for comparison purpose.
6. NR - Not Reported.

DISCREPANCIES IN RECORDING SEED VARIETY PARTICULARS DURING 2018-19

Sl. No.	State	Season	A G E N C Y	Percentage of survey numbers in which particulars												
				Tallied			Not Tallied									
							Supervisor				Patwari					
				HY	L	Total	HY	L	NR	Total	HY	L	NR	Total		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
1	Andhra Pradesh	Kharif	C	2	0	2	85	11	0	96	0	0	97	97		
			S	78	15	92	7	0	0	7	0	0	7	7		
			P	47	9	56	38	4	1	43	2	0	43	44		
		Rabi	C	2	0	2	90	8	0	98	0	0	98	98		
			S	81	11	92	8	0	0	8	0	0	8	8		
			P	54	7	62	35	3	0	38	0	0	38	38		
2	Assam @	Early Kharif	C													
			S													
			P													
		Late Kharif	C													
			S													
			P													
		Rabi	C													
			S													
			P													
		Summer	C													
			S													
			P													
3	Bihar #	Bhadai	C	NR												
			S	47	46	93	3	2	3	7	3	0	5	7		
			PA	47	46	93	3	2	3	7	3	0	5	7		
		Aghani	C	NR												
			S	83	16	98	1	1	1	2	1	0	1	2		
			PA	83	16	98	1	1	1	2	1	0	1	2		
		Rabi	C	NR												
			S	71	0	71	28	18	0	29	0	0	29	29		
			PA	71	0	71	28	18	0	29	0	0	29	29		
		Summer	C	NR												
			S	0	14	14	76	10	0	86	0	0	86	86		
			PA	0	14	14	76	10	0	86	0	0	86	86		
		4	Chhattisgarh	Kharif	C	60	33	93	3	1	2	7	1	3	3	7
					S	61	35	95	1	2	2	5	3	1	2	5
					P	60	34	94	2	2	2	6	2	2	2	6
				Rabi	C	26	68	94	3	2	0	5	1	3	2	6
					S	59	33	92	4	1	2	7	2	0	5	7
					P	44	50	93	3	2	1	6	1	1	4	7
5	Gujarat			Kharif	C	NR										
					S	73	25	98	1	1	0	2	1	1	1	2
					PA	73	25	98	1	1	0	2	1	1	1	2
				Rabi	C	NR										
S	32	65	97		1	0	1	1	0	1	0	1				
PA	32	65	97		1	0	1	1	0	1	0	1				
6	Haryana *	Kharif	C	87	2	89	7	0	4	11	4	0	7	11		
			S	92	6	99	1	0	1	1	1	0	1	1		
			P	90	4	93	4	1	2	7	3	0	4	7		
		Rabi	C	88	2	90	7	0	3	10	3	0	7	10		
S	97		2	99	0	1	0	1	0	0	1	1				
P	92		2	94	4	0	2	6	2	0	5	6				
7	Himachal Pradesh	Kharif	C	33	43	76	8	5	9	23	3	12	9	24		
			S	62	33	95	2	1	2	5	0	3	2	5		
			P	47	39	85	5	3	6	14	2	7	6	15		
		Rabi	C	55	37	92	5	2	1	8	0	5	3	8		
S	63		36	99	0	0	0	0	0	0	0	1				
P	59		36	95	2	1	1	4	0	2	2	4				

Sl. No.	State	Season	A G E N C Y	Percentage of survey numbers in which particulars										
				Tallied			Not Tallied							
							Supervisor				Patwari			
				HY	L	Total	HY	L	NR	Total	HY	L	NR	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
8	Jammu & Kashmir	Kharif	C	24	69	93	1	4	2	7	0	3	4	7
			S	49	51	99	0	0	0	0	0	0	0	0
			P	36	60	96	1	2	1	3	0	1	2	4
		Rabi	C	39	50	89	6	3	1	11	1	1	9	11
			S	62	38	100	0	0	0	0	0	0	0	0
			P	52	43	95	3	1	1	5	0	0	4	5
9	Jharkhand @	Early Kharif	C	NR										
			S	14	84	98	0	1	0	2	0	0	1	2
			P	7	41	48	6	46	0	52	0	0	52	52
		Late Kharif	C	NR										
			S	26	70	96	0	4	0	4	0	0	4	4
			P	13	34	46	24	30	0	54	0	0	54	54
		Rabi	C	NR										
			S	16	84	100	0	0	0	0	0	0	0	0
			P	16	84	100	0	0	0	0	0	0	0	0
		Summer	C	NR										
			S	0	0	0	0	0	0	0	0	0	0	0
			P	0	0	0	0	0	0	0	0	0	0	0
10	Karnataka	Kharif	C	69	13	81	9	3	5	17	5	1	11	18
			S	81	18	98	0	0	0	1	0	0	1	1
			P	74	15	90	5	2	3	9	3	1	6	10
		Rabi	C	40	26	66	16	13	4	33	5	0	29	33
			S	63	34	97	1	1	0	2	0	0	2	2
			P	54	31	85	7	6	2	15	2	0	13	15
		Summer	C	75	0	75	24	1	0	25	0	0	25	25
			S	57	42	99	0	0	0	0	0	0	0	0
			P	64	25	89	10	0	1	10	0	0	10	10
11	Kerala	Autumn	C	13	60	73	2	0	21	24	0	22	1	22
			S	16	70	86	1	1	5	7	0	9	1	11
			P	14	64	79	2	1	14	17	1	16	1	17
		Winter	C	23	70	93	1	1	1	3	0	1	1	3
			S	16	76	92	1	1	1	3	0	3	1	4
			P	19	73	92	1	1	1	3	0	2	1	3
		Summer	C	5	93	98	0	1	0	1	0	0	1	1
			S	4	94	98	0	1	0	2	0	0	1	2
			P	4	94	98	0	1	0	1	0	0	1	1
12	Madhya Pradesh	Kharif	C	41	44	86	5	5	5	14	2	3	9	14
			S	58	40	98	1	1	0	1	0	0	1	1
			P	49	43	91	3	3	3	8	1	2	5	9
		Rabi	C	51	39	90	3	4	3	10	1	3	6	10
			S	57	40	97	1	1	1	3	1	0	2	3
			P	53	39	93	2	3	2	7	1	2	4	7
13	Maharashtra	Kharif	C	69	17	86	9	2	3	14	3	2	9	14
			S	81	17	97	2	0	0	3	0	0	2	3
			P	76	17	93	5	1	1	7	1	1	5	7
		Rabi	C	90	8	98	1	0	1	2	1	0	1	2
			S	83	14	97	2	0	0	2	0	0	1	2
			P	84	13	98	2	0	0	2	0	0	1	2
		Summer	C	12	0	12	81	6	0	88	0	0	88	88
			S	75	19	94	4	0	0	4	0	0	4	4
			P	44	10	54	42	3	0	45	0	0	45	45
14	Odisha	Autumn	C	78	21	99	0	0	0	0	0	0	0	0
			S	68	31	99	0	0	0	0	0	0	0	0
			P	73	26	99	0	0	0	0	0	0	0	0
		Winter	C	84	16	99	0	0	0	0	0	0	0	0
			S	81	18	100	0	0	0	0	0	0	0	0
			P	83	17	99	0	0	0	0	0	0	0	0
		Summer	C	49	50	100	0	0	0	0	0	0	0	0
			S	69	29	98	1	0	0	1	0	0	1	1
			P	58	40	99	0	0	0	1	0	0	1	1
15	Punjab	Kharif	C	47	3	50	49	0	0	50	0	48	2	50
			S	87	0	87	12	0	0	13	0	12	0	13
			P	65	2	67	32	0	0	33	0	31	1	33
		Rabi	C	50	3	53	46	0	1	47	1	44	2	47
			S	80	2	82	17	0	1	18	0	17	0	18
			P	63	2	65	34	1	1	35	1	33	1	35
16	Rajasthan	Kharif	C	43	40	84	6	4	6	16	4	3	8	16
			S	44	54	98	1	1	1	2	0	1	1	2
			P	44	47	90	4	2	3	10	2	2	5	10
		Rabi	C	66	19	85	6	5	4	15	5	1	9	15
			S	67	30	97	2	0	1	3	0	1	1	3
			P	66	25	91	4	2	2	9	3	1	5	9

ANNEX IV (d) (Contd.....)															
Sl. No.	State	Season	A G E N C Y	Percentage of survey numbers in which particulars											
				Tallied			Not Tallied								
							Supervisor				Patwari				
				HY	L	Total	HY	L	NR	Total	HY	L	NR	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
17	Tamil Nadu	Phase-I	C	56	13	69	16	11	2	28	2	8	19	29	
			S	59	12	72	12	10	2	25	3	2	23	27	
			P	58	13	71	14	10	2	27	2	5	21	28	
		Phase-II	C	63	8	71	22	2	5	29	2	15	12	29	
			S	61	14	75	10	8	2	21	2	2	19	24	
			P	61	13	74	12	7	3	22	2	5	18	25	
		Rabi	C	21	3	24	54	18	1	73	0	1	74	75	
			S	62	7	69	23	5	4	31	2	2	27	31	
			P	40	5	46	39	11	2	53	1	1	51	54	
18	Telangana	Kharif	C	100	0	100	0	0	0	0	0	0	0	0	
			S	93	5	98	1	0	1	2	1	0	1	2	
			P	93	5	98	1	0	1	2	1	0	1	2	
		Rabi	C	0	0	0	97	3	0	100	0	0	100	100	
			S	92	6	98	1	0	0	1	0	0	1	1	
			P	64	4	67	31	1	0	32	0	0	32	32	
		Zaid Rabi	C	52	9	62	29	5	4	38	4	1	34	38	
			S	76	13	89	9	1	1	11	2	0	9	11	
			P	59	10	69	23	4	4	31	3	1	27	31	
19	Uttar Pradesh	Kharif	C	81	8	89	8	1	2	11	2	0	9	11	
			S	86	8	95	4	0	1	5	1	1	3	5	
			P	83	8	91	7	1	1	9	1	0	7	9	
		Rabi	C	67	14	81	13	2	1	17	1	1	15	17	
			S	76	12	88	11	0	0	12	0	0	12	12	
			P	69	14	83	13	2	1	16	1	1	14	16	
		Zaid Rabi	C	41	45	86	6	5	3	14	0	3	11	14	
			S	41	53	95	1	1	2	5	1	2	3	5	
			P	41	49	90	4	3	3	9	0	2	7	10	
20	Uttarakhand	Kharif	C	51	41	92	2	3	2	7	0	2	5	7	
			S	52	45	97	1	1	1	3	1	0	1	3	
			P	51	43	95	2	2	2	5	1	1	3	5	
		Rabi	C	58	32	89	9	1	1	11	1	1	9	11	
			S	81	17	98	2	0	0	2	0	1	1	2	
			P	71	23	94	5	0	0	6	0	1	5	6	
		Summer	C	0	92	92	0	6	2	8	0	2	6	8	
			S	15	56	71	13	1	16	29	15	1	14	29	
			P	4	82	86	3	5	5	14	4	1	8	14	
21	West Bengal	Early Kharif	C	11	88	100	0	0	0	0	0	0	0	0	
			S	44	50	94	2	2	2	6	3	0	3	6	
			P	25	72	97	1	1	1	3	1	0	2	3	
		Rabi	C	10	86	95	1	3	0	5	0	0	5	5	
			S	39	47	86	0	0	14	14	9	5	0	14	
			P	22	70	91	1	2	6	9	4	2	3	9	
		Summer	C	16	78	94	0	6	0	6	0	0	6	6	
			S	48	42	90	0	1	8	10	8	2	0	10	
			P	27	65	92	0	4	3	7	3	1	4	8	
22	Puducherry	Kharif	C	81	4	86	6	0	0	6	0	0	6	6	
			S	63	34	97	0	0	0	0	0	0	0	0	
			P	72	19	91	3	0	0	3	0	0	3	3	
		Rabi-I	C	85	3	88	7	0	0	7	2	2	7	10	
			S	75	15	89	93	7	0	100	0	0	7	7	
			P	79	10	89	55	4	0	59	1	1	7	8	
		Rabi-II	C	90	0	90	8	0	2	10	0	4	4	8	
			S	71	29	100	0	0	0	0	0	0	0	0	
			P	78	19	97	3	0	1	3	0	1	1	3	
FOR STATES COVERED		Early Kharif	C	44	27	72	10	10	6	26	1	10	16	26	
			S	50	30	79	8	7	3	17	2	3	15	19	
			P	47	28	75	9	9	4	22	1	6	15	23	
		Late Kharif	C	51	23	74	18	4	4	25	3	5	18	26	
			S	70	24	95	3	1	1	5	1	1	3	5	
			P	61	24	85	10	2	2	15	2	3	10	15	
		Rabi	C	60	19	79	17	3	2	21	2	6	14	21	
			S	74	21	95	4	0	1	5	1	2	2	5	
			P	67	20	87	10	2	1	13	1	4	8	13	
Summer		C	21	67	88	9	2	0	11	0	0	11	11		
		S	23	73	96	2	1	1	4	1	0	3	4		
		P	22	70	92	5	2	1	8	0	0	7	8		
All seasons			C	50	26	76	16	4	3	23	2	5	16	23	
			S	67	27	94	3	1	1	5	1	1	3	5	
			P	59	27	85	10	2	2	14	1	3	10	14	

Note:

1. @ - Observations are not given due to insufficient data.
2. # - Observations do not reflect the true picture of discrepancies in the State since primary worker's entries are not available for comparison of large number of samples.
3. * - The Field work was not carried out for State sample during Summer season.
4. P^A - Since data from only one agency is available, the same has been taken against pooled agency for comparison purpose.
5. NR - Not Reported.

**RESPONSE IN SAMPLE CHECK ON CROP CUTTING EXPERIMENTS
DURING 2018-19 (At Harvest stage only)**

Sl. No.	State	A G E N C Y	Kharif				Rabi/ Summer				Grand Total of Planning
			Early Kharif		Late Kharif		Rabi		Summer		
			No. of Expts. Planned	% Response	No. of Expts. Planned	% Response	No. of Expts. Planned	% Response	No. of Expts. Planned	% Response	
1	2	3	4	5	6	7	8	9	10	11	12
1	Andhra	C			460	100	220	92			680
	Pradesh	S			442	95	220	90			662
		P			902	98	440	91			1342
2	Assam	C	170	54	120	94	190	65	40	80	520
		S	170	48	120	82	190	44	40	45	520
		P	340	51	240	88	380	55	80	63	1040
3	Bihar	C	120	53	240	77	350	81	40	45	750
		S	120	45	240	61	350	62	40	60	750
		P	240	49	480	69	700	71	80	53	1500
4	Chhattisgarh	C			200	99	150	97			350
		S			200	95	150	80			350
		P			400	97	300	89			700
5	Gujarat	C			750	85	240	81			990
		S			750	35	240	17			990
		P			1500	60	480	49			1980
6	Haryana	C			320	100	380	100			700
		S			320	53	380	78			700
		P			640	77	760	89			1400
7	Himachal Pradesh	C			150	91	150	79			300
		S			150	74	150	80			300
		P			300	82	300	80			600
8	Jammu & Kashmir	C			160	96	120	90			280
		S			160	26	120	30			280
		P			320	61	240	60			560
9	Jharkhand	C	40	98	80	99	100	96			220
		S	40	30	80	23	100	36			220
		P	80	64	160	61	200	66			440
10	Karnataka	C			620	56	200	55	80	40	900
		S			620	82	200	80	80	75	900
		P			1240	69	400	68	160	58	1800
11	Kerala	C	100	95	100	100			320	99	520
	\$	S	100	89	100	100			320	97	520
		P	200	92	200	100			640	98	1040
12	Madhya Pradesh	C			628	85	524	81			1152
		S			628	68	524	74			1152
		P			1256	77	1048	77			2304
13	Maharashtra	C			850	49	450	47			1300
		S			850	20	450	44			1300
		P			1700	34	900	46			2600
14	Odisha	C	260	35	390	73			180	49	830
		S	260	77	390	59			180	97	830
		P	520	56	780	66			360	73	1660
15	Punjab	C			380	98	320	100			700
		S			380	83	320	84			700
		P			760	91	640	92			1400

ANNEX-VI (Continued)

Sl. No.	State	A G E N C Y	Kharif				Rabi/ Summer				Grand Total of Planning
			Early Kharif		Late Kharif		Rabi		Summer		
			No. of Expts. Planned	% Response	No. of Expts. Planned	% Response	No. of Expts. Planned	% Response	No. of Expts. Planned	% Response	
1	2	3	4	5	6	7	8	9	10	11	12
16	Rajasthan	C			520	90	420	93			940
		S			520	85	420	79			940
		P			1040	87	840	86			1880
17	Tamil Nadu	C			460	81	320	81	0	0	780
	#	S			460	75	320	70	0	0	780
		P			920	78	640	76	0	0	1560
18	Telangana	C			360	83	120	76			480
		S			360	78	120	47			480
		P			720	81	240	61			960
19	Uttar Pradesh	C			1380	87	840	97	80	84	2300
		S			1380	22	840	23	80	20	2300
		P			2760	54	1680	60	160	52	4600
20	Uttarakhand	C			130	100	60	100			190
		S			130	60	60	78			190
		P			260	80	120	89			380
21	West Bengal	C	180	99	160	99	220	97	190	99	750
		S	180	8	160	17	220	35	190	16	750
		P	360	54	320	58	440	66	380	58	1500
22	Puducherry	C			10	100	10	100	10	100	30
		S			10	100	10	100	10	100	30
		P			20	100	20	100	20	100	60
For States covered		C	870	64	8468	82	5384	85	940	80	15662
		S	870	52	8450	55	5384	57	940	68	15644
		P	1740	58	16918	69	10768	71	1880	74	31306

Note:

1- \$ In Kerala, 220 experiments of Whole year crops are included in Summer season.

2- # In the light of introduction of concept of Kharif and Rabi seasons in the Tamil Nadu state from Agricultural year 2017-18 and consequent categorization of crops, the data have been presented seasonwise instead of whole year.

**DISTRIBUTION OF PERCENTAGE OF EXPERIMENTS
ACCORDING TO IMPORTANT INPUTS DURING 2018-19**

Sl. No.	State	Agency	H/ T	Percentage of Experiments under various inputs for crops		
				I	HYV	F
1	2	3	4	5	6	7
Paddy-Autumn						
1	Assam	C	H	1.77	10.62	40.71
		S		0.00	0.00	0.00
		P		0.95	11.37	40.28
		C	T	1.77	10.62	40.71
		S		0.00	0.00	0.00
		P		0.94	11.27	39.91
2	Bihar	C	H	0.00	43.48	86.96
		S		54.55	54.55	100.00
		P		26.67	48.89	93.33
		C	T	0.00	25.00	50.00
		S		46.15	46.15	84.62
		P		18.18	33.33	63.64
3	Jharkhand	C	H	0.00	0.00	55.00
		S		0.00	0.00	0.00
		P		0.00	0.00	27.50
		C	T	0.00	0.00	55.00
		S		0.00	0.00	0.00
		P		0.00	0.00	27.50
4	Kerala	C	H	37.11	86.60	71.13
		S		26.97	93.26	69.66
		P		32.26	89.78	70.43
		C	T	36.00	84.00	69.00
		S		24.00	83.00	62.00
		P		30.00	83.50	65.50
5	Odisha	C	H	6.00	86.00	90.00
		S		5.03	92.45	84.28
		P		5.26	90.91	85.65
		C	T	1.38	19.72	20.64
		S		5.03	92.45	84.28
		P		2.92	50.40	47.48
6	Tamil Nadu # Phase-I	C	H	94.74	97.37	100.00
		S		100.00	100.00	100.00
		P		97.44	98.72	100.00
		C	T	92.31	94.87	97.44
		S		100.00	100.00	100.00
		P		96.20	97.47	98.73
7	West Bengal	C	H	74.75	91.92	93.94
		S		100.00	100.00	100.00
		P		75.73	92.23	94.27
		C	T	74.00	91.00	93.00
		S		100.00	100.00	100.00
		P		75.00	91.35	94.27
Paddy-Winter						
1	Andhra Pradesh	C	H	95.53	100.00	99.44
		S		94.38	98.88	97.75
		P		94.96	99.44	98.60
		C	T	95.00	99.44	98.89
		S		93.33	97.78	96.67
		P		94.17	98.61	97.78

#= In the light of introduction of concept of Kharif and Rabi seasons in the Tamil Nadu state from Agricultural year 2018-19 and consequent, categorization of crops, the data have been presented seasonwise instead of whole year.

T= Total (Harvest+Missed+Lost).

I= Irrigation

HYV= High yield variety

F= Fertilizers

NA=Data not available, NR=Data not reported.

Sl. No.	State	Agency	H/ T	Percentage of Experiments under various inputs for crops		
				I	HYV	F
1	2	3	4	5	6	7
2	Assam	C	H	56.25	50.00	87.50
		S		77.78	38.89	88.89
		P		64.00	46.00	88.00
		C	T	58.33	29.17	66.67
		S		5.32	3.19	38.30
		P		57.14	41.07	78.57
3	Bihar	C	H	63.64	55.56	94.95
		S		81.82	56.25	97.16
		P		72.19	55.88	95.99
		C	T	52.50	45.83	78.33
		S		80.90	55.62	96.07
		P		65.59	50.00	85.89
4	Chhattisgarh	C	H	49.37	79.75	86.08
		S		28.00	84.00	89.33
		P		38.96	81.82	87.66
		C	T	48.75	78.75	85.00
		S		28.00	84.00	89.33
		P		38.71	81.29	87.10
5	Gujarat	C	H	57.14	64.29	94.29
		S		85.71	39.29	100.00
		P		65.31	57.14	95.92
		C	T	51.28	57.69	84.62
		S		85.71	39.29	100.00
		P		60.38	52.83	88.68
6	Haryana	C	H	100.00	100.00	100.00
		S		100.00	92.59	97.53
		P		100.00	96.47	98.82
		C	T	98.89	98.89	98.89
		S		98.78	91.46	96.34
		P		98.84	95.35	97.67
7	Himachal Pradesh	C	H	66.67	42.59	83.33
		S		60.42	35.42	75.00
		P		63.73	39.22	79.41
		C	T	60.00	38.33	75.00
		S		50.00	29.31	62.07
		P		55.08	33.90	68.64
8	Jammu & Kashmir	C	H	82.35	19.12	88.24
		S		90.70	53.49	95.35
		P		85.59	32.43	90.99
		C	T	82.35	19.12	88.24
		S		78.00	46.00	82.00
		P		80.51	30.51	85.59
9	Jharkhand	C	H	12.66	22.78	78.48
		S		5.26	31.58	89.47
		P		10.26	25.64	82.05
		C	T	12.50	22.50	77.50
		S		5.26	31.58	89.47
		P		10.17	25.42	81.36
10	Karnataka	C	H	62.86	69.52	89.52
		S		70.68	78.95	83.46
		P		67.23	74.79	86.13
		C	T	58.93	65.18	83.93
		S		68.61	76.64	81.02
		P		64.26	71.49	82.33

Sl. No.	State	Agency	H/ T	Percentage of Experiments under various inputs for crops		
				I	HYV	F
1	2	3	4	5	6	7
11	Kerala	C	H	75.00	81.00	81.00
		S		87.00	83.00	84.00
		P		81.00	82.00	82.50
		C	T	75.00	81.00	81.00
		S		87.00	83.00	84.00
		P		81.00	82.00	82.50
12	Madhya Pradesh	C	H	34.04	75.53	82.98
		S		32.89	50.00	76.32
		P		33.53	64.12	80.00
		C	T	34.04	75.53	82.98
		S		32.89	50.00	76.32
		P		33.53	64.12	80.00
13	Maharashtra	C	H	29.63	66.67	100.00
		S		0.00	50.00	100.00
		P		25.81	64.52	100.00
		C	T	27.59	62.07	93.10
		S		0.00	28.57	57.14
		P		22.22	55.56	86.11
14	Odisha	C	H	25.90	85.54	97.59
		S		29.33	91.33	88.00
		P		27.53	88.29	93.04
		C	T	15.93	52.59	60.00
		S		29.33	91.33	88.00
		P		20.71	66.43	70.00
15	Punjab	C	H	99.47	97.34	99.47
		S		98.04	98.04	91.50
		P		98.83	97.65	95.89
		C	T	98.42	96.32	98.42
		S		98.04	98.04	91.50
		P		98.25	97.08	95.34
16	Tamil Nadu Phase-II	C	H	88.16	100.00	88.16
		S		89.47	94.74	97.37
		P		88.82	97.37	92.76
		C	T	88.16	100.00	88.16
		S		89.47	94.74	97.37
		P		88.82	97.37	92.76
17	Telangana	C	H	89.23	93.85	100.00
		S		85.71	88.57	100.00
		P		87.41	91.11	100.00
		C	T	89.23	93.85	100.00
		S		85.71	88.57	100.00
		P		87.41	91.11	100.00
18	Uttar Pradesh	C	H	97.35	88.74	99.83
		S		92.44	93.02	98.26
		P		96.26	89.69	99.48
		C	T	97.19	88.60	99.67
		S		92.44	93.02	98.26
		P		96.14	89.58	99.36
19	Uttarakhand	C	H	61.90	45.24	57.14
		S		68.18	65.91	63.64
		P		65.12	55.81	60.47
		C	T	61.90	45.24	57.14
		S		68.18	65.91	63.64
		P		65.12	55.81	60.47

ANNEX VII (continued)

Sl. No.	State	Agency	H/ T	Percentage of Experiments under various inputs for crops		
				I	HYV	F
1	2	3	4	5	6	7
20	West Bengal	C	H	67.09	88.61	96.20
		S		92.59	100.00	100.00
		P		70.81	90.27	96.76
		C	T	66.25	87.50	95.00
		S		92.59	100.00	100.00
		P		70.05	89.30	95.72
21	Puducherry	C	H	100.00	100.00	100.00
		S		100.00	100.00	100.00
		P		100.00	100.00	100.00
		C	T	100.00	100.00	100.00
		S		100.00	100.00	100.00
		P		100.00	100.00	100.00
Paddy-Rabi/Summer						
1	Andhra Pradesh	C	H	100.00	97.62	97.62
		S		96.88	81.25	100.00
		P		98.65	90.54	98.65
		C	T	97.67	95.35	95.35
		S		96.88	81.25	100.00
		P		97.33	89.33	97.33
2	Assam	C	H	55.56	33.33	72.22
		S		76.47	58.82	100.00
		P		65.71	45.71	85.71
		C	T	50.00	30.00	65.00
		S		72.22	55.56	94.44
		P		60.53	42.11	78.95
3	Bihar	C	H	94.44	100.00	100.00
		S		88.24	64.71	88.24
		P		90.28	76.92	92.31
		C	T	47.22	50.00	50.00
		S		45.45	45.45	45.45
		P		67.14	57.14	68.57
4	Karnataka	C	H	92.86	96.43	82.14
		S		88.24	64.71	88.24
		P		96.88	89.06	79.69
		C	T	65.00	67.50	57.50
		S		90.00	75.00	70.00
		P		77.50	71.25	63.75
5	Kerala	C	H	90.00	92.00	84.00
		S		97.98	89.90	91.92
		P		93.97	90.95	87.94
		C	T	90.00	92.00	84.00
		S		97.98	89.90	91.92
		P		93.97	90.95	87.94
6	Odisha	C	H	100.00	99.29	92.14
		S		100.00	100.00	98.55
		P		100.00	99.64	95.32
		C	T	100.00	99.29	92.14
		S		100.00	100.00	98.55
		P		100.00	99.64	95.32
7	Tamil Nadu	C	H	97.14	100.00	100.00
		S		100.00	100.00	100.00
		P		98.73	100.00	100.00
		C	T	97.14	100.00	100.00
		S		100.00	100.00	100.00
		P		98.73	100.00	100.00

Sl. No.	State	Agency	H/ T	Percentage of Experiments under various inputs for crops		
				I	HYV	F
1	2	3	4	5	6	7
8	Telangana	C	H	100.00	97.37	100.00
		S		96.00	100.00	96.00
		P		98.41	98.41	98.41
		C	T	98.70	96.10	98.70
		S		96.00	100.00	96.00
		P		97.64	97.64	97.64
9	Puducherry	C	H	100.00	100.00	100.00
	Rabi-I	S		100.00	100.00	100.00
		P		100.00	100.00	100.00
		C	T	100.00	100.00	100.00
		S		100.00	100.00	100.00
		P		100.00	100.00	100.00
	Rabi-II	C	H	100.00	100.00	100.00
		S		100.00	100.00	100.00
		P		100.00	100.00	100.00
		C	T	100.00	100.00	100.00
		S		100.00	100.00	100.00
		P		100.00	100.00	100.00
10	West Bengal	C	H	100.00	86.43	99.29
		S		100.00	100.00	100.00
		P		100.00	88.13	99.38
		C	T	100.00	86.43	99.29
		S		100.00	100.00	100.00
		P		100.00	88.13	99.38
Jowar- Kharif						
1	Karnataka	C	H	35.71	82.14	75.00
		S		16.00	92.00	64.00
		P		23.08	88.46	67.95
		C	T	22.22	51.11	46.67
		S		16.00	92.00	64.00
		P		18.95	72.63	55.79
2	Madhya Pradesh	C	H	0.00	44.05	52.38
		S		0.00	34.29	31.43
		P		0.00	39.61	42.86
		C	T	0.00	34.29	31.43
		S		0.00	37.50	47.73
		P		0.00	38.61	41.77
3	Maharashtra	C	H	6.67	80.00	91.11
		S		0.00	100.00	100.00
		P		5.36	83.93	92.86
		C	T	4.23	50.70	57.75
		S		0.00	64.71	64.71
		P		3.41	53.41	59.09
4	Rajasthan	C	H	5.00	30.00	60.00
		S		0.00	32.14	46.43
		P		10.47	11.63	44.19
		C	T	5.00	30.00	60.00
		S		0.00	31.03	44.83
		P		2.54	30.51	52.54
5	Tamil Nadu	C	H	10.00	85.00	30.00
		S		5.26	63.16	36.84
		P		7.69	74.36	33.33
		C	T	10.00	85.00	30.00
		S		5.26	63.16	38.84
		P		7.69	74.36	33.33

Sl. No.	State	Agency	H/ T	Percentage of Experiments under various inputs for crops		
				I	HYV	F
1	2	3	4	5	6	7
6	Telangana	C	H	0.00	25.00	75.00
		S		4.55	36.36	84.09
		P		2.50	31.25	80.00
		C	T	0.00	25.00	75.00
		S		4.55	36.36	84.09
		P		2.50	31.25	80.00
7	Uttar Pradesh	C	H	3.13	25.00	18.75
		S		0.00	0.00	0.00
		P		2.27	18.18	13.64
		C	T	3.13	25.00	18.75
		S		0.00	0.00	0.00
		P		2.27	18.18	13.64
Jowar-Rabi						
1	Karnataka	C	H	32.43	54.05	43.24
		S		14.29	74.29	27.14
		P		20.56	67.29	32.71
		C	T	21.83	36.36	29.09
		S		14.29	74.29	27.14
		P		17.60	57.60	28.00
2	Maharashtra	C	H	73.27	34.65	17.82
		S		64.52	32.26	6.45
		P		69.07	33.51	12.37
		C	T	73.27	34.65	17.82
		S		64.52	32.26	6.45
		P		69.07	33.51	12.37
3	Tamil Nadu	C	H	30.77	84.62	38.46
		S		39.13	73.91	60.87
		P		34.69	79.59	48.98
		C	T	30.77	84.62	38.46
		S		39.13	73.91	60.87
		P		34.69	79.59	48.98
4	Telangana	C	H	32.00	16.00	68.00
		S		44.74	26.32	78.95
		P		32.43	21.62	78.38
		C	T	29.63	14.81	62.96
		S		44.74	26.32	78.95
		P		33.33	33.33	100.00
BAJRA						
1	Andhra Pradesh	C	H	0.00	50.00	50.00
		S		25.00	50.00	65.00
		P		12.50	50.00	57.50
		C	T	0.00	50.00	50.00
		S		25.00	50.00	65.00
		P		12.50	50.00	57.50
2	Gujarat	C	H	51.46	96.12	87.38
		S		44.00	72.00	82.00
		P		49.02	88.24	85.62
		C	T	50.00	93.40	84.91
		S		44.00	72.00	82.00
		P		48.08	86.54	83.97
3	Haryana	C	H	82.35	98.04	89.22
		S		77.88	100.00	83.65
		P		80.10	99.03	86.41
		C	T	80.77	96.15	87.50
		S		77.88	100.00	83.65
		P		79.33	98.08	85.58
4	Karnataka	C	H	7.69	80.77	34.62
		S		20.00	88.00	36.00
		P		15.79	85.53	35.53
		C	T	4.17	43.75	18.75
		S		20.00	88.00	36.00
		P		12.24	66.33	27.55

Sl. No.	State	Agency	H/ T	Percentage of Experiments under various inputs for crops		
				I	HYV	F
1	2	3	4	5	6	7
5	Maharashtra	C	H	26.92	88.46	69.23
		S		0.00	100.00	66.67
		P		24.14	89.66	68.97
		C	T	23.33	76.67	60.00
		S		0.00	75.00	50.00
		P		24.14	76.47	58.82
6	Rajasthan	C	H	5.36	51.79	41.07
		S		0.00	48.28	41.38
		P		2.63	50.00	41.23
		C	T	5.17	50.00	39.66
		S		0.00	46.67	40.00
		P		2.54	48.31	39.83
7	Tamil Nadu	C	H	10.00	67.50	45.00
		S		10.00	67.50	35.00
		P		10.00	67.50	40.00
		C	T	10.00	67.50	45.00
		S		10.00	67.50	35.00
		P		10.00	67.50	40.00
8	Uttar Pradesh	C	H	42.14	88.57	97.14
		S		29.55	97.73	93.18
		P		39.13	90.76	96.20
		C	T	42.14	88.57	97.14
		S		29.55	97.73	93.18
		P		39.13	90.76	96.20
Maize						
1	Bihar	C	H	66.67	53.33	80.00
		S		66.67	22.22	100.00
		P		66.67	36.36	90.91
		C	T	25.00	20.00	30.00
		S		37.50	12.50	56.25
		P		30.56	16.67	41.67
2	Chhattisgarh	C	H	2.50	37.50	27.50
		S		0.00	30.00	20.00
		P		1.25	33.75	23.75
		C	T	2.50	37.50	27.50
		S		0.00	30.00	20.00
		P		1.25	33.75	23.75
3	Gujarat	C	H	18.75	50.00	100.00
		S		50.00	75.00	100.00
		P		16.67	44.00	88.89
		C	T	5.00	20.00	45.00
		S		50.00	75.00	100.00
		P		20.00	47.50	90.00
4	Haryana	C	H	65.00	90.00	80.00
		S		28.57	85.71	42.86
		P		50.00	88.24	64.71
		C	T	65.00	90.00	80.00
		S		28.57	85.71	42.86
		P		50.00	88.24	64.71
5	Himachal Pradesh	C	H	4.88	36.59	65.85
		S		5.13	33.33	61.54
		P		5.00	35.00	63.75
		C	T	4.44	33.33	60.00
		S		4.55	29.55	54.55
		P		4.49	31.46	57.30

Sl. No.	State	Agency	H/ T	Percentage of Experiments under various inputs for crops		
				I	HYV	F
1	2	3	4	5	6	7
6	Jammu & Kashmir	C	H	4.65	27.91	62.79
		S		13.79	65.52	87.93
		P		8.33	43.06	72.92
		C	T	4.65	27.91	62.79
		S		13.79	65.52	87.93
		P		8.33	43.06	72.92
7	Jharkhand	C	H	0.00	35.00	65.00
		S		33.33	0.00	50.00
		P		12.50	21.88	59.38
		C	T	0.00	35.00	65.00
		S		33.33	0.00	50.00
		P		12.50	21.88	59.38
8	Karnataka	C	H	20.00	92.50	75.00
		S		24.00	100.00	70.00
		P		22.22	96.67	72.22
		C	T	20.00	92.50	75.00
		S		24.00	100.00	70.00
		P		22.22	96.67	72.22
9	Madhya Pradesh	C	H	1.30	46.75	61.04
		S		0.00	42.19	60.94
		P		0.71	44.68	60.99
		C	T	1.30	46.75	61.04
		S		0.00	42.19	60.94
		P		0.71	44.68	60.99
10	Odisha	C	H	2.50	45.00	47.50
		S		0.00	52.50	50.00
		P		1.25	48.75	48.75
		C	T	2.50	45.00	47.50
		S		0.00	52.50	50.00
		P		1.25	48.75	48.75
11	Punjab	C	H	72.92	87.50	95.83
		S		82.05	89.84	79.49
		P		77.01	88.51	88.51
		C	T	72.92	87.50	95.83
		S		82.05	89.74	79.49
		P		77.01	88.51	88.51
12	Rajasthan	C	H	2.17	26.09	84.78
		S		6.82	34.09	77.27
		P		4.44	30.00	81.11
		C	T	2.00	24.00	78.00
		S		6.82	34.09	77.27
		P		4.26	28.72	77.66
13	Tamil Nadu	C	H	40.00	100.00	75.00
		S		35.00	100.00	95.00
		P		37.50	100.00	85.00
		C	T	40.00	100.00	75.00
		S		35.00	100.00	95.00
		P		37.50	100.00	85.00
14	Telangana	C	H	32.50	97.50	95.00
		S		48.78	75.61	92.68
		P		40.74	86.42	93.83
		C	T	32.50	97.50	95.00
		S		48.78	75.61	92.68
		P		40.74	86.42	93.83

Sl. No.	State	Agency	H/ T	Percentage of Experiments under various inputs for crops		
				I	HYV	F
1	2	3	4	5	6	7
15	Uttar Pradesh	C	H	42.14	88.57	97.14
		S		64.29	82.14	96.43
		P		49.73	71.12	96.79
		C	T	42.14	88.57	97.14
		S		64.29	82.14	96.43
		P		49.73	71.12	96.79
Ragi						
1	Karnataka	C	H	23.53	67.65	91.18
		S		15.79	89.47	71.05
		P		19.44	79.17	80.56
		C	T	21.05	60.53	81.58
		S		15.00	85.00	67.50
		P		17.95	73.08	74.36
3	Uttarakhand	C	H	5.56	0.00	0.00
		S		0.00	0.00	0.00
		P		2.86	0.00	0.00
		C	T	5.56	0.00	0.00
		S		0.00	0.00	0.00
		P		2.86	0.00	0.00
Cotton						
1	Andhra Pradesh	C	H	22.50	100.00	100.00
		S		10.00	100.00	100.00
		P		16.25	100.00	100.00
		C	T	22.50	100.00	100.00
		S		10.00	100.00	100.00
		P		16.25	100.00	100.00
2	Gujarat	C	H	45.95	94.59	94.59
		S		44.44	88.89	77.78
		P		45.45	92.73	89.09
		C	T	39.53	81.40	81.40
		S		44.44	88.89	77.78
		P		40.98	83.61	80.33
	Haryana	C	H	96.30	94.44	94.44
		S		96.43	100.00	98.21
		P		96.36	97.27	96.36
		C	T	92.86	91.07	91.07
		S		96.43	100.00	98.21
		P		94.64	95.54	94.64
4	Karnataka	C	H	7.69	80.77	73.08
		S		17.02	91.49	76.60
		P		13.70	87.67	75.34
		C	T	6.25	65.63	59.38
		S		16.67	89.58	75.00
		P		12.50	80.00	68.75
5	Madhya Pradesh	C	H	72.50	100.00	100.00
		S		60.71	92.86	92.86
		P		67.65	97.06	97.06
		C	T	72.50	100.00	100.00
		S		60.71	92.86	92.86
		P		67.65	97.06	97.06

Sl. No.	State	Agency	H/ T	Percentage of Experiments under various inputs for crops		
				I	HYV	F
1	2	3	4	5	6	7
6	Maharashtra	C	H	54.90	100.00	100.00
		S		50.00	94.87	92.31
		P		52.78	97.78	96.67
		C	T	52.83	96.23	96.23
		S		16.28	73.26	97.67
		P		50.00	88.10	85.71
7	Punjab	C	H	100.00	100.00	100.00
		S		100.00	100.00	91.94
		P		100.00	100.00	91.43
		C	T	100.00	97.22	100.00
		S		97.14	97.14	80.00
		P		98.59	98.59	90.14
8	Rajasthan	C	H	100.00	100.00	100.00
		S		100.00	80.00	100.00
		P		100.00	89.47	100.00
		C	T	90.00	90.00	90.00
		S		100.00	80.00	100.00
		P		95.00	85.00	95.00
9	Tamil Nadu (Kharif)	C	H	20.00	100.00	86.00
		S		20.00	100.00	96.00
		P		20.00	100.00	91.00
		C	T	20.00	100.00	86.00
		S		20.00	100.00	96.00
		P		20.00	100.00	91.00
	Tamil Nadu (Rabi)	C	H	55.56	100.00	88.89
		S		57.14	92.86	96.43
		P		56.25	96.88	92.19
		C	T	55.56	100.00	88.89
		S		57.14	92.86	96.43
		P		56.25	96.88	92.19
10	Telangana	C	H	29.03	93.55	100.00
		S		29.23	81.54	93.85
		P		29.41	70.59	88.24
		C	T	29.03	93.55	100.00
		S		29.23	81.54	93.85
		P		29.41	70.59	88.24
Groundnut						
1	Andhra Pradesh	C	H	2.17	95.65	87.68
		S		3.57	93.57	89.29
		P		2.88	94.60	88.49
		C	T	2.14	94.29	86.43
		S		3.57	93.57	89.29
		P		2.86	93.93	87.86
2	Gujarat	C	H	79.17	90.97	95.83
		S		76.92	67.69	98.46
		P		78.47	83.73	96.65
		C	T	76.00	87.33	92.00
		S		75.76	66.67	96.97
		P		75.93	81.02	93.52
3	Karnataka	C	H	7.69	41.03	79.49
		S		21.21	96.97	43.94
		P		16.19	76.19	57.14
		C	T	5.36	28.57	55.36
		S		21.21	96.97	43.94
		P		13.93	65.57	49.18
4	Madhya Pradesh	C	H	27.78	22.22	66.67
		S		21.43	14.29	57.14
		P		25.00	18.75	62.50
		C	T	27.78	22.22	66.67
		S		21.43	14.29	57.14
		P		25.00	18.75	62.50

ANNEX VII (continued)

Sl. No.	State	Agency	H/ T	Percentage of Experiments under various inputs for crops		
				I	HYV	F
1	2	3	4	5	6	7
5	Maharashtra	C	H	20.00	84.00	88.00
		S		28.57	71.43	85.71
		P		21.88	81.25	87.50
		C	T	17.24	72.41	75.86
		S		20.00	50.00	60.00
		P		17.95	66.67	71.79
6	Rajasthan	C	H	57.14	50.00	85.71
		S		66.67	50.00	83.33
		P		62.50	50.00	84.38
		C	T	40.00	35.00	60.00
		S		60.00	45.00	75.00
		P		50.00	40.00	67.50
7	Tamil Nadu (Kharif)	C	H	12.24	91.84	32.65
		S		8.70	95.65	65.22
		P		10.53	93.68	48.42
		C	T	12.24	91.84	32.65
		S		8.70	95.65	65.22
		P		10.53	93.68	48.42
	Tamil Nadu (Rabi)	C	H	86.11	100.00	61.11
		S		88.57	88.57	94.29
		P		87.32	94.37	77.46
		C	T	86.11	100.00	61.11
		S		88.57	88.57	94.29
		P		87.32	94.37	77.46
8	Telangana	C	H	77.78	75.00	94.44
		S		56.10	75.61	90.24
		P		66.23	75.32	92.21
		C	T	77.78	75.00	94.44
		S		56.10	75.61	90.24
		P		66.23	75.32	92.21
Sugarcane						
1	Andhra Pradesh	C	H	96.67	91.67	90.00
		S		98.33	90.00	96.67
		P		97.50	90.83	93.33
		C	T	96.67	91.67	90.00
		S		98.33	90.00	96.67
		P		97.50	90.83	93.33
2	Assam	C	H	0.00	8.33	33.33
		S		0.00	0.00	0.00
		P		0.00	5.56	22.22
		C	T	0.00	5.00	20.00
		S		0.00	0.00	0.00
		P		0.00	3.57	14.29
3	Bihar	C	H	31.25	15.63	100.00
		S		85.00	50.00	90.00
		P		51.92	28.85	100.00
		C	T	26.32	13.16	84.21
		S		77.27	45.45	81.82
		P		45.00	25.00	83.33
4	Haryana	C	H	100.00	93.18	100.00
		S		95.24	100.00	100.00
		P		97.67	96.51	100.00
		C	T	100.00	93.18	100.00
		S		95.24	100.00	100.00
		P		97.67	96.51	100.00
5	Karnataka	C	H	100.00	78.79	87.88
		S		100.00	100.00	61.11
		P		100.00	89.86	73.91
		C	T	97.06	76.47	85.29
		S		100.00	100.00	61.11
		P		98.57	88.57	72.86

Sl. No.	State	Agency	H/ T	Percentage of Experiments under various inputs for crops		
				I	HYV	F
1	2	3	4	5	6	7
6	Maharashtra	C	H	100.00	71.43	100.00
		S		100.00	87.50	100.00
		P		100.00	75.86	100.00
		C	T	77.78	55.56	77.78
		S		94.12	82.35	94.12
		P		81.69	61.97	81.69
7	Punjab	C	H	100.00	92.54	95.52
		S		100.00	100.00	100.00
		P		100.00	95.87	97.52
		C	T	97.10	89.86	92.75
		S		100.00	100.00	100.00
		P		98.37	94.31	95.93
8	Rajasthan	C	H	93.55	45.16	74.19
		S		100.00	35.71	92.86
		P		96.61	40.68	83.05
		C	T	87.88	42.42	69.70
		S		100.00	35.71	92.86
		P		93.44	39.34	80.33
9	Tamil Nadu	C	H	100.00	100.00	100.00
		S		100.00	100.00	100.00
		P		100.00	100.00	100.00
		C	T	100.00	100.00	100.00
		S		100.00	100.00	100.00
		P		90.82	94.90	100.00
10	Uttar Pradesh	C	H	100.00	86.39	100.00
		S		0.00	0.00	0.00
		P		100.00	86.39	100.00
		C	T	100.00	86.39	100.00
		S		0.00	0.00	0.00
		P		100.00	86.39	100.00
11	Uttarakhand	C	H	100.00	84.21	100.00
		S		0.00	0.00	0.00
		P		100.00	84.21	100.00
		C	T	0.00	0.00	0.00
		S		100.00	84.21	100.00
		P		100.00	90.00	100.00
Wheat						
1	Assam	C	H	0.00	0.00	66.67
		S		0.00	71.43	71.43
		P		0.00	26.32	68.42
		C	T	0.00	0.00	33.33
		S		0.00	62.50	62.50
		P		0.00	15.63	40.63
2	Bihar	C	H	92.06	67.72	94.71
		S		96.27	77.02	97.52
		P		94.00	72.00	96.00
		C	T	84.88	62.44	87.32
		S		95.68	76.54	96.91
		P		89.65	68.66	91.55
3	Chhattisgarh	C	H	50.00	60.00	90.00
		S		55.56	88.89	86.11
		P		52.63	73.68	88.16
		C	T	50.00	60.00	90.00
		S		55.56	88.89	86.11
		P		52.63	73.68	88.16

Sl. No.	State	Agency	H/T	Percentage of Experiments under various inputs for crops		
				I	HYV	F
1	2	3	4	5	6	7
4	Gujarat	C	H	90.40	91.20	95.20
		S		93.33	66.67	93.33
		P		90.97	86.45	94.84
		C	T	83.70	84.44	88.15
		S		93.33	66.67	93.33
		P		85.45	81.21	89.09
5	Haryana	C	H	100.00	99.44	100.00
		S		100.00	100.00	100.00
		P		100.00	99.67	100.00
		C	T	100.00	99.44	100.00
		S		100.00	100.00	100.00
		P		100.00	99.67	100.00
6	Himachal Pradesh	C	H	16.84	35.79	68.42
		S		13.04	33.70	63.04
		P		14.97	34.76	65.78
		C	T	14.68	31.19	59.63
		S		12.00	31.00	58.00
		P		13.40	31.10	58.85
7	Jammu & Kashmir	C	H	32.41	75.00	92.59
		S		39.58	72.92	85.42
		P		35.78	68.02	81.98
		C	T	32.41	75.00	92.59
		S		33.33	61.40	71.93
		P		32.88	68.02	81.98
8	Jharkhand	C	H	73.68	21.05	100.00
		S		10.00	0.00	80.00
		P		51.72	13.79	93.10
		C	T	73.68	21.05	100.00
		S		10.00	0.00	80.00
		P		51.72	13.79	93.10
9	Karnataka	C	H	72.41	75.86	44.83
		S		28.57	95.24	19.05
		P		46.48	87.32	29.58
		C	T	46.67	48.89	28.89
		S		24.00	80.00	16.00
		P		34.74	65.26	22.11
10	Madhya Pradesh	C	H	74.88	47.34	93.72
		S		66.33	56.63	76.53
		P		70.72	51.86	85.36
		C	T	72.43	45.79	90.65
		S		66.33	56.63	76.53
		P		69.51	50.98	83.90
11	Maharashtra	C	H	91.00	79.00	65.00
		S		92.39	91.30	72.83
		P		91.67	84.90	68.75
		C	T	89.22	77.45	63.73
		S		92.39	91.30	72.83
		P		90.72	84.02	68.04
12	Punjab	C	H	99.09	97.26	100.00
		S		99.50	99.50	100.00
		P		99.29	98.34	100.00
		C	T	99.09	97.26	100.00
		S		99.50	99.50	100.00
		P		99.29	98.34	100.00

Sl. No.	State	Agency	H/ T	Percentage of Experiments under various inputs for crops		
				I	HYV	F
1	2	3	4	5	6	7
13	Rajasthan	C	H	99.19	60.98	95.12
		S		95.37	61.11	89.81
		P		97.40	61.04	92.64
		C	T	93.85	57.69	90.00
		S		91.96	58.93	86.61
		P		92.98	58.26	88.43
14	Uttar Pradesh	C	H	99.28	92.83	99.82
		S		95.86	87.59	69.66
		P		99.14	92.37	99.57
		C	T	98.93	92.50	99.46
		S		98.54	90.51	98.54
		P		99.14	92.37	99.57
15	Uttarakhand	C	H	56.67	55.00	60.00
		S		63.83	44.68	25.53
		P		59.81	50.47	44.86
		C	T	56.67	55.00	60.00
		S		62.50	43.75	25.00
		P		59.26	50.00	44.44
16	West Bengal	C	H	98.21	100.00	100.00
		S		100.00	100.00	100.00
		P		98.61	100.00	100.00
		C	T	94.83	96.55	96.55
		S		100.00	100.00	100.00
		P		95.95	97.30	97.30
Barley						
1	Haryana	C	H	100.00	86.67	100.00
		S		93.33	100.00	100.00
		P		96.67	93.33	100.00
		C	T	100.00	86.67	100.00
		S		93.33	100.00	93.33
		P		96.67	93.33	100.00
2	Himachal Pradesh	C	H	27.27	0.00	27.27
		S		0.00	7.69	26.92
		P		12.50	4.17	27.08
		C	T	15.00	0.00	15.00
		S		0.00	5.88	20.59
		P		8.11	2.70	17.57
3	Punjab	C	H	100.00	86.67	100.00
		S		100.00	100.00	92.31
		P		100.00	92.86	96.43
		C	T	100.00	86.67	100.00
		S		100.00	100.00	92.31
		P		100.00	92.86	96.43
4	Rajasthan	C	H	100.00	61.25	97.50
		S		100.00	58.57	97.14
		P		100.00	60.00	97.33
		C	T	100.00	61.25	97.50
		S		100.00	57.57	97.14
		P		100.00	60.00	97.33
Gram						
1	Andhra Pradesh	C	H	2.50	75.00	97.50
		S		0.00	79.49	100.00
		P		1.27	77.22	98.73
		C	T	2.50	75.00	97.50
		S		0.00	79.49	100.00
		P		1.27	77.22	98.73

Sl. No.	State	Agency	H/T	Percentage of Experiments under various inputs for crops		
				I	HYV	F
1	2	3	4	5	6	7
2	Bihar	C	H	29.73	10.81	83.78
		S		96.27	77.02	97.52
		P		20.00	15.38	69.23
		C	T	29.73	10.81	83.78
		S		95.68	76.54	96.91
		P		20.00	15.38	69.23
3	Chhattisgarh	C	H	65.00	20.00	75.00
		S		26.32	68.42	78.95
		P		46.15	43.59	76.92
		C	T	65.00	20.00	75.00
		S		26.32	68.42	78.95
		P		46.15	43.59	76.92
4	Gujarat	C	H	78.13	87.50	68.75
		S		100.00	0.00	100.00
		P		79.41	82.35	70.59
		C	T	73.53	82.35	64.71
		S		100.00	0.00	100.00
		P		75.00	77.78	66.67
5	Haryana	C	H	55.71	57.14	60.00
		S		54.84	85.48	43.55
		P		55.30	70.45	52.27
		C	T	55.71	57.14	60.00
		S		54.84	85.48	43.55
		P		55.30	70.45	52.27
6	Jharkhand	C	H	44.44	0.00	44.44
		S		0.00	0.00	16.67
		P		15.00	0.00	25.00
		C	T	44.44	0.00	44.44
		S		0.00	0.00	16.67
		P		26.67	0.00	33.33
7	Karnataka	C	H	20.69	44.83	44.83
		S		15.79	63.16	28.95
		P		17.91	55.22	35.82
		C	T	17.65	38.24	38.24
		S		15.00	60.00	27.50
		P		16.22	50.00	32.43
8	Madhya Pradesh	C	H	50.00	12.07	69.83
		S		58.00	26.00	64.00
		P		53.70	18.52	67.13
		C	T	50.00	12.07	69.83
		S		58.00	26.00	64.00
		P		53.70	18.52	67.13
9	Maharashtra	C	H	95.95	91.89	59.46
		S		62.86	80.00	34.29
		P		85.32	88.07	51.38
		C	T	95.95	91.89	59.46
		S		62.86	80.00	34.29
		P		85.32	88.07	51.38
10	Punjab	C	H	80.00	93.33	40.00
		S		100.00	100.00	66.67
		P		83.33	94.44	44.44
		C	T	80.00	93.33	40.00
		S		100.00	100.00	66.67
		P		83.33	94.44	44.44

Sl. No.	State	Agency	H/ T	Percentage of Experiments under various inputs for crops		
				I	HYV	F
1	2	3	4	5	6	7
11	Rajasthan	C	H	57.84	32.35	53.92
		S		63.54	30.21	42.71
		P		60.61	31.31	48.48
		C	T	49.17	27.50	45.83
		S		56.48	26.85	37.96
		P		52.63	27.19	42.11
12	Uttar Pradesh	C	H	43.75	18.75	62.50
		S		33.33	33.33	55.56
		P		40.91	22.73	60.61
		C	T	43.75	18.75	62.50
		S		33.33	33.33	55.56
		P		40.91	22.73	60.61
Rape & Mustard						
1	Assam	C	H	4.17	0.00	52.08
		S		10.00	0.00	67.50
		P		6.82	0.00	59.09
		C	T	3.85	0.00	48.08
		S		8.70	0.00	58.70
		P		6.12	0.00	53.06
2	Bihar	C	H	82.35	23.53	88.24
		S		83.33	38.89	91.67
		P		82.86	31.43	90.00
		C	T	82.35	23.53	88.24
		S		83.33	38.89	91.67
		P		82.86	31.43	90.00
3	Chhattisgarh	C	H	10.00	0.00	26.67
		S		0.00	0.00	0.00
		P		5.45	0.00	14.55
		C	T	10.00	0.00	26.67
		S		0.00	0.00	0.00
		P		5.45	0.00	14.55
4	Gujarat	C	H	100.00	75.00	100.00
		S		69.44	58.33	94.44
		P		100.00	88.46	96.15
		C	T	88.00	80.00	84.00
		S		100.00	75.00	100.00
		P		89.66	79.31	86.21
5	Haryana	C	H	95.00	96.00	96.00
		S		97.62	98.81	92.86
		P		96.20	97.28	94.57
		C	T	95.00	96.00	96.00
		S		97.62	98.81	92.86
		P		96.20	97.28	94.57
6	Jharkhand	C	H	65.00	20.00	60.00
		S		0.00	7.14	28.57
		P		38.24	14.71	47.06
		C	T	65.00	20.00	60.00
		S		0.00	7.14	28.57
		P		38.24	14.71	47.06
7	Madhya Pradesh	C	H	57.89	23.68	57.89
		S		42.86	28.57	39.29
		P		61.70	38.30	55.32
		C	T	55.00	22.50	55.00
		S		42.86	28.57	39.29
		P		61.70	38.30	55.32

Sl. No.	State	Agency	H/T	Percentage of Experiments under various inputs for crops		
				I	HYV	F
1	2	3	4	5	6	7
8	Punjab	C	H	95.00	90.00	87.50
		S		94.29	91.43	88.57
		P		94.67	90.67	88.00
		C	T	95.00	90.00	87.50
		S		94.29	91.43	88.57
		P		94.67	90.67	88.00
9	Rajasthan	C	H	89.53	70.93	96.51
		S		83.56	58.90	78.08
		P		86.79	65.41	88.05
		C	T	85.56	67.78	92.22
		S		74.39	52.44	69.51
		P		80.23	60.47	81.40
10	Uttar Pradesh	C	H	98.98	71.43	92.86
		S		92.00	84.00	100.00
		P		97.56	73.98	94.31
		C	T	98.98	71.43	92.86
		S		92.00	84.00	100.00
		P		97.56	73.98	94.31
11	West Bengal	C	H	80.19	82.08	98.11
		S		73.68	100.00	100.00
		P		78.47	86.81	98.61
		C	T	77.27	79.09	94.55
		S		73.68	100.00	100.00
		P		76.35	84.46	95.95

**INCIDENCE OF ERRORS IN CONDUCTING CROP CUTTING EXPERIMENTS
DURING 2018-19**

S. No.	State	Season	A G E N C Y	% of Expts. where no error noticed	Percentage of experiments where errors noticed							
					e ₁	e ₂	e ₃	e ₄	e ₅	e ₆	e ₇	e ₈
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Andhra Pradesh	Kharif	C	64	0	0	9	3	0	12	2	19
			S	62	0	0	15	9	0	12	2	15
			P	63	0	0	12	6	0	12	2	17
		Rabi	C	85	0	0	2	2	0	6	0	7
			S	82	0	0	6	1	1	13	0	0
			P	84	0	0	4	1	0	10	0	4
2	Assam	Early Kharif	C	81	0	0	1	1	0	4	0	13
			S	49	0	0	0	0	1	0	1	51
			P	66	0	0	1	1	1	2	1	31
		Late Kharif	C	83	0	0	0	0	0	0	0	17
			S	34	0	0	0	0	0	0	0	66
			P	60	0	0	0	0	0	0	0	40
		Rabi	C	86	0	0	2	1	0	3	2	8
			S	94	0	0	0	0	0	0	0	6
			P	89	0	0	1	0	0	2	1	7
		Summer	C	84	0	0	0	0	0	0	0	13
			S	94	0	0	0	0	0	0	0	17
			P	88	0	0	0	0	0	0	0	14
3	Bihar	Autumn (Bhadai)	C	66	0	0	1	4	0	19	0	9
			S	3	0	5	5	2	2	28	0	95
			P	37	0	2	3	3	1	23	0	48
		Winter (Agahani)	C	84	0	0	0	0	1	2	0	13
			S	12	0	0	0	0	0	4	0	88
			P	49	0	0	0	0	1	3	0	49
		Rabi	C	77	0	0	2	2	0	8	0	13
			S	19	0	0	2	2	1	6	0	79
			P	51	0	0	2	2	1	7	0	43
		Summer	C	94	0	0	0	0	0	0	0	6
			S	56	0	0	0	0	0	0	0	44
			P	69	0	0	0	0	0	0	0	31
4	Chhattisgarh	Kharif	C	73	5	3	2	12	11	8	0	16
			S	61	0	0	0	2	0	1	0	36
			P	67	3	2	1	7	6	4	0	26
		Rabi	C	78	1	0	1	0	1	5	3	13
			S	96	2	0	1	0	0	0	0	2
			P	87	1	0	1	0	0	3	1	7
5	Gujarat	Kharif	C	84	0	0	1	0	0	2	0	10
			S	48	0	0	0	0	0	6	29	14
			P	73	0	0	1	0	0	3	9	11
		Rabi	C	92	0	0	0	0	1	1	0	6
			S	55	0	0	0	0	0	0	0	45
			P	85	0	0	0	0	1	1	0	13
6	Haryana	Kharif	C	84	0	1	3	4	1	2	1	2
			S	67	0	0	1	1	0	16	1	17
			P	78	0	0	2	3	0	7	1	7
		Rabi	C	90	0	0	2	2	0	6	0	1
			S	90	0	0	1	2	0	6	0	1
			P	90	0	0	2	2	0	6	0	1
7	Himachal Pradesh	Kharif	C	75	0	0	3	3	3	14	0	10
			S	57	0	0	2	2	6	11	0	29
			P	66	0	0	2	3	5	13	0	19
		Rabi	C	78	3	2	1	1	0	14	0	6
			S	84	0	0	0	0	8	8	0	7
			P	81	1	1	0	0	4	11	0	6

ANNEX VIII (Contd.....)

S. No.	State	Season	A G E N C Y	% of Expts. where no error noticed	Percentage of experiments where errors noticed							
					e ₁	e ₂	e ₃	e ₄	e ₅	e ₆	e ₇	e ₈
1	2	3	4	5	6	7	8	9	10	11	12	13
8	Jammu & Kashmir	Kharif	C	49	6	12	11	37	0	19	0	18
			S	25	0	0	14	6	0	2	0	71
			P	40	4	7	12	25	0	12	0	39
		Rabi	C	89	0	0	0	0	0	10	0	1
			S	30	0	0	27	1	0	3	0	67
			P ^A	61	0	0	13	0	0	7	0	32
9	Jharkhand	Early Kharif (Bhadai)	C	83	0	0	0	0	0	0	0	10
			S	25	0	0	0	0	0	0	0	56
			P	57	0	0	0	0	0	0	0	31
		Late Kharif (Agahani)	C	78	0	0	0	3	0	13	0	6
			S	42	0	0	0	0	0	26	0	71
			P	67	0	0	0	2	0	17	0	27
		Rabi	C	74	0	0	0	4	0	4	0	21
			S	5	0	0	0	0	0	0	0	95
			P	47	0	0	0	3	0	3	0	50
10	Karnataka	Kharif	C	61	0	2	4	11	1	9	1	31
			S	45	1	1	1	1	0	4	1	53
			P	52	1	1	2	5	0	6	1	44
		Rabi	C	63	0	0	3	5	1	4	0	35
			S	47	2	2	1	1	1	7	0	50
			P	53	1	1	1	2	1	6	0	44
		Summer	C	66	0	0	0	0	0	9	0	31
			S	44	3	3	0	0	0	18	0	50
			P	51	2	2	0	0	0	15	0	44
11	Kerala	Autumn	C	87	0	0	0	1	0	2	0	11
			S	94	0	0	0	0	0	4	0	1
			P	90	0	0	0	1	0	3	0	6
		Winter	C	80	0	0	2	1	0	7	0	10
			S	92	0	0	0	0	0	6	1	1
			P	86	0	0	1	1	0	7	1	6
		Summer	C	79	0	0	0	0	0	1	0	21
			S	94	0	0	0	0	0	2	0	4
			P	86	0	0	0	0	0	1	0	13
12	Madhya Pradesh	Kharif	C	80	0	0	1	6	1	7	1	6
			S	30	1	6	1	1	0	1	0	66
			P	58	0	3	1	3	0	4	1	33
		Rabi	C	82	3	2	1	10	6	5	0	3
			S	82	0	1	0	0	0	1	1	16
			P	82	1	1	0	5	3	3	0	9
13	Maharashtra	Kharif	C	57	1	4	12	26	0	21	5	13
			S	16	1	1	1	9	1	6	2	79
			P	46	1	3	9	22	0	17	4	30
		Rabi	C	48	0	1	5	7	1	9	7	34
			S	36	0	0	1	0	1	2	1	62
			P	42	0	1	3	4	1	6	4	47
14	Odisha	Autumn	C	84	0	0	1	1	0	1	1	11
			S	93	0	0	1	0	2	2	2	2
			P	91	0	0	1	0	1	1	1	4
		Winter	C	94	0	0	1	1	1	2	0	2
			S	91	0	0	0	1	0	2	1	5
			P	93	0	0	0	1	1	2	0	3
		Summer	C	97	0	0	0	0	0	2	0	0
			S	91	0	0	0	1	0	1	0	9
			P	93	0	0	0	0	0	1	0	6

ANNEX VIII (Contd.....)

S. No.	State	Season	A G E N C Y	% of Expts. where no error noticed	Percentage of experiments where errors noticed							
					e ₁	e ₂	e ₃	e ₄	e ₅	e ₆	e ₇	e ₈
1	2	3	4	5	6	7	8	9	10	11	12	13
15	Punjab	Kharif	C	65	0	1	5	8	2	23	0	12
			S	48	0	0	0	1	0	1	1	51
			P	57	0	1	3	5	1	13	1	30
		Rabi	C	86	0	0	2	1	0	9	0	6
			S	81	0	0	1	1	0	2	1	13
			P	84	0	0	1	1	0	6	1	10
16	Rajasthan	Kharif	C	69	0	0	3	2	0	31	0	5
			S	41	0	0	0	1	0	3	0	58
			P	55	0	0	2	1	0	17	0	32
		Rabi	C	60	0	0	5	2	1	35	1	11
			S	51	0	0	0	0	0	8	0	43
			P	56	0	0	2	1	1	22	0	26
17	Tamil Nadu #	Kharif	C	78	2	2	6	2	1	13	1	11
			S	69	0	0	3	1	1	6	1	21
			P	74	1	1	5	1	1	10	1	16
		Rabi	C	67	2	7	17	8	2	15	3	11
			S	77	0	0	3	1	1	13	1	14
			P	72	1	3	10	5	2	14	2	12
18	Telangana	Kharif	C	75	0	0	5	4	0	9	2	14
			S	60	0	0	1	1	0	5	1	35
			P	68	0	0	3	2	0	7	1	24
		Rabi	C	86	1	1	2	1	0	2	0	9
			S	52	0	0	3	0	0	15	0	42
			P	73	1	1	2	1	0	7	0	21
19	Uttar Pradesh	Kharif	C	55	1	2	18	22	1	22	0	14
			S	60	0	0	2	1	1	13	0	34
			P	56	1	1	15	18	1	20	0	18
		Rabi	C	64	1	1	17	17	1	25	1	5
			S	72	0	1	7	6	2	8	0	13
			P	65	1	1	15	15	1	21	1	7
		Zaid Rabi	C	82	0	0	4	15	10	18	0	1
			S	75	0	0	0	0	25	0	0	0
			P	81	0	0	4	12	13	14	0	1
20	Uttarakhand	Kharif	C	41	0	0	2	7	2	42	2	22
			S	12	0	0	0	0	1	10	3	88
			P	29	0	0	1	4	2	29	2	49
		Rabi	C	60	0	0	2	5	2	22	0	25
			S	30	2	0	0	0	0	4	2	68
			P	47	1	0	1	3	1	14	1	44
21	West Bengal	Aus	C	74	0	0	2	2	2	4	0	17
			S	93	0	0	0	0	0	7	0	0
			P	76	0	0	2	2	2	5	0	16
		Aman	C	85	0	0	0	3	4	1	0	8
			S	100	0	0	22	0	0	0	0	0
			P	87	0	0	3	2	4	1	0	7
		Rabi	C	68	0	0	0	0	1	3	0	27
			S	38	0	0	0	0	0	0	0	62
			P	60	0	0	0	0	1	2	0	36
		Summer	C	76	0	0	1	1	1	2	0	21
			S	73	0	0	0	0	0	0	0	27
			P	76	0	0	1	0	1	2	0	21

ANNEX VIII (Contd.....)

S. No.	State	Season	A G E N C Y	% of Expts. where no error noticed	Percentage of experiments where errors noticed							
					e ₁	e ₂	e ₃	e ₄	e ₅	e ₆	e ₇	e ₈
1	2	3	4	5	6	7	8	9	10	11	12	13
22	Puducherry	Kharif	C	90	0	0	0	0	0	10	0	0
			S	90	0	0	0	10	0	0	0	0
			P	90	0	0	0	5	0	5	0	0
		Rabi-I	C	60	0	0	0	0	0	0	0	0
			S	100	0	0	0	0	0	0	0	40
			P	80	0	0	0	0	0	0	0	20
		Rabi-II	C	100	0	0	0	0	0	40	0	20
			S	90	0	0	0	0	0	0	0	10
			P	95	0	0	0	0	0	20	0	15
For States covered		Early Kharif	C	65	0	0	1	2	1	5	2	29
			S	31	0	1	1	1	1	5	1	46
			P	50	0	0	1	1	1	5	1	27
		Late Kharif	C	70	1	1	6	9	1	14	1	12
			S	50	0	1	2	2	0	6	2	42
			P	62	1	1	5	6	1	10	1	25
		Rabi	C	74	1	1	5	6	1	12	1	11
			S	64	0	0	2	1	1	5	0	30
			P	70	1	1	4	4	1	10	1	19
		Summer	C	81	0	0	1	1	1	4	0	16
			S	84	0	0	0	0	1	3	0	13
			P	82	0	0	0	1	1	3	0	15
		All Seasons	C	72	1	1	5	7	1	12	1	13
			S	56	0	1	2	1	1	5	1	36
			P	65	0	1	4	5	1	9	1	22

Note:

1. e₁= Error in selection of survey/sub-survey nos.
2. e₂= Error in selection of field within survey/sub-survey nos.
3. e₃= Error in measurement of field
4. e₄= Error in selection of random nos., location and marking of plots
5. e₅= Error in weighment of produce
6. e₆= Error in reporting ancillary information
7. e₇= Inadequate arrangements for storing of produce for driage and incorrect reporting of constituents in crop mixture.
8. e₈ = Others.
9. \$ In Kerala, whole year data has been included in Summer season
10. NR - Not Reported.
11. # - In the light of introduction of concept of Kharif and Rabi seasons in the Tamil Nadu state from Agricultural year 2017-18 and consequent, categorization of crops, the data have been presented seasonwise instead of whole year

**SUPPLY AND USE OF EQUIPMENT FOR CROP CUTTING
EXPERIMENTS DURING 2018-19**

S. No.	State	Season	A G E N C Y	Percentage of experiments for which							
				Concerned Primary workers were not supplied with				Primary workers did not use the supplied items			
				Tape	Pegs	Balance	Weight	Tape	Pegs	Balance	Weight
1	2	3	4	5	6	7	8	9	10	11	12
1	Andhra Pradesh	Kharif	C	1	96	1	0	0	0	1	0
			S	0	88	0	0	2	5	2	2
			P	0	92	0	0	1	2	2	1
		Rabi	C	0	92	0	0	2	0	2	7
			S	0	89	0	0	8	3	8	8
			P	0	91	0	0	5	1	5	8
2	Assam	Early Kharif	C	11	84	14	13	20	0	22	23
			S	0	77	0	0	12	20	10	10
			P	6	80	8	7	16	9	16	17
		Late Kharif	C	3	93	6	5	16	0	18	19
			S	0	59	0	0	15	14	9	11
			P	1	77	3	3	16	7	14	15
		Rabi	C	14	90	15	9	2	3	25	19
			S	0	87	0	4	11	2	6	6
			P	8	89	8	7	6	3	17	14
		Summer	C	16	91	16	19	6	0	19	19
			S	0	100	0	0	11	0	11	11
			P	10	94	10	12	8	0	16	16
3	Bihar	Autumn (Bhadai)	C	99	97	97	74	0	0	1	1
			S	47	73	47	47	47	5	48	42
			P	75	86	74	62	22	2	23	20
		Winter (Aghani)	C	88	95	91	91	6	0	4	4
			S	12	15	12	13	44	36	49	47
			P	52	57	54	54	24	17	25	24
		Rabi	C	93	99	100	79	2	0	0	0
			S	40	66	42	39	44	17	46	46
			P	69	84	73	61	21	8	21	21
		Summer	C	100	100	100	72	0	0	0	0
			S	65	76	65	65	24	0	24	24
			P	77	85	77	67	15	0	15	15
4	Chhattisgarh	Kharif	C	11	95	49	71	27	3	27	30
			S	0	12	6	6	0	0	6	6
			P	6	54	28	39	13	1	16	18
		Rabi	C	10	85	45	55	10	5	11	5
			S	0	21	21	21	12	1	1	0
			P	5	55	34	39	11	3	6	3
5	Gujarat	Kharif	C	18	71	26	23	22	6	25	19
			S	0	34	0	0	64	3	64	23
			P	13	60	18	16	34	5	37	20
		Rabi	C	28	89	35	39	33	11	38	30
			S	3	28	3	3	18	5	18	18
			P	24	78	30	33	31	10	35	28
6	Haryana	Kharif	C	14	98	34	4	5	1	3	0
			S	39	56	39	5	30	26	28	22
			P	23	83	36	5	14	10	12	8
		Rabi	C	8	98	13	1	3	0	6	0
			S	32	60	37	1	21	14	21	8
			P	18	81	24	1	11	6	13	4
7	Himachal Pradesh	Kharif	C	20	100	57	60	38	0	38	24
			S	9	56	33	48	41	35	67	48
			P	15	79	45	54	39	17	52	35
		Rabi	C	26	99	63	37	13	0	28	26
			S	8	62	42	48	40	32	55	47
			P	17	80	52	43	27	16	41	36
8	Jammu & Kashmir	Kharif	C	100	100	100	93	0	0	0	0
			S	65	81	67	66	16	0	14	15
			P	86	93	87	82	6	0	5	6
		Rabi	C	89	100	100	96	11	0	0	0
			S	73	99	73	73	27	0	27	27
			P*	81	100	87	85	19	0	13	13

S. No.	State	Season	A G E N C Y	Percentage of experiments for which							
				Concerned Primary workers were not supplied with				Primary workers did not use the supplied items			
				Tape	Pegs	Balance	Weight	Tape	Pegs	Balance	Weight
1	2	3	4	5	6	7	8	9	10	11	12
9	Jharkhand	Early Kharif	C	78	98	100	100	10	3	0	0
			S	88	88	88	88	13	13	13	13
			P	82	93	94	94	11	7	6	6
		Late Kharif	C	81	92	86	77	13	8	8	8
			S	84	89	89	89	5	0	0	0
			P	82	91	87	81	10	5	5	5
		Rabi	C	100	99	100	94	0	0	0	6
			S	74	100	97	97	26	0	3	3
			P	90	99	99	95	10	0	1	5
10	Karnataka	Kharif	C	37	96	44	21	28	1	26	7
			S	33	63	36	22	17	5	15	9
			P	34	76	40	22	22	3	19	8
		Rabi	C	43	94	43	30	28	0	36	1
			S	45	54	31	43	18	2	31	19
			P	44	70	36	38	22	1	33	12
		Summer	C	25	100	38	19	31	0	31	6
			S	18	56	20	18	18	9	15	15
			P	20	70	26	18	22	6	20	12
11	Kerala & *	Autumn	C	2	29	4	5	2	14	6	0
			S	0	0	0	1	0	0	0	0
			P	1	15	2	3	1	8	3	0
		Winter	C	1	30	0	0	4	11	7	2
			S	0	0	0	0	1	0	0	0
			P	1	15	0	0	3	6	4	1
		Summer	C	1	16	1	1	2	2	9	3
			S	0	1	0	0	0	0	0	0
			P	0	8	0	0	1	1	4	2
12	Madhya Pradesh	Kharif	C	35	92	72	56	29	7	25	20
			S	1	14	13	13	70	39	64	57
			P	20	57	45	37	47	21	42	37
		Rabi	C	20	90	59	39	26	8	35	31
			S	0	10	8	8	23	28	28	27
			P	10	52	35	25	24	18	32	30
		Kharif	C	85	98	96	48	7	1	2	1
			S	11	20	13	14	77	57	77	56
			P	66	77	74	39	25	16	22	16
13	Maharashtra	Kharif	C	83	93	95	55	16	7	4	4
			S	58	55	56	55	40	31	40	37
			P	72	76	77	55	27	18	20	19
		Rabi	C	1	6	0	0	4	2	6	2
			S	0	1	0	0	12	1	1	13
			P	0	2	0	0	10	1	2	9
		Winter	C	0	2	0	0	1	3	2	0
			S	0	0	0	0	27	0	0	27
			P	0	1	0	0	13	2	1	12
14	Odisha	Autumn	C	0	0	0	0	0	1	0	0
			S	0	0	0	0	1	1	1	0
			P	0	0	0	0	0	1	0	0
		Winter	C	59	99	93	51	3	0	0	0
			S	7	85	85	86	12	0	3	3
			P	36	93	90	67	7	0	1	1
		Rabi	C	58	99	94	51	3	0	3	0
			S	5	78	57	35	10	10	11	4
			P	34	90	77	44	6	4	6	2
16	Rajasthan	Kharif	C	85	99	93	92	11	0	6	7
			S	27	33	28	26	39	29	41	43
			P	56	66	60	59	25	20	24	25
		Rabi	C	85	99	98	64	5	0	2	1
			S	29	42	29	33	45	32	52	53
			P	59	72	65	49	24	15	25	26
17	Tamil Nadu #	Kharif	C	5	19	28	5	18	8	7	18
			S	1	0	0	0	13	12	14	11
			P	3	9	13	2	15	10	11	14
		Rabi	C	2	27	28	0	7	12	10	6
			S	0	1	1	0	19	19	19	19
			P	1	15	16	0	12	15	14	12

S. No.	State	Season	A G E N C Y	Percentage of experiments for which							
				Concerned Primary workers were not supplied with				Primary workers did not use the supplied items			
				Tape	Pegs	Balance	Weight	Tape	Pegs	Balance	Weight
1	2	3	4	5	6	7	8	9	10	11	12
18	Telangana	Kharif	C	1	94	16	3	1	1	1	1
			S	1	67	2	1	18	5	21	23
			P	1	81	9	2	9	3	10	12
		Rabi	C	1	99	14	14	15	1	12	12
			S	16	90	16	16	12	2	14	14
			P	7	95	15	14	14	1	13	13
19	Uttar Pradesh	Kharif	C	31	96	73	65	17	1	13	10
			S	13	35	18	15	25	11	30	31
			P	28	84	62	55	18	3	17	14
		Rabi	C	33	99	84	68	17	1	15	12
			S	7	26	32	19	23	17	22	22
			P	28	85	74	59	18	4	16	14
		Summer	C	36	99	82	66	27	0	18	15
			S	0	0	0	0	0	0	0	0
			P	29	89	66	53	22	0	24	22
		Kharif	C	4	67	13	34	5	2	9	7
			S	0	0	0	0	23	24	28	28
			P	3	40	8	21	12	11	17	15
20	Uttarakhand	Rabi	C	0	83	30	27	7	3	10	7
			S	0	4	0	0	9	9	13	13
			P	0	49	17	15	7	6	11	9
	West Bengal @	Autumn	C	0	92	0	4	1	1	4	4
			S	0	71	0	0	0	0	0	0
			P	0	91	0	4	1	1	4	4
		Winter	C	0	94	1	0	0	0	1	0
			S	0	89	0	0	0	0	0	0
			P	0	93	1	0	0	0	1	0
		Rabi	C	0	95	0	0	3	0	2	3
			S	0	100	0	0	0	0	0	0
			P	0	97	0	0	2	0	2	2
		Summer	C	1	96	1	0	0	0	1	1
			S	0	100	0	0	0	0	0	0
			P	0	96	0	0	0	0	0	0
22	Puducherry	Kharif	C	0	0	0	0	0	0	0	0
			S	0	0	0	0	0	0	0	0
			P	0	0	0	0	0	0	0	0
		Rabi-I	C	0	0	10	80	0	0	0	0
			S	0	40	0	0	0	0	0	0
			P	0	20	5	40	0	0	0	0
		Rabi-II	C	0	0	0	0	0	0	0	0
			S	0	0	0	0	0	0	0	0
			P	0	0	0	0	0	0	0	0
	For Covered States	Early Kharif	C	20	67	22	20	5	3	7	6
			S	12	31	12	12	14	5	9	13
			P	16	51	17	17	9	4	8	9
		Late Kharif	C	35	85	53	41	13	2	11	9
			S	12	41	20	17	29	15	28	24
			P	25	67	39	31	20	8	18	15
		Rabi	C	38	92	61	43	11	3	12	9
			S	20	50	29	24	24	16	26	24
			P	31	75	47	35	17	8	18	15
		Summer	C	8	50	12	10	5	1	8	4
			S	5	18	5	5	3	1	4	4
			P	7	35	9	8	4	1	6	4
All Seasons			C	34	85	52	39	12	2	11	8
			S	14	42	21	18	25	14	25	22
			P	26	67	39	30	17	8	17	14

Note:

1. @= ISI Equipments in place of Tape

2. \$ In Kerala, whole year data has been included in Summer season

3. #- In the light of introduction of concept of Kharif and Rabi seasons in the Tamil Nadu state from Agricultural year 2017-18 and consequent, categorization of crops, the data have been presented seasonwise instead of whole year.

4. * Since data from one agency is available, the same data has been taken against pooled data for comparison purpose .

**DELEGATION OF WORK AND CONDUCT OF CROP CUTTING EXPERIMENTS BY
UNTRAINED WORKERS DURING 2018-19**

Sl. No.	State	A G E N C Y	Percentage of Experiments																							
			Early Kharif						Late Kharif						Rabi						Summer					
			S	UW	DJ	UW	NC	UW	DS	UW	DJ	UW	NC	UW	DS	UW	DJ	UW	NC	UW	DS	UW	DJ	UW	NC	UW
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1	Andhra Pradesh	C							3	0	3	0	93	0	1	0	9	0	90	2						
		S							1	0	1	0	98	1	2	0	0	0	98	1						
		P							2	0	2	0	96	1	2	0	4	0	94	1						
2	Assam	C	1	0	0	0	99	0	1	0	1	0	98	0	0	0	0	0	100	1	0	0	0	0	100	0
		S	0	0	0	0	100	0	0	0	0	0	100	0	0	0	0	0	100	0	0	0	0	0	100	0
		P	1	0	0	0	99	0	0	0	0	0	99	0	0	0	0	0	100	0	0	0	0	0	100	0
3	Bihar	C	0	0	0	0	100	16	1	1	0	0	100	14	1	0	1	0	99	16	0	0	0	0	100	0
		S	3	3	0	0	100	0	0	0	1	0	100	19	7	0	0	0	93	17	3	0	0	0	97	38
		P	2	2	0	0	100	8	0	0	1	0	100	17	4	0	0	0	96	16	2	0	0	0	98	25
4	Chhattisgarh	C							1	0	4	0	96	0	0	0	3	0	97	0						
		S							1	0	0	0	99	0	0	0	0	0	100	0						
		P							1	0	2	0	98	0	0	0	1	0	99	0						
5	Gujarat	C							0	0	0	0	100	0	0	0	0	0	100	0						
		S							55	0	0	0	45	0	0	0	5	0	95	0						
		P							17	0	0	0	83	0	0	0	1	0	99	0						
6	Haryana	C							0	0	3	1	97	0	0	0	2	0	97	1						
		S							0	0	5	0	95	0	0	0	8	0	92	0						
		P							0	0	3	1	97	0	0	0	5	0	95	1						
7	Himachal Pradesh	C							2	0	3	3	105	3	1	0	2	2	97	3						
		S							0	0	0	0	116	5	0	0	0	0	100	0						
		P							1	0	2	2	110	4	0	0	1	1	99	2						
8	Jammu & Kashmir	C							0	0	3	1	97	18	7	0	0	0	93	4						
		S							10	0	0	0	95	6	0	0	0	0	100	0						
		P							4	0	2	1	96	13	4	0	0	0	96	2						
9	Jharkhand	C	0	0	10	5	90	40	0	0	8	8	94	33	0	0	2	0	98	39						
		S	0	0	0	0	100	38	0	0	0	0	100	32	0	0	0	0	100	48						
		P	0	0	6	3	94	39	0	0	5	5	96	32	0	0	1	0	99	42						
10	Karnataka	C							1	0	0	0	112	1	0	0	0	0	129	1	0	0	0	0	106	0
		S							0	0	0	0	101	1	9	0	0	0	101	0	6	0	0	0	102	0
		P							1	0	0	0	106	1	5	0	0	0	112	0	4	0	0	0	103	0
11	Kerala @	C	6	0	0	0	93	1	1	0	0	0	98	1							0	0	0	0	100	0
		S	0	0	0	0	100	0	5	0	0	0	95	0							0	0	0	0	100	0
		P	3	0	0	0	96	1	3	0	0	0	97	1							0	0	0	0	100	0
12	Madhya Pradesh	C							1	0	1	0	98	9	1	0	2	0	97	5						
		S							0	0	0	0	100	0	1	0	0	0	109	0						
		P							1	0	0	0	99	5	1	0	1	0	103	3						

Sl. No.	State	A G E N C Y	Percentage of Experiments																							
			Early Kharif						Late Kharif						Rabi						Summer					
			S	UW	DJ	UV	NC	UW	DS	UW	DJ	UW	NC	UW	DS	UW	DJ	UW	NC	UW	DS	UW	DJ	UW	NC	UW
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
13	Maharashtra	C							0	0	2	0	98	1	13	0	2	0	84	0						
		S							4	0	0	0	96	1	11	0	0	0	90	0						
		P							1	0	1	0	97	1	12	0	1	0	87	0						
14	Odisha	C	0	0	0	0	229	0	0	0	0	0	106	0							0	0	0	0	100	0
		S	1	1	0	0	100	1	1	0	0	0	99	1							0	0	0	0	100	0
		P	1	1	0	0	140	0	0	0	0	0	103	0							0	0	0	0	100	0
15	Punjab	C							0	0	1	0	99	0	0	0	1	0	99	1						
		S							0	0	0	0	100	0	1	0	0	0	99	0						
		P							0	0	1	0	99	0	1	0	0	0	99	1						
16	Rajasthan	C							0	0	0	0	100	1	0	0	0	0	100	1						
		S							0	0	0	0	93	5	0	0	0	0	100	3						
		P							0	0	0	0	96	3	0	0	0	0	100	2						
17	Tamil Nadu	C							1	0	2	0	110	0	1	0	2	0	97	12						
		S							1	0	1	0	123	0	0	0	0	0	100	0						
	#	P							1	0	2	0	116	0	1	0	1	0	98	6						
18	Telangana	C							1	0	6	0	94	9	3	0	0	0	97	2						
		S							0	0	2	0	98	0	0	0	0	0	100	0						
		P							0	0	4	0	96	5	2	0	0	0	98	1						
19	Uttar Pradesh	C							4	0	13	12	83	43	1	1	11	11	88	58	0	0	0	24	78	30
		S							9	0	2	0	90	1	0	0	7	0	93	14	0	0	0	0	0	0
		P							5	0	11	10	84	35	0	0	11	9	89	50	0	0	0	19	82	27
20	Uttarakhand	C							25	0	6	2	69	0	0	0	3	0	97	7						
		S							74	0	0	0	26	0	0	0	0	0	102	0						
		P							45	0	4	1	52	0	0	0	2	0	99	4						
21	West Bengal	C	0	0	1	0	99	12	0	0	0	0	100	8	0	0	0	0	100	8	0	0	0	0	100	8
		S	0	0	0	0	100	21	0	0	0	0	100	26	1	1	0	0	99	1	0	0	0	0	100	3
		P	0	0	1	0	99	12	0	0	0	0	100	11	0	0	0	0	100	6	0	0	0	0	100	8
22	Pudu-cherry	C							0	0	0	0	100	0	0	0	0	0	100	0	25	0	0	0	100	0
		S							0	0	0	0	100	0	0	0	0	0	100	0	0	0	0	0	111	0
		P							0	0	0	0	100	0	0	0	0	0	100	0	12	0	0	0	106	0
For States Covered		C	1	0	1	0	118	9	2	0	3	2	97	10	1	0	3	2	96	14	0	0	2	2	98	6
		S	1	1	0	0	100	3	5	0	1	0	96	2	2	0	1	0	98	3	1	0	0	0	100	3
		P	1	0	0	0	110	6	3	0	2	1	96	7	2	0	2	1	97	10	1	0	1	1	99	4

Note:

- 1- @ = In Kerala Whole year data has been included in Summer season
- 2- # = In the light of introduction of concept of Kharif and Rabi seasons in the Tamil Nadu state from Agricultural year 2017-18 and consequent categorization of crops, the data have been presented seasonwise instead of whole year.
- 3- NA = Data Not available
- 4 DS=For which field work was delegated to equivalent/senior person
- 5 DJ=For which field work was delegated to juniors
- 6 NC= For which field work was conducted by designated person(no change in primary worker)
- 7 UW=For which field work was conducted by untrained workers

**SUBSTITUTION OF SAMPLING UNITS OBSERVED DURING SAMPLE CHECK ON CROP
CUTTING EXPERIMENTS UNDER ICS DURING 2018-19**

Sl. No.	State	Season	Percentage of experiments for which substitution was done in respect of							
			Selected villages due to reason *				Selected survey nos.due to reason \$			
Reason Code			1	2	3	9	1	2	3	9
1	2	3	4	5	6	7	8	9	10	11
1	Andhra Pradesh	Kharif	24	0	0	0	0	0	0	0
		Rabi	24	0	0	0	0	0	0	0
2	Assam	Early Kharif	26	0	0	0	2	0	1	7
		Late Kharif	8	8	0	0	2	0	0	0
		Rabi	16	0	1	2	2	0	0	7
		Summer	16	0	0	4	0	0	0	0
3	Bihar	Bhadai	8	3	0	2	0	0	0	0
		Aghani	1	0	0	2	1	1	0	0
		Rabi	4	1	0	2	1	0	0	5
		Summer	0	0	0	0	0	0	0	2
4	Chhattisgarh	Kharif	11	0	0	0	3	0	0	1
		Rabi	11	0	0	0	1	0	0	0
5	Gujarat	Kharif	7	0	0	0	1	0	0	1
		Rabi	12	0	0	0	0	0	0	1
6	Haryana	Kharif	11	0	0	0	0	0	0	1
		Rabi	14	0	0	1	1	0	0	1
7	Himachal Pradesh	Kharif	14	0	0	0	1	0	0	3
		Rabi	7	0	0	1	0	0	0	1
8	Jammu & Kashmir	Kharif	4	0	1	1	0	0	1	30
		Rabi	1	0	0	0	4	1	0	16
9	Jharkhand	Early Kharif	0	0	0	0	0	7	0	28
		Late Kharif	3	0	0	0	3	0	0	21
		Rabi	4	0	0	3	0	1	0	49
10	Karnataka	Kharif	25	2	0	7	0	0	0	1
		Rabi	27	1	0	15	0	0	0	0
		Summer	37	0	0	7	0	0	0	0
11	Kerala	Autumn	24	0	0	2	1	0	0	1
		Winter	14	0	0	1	1	0	0	1
		Summer@	2	0	0	0	0	0	0	0
12	Madhya Pradesh	Kharif	11	0	0	0	0	0	0	1
		Rabi	7	0	0	1	0	0	0	0
13	Maharashtra	Kharif	4	0	1	1	0	0	0	0
		Rabi	3	0	0	0	0	0	0	0
14	Odisha	Autumn	18	0	0	11	0	1	0	0
		Winter	14	0	0	9	1	1	0	1
		Summer	34	0	0	3	0	0	0	0
15	Punjab	Kharif	5	0	1	0	0	0	0	0
		Rabi	5	0	1	0	0	0	0	0
16	Rajasthan	Kharif	4	0	0	0	0	0	0	0
		Rabi	4	0	0	0	0	0	0	0
17	Tamil Nadu #	Kharif	25	1	0	0	0	0	0	2
		Rabi	20	0	0	0	0	0	0	0

ANNEX- XI (Contd.....)

Sl. No.	State	Season	Percentage of experiments for which substitution was done in respect of							
			Selected villages due to reason *				Selected survey nos.due to reason \$			
Reason Code			1	2	3	9	1	2	3	9
1	2	3	4	5	6	7	8	9	10	11
18	Telangana	Kharif	4	0	0	1	0	0	0	0
		Rabi	4	0	0	1	0	0	0	0
19	Uttar Pradesh	Kharif	3	0	0	0	1	2	0	0
		Rabi	1	0	0	0	0	1	0	0
		Summer	10	0	0	0	2	0	0	0
20	Uttarakhand	Kharif	7	3	0	0	0	3	0	1
		Rabi	2	0	0	0	0	0	0	0
21	West Bengal	Aus	0	0	0	0	0	1	0	0
		Aman	0	0	0	0	0	0	0	0
		Rabi	0	0	0	0	0	0	0	0
		Summer	0	0	0	0	0	0	0	0
22	Puducherry	Kharif	40	0	0	0	0	0	0	0
		Rabi-I	0	0	0	5	0	0	0	0
		Rabi-II	0	0	0	0	5	0	0	0
For States covered		Early Kharif	15	0	0	4	0	1	0	3
		Late Kharif	11	0	0	1	1	0	0	1
		Rabi	8	0	0	1	0	0	0	2
		Summer	11	0	0	1	0	0	0	0
		All Seasons	10	0	0	1	0	0	0	2

Note:

* 1.Crop not sown

2.Entire crop harvested in the village.

3. Records not available

9.Others

\$ 1.Crop harvested prior to selection.

2.Crop harvested before the date fixed.

3.Field partially harvested affecting the location of experimental plot.

9.Others.

@ In Kerala, data for whole year crops has been included in Summer season

In the light of introduction of concept of Kharif and Rabi seasons in the Tamil Nadu state from Agricultural year 2017-18 and consequent categorization of crops, the data have been presented seasonwise instead of whole year.

**COMPARISON OF ESTIMATES OF CROP AREAS BASED ON
ICS, TRS & FINAL ESTIMATES : 2018-19**

Sl No	State	A G E N C Y	Estimates of area based on sample checks (ICS) (in '000' ha)		Estimated area as per TRS (in '000' ha)	Final Estimates of Area (in '000' ha)	Ratio of Area Estimates		
			A-III	A-IV			TRS/ Final	A-III/ Final	A-IV/ Final
			As per primary worker	As per supervisor					
1	2	3	4	5	6	7	8	9	10
RICE-KHARIF									
1	Andhra Pradesh	C	21	1716					
		S	1844	2004					
		P^	1139	1893	1587	1564	1.0147	0.7284	1.2101
2	Assam (Autumn)	C		138					
		S		223					
	*\$\$	P^		179	206	400	0.5150	0.0000	0.4481
	Assam (Winter)	C		458					
		S		387					
	*\$\$	P^		425	1720	2024	0.8498	0.0000	0.2099
3	Bihar (Bhadai)	C	0	622					
		S	91	1526					
	\$\$	P	44	1060	549	558	0.9839	0.0782	1.9002
	Bihar (Aghani)	C	0	7742					
		S	527	3448					
	\$\$	P	252	5689		2541	0.0000	0.0992	2.2389
4	Chhattisgarh	C	3755	3798					
		S	5123	5251					
	\$\$	P	4439	4525	3911	3606	1.0846	1.2310	1.2547
5	Gujarat	C	0	183					
		S	74	275					
		P^	29	219	136	809	0.1681	0.0359	0.2708
6	Haryana	C	1614	1643					
		S	1192	1201					
		P	1426	1446	1442	1447	0.9965	0.9853	0.9992
7	Himachal Pradesh	C	104	181					
		S	438	445					
	@	P^	270	312		73	0.0000	3.6955	4.2744
8	Jammu & Kashmir	C	270	270					
		S	130	130					
	\$\$	P	198	198	287	262	1.0954	0.7554	0.7554
9	Jharkhand (Bhadai)	C	NR	354					
		S	330	333					
	@	P^	150	344		137	0.0000	1.0949	2.5143
	(Aghani)	C	NR	2251					
	*\$\$	S	1238	1602					
		P^	592	1941	1038	1390	0.7468	0.4260	1.3961
10	Karnataka	C	215	216					
		S	246	245					
		P	230	230	1037	985	1.0528	0.2339	0.2339
11	Kerala (Autumn)	C	2	2					
	@	P	2	2		46	0.0000	0.0326	0.0326
	Kerala (Winter)	C	3	3					
		S	2	2					
	@	P	3	3		106	0.0000	0.0236	0.0236
12	Madhya Pradesh	C	2732	2741					
		S	2291	2298					
		P	2529	2537	2144	2373	0.9035	1.0657	1.0691
13	Maharashtra	C	1005	2328					
		S	1389	1384					
	\$\$	P	1157	1955	1425	1417	1.0056	0.8162	1.3799
14	Odisha (Autumn)	C	103	103					
		S	36	36					
	@	P	70	70		551	0.0000	0.1261	0.1261
	Odisha (Winter)	C	3584	3584					
		S	2902	2902					
	@	P	3243	3243		3034	0.0000	1.0689	1.0689
15	Punjab	C	7782	3833					
	@	S	4125	4186					
		P	6125	3993		3103	0.0000	1.9740	1.2868
16	Tamil Nadu P-I	C	1889	1931					
		S	1218	1283					
		P	1554	1608	727	786	0.9249	1.9773	2.0453
	P-II	C	942	1413					
		S	285	400					
		P	614	907	451	786	0.5738	0.7813	1.1545
17	Telangana	C	0	2907					
	\$\$	S	2791	2713					
		P	1683	2790	764	1189	0.64255677	1.415400059	2.346528455

Annex-XIICONTD)									
Sl No	State	A G E N C Y	Estimates of area based on sample checks (ICS) (in '000' ha)		Estimated area as per TRS (in '000' ha)	Final Estimates of Area (in '000' ha)	Ratio of Area Estimates		
			A-III	A-IV			TRS/ Final	A-III/ Final	A-IV/ Final
			As per primary worker	As per supervisor					
			4	5					
1	2	3	4	5	6	7	8	9	10
18	Uttar Pradesh	C	4444	6751					
		S	8499	3180					
		P	5565	5763	5898	5719	1.0313	0.9731	1.0078
19	Uttar-akhand	C	187	201					
		S	230	233					
		P	208	217	249	239	1.0418	0.8711	0.9070
20	W.Bengal (Autumn)	C	65	96					
		S	1626	1622					
	@	P	387	411		169	0.0000	2.2906	
	(Winter)	C	1071	8533					
	@	S	12627	12690					
		P	3397	9370		4064	0.0000	0.8359	2.3055
21	Puducherry	C	5	5					
		S	1	1					
		PA	1	1	4	13	0.3077	0.0769	0.0769
For states covered			35306	51330	23575	39391	0.5985	0.8963	1.3031
RICE (RABI/ SUMMER)									
1	Andhra Pradesh	C	1	1212					
		S	1032	1251					
	@	P	633	1236		644	0.0000	0.9835	1.9191
2	Assam	C	0	64					
	*	S	0	79					
		PA	0	71	418	401	1.0424	0.0000	0.1765
3	Bihar	C	0	1246					
	* \$\$	S	0	97					
		P	0	714	83	60	1.3833	0.0000	11.9082
4	Karnataka	C	0	1					
		S	4	4					
		P	2	3	31	154	0.2013	0.0130	0.0162
5	Kerala	C	2	2					
	@	S	4	4					
		P	3	3		46	0.0000	0.0652	0.0652
6	Odisha	C	231	227					
	@	S	150	150					
		PA	191	189		274	0.0000	0.6953	0.6880
7	Tamil Nadu	C	135	184					
		S	376	420					
		P	52	118	453	149	3.0403	0.3521	0.7888
8	Telangana	C	0	1504					
		S	2062	2075					
		P	1213	1840	744	743	1.0013	1.6321	2.4762
9	West Bengal	C	514	3467					
		S	222	279					
	@	P	452	2793	0	1280	0.0000	0.3533	2.1822
10	Puducherry	C	16	16					
	Rabi-I \$	S	5	5					
	@	P	11	11			0.0000	0.0000	0.0000
	Rabi-II	C	11	11					
		S	3	3					
		P	7	7	6	5	1.2000	1.4000	1.4000
For states covered			2564	6983	1735	3756	0.4619	0.6826	1.8592
JOWAR(KHARIF)									
2	Karnataka	C	35	38					
		S	24	22					
		P	30	30	105	108	0.9722	0.2736	0.2784
3	Madhya Pradesh	C	65	68					
		S	66	66					
		P	65	67	161	75	2.1467	0.8728	0.8944
4	Maharashtra	C	154	371					
		S	82	91					
		P	126	260	565	530	1.0660	0.2369	0.4914
5	Rajasthan	C	72	76					
		S	160	158					
		P	116	117	583	564	1.0337	0.2050	0.2068
6	Tamil Nadu	C	602	40					
		S	399	577					
		P	501	308	291	183	1.5902	2.7360	1.6830

Sl No	State	A G E N C Y	Estimates of area based on sample checks (ICS) (in '000' ha)		Estimated area as per TRS (in '000' ha)	Final Estimates of Area (in '000' ha)	Ratio of Area Estimates		
			A-III	A-IV			TRS/ Final	A-III/ Final	A-IV/ Final
			As per primary worker	As per supervisor					
			4	5					
7	Telangana	C	0	8					
		S	49	30					
		P	30	21	19	35	0.5429	0.8442	0.6076
8	Uttar Pradesh	C	120	147					
		S	70	70					
	\$\$	P	106	126	169	147	1.1497	0.7223	0.8551
For states covered			973	929	1893	1642	1.1529	0.5923	0.5659
JOWAR(RABI)									
1	Karnataka	C	16	19					
	\$\$	S	10	10					
		P	13	15	1002	835	1.2000	0.0156	0.0174
2	Maharashtra	C	20	188					
	\$\$	S	129	143					
		P	61	171	2899	1101	2.6331	0.0556	0.1553
3	Tamil Nadu	C	0	4					
		S	28	28					
		P	14	16	65	203	0.3202	0.0688	0.0787
4	Telangana	C	0	1					
		S	62	68					
		P	36	40	19	21	0.9048	1.7362	1.9239
For states covered			125	242	3985	2160	1.8449	0.0577	0.1120
BAJRA									
1	Andhra Pradesh	C	9	78					
		S	49	49					
		P	34	60	23	22	1.0455	1.5243	2.7369
2	Gujarat	C	NR	183					
		S	0	275					
		PA	0	219	34	392	0.0867	0.0000	0.5589
3	Haryana	C	572	566					
	\$\$	S	639	645					
		P	602	601	446	425	1.0494	1.4162	1.4147
4	Karnataka	C	32	5					
		S	25	25					
		P	29	15	187	184	1.0163	0.1551	0.0811
5	Maharashtra	C	57	609					
	\$\$	S	433	486					
		P	205	560	788	610	1.2918	0.3368	0.9188
6	Rajasthan	C	787	788					
		S	701	697					
		P	744	743	4211	4180	1.0074	0.1781	0.1777
7	Tamil Nadu	C	48	32					
	P-I	S	70	117					
		P	54	71	27	47	0.5745	1.1590	1.5101
8	Uttar Pradesh	C	33	1488					
		S	114	378					
	\$\$	P	55	1181	925	877	1.0547	0.0632	1.3467
For states covered			1724	3451	6641	6737	0.9858	0.2558	0.5122
MAIZE									
2	Bihar	C	0	622					
	\$\$	S	42	1526					
		P	44	1060	251	223	1.1256	0.1957	4.7547
3	Chhattisgarh	C	114	116					
	\$\$	S	134	134					
		P	124	125	111	118	0.9407	1.0508	1.0593
4	Gujarat	C	NR	54					
	@	S	22	185					
		PA	195	105	102	311	0.3280	0.6270	0.3388
5	Haryana	C	17	28					
		S	4	4					
		PA	11	17	7	6	1.1667	1.8670	2.8827
6	Himachal Pradesh	C	2859	2440					
		S	7138	7278					
	@	PA	4960	4815	0	287	0.0000	17.2808	16.7771
7	Jammu & Kashmir	C	548	557					
		S	274	274					
	\$\$	P	407	411	302	262	1.1527	1.5532	1.5698
8	Jharkhand	C	NR	186					
	@	S	130	133					
		PA	59	162	0	255	0.0000	0.2317	0.6349

Sl No	State	A G E N C Y	Estimates of area based on sample checks (ICS) (in '000' ha)		Estimated area as per TRS (in '000' ha)	Final Estimates of Area (in '000' ha)	Ratio of Area Estimates			
			A-III	A-IV			TRS/ Final	A-III/ Final	A-IV/ Final	
			As per primary worker	As per supervisor						
			4	5						6
1	2	3	4	5	6	7	8	9	10	
9	Karnataka	C	198	210						
		S	210	210						
		P	204	210	1198	1231	0.9732	0.1657	0.1706	
10	Madhya Pradesh	C	1098	1064						
		S	745	750						
		\$\$	935	919	1069	1256	0.8511	0.7448	0.7320	
11	Odisha	C	103	103						
		@	36	36						
		P^	70	70	0	49	0.0000	1.4184	1.4184	
12	Punjab	C	31	50						
		@	51	51						
		P	40	50	0	109	0.0000	0.3675	0.4629	
13	Rajasthan	C	82	135						
		S	259	265						
		P	170	199	856	845	1.0130	0.2009	0.2360	
14	Tamil Nadu	C	555	948						
		@	131	190						
		P	343	570	0	169	0.0000	2.0320	3.3712	
14	Telangana	C	0	347						
		S	506	471						
		P	305	422	115	426	0.2700	0.7162	0.9901	
15	Uttar Pradesh	C	345	534						
		S	187	161						
		\$\$	301	431	664	674	0.9852	0.4470	0.6392	
For states covered			8168	9567	4675	6221		1.3130	1.5379	
RAGI										
1	Karnataka	C	64	61						
		S	92	92						
		P	78	76	541	527	1.0266	0.1478	0.1449	
2	Uttarakhand	C	59	54						
		S	110	106						
		P	84	80	92	92	1.0000	0.9146	0.8656	
For states covered			162	156	633	619	1.0226	0.2618	0.2520	
COTTON										
1	Andhra Pradesh	C	66	783						
		S	629	629						
		P	411	689	591	620	0.9532	0.6634	1.1106	
2	Gujarat	C	0	929						
		@	0	511						
		P^	0	765	393	2660	0.1477	0.0000	0.2876	
3	Haryana	C	552	535						
		\$\$	818	818						
		P	671	661	683	708	0.9647	0.9472	0.9339	
4	Karnataka	C	105	107						
		\$\$	168	168						
		P	136	137	548	718	0.7632	0.1897	0.1911	
5	Madhya Pradesh	C	626	26						
		S	593	604						
		\$\$	611	292	554	614	0.9023	0.9948	0.4757	
6	Maharashtra	C	2491	3902						
		\$\$	2081	2218						
		P	2329	3237	4351	4218	1.0315	0.5522	0.7675	
7	Punjab	C	258	258						
		@	62	62						
		P	169	169	0	268	0.0000	0.6314	0.6314	
8	Rajasthan	C	171	175						
		S	116	110						
		P	144	143	667	629	1.0604	0.2285	0.2270	
9	Tamil Nadu	C	155	42						
		Kharif	S	175	270					
		P	165	156	106	133	0.7970	1.2405	1.1713	
	Tamil Nadu	C	2	0						
		Rabi	S	3	10					
		P	2	5	18	0	0.0000	0.0000	0.0000	
10	Telngana	C	0	2678						
		@	1969	1973						
		P	1187	2253	0	1839	0.0000	0.6456	1.2251	
For states covered			5826	8507	7911	12407	0.6376	0.4696	0.6857	

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			A-III	A-IV			TRS/ Final	A-III/ Final	A-IV/ Final
1	2	3	4	5	6	7	8	9	10
GROUNDNUT									
1	Andhra Pradesh	C	260	447					
		S	573	571					
		P^	452	523	617	687	0.8981	0.6579	0.7614
2	Gujarat	C	0	487					
		S	0	352					
		P^	0	434	235	1566	0.1501	0.0000	0.2772
3	Karnataka	C	52	45					
		S	74	76					
		P	63	60	413	378	1.0926	0.1664	0.1597
4	Madhya Pradesh	C	157	168					
		S	0	45					
		P	85	111	208	216	0.9630	0.3922	0.5156
5	Maharashtra	C	18	151					
		S	75	134					
		P	41	144	240	217	1.1060	0.1866	0.6649
6	Rajasthan	C	95	99					
		S	86	81					
		P	91	90	658	669	0.9836	0.1353	0.1346
7	Tamil Nadu Kharif	C	586	693					
		S	153	144					
		P	370	419	182	197	0.9239	1.8778	2.1271
8	Tamil Nadu Rabi	C	0	0					
		S	24	31					
		P	12	15	87	139	0.6259	0.0862	0.1113
9	Telngana	C	0	2					
		S	21	21					
		P	13	13	15	13	1.1538	0.9740	1.0351
For states covered			1101	1782	2553	3930	0.6496	0.2800	0.4535
SUGARCANE									
1	Andhra Pradesh	C	0	73					
		S	17	17					
		P^	10	39	101	102	0.9902	0.1022	0.3789
2	Assam *\$\$	C	0	8					
		S	0	12					
		P^	0	10	22	31	0.7097	0.0000	0.3185
3	Bihar \$\$	C	0	1025					
		S	0	196					
		P^	0	629	237	226	1.0487	0.0000	2.7818
4	Haryana	C	187	171					
		S	127	122					
		P	160	149	113	109	1.0367	1.4701	1.3683
5	Karnataka \$\$	C	96	97					
		S	119	121					
		P	107	109	444	471	0.9427	0.2280	0.2312
6	Maharashtra @	C	142	1460					
		S	1085	1489					
		P	514	1471		1163	0.0000	0.4422	1.2652
7	Punjab @	C	69	111					
		S	43	44					
		P	57	81		95	0.0000	0.6023	0.8489
8	Rajasthan	C	1	1					
		S	3	3					
		P^	1	1	6	5	1.2000	0.2000	0.2000
9	Tamil Nadu Kharif	C	286	297					
		S	142	172					
		P	214	235	115	166	0.6928	1.2900	1.4134
10	Uttar Pradesh	C	2041	3622					
		S	1028	1516					
		P	1761	3040	2234	2224	1.0045	0.7918	1.3667
11	Uttarakhand	C	66	78					
		S	81	79					
		P	73	78	91	91	1.0000	0.8065	0.8626
For states covered			2899	5841	3363	4683	0.7181	0.6190	1.2473

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			A-III	A-IV			TRS/ Final	A-III/ Final	A-IV/ Final
			As per primary worker	As per supervisor					
1	2	3	4	5	6	7	8	9	10
WHEAT									
1	Assam	C	0	0					
		S	0	1					
		P^	0	0	17	17	0.0000	0.0000	0.0265
2	Bihar	C	NR	1246					
	* \$\$	S	0	97					
		P^	0	714	2085	2157	0.9666	0.0000	0.3312
3	Chhattisgarh	C	233	231					
	\$\$	S	121	123					
		P	177	177	103	105	0.9810	1.6857	1.6857
4	Gujarat	C	NR	1588					
		S	108	1620					
		P^	48	1602	157	798	0.1967	0.0599	2.0077
5	Haryana	C	2565	2650					
		S	2202	2216					
		P	2402	2455	2510	2553	0.9832	0.9409	0.9617
6	Himachal Pradesh	C	35584	33823					
		S	99698	99826					
	@	P^	67405	66582	0	319	0.0000	211.3018	208.7205
7	Jammu & Kashmir	C	396	392					
		S	346	347					
	\$\$	P^	369	368	279	288	0.9688	1.2810	1.2765
8	Jharkhand	C	0	236					
	* \$\$	S	147	283					
		P^	60	255	65	164	0.3963	0.3639	1.5554
9	Karnataka	C	6	10					
	\$\$	S	4	4					
		P	5	7	194	150	1.2933	0.0333	0.0467
10	Madhya Pradesh	C	6881	6994					
		S	6399	6965					
	\$\$	P	6663	6981	5433	5520	0.9842	1.2071	1.2647
11	Maharashtra	C	403	849					
	\$\$	S	616	729					
		P	484	804	1138	834	1.3645	0.5799	0.9635
12	Punjab	C	3848	3857					
	@	S	4438	4398					
		P	4121	4108		3520	0.0000	1.1708	1.1669
13	Rajasthan	C	520	861					
		S	726	750					
		P	622	806	3027	2880	1.0510	0.2161	0.2798
14	Uttar Pradesh	C	8578	1111					
		S	3465	3763					
	@	P	7481	1680		9540	0.0000	0.7841	0.1761
15	Uttarakhand	C	287	309					
	\$\$	S	317	313					
		P	302	311	333	327	1.0183	0.9233	0.9510
16	West Bengal	C	8	32					
		S	69	82					
	@	P	21	43		112	0.0000	0.1865	0.3801
For states covered			90160	86892	15341	29284	0.5239	3.0788	2.9672
BARLEY									
1	Haryana	C	20	21					
		S	11	11					
		P	16	17	18	15	1.2000	1.0639	1.1006
2	Himachal Pradesh	C	581	696					
		S	5116	5458					
	@	P^	2832	3059		20	0.0000	141.5914	152.9746
3	Punjab	C	0	0					
	@	S	0	0					
		P	0	0		7	0.0000	0.0000	0.0000
4	Rajasthan	C	23	22					
		S	37	36					
		P	30	29	232	226	1.0265	0.1326	0.1282
For states covered			2878	3105	250	268	0.9328	10.7379	11.5857
GRAM									
1	Andhra Pradesh	C	1	214					
		S	567	747					
		P^	348	541	432	478	0.9038	0.7284	1.1316
2	Bihar	C	NR	0					
	\$\$	S	0	0					
		P	0	0	54	57	0.9474	0.0000	0.0000

Annex-XIIContd.)									
Sl No	State	A G E N C Y	Estimates of area based on sample checks (ICS) (in '000' ha)		Estimated area as per TRS (in '000' ha)	Final Estimates of Area (in '000' ha)	Ratio of Area Estimates		
			A-III	A-IV			TRS/ Final	A-III/ Final	A-IV/ Final
			As per primary worker	As per supervisor					
			4	5					
3	Chhattisgarh	C	257	260					
	\$\$	S	474	455					
		P	366	358	284	322	0.8820	1.1351	1.1102
4	Gujarat	C	NR	150					
		S	66	115					
		PA	29	135	35	173	0.2023	0.1689	0.7775
5	Haryana	C	14	17					
		S	29	29					
		P	21	22	38	45	0.8444	0.4608	0.4975
6	Jharkhand	C	0	21					
	* \$\$	S	24	42					
		PA	10	30	15	190	0.0789	0.0513	0.1554
7	Karnataka	C	7	10					
	\$\$	S	7	8					
		P	7	9	1360	1129	1.2046	0.0062	0.0080
8	Madhya Pradesh	C	2531	2512					
		S	2637	2623					
	\$\$	P	2579	2562	2938	3103	0.9468	0.8311	0.8257
9	Maharashtra	C	518	1228					
	\$\$	S	1353	1493					
		P	834	1328	2234	1694	1.3188	0.4924	0.7841
10	Punjab*	C	0	0					
	@	S	0	NR					
		P	0	0		2	0.0000	0.0000	0.0000
11	Rajasthan	C	209	210					
		S	348	340					
		P	278	275	1513	1597	0.9474	0.1742	0.1720
12	Uttar Pradesh	C	170	181					
		S	152	164					
		P	166	177		572	0.0000	0.2904	0.3101
For states covered			4638	5436	8903	9362		0.4954	0.5807
RAPE & MUSTARD									
1	Assam	C	0	28					
	@	S	0	35					
	\$\$	PA	0	31	284	286	0.9930	0.0000	0.1089
2	Bihar	C	0	274					
	@	S	0	10					
		PA	0	152	0	81	0.0000	0.0000	1.8750
3	Chhattisgarh	C	58	59					
	\$\$	S	72	72					
		P	65	66	42	42	1.0000	1.5476	1.5595
4	Gujarat	C	0	250					
		S	0	310					
		PA	0	277	37	195	0.1897	0.0000	1.4182
5	Haryana	C	541	524					
	@	S	630	626					
		P	581	570	0	9	0.0000	64.5516	63.3113
6	Jharkhand	C	0	92					
	* \$\$	S	33	49					
		PA	19	75	10	237	0.0422	0.0788	0.3145
8	Madhya Pradesh	C	680	694					
	\$\$	S	419	417					
		P	562	569	620	707	0.8769	0.7952	0.8048
9	Punjab	C	72	72					
	@	S	10	10					
		P	43	43	0	31	0.0000	1.3962	1.3962
10	Rajasthan	C	597	568					
		S	1282	875					
		P	938	721	2710	2372	1.1425	0.3954	0.3038
11	Uttar Pradesh	C	3059	2132					
	@	S	496	495					
		P	2509	1781	0	753	0.0000	3.3319	2.3648
12	West Bengal	C	417	546					
	@	S	109	157					
		P	352	464		606	0.0000	0.5807	0.7653
For states covered			5069	4747	3703	5319		0.9530	0.8924

**COMPARISON OF PERCENTAGE OF AREA UNDER DIFFERENT INPUTS AS ESTIMATED
UNDER ICS & TRS : 2018-19**

Sl. No.	State	S E A S O N	Percentage of Area under different categories														
			As per Sample check							T O T A L	As per T.R.S. @						T O T A L
			Irrigated			Unirrigated					Irrigated			Unirrigated			
HYV	Local	Total	HYV	Local	Total	HYV	Local	Total	HYV	Local	Total	HYV	Local	Total			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
RICE																	
1	Andhra Pradesh	Kharif	91.15	3.88	95.02	2.86	2.12	4.98	100	0.00	0.00	95.72	0.00	0.00	4.28	100	
		Rabi	98.16	1.74	99.90	0.10	0.00	0.10	100	0.00	0.00	100.00	0.00	0.00	0.00	100	
2	Assam	Autumn	0.00	3.08	3.08	0.46	96.46	96.92	100	0.00	0.00	2.43	0.00	0.00	97.57	100	
		Winter	4.13	0.00	4.13	8.19	87.68	95.87	100	0.00	0.00	0.00	0.00	0.00	0.00	0	
		Summer	26.26	8.41	34.67	0.81	64.52	65.33	100	Data not available							
3	Bihar	Autumn	93.27	4.33	97.61	0.13	2.26	2.39	100	0.00	0.00	34.79	0.00	0.00	65.21	100	
		Winter	82.21	8.41	90.62	6.17	3.21	9.38	100	0.00	0.00	100.00	0.00	0.00	0.00	100	
		Summer	0.00	0.00	0.00	0.00	100.00	100.00	100	0.00	0.00	96.39	0.00	0.00	3.61	100	
4	Chattisgarh	Kharif	28.26	0.12	28.38	37.71	33.91	71.62	100	32.13	3.38	35.51	40.50	24.00	64.49	100	
5	Gujarat	Kharif	60.92	20.38	81.30	12.55	6.15	18.70	100	0.00	0.00	72.79	0.00	0.00	27.21	100	
6	Haryana	Kharif	98.94	0.04	98.98	-	-	-	100	0.00	0.00	100.00	0.00	0.00	0.00	100	
7	Himachal Pradesh	Kharif	9.27	6.35	15.61	27.78	56.60	84.39	100	43.66	15.49	59.15	25.35	15.49	40.85	100	
8	Jammu & Kashmir	Kharif	54.27	35.90	90.16	4.70	5.14	9.84	100	15.33	68.29	83.62	9.06	7.32	16.38	100	
9	Jharkhand	Autumn	0.00	0.00	0.00	0.00	100.00	100.00	100	0.00	0.00	0.00	0.00	100.00	100.00	100	
		Winter	5.02	0.00	5.02	39.85	55.13	94.98	100	21.19	7.42	28.61	11.46	59.92	71.39	100	
		Summer	Data Not Available														
10	Karnataka	Kharif	80.01	0.22	80.22	16.53	3.25	19.78	100	71.55	5.11	76.66	21.79	1.54	23.34	100	
		Rabi	100.00	0.00	100.00	0.00	0.00	0.00	100	100.00	0.00	100.00	0.00	0.00	0.00	100	
11	Kerala	Autumn	0.00	0.00	0.00	100.00	0.00	100.00	100	TRS NOT APPLICABLE							
		Winter	100.00	0.00	100.00	0.00	0.00	0.00	100								
		Summer	100.00	0.00	100.00	0.00	0.00	0.00	100								
12	Madhya Pradesh	Kharif	37.18	7.06	44.25	17.76	37.99	55.75	100	37.14	7.77	34.62	25.72	39.66	65.38	100	
13	Maharashtra	Kharif	74.54	1.65	76.19	12.74	11.07	23.81	100	21.05	0.00	21.05	81.82	0.00	81.82	100	
14	Odisha	Autumn	3.95	0.08	4.03	86.39	9.58	95.97	100	TRS NOT APPLICABLE							
		Winter	31.94	0.11	32.04	67.00	0.96	67.96	100								
		Summer	92.57	0.00	92.57	7.43	0.00	7.43	100								
15	Punjab	Kharif	99.02	0.92	99.94	0.03	0.03	0.06	100	Data not available							
16	Tamil Nadu	Phase I	93.90	1.00	94.90	4.73	0.37	5.10	100	0.00	0.00	89.90	0.00	0.00	10.10	100	
		Phase II	76.92	1.21	78.13	18.28	3.59	21.87	100	0.00	0.00	94.48	0.00	0.00	5.52	100	
		Rabi	85.51	12.36	97.87	2.13	0.00	2.13	100	0.00	0.00	94.48	0.00	0.00	5.52	100	
17	Telangana	Kharif	97.17	0.14	97.31	2.47	0.22	2.69	100	0.00	0.00	100.00	0.00	0.00	0.00	100	
		Rabi	99.08	0.00	99.08	0.92	0.00	0.92	100	0.00	0.00	100.00	0.00	0.00	0.00	100	
18	Uttar Pradesh	Kharif	95.98	2.30	98.28	1.72	0.00	1.72	100	79.53	3.15	82.69	16.46	0.85	17.31	100	
19	Uttarakhand	Kharif	58.82	13.81	72.63	0.00	27.37	27.37	100	58.58	12.97	71.55	0.00	0.00	28.45	100	
20	West Bengal	Autumn	Data Not Available							TRS NOT APPLICABLE							
		Winter	1.48	0.00	1.48	0.96	97.57	98.52	100								
		Summer	45.75	0.00	45.75	0.17	54.08	54.25	100								
21	Puducherry	Kharif	100.00	0.00	100.00	0.00	0.00	0.00	100	0.00	0.00	0.00	0.00	0.00	0.00	0	
		Rabi-I	100.00	0.00	100.00	0.00	0.00	0.00	100	Data not available							
		Rabi-II	100.00	0.00	100.00	0.00	0.00	0.00	100								0.00
TOTAL FOR STATES COVERED UNDER ICS SCHEME			70.72	2.52	73.24	10.48	16.28	26.76	100	31.86	3.26	62.26	17.91	9.85	37.90	100	
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR IRRIGATED AND UNIRRIGATED			79.37	2.55	81.93	8.41	9.66	18.07	100	34.98	3.34	68.17	40.41	8.37	32.01	100	
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR HYV & LOCAL			74.34	2.63	76.97	10.87	12.16	23.03	100	46.81	4.31	60.15	26.81	10.75	40.10	100	

® = TRS data collected from Ministry of Agriculture, New Delhi

ANNEX XIII (Contd.....)

Sl. No.	State	S E A S O N	Percentage of Area under different categories														
			As per Sample check							T O T A L	As per T.R.S. @						T O T A L
											Irrigated			Unirrigated			
			HYV	Local	Total	HYV	Local	Total	HYV		Local	Total	HYV	Local	Total		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
JOWAR																	
1	Karnataka	Kharif	8.25	0.00	8.25	64.12	27.63	91.75	100	11.43	0.00	11.43	77.14	11.43	88.57	100	
		Rabi	13.33	6.67	20.00	53.33	26.67	80.00	100	0.00	0.00	57.89	0.00	0.00	42.11	100	
2	Madhya Pradesh	Kharif	0.00	0.00	0.00	41.60	58.40	100.00	100	0.00	0.00	0.00	43.48	56.52	100.00	100	
3	Maharashtra	Kharif	13.82	0.77	14.59	64.02	21.38	85.41	100	0.00	0.00	1.59	0.00	0.00	98.41	100	
		Rabi	26.72	7.53	34.26	51.20	14.54	65.74	100	0.00	0.00	17.18	0.00	0.00	82.82	100	
4	Rajasthan	Kharif	0.86	0.85	1.71	45.84	52.46	98.29	100	0.00	0.00	0.17	49.57	50.26	99.83	100	
5	Tamil Nadu	Phase I	5.75	1.23	6.98	53.07	39.95	93.02	100	0.00	0.00	9.28	0.00	0.00	90.72	100	
		Phase II	22.22	0.00	22.22	56.33	21.45	77.78	100	0.00	0.00	13.85	0.00	0.00	86.15	100	
6	Telangana	Kharif	0.00	0.00	0.00	50.00	50.00	100.00	100	0.00	0.00	52.63	0.00	0.00	47.37	100	
		Rabi	4.82	41.72	46.55	22.16	31.29	53.45	100	0.00	0.00	52.63	0.00	0.00	47.37	100	
7	Uttar Pradesh	Kharif	12.47	0.58	13.05	34.62	52.33	86.95	100	0.00	0.00	40.91	0.00	0.00	59.09	100	
TOTAL FOR COVERED UNDER ICS SCHEME			18.94	5.05	23.99	51.28	24.73	76.01	100	0.24	0.00	14.30	8.91	8.02	85.70	100	
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR IRRIGATED AND UNIRRIGATED			18.94	5.05	23.99	51.28	24.73	76.01	100	0.25	0.00	14.78	7.75	6.38	85.22	100	
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR HYV & LOCAL			2.42	0.00	2.42	48.22	49.36	97.58	100	0.36	0.00	18.70	4.48	3.05	81.30	100	
BAJRA																	
1	Andhra Pradesh	Kharif	45.41	3.09	48.50	44.29	7.20	51.50	100	0.00	0.00	26.09	0.00	0.00	73.91	100	
2	Gujarat	Kharif	8.14	0.00	8.14	20.46	71.40	91.86	100	0.00	0.00	17.65	0.00	0.00	82.35	100	
3	Haryana	Kharif	65.97	1.26	67.23	32.58	0.18	32.77	100	0.00	0.00	43.27	0.00	0.00	56.73	100	
4	Karnataka	Kharif	21.13	0.00	21.13	71.11	7.75	78.87	100	9.09	0.00	9.09	89.84	1.07	90.91	100	
5	Maharashtra	Kharif	23.69	0.00	23.69	67.37	8.94	76.31	100	0.00	0.00	0.00	0.00	0.00	100.00	100	
6	Rajasthan	Kharif	2.98	2.88	5.86	53.98	40.16	94.14	100	0.00	0.00	4.42	0.00	0.00	95.58	100	
7	Tamil Nadu	Kharif	28.29	0.00	28.29	58.51	13.20	71.71	100	0.00	0.00	18.52	0.00	0.00	81.48	100	
8	Uttar Pradesh	Kharif	15.75	0.44	16.19	70.61	13.20	83.81	100	0.00	0.00	9.73	0.00	0.00	90.27	100	
TOTAL FOR STATES COVERED UNDER ICS SCHEME			19.84	0.95	20.78	61.85	17.36	79.22	100	0.26	0.00	7.57	2.53	0.03	92.43	100	
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR IRRIGATED AND UNIRRIGATED			19.84	0.95	20.78	61.85	17.36	79.22	100	0.26	0.00	7.57	2.53	0.03	92.43	100	
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR HYV & LOCAL			21.13	0.00	21.13	71.11	7.75	78.87	100	9.09	0.00	9.09	89.84	1.07	90.91	100	

Sl. No.	State	S E A S O N	Percentage of Area under different categories														
			As per Sample check							T O T A L	As per T.R.S. @						T O T A L
											Irrigated			Unirrigated			
			HYV	Local	Total	HYV	Local	Total	HYV		Local	Total	HYV	Local	Total		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
RAGI																	
1	Karnataka	Kharif	2.59	7.21	9.81	81.71	8.48	90.19	100	0.00	0.00	3.70	0.00	0.00	96.30	100.00	
2	Uttarakhand	Kharif	0.00	0.00	0.00	0.00	100.00	100.00	100	0.00	0.00	0.00	0.00	0.00	100.00	100.00	
TOTAL FOR STATES			1.88	5.24	7.12	59.35	33.52	92.88	100	0.00	0.00	3.16	0.00	0.00	96.84	100.00	
COVERED UNDER ICS SCHEME																	
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR IRRIGATED AND UNIRRIGATED			1.88	5.24	7.12	59.35	33.52	92.88	100	0.00	0.00	3.70	0.00	0.00	96.30	100	
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR HYV & LOCAL			2.59	7.21	9.81	81.71	8.48	90.19	100	0.00	0.00	3.70	0.00	0.00	96.30	100.00	
MAIZE																	
1	Bihar	Kharif	4.17	7.96	12.13	69.39	18.48	87.87	100	0.00	0.00	0.00	0.00	0.00	100.00	100	
2	Chattisgarh	Kharif	0.00	0.00	0.00	60.00	47.20	100.00	100	3.60	0.00	3.60	45.95	50.45	96.40	100	
3	Gujarat	Kharif	15.59	0.00	15.59	27.22	57.19	84.41	100	0.00	0.00	8.82	0.00	0.00	91.18	100	
4	Haryana	Kharif	89.69	0.00	89.69	10.31	0.00	10.31	100	0.00	0.00	66.67	0.00	0.00	33.33	100	
5	Himachal Pradesh	Kharif	8.26	0.14	8.41	70.32	21.27	91.59	100	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
6	Jharkhand	Kharif	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
7	Jammu & Kashmir	Kharif	2.57	1.86	4.42	34.46	61.12	95.58	100	1.33	7.97	9.30	23.59	67.11	90.70	100	
8	Karnataka	Kharif	18.66	0.24	18.90	75.59	5.51	81.10	100	0.00	0.00	29.47	0.00	0.00	70.53	100	
9	Madhya Pradesh	Kharif	2.51	0.59	3.10	66.26	30.64	96.90	100	1.22	0.94	2.15	47.71	50.14	97.85	100	
10	Odisha	Kharif	1.79	0.00	1.79	90.26	7.94	98.21	100	Not applicable							
11	Punjab	Kharif	100.00	0.00	100.00	0.00	0.00	0.00	100	Data not available							
12	Rajasthan	Kharif	1.25	0.25	1.51	38.68	59.81	98.49	100	0.00	0.00	1.04	0.00	0.00	98.96	100	
13	Tamil Nadu	Kharif	15.09	0.38	15.48	82.15	2.37	84.52	100	Data not available							
14	Telangana	Kharif	18.15	0.00	18.15	76.98	4.87	81.85	100	Data not available							
15	Uttar Pradesh	Kharif	51.47	1.67	53.15	38.79	8.06	46.85	100	0.00	0.00	32.68	36.90	30.42	67.32	100	
TOTAL FOR STATES COVERED UNDER ICS SCHEME			13.11	1.50	14.61	63.98	21.46	85.39	100	0.45	0.73	16.29	18.74	21.29	83.71	100.00	
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR IRRIGATED AND UNIRRIGATED			14.68	2.69	17.38	56.53	26.18	82.62	100	0.45	0.73	16.29	18.74	21.29	83.71	100	
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR HYV & LOCAL			2.52	0.74	3.26	62.41	34.33	96.74	100	0.66	1.32	15.73	22.62	28.74	84.27	100	

ANNEX XIII (Contd.....)

Sl. No.	State	S E A S O N	Percentage of Area under different categories													
			As per Sample check						T O T A L	As per T.R.S. @						T O T A L
			HYV	Local	Total	HYV	Local	Total		HYV	Local	Total	HYV	Local	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
COTTON																
1	Andhra Pradesh	Kharif	22.74	0.00	22.74	76.81	0.45	77.26	100	0.00	0.00	17.09	0.00	0.00	82.91	100
2	Gujarat	Kharif	69.36	0.05	69.41	20.77	9.82	30.59	100	0.00	0.00	69.81	0.00	0.00	30.19	100
3	Haryana	Kharif	91.22	0.00	91.22	8.78	0.00	8.78	100	0.00	0.00	100.00	0.00	0.00	0.00	100
4	Karnataka	Kharif	23.99	1.10	25.09	72.71	2.20	74.91	100	0.00	0.00	26.46	0.00	0.00	73.54	100
5	Madhya Pradesh	Kharif	74.66	0.00	74.66	23.03	2.30	25.34	100	0.00	0.00	65.88	0.00	0.00	34.12	100
6	Maharashtra	Kharif	29.63	0.36	29.99	66.72	3.28	70.01	100	0.00	0.00	0.00	0.00	0.00	100.00	100
7	Punjab	Kharif	100.00	0.00	100.00	0.00	0.00	0.00	100	Data not available						
8	Rajasthan	Kharif	92.26	7.74	100.00	0.00	0.00	0.00	100	0.00	0.00	96.70	0.00	0.00	3.30	100
9	Tamil Nadu	Kharif	33.64	0.46	34.10	62.23	3.67	65.90	100	0.00	0.00	16.98	0.00	0.00	83.02	100
	Tamil Nadu	Rabi	62.44	0.00	62.44	37.56	0.00	37.56	100	0.00	0.00	33.33	0.00	0.00	66.67	100
10	Telangana	Kharif	10.02	0.00	10.02	89.44	0.54	89.98	100	0.00	0.00	0.00	0.00	0.00	0.00	0
TOTAL FOR STATES COVERED UNDER ICS SCHEME			36.53	0.32	36.85	60.46	2.69	63.15	100	0.00	0.00	28.44	0.00	0.00	71.56	100
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR IRRIGATED AND UNIRRIGATED			42.46	0.41	42.87	53.84	3.29	57.13	100	0.00	0.00	28.44	0.00	0.00	71.56	100
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR HYV & LOCAL			Variety wise TRS Estimates not available													
GROUNDNUT																
1	Andhra Pradesh	Kharif	8.81	0.12	8.93	76.18	14.89	91.07	100	0.00	0.00	5.67	0.00	0.00	94.33	100
2	Gujarat	Kharif	52.98	4.84	57.82	38.98	3.20	42.18	100	0.00	0.00	28.09	0.00	0.00	71.91	100
3	Karnataka	Kharif	5.01	0.00	5.01	74.06	20.93	94.99	100	4.36	0.24	4.60	91.28	4.12	95.40	100
4	Madhya Pradesh	Kharif	3.25	2.07	5.32	30.74	63.94	94.68	100	0.00	0.00	8.17	0.00	0.00	91.83	100
5	Maharashtra	Kharif	17.14	10.66	27.80	61.87	10.33	72.20	100	0.00	0.00	0.00	0.00	0.00	100.00	100
6	Rajasthan	Kharif	58.26	35.57	93.83	2.80	3.38	6.17	100	0.00	0.00	88.15	0.00	0.00	11.85	100
7	Tamil Nadu	Kharif	10.38	0.12	10.50	89.02	0.48	89.50	100	0.00	0.00	14.29	0.00	0.00	85.71	100
	Tamil Nadu	Rabi	100.00	0.00	100.00	0.00	0.00	0.00	100	0.00	0.00	82.76	0.00	0.00	17.24	100
8	Telangana	Kharif	39.26	0.00	39.26	8.89	51.84	60.74	100	0.00	0.00	0.00	0.00	0.00	100.00	100
TOTAL FOR STATES COVERED UNDER ICS SCHEME			23.20	4.19	27.39	60.52	12.08	72.61	100	0.66	0.04	29.69	13.73	0.62	70.31	100
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR IRRIGATED AND UNIRRIGATED			23.03	4.24	27.27	61.07	11.66	72.73	100	0.66	0.04	29.69	13.73	0.62	70.31	100
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR HYV & LOCAL			5.01	0.00	5.01	74.06	20.93	94.99	100	4.36	0.24	4.60	91.28	4.12	95.40	100

Sl. No.	State	S E A S O N	Percentage of Area under different categories													
			As per Sample check						T O T A L	As per T.R.S. @						T O T A L
			HYV	Local	Total	HYV	Local	Total		HYV	Local	Total	HYV	Local	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
SUGARCANE																
1	Andhra Pradesh	Kharif	100.00	0.00	100.00	0.00	0.00	0.00	100	0.00	0.00	94.06	0.00	0.00	5.94	100
2	Assam	Kharif	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	4.55	0.00	0.00	95.45	100.00
3	Bihar	Kharif	51.27	42.86	94.13	0.00	5.87	5.87	100	0.00	0.00	81.01	0.00	0.00	18.99	100
4	Haryana	Kharif	99.63	0.00	99.63	0.37	0.00	0.37	100	0.00	0.00	100.00	0.00	0.00	0.00	100
5	Karnataka @	Kharif	91.33	7.75	99.08	0.46	0.46	0.92	100	0.00	0.00	100.00	0.00	0.00	0.00	100
6	Maharashtra	Kharif	88.06	8.56	96.62	2.53	0.85	3.38	100	Data not available						
7	Punjab	Kharif	97.28	2.72	100.00	0.00	0.00	0.00	100	Data not available						
8	Rajasthan	Kharif	100.00	0.00	100.00	0.00	0.00	0.00	100	-	-	100.00	-	-	0.00	100
9	Tamil Nadu	Phase I	89.33	2.56	91.89	8.11	0.00	8.11	100	99.13	0.00	99.13	-	-	0.87	100
		Phase II	100.00	0.00	100.00	0.00	0.00	0.00	100	100.00	0.00	100.00	-	-	0.00	100
10	Uttar Pradesh	Kharif	98.78	1.18	99.95	0.02	0.02	0.05	100	-	-	94.49	-	-	5.51	100
11	Uttarakhand	Kharif	92.94	7.06	100.00	0.00	0.00	0.00	100	-	-	98.90	-	-	1.10	100
TOTAL FOR STATES COVERED UNDER ICS SCHEME			92.83	5.67	98.50	0.84	0.66	1.50	100	3.96	0.00	94.18	0.00	0.00	5.82	100
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR IRRIGATED AND UNIRRIGATED			94.27	4.80	99.07	0.33	0.60	0.93	100	3.99	0.00	94.76	0.00	0.00	5.24	100
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR HYV & LOCAL			Variety wise TRS estimates not available.													

Sl. No.	State	S E A S O N	Percentage of Area under different categories													
			As per Sample check						T O T A L	As per T.R.S. @						T O T A L
			Irrigated			Unirrigated				Irrigated			Unirrigated			
HYV	Local	Total	HYV	Local	Total	HYV	Local	Total	HYV	Local	Total					
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
WHEAT																
1	Assam	Rabi	0.00	100.00	100.00	0.00	0.00	0.00	100	0.00	0.00	0.00	0.00	0.00	100.00	100
2	Bihar	Rabi	84.13	15.42	99.55	0.45	0.00	0.45	100	72.47	23.55	96.02	2.01	1.97	3.98	100
3	Chhattisgarh	Rabi	53.24	33.24	86.48	2.82	10.70	13.52	100	0.00	0.00	0.00	0.00	0.00	100.00	100
4	Gujarat	Rabi	73.24	19.77	93.01	1.72	5.27	6.99	100	0.00	0.00	94.30	0.00	0.00	5.70	100
5	Haryana	Rabi	98.98	0.09	99.07	0.55	0.38	0.93	100	0.00	0.00	99.52	0.00	0.00	0.48	100
6	Himachal Pradesh	Rabi	18.93	1.41	20.34	23.78	55.88	79.66	100	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Jammu & Kashmir	Rabi	24.22	7.73	31.95	29.76	38.29	68.05	100	20.07	8.96	29.03	43.37	27.60	70.97	100.00
8	Jharkhand	Rabi	48.95	25.13	74.08	0.00	25.92	25.92	100	27.69	58.46	86.15	4.62	9.23	13.85	100
9	Karnataka	Rabi	42.86	7.14	50.00	42.86	7.14	50.00	100	0.00	0.00	0.00	0.00	0.00	100.00	100
10	Madhya Pradesh	Rabi	75.32	19.66	94.98	2.36	2.66	5.02	100	64.26	25.92	90.18	2.53	7.28	9.82	100
11	Maharashtra	Rabi	82.93	5.08	88.01	9.51	2.49	11.99	100	0.00	0.00	0.00	0.00	0.00	100.00	100
12	Punjab	Rabi	99.09	0.88	99.96	0.04	0.00	0.04	100	Data not available						
13	Rajasthan	Rabi	59.97	38.24	98.21	0.68	1.11	1.79	100	77.01	22.86	99.87	0.00	0.13	0.13	100
14	Uttar Pradesh	Rabi	98.86	0.35	99.21	0.37	0.42	0.79	100	0.00	0.00	0.00	0.00	0.00	0.00	0.00
15	Uttarakhand	Rabi	53.88	9.97	63.85	0.00	36.15	36.15	100	0.00	0.00	61.56	0.00	0.00	38.44	100
16	West Bengal	Rabi	7.91	28.54	36.45	2.47	61.08	63.55	100	TRS not applicable						
TOTAL FOR STATES COVERED UNDER ICS SCHEME			53.68	4.67	58.34	12.66	28.99	41.66	100	64.84	22.28	87.12	2.65	5.17	12.88	100
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR IRRIGATED AND UNIRRIGATED			76.78	17.26	94.05	2.68	3.27	5.95	100	64.05	22.01	87.57	2.61	5.10	12.43	100
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR HYV & LOCAL			73.35	20.78	94.13	2.46	3.42	5.87	100	63.78	24.29	88.07	4.26	6.29	11.93	100

ANNEX XIII (Contd.....)

Sl. No.	State	S E A S O N	Percentage of Area under different categories														
			As per Sample check							T O T A L	As per T.R.S. @						T O T A L
			HYV	Local	Total	HYV	Local	Total	HYV		Local	Total	HYV	Local	Total		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
BARLEY																	
1	Haryana	Rabi	90.62	0.00	90.62	0.00	9.38	9.38	100	-	-	100.00	-	-	0.00	0	
2	Himachal Pradesh	Rabi	0.03	0.80	0.83	0.33	98.85	99.17	100	-	-	0.00	-	-	0.00	0	
3	Punjab	Rabi	0.00	0.00	0.00	0.00	0.00	0.00	0	Data not available							
4	Rajasthan	Rabi	94.80	4.69	99.49	0.51	0.00	0.51	100	84.48	14.66	99.14	0.00	0.86	0.86	100	
TOTAL FOR STATES COVERED UNDER ICS SCHEME			9.15	1.13	10.29	0.34	89.38	89.71	100	1.00	-	99.20	-	-	0.80	100	
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR IRRIGATED AND UNIRRIGATED			84.77	4.19	88.96	0.46	0.99	1.45	100	-	-	99.20	-	-	0.80	100	
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR HYV & LOCAL			VARIETY-WISE TRS ESTIMATES NOT AVAILABLE														
GRAM																	
1	Andhra Pradesh	Rabi	3.63	1.36	4.99	73.47	21.54	95.01	100	0.00	0.00	3.24	0.00	0.00	96.76	100	
2	Bihar	Rabi	0.00	0.00	0.00	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00	0.00	100.00	100	
3	Chhattisgarh	Rabi	20.45	16.25	36.69	56.02	7.28	63.31	100	-	-	53.17	-	-	46.83	100	
4	Gujarat	Rabi	27.32	49.63	76.95	7.28	15.77	23.05	100	-	-	55.81	-	-	44.19	100	
5	Haryana	Rabi	45.93	0.00	45.93	54.07	0.00	54.07	100	-	-	76.32	-	-	23.68	100	
6	Jharkhand	Rabi	3.01	28.06	31.07	1.37	67.56	68.93	100	-	-	0.00	-	-	100.00	100	
7	Karnataka	Rabi	5.56	22.22	27.78	55.56	16.67	72.22	100	0.00	0.00	13.90	0.00	0.00	86.10	100	
8	Madhya Pradesh	Rabi	38.49	43.59	82.09	3.32	14.59	17.91	100	-	-	72.60	-	-	27.40	100	
9	Maharashtra	Rabi	51.01	5.40	56.41	34.76	8.83	43.59	100	0.00	0.00	0.00	0.00	0.00	100.00	100	
10	Punjab	Rabi	0.00	0.00	0.00	0.00	0.00	0.00	0	Data not available							
11	Rajasthan	Rabi	26.74	30.74	57.48	14.33	28.19	42.52	100	-	-	66.36	-	-	33.64	100	
12	Uttar Pradesh	Rabi	20.82	22.82	43.63	1.77	54.59	56.37	100	Data not available							
TOTAL FOR STATES COVERED UNDER ICS SCHEME			36.68	27.03	63.71	20.24	16.05	36.29	100	-	-	40.16	-	-	59.84	100	
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR IRRIGATED AND UNIRRIGATED			17.65	4.95	22.60	19.29	14.20	35.33	100	-	-	40.41	-	-	59.59	100	
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR HYV & LOCAL			VARIETY WISE TRS ESTIMATES NOT AVAILABLE														

ANNEX XIII (Contd.....)

Sl. No.	State	S E A S O N	Percentage of Area under different categories													
			As per Sample check						T O T A L	As per T.R.S. @						T O T A L
			Irrigated			Unirrigated				Irrigated			Unirrigated			
			HYV	Local	Total	HYV	Local	Total		HYV	Local	Total	HYV	Local	Total	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
RAPE & MUSTARD																
1	Assam	Rabi	0.00	1.45	1.45	11.57	86.98	98.55	100	0.00	0.00	3.32	0.00	0.00	96.68	100
2	Bihar	Rabi	44.50	50.62	95.12	2.46	2.42	4.88	100	Data Not available						
3	Chattisgarh	Rabi	0.00	3.79	3.79	3.03	93.18	96.21	100	0.00	0.00	16.67	0.00	0.00	83.33	100
4	Gujarat	Rabi	44.14	4.59	48.73	0.00	51.27	51.27	100	86.49	13.51	100.00	0.00	0.00	0.00	100
5	Haryana @	Rabi	86.14	0.57	86.71	13.04	0.26	13.29	100	0.00	0.00	0.00	0.00	0.00	0.00	0
6	Jharkhand	Rabi	34.58	9.68	44.26	1.61	54.13	55.74	100	0.00	0.00	0.00	0.00	0.00	0.00	0
7	Madhya Pradesh	Rabi	31.30	31.96	63.26	0.93	35.81	36.74	100	0.00	0.00	59.19	0.00	0.00	40.81	100
8	Punjab	Rabi	88.84	11.16	100.00	0.00	0.00	0.00	100	Data Not available						
9	Rajasthan	Rabi	81.53	14.11	95.65	2.10	2.25	4.35	100	0.00	0.00	94.65	0.00	0.00	5.35	100
10	Uttar Pradesh	Rabi	37.43	52.56	89.98	5.56	4.46	10.02	100	0.00	0.00	0.00	0.00	0.00	0.00	0
11	West Bengal	Rabi	8.22	2.95	11.17	0.77	88.06	88.83	100	TRS Not applicable						
TOTAL FOR STATES COVERED UNDER ICS SCHEME			44.11	34.20	78.31	3.94	17.75	21.69	100	0.00	0.00	81.11	0.00	0.00	18.89	100
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR IRRIGATED AND UNIRRIGATED			51.39	17.71	69.10	1.18	29.72	30.90	100	0.00	0.00	87.30	0.00	0.00	12.70	100
TOTAL FOR STATES WHERE TRS ESTIMATES AVAILABLE FOR HYV & LOCAL			VARIETY-WISE TRS ESTIMATES NOT AVAILABLE													

@ Data for oilseeds used

Note: # - In the light of introduction of concept of Kharif and Rabi seasons in the Tamil Nadu state from Agricultural year 2017-18 and consequent, categorization of crops, the data have been presented seasonwise instead of whole year.

COMPARISON OF ESTIMATES OF YIELD RATES UNDER
ICS AND CES DURING 2018-19

Sl. No.	State	A G E N C Y	ICS				C.E.S. \$				% Diff. (Col.6- Col.10/ Col.10 x 100)	Coeffi- cient of Vari- ation
			No.of Expts.		Estimated Yield Rate Kg/Hac	% SE	No.of Expts.		Estimated Yield Rate Kg/Hac	% SE		
			Planned	Analysed			Planned	Analysed				
1	2	3	4	5	6	7	8	9	10	11	12	13
RICE (KHARIF)												
1	Andhra Pradesh	C	160	158	3206	3.2						40
		S	160	142	3083	3.8						N.C.
		P	320	300	3153	2.5	3804	3804	5116	0.5	-38.37	42
2	Assam (Aut)	C	100	46	1538	13.9						94
		S	100	50	NP							0
		P	200	96	1538	13.9	2000	1122	1377	1.3	11.69	136
	Assam (Wint)	C	120	113	2154	2.9						31
		S	120	98	2209	3.0						30
		P	240	211	2180	2.1	3000	2948	2098	0.6	3.91	30
3	Bihar (Aut/ Bhadai)	C	40	23	2171	11.4						55
		S	40	18	2005	15						N.C.
		P	80	41	2107	9.2	952	436	2592	NR	-18.71	59
	Bihar (Wint/Winter)	C	240	185	3033	3.5						48
		S	240	147	2835	2.6						N.C.
		P	480	332	2901	2.1	41085	40236	3891	0.0	-25.44	38
4	Chhattisgarh	C	80	77	1987	7.0						61
		S	80	75	1892	5.5						48
		P	160	152	1927	4.3	2026	1596	1353	1.2	42.42	53
5	Gujarat *	C	80	70	2267	5.6						47
		S	80	28	N.P.							N.C.
		P	160	98	2267	5.6	13121	11894	3268	2.0	-30.63	55
6	Haryana *	C	90	90	3004	3.5						33
		S	90	49	N.P.							0
		P	180	139	3004	3.5	990	864	3268	1.6	-8.08	41
7	Himachal Pradesh	C	60	54	1794	11.6						85
		S	60	44	1857	9.8						N.C.
		P	120	98	1830	7.5	2570	2268	2971	1.2	-38.40	74
8	Jammu & Kashmir	C	70	68	2090	6.1						50
		S	70	18	1761	15.0						N.C.
		P	140	86	2028	5.7	1362	1054	3375	3.0	-39.91	52
9	Jharkhand (Aut/E. Kharif)	C	20	20	1354	12.8						57
		S	20	8	1456	7.8						N.C.
		P	40	28	1425	6.7	600	452	1675	0.0	-14.93	35
	Jharkhand (Wint/L. Kharif) * @	C	80	79	1148	8.5						76
		S	80	18	N.P.							N.C.
		P	160	97	1148	8.5	18120	15321	2108	0.0	-45.54	84
10	Karnataka **	C	144	93	N.P.							0
		S	144	128	N.P.							0
		P	288	221	2993	4.8	12972	11215	2108	0.0	41.98	71
11	Kerala (Aut)	C	100	95	1974	14.0						136
		S	100	89	2108	18.6						175
		P	200	184	2019	11.2	2629	2621	2555	1.7	-20.98	152
	Kerala (Wint)	C	100	100	2971	11.3						113
		S	100	100	2579	9.6						96
		P	200	200	2718	7.4	3288	3279	2699	1.9	0.70	104
12	Madhya Pradesh *	C	100	93	1497	6.5						63
		S	100	76	N.P.							0
		P	200	169	1678	5.8	2760	2316	1127	10.0	48.89	75
13	Maharashtra *	C	82	47	2477	8.1						56
		S	82	7	N.P.							N.C.
		P	164	54	2477	8.1	4080	3971	1873	0.9	32.25	60
14	Odisha (Aut) **	C	220	50	N.P.							0
		S	220	159	N.P.							0
		P	440	209	1161	1.6	7391	7391	1088	1.3	6.71	23
	Odisha (Wint)	C	270	164	2118	5.4						69
		S	270	148	N.P.							0
		P	540	312	2118	5.4	17444	17444	1751	0.4	20.96	95
15	Punjab	C	190	187	4454	2.8						38
		S	190	153	N.P.							0
		P	380	340	4454	2.8	1980	1970	4366	NR	2.02	52
16	Tamil Nadu (Phase-I)	C	40	36	4492	4.3						26
		S	40	37	4224	6.7						41
		P	80	73	3624	3.3	428	428	3854	1.5	-5.97	28
	Tamil Nadu (Phase-II)	C	80	55	3035	8.2						61
		S	80	43	3266	10.5						69
		P	160	98	3115	6.4	1260	1260	1802	1.9	72.86	64
17	Telangana	C	70	61	3398	5.8						45
		S	70	65	3610	6.0						48
		P	140	126	3495	4.2	1894	1894	2814	0.8	24.20	47

ANNEX XIV (Contd.....)

ANNEX XIV (Continued)												
Sl. No.	State	A G E N C Y	ICS				C.E.S. \$				% Diff. (Col.6- Col.10/ Col.10 x 100)	Coeffi- cient of Varia- tion
			No.of Expts.		Estimated Yield Rate Kg/Hac	% SE	No.of Expts.		Estimated Yield Rate Kg/Hac	% SE		
			Planned	Analysed			Planned	Analysed				
1	2	3	4	5	6	7	8	9	10	11	12	13
18	Uttar Pradesh *	C	660	604	2631	1.9						47
		S	660	172	N.P.							N.C.
		P	1320	776	2631	1.9	187250	185372	2618	NR	0.50	53
19	Uttarakhand *	C	50	41	2165	10.3						66
		S	50	44	N.P.							N.C.
		P	100	85	2165	10.3	2962	2924	2261	0.9	-4.25	95
20	West Bengal E. Kharif *	C	100	99	2799	2.9						29
		S	100	4	N.P.							0
		P	200	103	2799	2.9	2281	2011	2590	1.2	8.07	29
	L. Kharif *	C	160	158	3079	2.8						35
		S	160	27	N.P.							0
		P	320	185	3079	2.8	13308	12739	2774	0.5	10.99	38
21	Puducherry (Kh.)	C	10	10	2278	11.9						38
		S	10	10	1939	10.9						34
		P	20	20	2067	8.1	80	80	3271	3.1	-36.81	36
For states covered			7032	4833	2766	1.4	351637	338910	2613	0.3	5.85	100
RICE (SUMMER)												
1	Andhra Pradesh	C	120	105	4427	3.8						39
		S	120	115	4607	2.4						25
		P	240	220	4552	2.0	2994	2960	7122	0.5	-36.09	30
2	Assam *	C	40	32	3364	19.8						112
		S	40	18	N.P.							N.C.
		P	80	50	3347	4.6	1500	1122	2975	0.8	12.50	33
3	Bihar **	C	40	18	N.P.							0
		S	40	24	N.P.							N.C.
		P	80	42	2226	3.9	440	248	3179	NR	-29.98	25
4	Karnataka **	C	40	16	N.P.							0
		S	40	28	N.P.							0
		P	80	44	3339	10.7	3528	2409	5034	2.8	-33.67	71
5	Kerala	C	100	96	2941	14.0						137
		S	100	98	3242	10.4						103
		P	200	194	3120	8.4	1678	1668	3089	2.4	1.00	117
6	Odisha **	C	140	50	N.P.							0
		S	140	134	N.P.							0
		P	280	184	3425	3.4	3425	3425	3133	1.6	9.32	46
7	Tamil Nadu	C	40	35	5057	3.2						19
		S	40	38	4114	6.9						42
		P	80	73	4423	8.9	300	300	4468	2.1	-1.01	76
8	Telangana	C	80	66	3555	4.4						36
		S	80	44	3897	2.8						19
		P	160	110	3783	2.4	2096	2096	3624	0.7	4.39	25
9	West Bengal *	C	140	140	3843	2.2						26
		S	140	22	N.P.							0
		P	280	162	1116	4.5	11674	10891	3379	0.7	-66.97	57
10	Puducherry (Rabi-I)	C	10	10	2917	5.6						18
		S	10	10	3517	14.7						N.C.
		P	20	20	3022	5.2	140	140	2687	2.4	12.47	23
	Puducherry (Rabi-II)	C	10	10	3392	10.6						34
		S	10	10	3670	6.4						20
For states covered			1520	1119	2941	1.9	27845	25329	4354	0.7	-32.47	65
JOWAR (KHARIF)												
1	Karnataka **	C	50	26	N.P.							0
		S	50	40	N.P.							0
		P	100	66	2116	7.7	3584	2442	1662	4.1	27.32	63
2	Madhya Pradesh*	C	100	80	1264	7.5						67
		S	100	68	N.P.							0
		P	200	148	1278	6.3	1746	1378	1491	2.2	-14.29	77
3	Maharashtra*	C	80	39	1315	20.9						131
		S	80	11	N.P.							N.C.
		P	160	50	1315	20.9	4260	3589	968	0.8	35.85	148
4	Rajasthan	C	60	60	615	9.8						76
		S	60	46	592	14.7						100
		P	120	106	608	8.1	11032	11030	583	1.1	4.29	84
5	Tamil Nadu #	C	40	30	1392	10.2						56
		S	40	29	899	8.9						48
		P	80	59	1019	6.9	640	634	1079	3.2	-5.56	53
6	Telangana	C	40	36	996	20.8						125
		S	40	37	818	12.4						75
		P	80	73	553	15.5	372	372	944	3.8	0.00	132
7	Uttar Pradesh @	C	40	32	755	27.7						157
		S	40	12	N.P.							N.C.
		P	80	44	755	27.7	9320	8115	1270	NR	-40.55	184
For states covered			820	546	1170	8.6	30954	27560	986	0.7	18.64	200

Sl. No.	State	A G E N C Y	ICS				C.E.S. \$				% Diff. (Col.6- Col.10/ Col.10 x 100)	Coeffi- cient of Varia- tion
			No.of Expts.		Estimated Yield Rate Kg/Hac	% SE	No.of Expts.		Estimated Yield Rate Kg/Hac	% SE		
			Planned	Analysed			Planned	Analysed				
1	2	3	4	5	6	7	8	9	10	11	12	13
JOWAR(RABI)												
1	Karnataka	C	70	37	1389	14.3						87
	*	S	70	66	N.P.							0
		P	140	103	1082	5.5	10270	8885	1139	1.3	-5.00	56
2	Maharashtra	C	150	75	543	28.4						246
	*	S	150	64	N.P.							N.C.
		P	300	139	543	28.4	8512	8156	636	0.7	-14.62	335
3	Tamil Nadu	C	40	26	1795	12.4						63
		S	40	21	1061	11.5						N.C.
		P	80	47	1231	8.7	440	440	1139	3.8	8.08	60
4	Telangana	C	40	25	1735	14.6						73
	*	S	40	12	N.P.							0
		P	80	37	1735	14.6	390	390	1351	3.4	0.00	89
For states covered			600	326	752	13.7	19612	17871	810	0.7	-7.16	247
BAJRA												
1	Andhra Pradesh	C	40	38	1168	26.5						163
		S	40	40	924	37.8						239
		P	80	78	1061	21.8	488	470	1912	3.5	-44.51	193
2	Gujarat	C	110	101	1805	6.5						65
	*	S	110	47	N.P.							N.C.
		P	220	148	1805	6.5	2035	1562	1682	0.0	7.31	79
3	Haryana	C	104	104	4290	19.0						194
	*	S	104	55	N.P.							0
		P	208	159	4290	19.0	1532	1438	1762	1.0	143.47	240
4	Karnataka	C	50	22	N.P.							0
	**	S	50	42	N.P.							0
		P	100	64	786	8.5	3886	3015	1620	2.6	-51.48	68
5	Maharashtra	C	60	36	2302	8.6						98
	*	S	60	6	N.P.							N.C.
		P	120	42	2277	6.3	3488	3252	849	NR	-60.31	106
6	Rajasthan	C	60	56	967	13.2						99
		S	60	54	656	18.0						132
		P	120	110	800	10.8	25948	25317	886	1.7	-9.71	113
7	Tamil Nadu	C	40	36	2701	10.1						61
	#	S	40	33	2474	11.8						68
		P	80	69	2595	7.7	444	444	2278	4.7	13.92	64
8	Uttar Pradesh	C	150	137	2285	4.4						52
	*	S	150	43	N.P.							N.C.
		P	300	180	2285	4.4	36368	35962	1940	NR	17.78	59
For states covered			1228	850	1070	11.0	74189	71460	1134	0.8	-5.70	322
MAIZE												
2	Bihar	C	40	15	N.P.							0
	**	S	40	16	N.P.							N.C.
		P	80	31	3134	28.8	1260	993	2401	NR	30.53	160
3	Chhattisgarh	C	40	40	2604	13.3						84
		S	40	36	2118	21.4						128
		P	80	76	2425	11.4	468	354	2566	3.2	-5.49	99
4	Gujarat	C	40	32	1934	8.7						49
	*	S	40	4	N.P.							N.C.
		P	80	36	1934	8.7	6615	6459	1551	0.0	24.69	52
5	Haryana	C	20	20	4290	19						85
	*	S	20	12	N.P.							0
		P	40	32	4290	19	144	88	3000	12.6	43.00	107
6	Himachal Pradesh	C	90	82	2975	4.8						44
		S	90	67	3339	12.7						104
		P	180	149	3012	4.5	2570	2268	2971	1.2	1.38	55
7	Jammu & Kashmir	C	90	86	2302	8.6						58
		S	90	23	2250	9.2						91
		P	180	109	2277	6.3	1380	1012	1943	5.0	17.19	66
8	Jharkhand	C	20	19	1296	18.9						82
	*	S	20	4	N.P.							0
		P	40	23	1296	18.9	7830	6102	25172	0.0	-94.85	91
9	Karnatka	C	50	34	3222	9.3						54
		S	50	50	3650	9.9						70
		P	100	84	3397	6.8	12732	11440	4505	1.2	-24.59	62
10	Madhya Pradesh	C	80	77	2749	9.4						82
		S	80	58	2660	7.6						58
		P	160	135	2694	5.9	1928	1768	2308	1.7	16.72	69
11	Odisha	C	40	40	2543	5.8						37
		S	40	40	2257	5.7						36
		P	80	80	2381	4.1	2703	2703	2503	1.9	-4.87	36
12	Punjab	C	48	48	4311	4.6						32
		S	48	39	3706	7.4						46
		P	96	87	4103	3.9	360	360	3708	NR	10.65	36
13	Rajasthan	C	50	46	2032	18.4						125
		S	50	44	2438	10.3						68
		P	100	90	2312	9.0	12032	11520	2033	1.6	13.72	86

ANNEX XIV (Contd.....)

Sl. No.	State	A G E N C Y	ICS				C.E.S. \$				% Diff. (Col.6- Col.10/ Col.10 x 100)	Coeffi- cient of Varia- tion	
			No.of Expts.		Estimated Yield Rate Kg/Hac	% SE	No.of Expts.		Estimated Yield Rate Kg/Hac	% SE			
			Planned	Analyse			Planned	Analyse					
1	2	3	4	5	6	7	8	9	10	11	12	13	
14	Tamil Nadu	C	40	37	6094	5.9						36	
		S	40	28	5071	7.1						37	
		P	80	65	5580	4.6	432	432	7986	1.4	-30.13	37	
15	Telangana	C	50	40	4366	14.9						94	
		S	50	39	4764	9.8						61	
		P	100	79	4630	8.2	1388	1384	3450	2.0	0.00	73	
16	Uttar Pradesh	C	170	129	1965	8.7						98	
		S	170	56	N.P.							N.C.	
	*	P	340	185	1965	8.7	28956	28834	2192	NR	-10.36	118	
For states covered				1736	1261	3141	6.9	80798	75717	3563	0.5	-11.86	245
RAGI													
1	Karnataka	C	40	30	1826	8.2						45	
		S	40	32	1192	13.0						74	
		P	80	62	1520	7.1	7686	6896	2108	1.8	-27.89	56	
3	Uttarakhand *	C	40	36	1259	4.2						25	
		S	40	34	N.P.							N.C.	
		P	80	70	1259	4.2	1110	1096	1434	1.3	-12.20	35	
For states covered				160	132	1481	6.2	8796	7992	2024	1.6	-26.82	71
COTTON													
1	Andhra Pradesh	C	40	36									
		S	40	28									
		P	80	64	419	8.6	952	942	684	3.4	-38.74	69	
2	Gujarat	C	220	171									
		S	220	66									
		P	440	237	527	5.2	29328	27077	1598	0.9	0.00	80	
3	Haryana	C	56	56									
		S	56	30									
		P	112	86	278	9.4	940	908	275	0.0	1.09	87	
4	Karnataka	C	56	24									
		S	56	41									
		P	112	65	367	5.8	3520	3017	603	2.8	-39.14	47	
5	Madhya Pradesh	C	48	40									
		S	48	26									
		P	96	66	1022	10.2	962	819	1227	2.1	-16.71	83	
6	Maharashtra	C	140	100								70	
		S	140	74									
		P	280	174	428	7.0	8510	8350	238	0.4	79.83	92	
7	Punjab	C	72	72									
		S	72	68									
		P	144	140	758	4.3	680	680	750	NR	1.07	51	
8	Rajasthan	C	40	36									
		S	40	36									
		P	80	72	466	6.9	6672	6008	1652	0.8	-71.79	59	
9	Tamil Nadu (Kharif)	C	40	36									
		S	40	32									
		P	80	68	447	10.0	256	256	441	3.9	1.36	82	
9	Tamil Nadu (Rabi)	C	40	36									
		S	40	28									
		P	80	64	515	10.0	564	564	368	1.5	0.00	80	
10	Telangana	C	40	31									
		S	40	32									
		P	80	63	397	7.5	1372	1372	1467	1.2	-72.94	60	
For states covered				1584	1099	440	3.0	53756	49993	885	0.5	-50.31	100
GROUNDNUT													
1	Andhra Pradesh	C	110	107	539	15.7						162	
		S	110	109	495	18.0						188	
		P	220	216	518	11.8	2608	2590	1291	1.3	-59.88	173	
2	Gujarat *	C	150	140	1162	11.4						135	
		S	150	56	N.P.							0	
		P	300	196	1162	11.4	15505	13748	2440	3.0	-52.38	160	
3	Karnataka **	C	70	38	N.P.							0	
		S	70	62	N.P.							0	
		P	140	100	753	6.5	8226	6742	1079	2.3	-30.21	65	
4	Madhya Pradesh	C	40	36	1540	13.8						83	
		S	40	28	1505	9.1						48	
		P	80	64	1515	7.6	954	792	1141	3.2	32.78	61	
5	Maharashtra *	C	60	41	1122	13.3						85	
		S	60	6	N.P.							N.C.	
		P	120	47	1122	13.3	2904	2730	1148	1.0	-2.26	91	
6	Rajasthan	C	40	28	1801	9.1						48	
		S	40	36	2221	7.7						46	
		P	80	64	2002	5.9	6444	4961	1966	1.0	1.83	47	
7	Tamil Nadu (Kharif)	C	40	30	2187	5.0						27	
		S	40	32	1830	13.7						77	
		P	80	62	2131	4.7	460	460	3491	3.1	-38.96	37	

ANNEX XIV (Contd.....)

Sl. No.	State	A G E N C Y	ICS				C.E.S. \$				% Diff. (Col.6- Col.10/ Col.10 x 100)	Coeffi- cient of Varia- tion	
			No.of Expts.		Estimated Yield Rate Kg/Hac	% SE	No.of Expts.		Estimated Yield Rate Kg/Hac	% SE			
			Planned	Analysed			Planned	Analysed					
1	2	3	4	5	6	7	8	9	10	11	12	13	
	Tamil Nadu (Rabi)	C	40	36	3440	7.4						44	
		S	40	35	3226	6.7						39	
		P	80	71	3315	5.0	700	700	2169	1.5	52.84	42	
8	Telangana	C	40	33	2444	18.7						107	
		S	40	28	N.P.							0	
		P	80	61	2444	18.7	188	188	2188	3.2	0.00	146	
For states covered				1180	881	1158	5.8	37989	32911	1938	1.5	-40.25	172
SUGARCANE													
1	Andhra Pradesh	C	60	55	80578	7.5						55	
		S	60	58	84648	4.7						36	
		P	120	113	83403	4.0	1602	1578	79335	0.5	5.13	43	
2	Assam *	C	40	24	27532	3.8						19	
		S	40	12	N.P.							N.C.	
		P	80	36	27532	3.8	700	530	37902	0.2	-27.36	23	
3	Bihar *	C	40	26	66113	10.4						53	
		S	40	20	N.P.							N.C.	
		P	80	46	66113	10.4	800	590	59138	NR	11.79	71	
4	Haryana *	C	50	50	74969	3.1						22	
		S	50	25	N.P.							0	
		P	100	75	74969	3.1	1070	850	75183	0.0	-0.28	27	
5	Karnataka **	C	40	25	N.P.							0	
		S	40	34	N.P.							0	
		P	80	59	96912	11.1	750	727	96000	6.0	0.95	85	
6	Maharashtra *	C	68	33	77040	12.3						71	
		S	68	14	N.P.							N.C.	
		P	136	47	77040	12.3	8742	7784	89000	0.4	-13.44	84	
7	Punjab *	C	70	67	77952	3.5						29	
		S	70	54	N.P.							0	
		P	140	121	77952	3.5	694	682	83580	NR	-6.73	39	
8	Rajasthan	C	40	31	71729	9.1						50	
		S	40	28	87603	20.4						108	
		P	80	59	73587	8.3	450	410	70364	2.7	4.58	64	
9	Tamil Nadu	C	40	31	131234	8.2						46	
		S	40	23	102367	12.7						61	
		P	80	54	119522	6.9	468	468	103000	1.5	16.04	51	
10	Uttar Pradesh *	C	200	163	77275	3.3						42	
		S	200	0	N.P.							N.C.	
		P	400	163	77275	3.3	9612	9311	79245	NR	-2.49	42	
11	Uttarakhand *	C	40	38	71939	10.3	0					63	
		S	40	0	N.P.		0					N.C.	
		P	80	38	71939	10.3	0	0	0	0	0	63	
For states covered				1376	811	79570	3.7	24888	22930	81962	0.4	0.00	106
WHEAT													
1	Assam *	C	50	24	1398	19.8						97	
		S	50	8	N.P.							N.C.	
		P	100	32	1398	19.8	850	580	1386	1.4	0.87	112	
2	Bihar	C	230	175	2914	2.8						37	
		S	230	130	2759	4.4						N.C.	
		P	460	305	2805	2.4	41265	40595	2843	NR	-1.34	41	
3	Chhattisgarh	C	40	40	1616	16.8						106	
		S	40	30	1330	18.3						100	
		P	80	70	1458	12.4	892	642	1294	2.1	12.67	104	
4	Gujarat *	C	150	123	3028	4.0						44	
		S	150	30	N.P.							N.C.	
		P	300	153	3028	4.0	40978	39087	2898	0.0	4.49	49	
5	Haryana	C	180	180	5020	1.6						21	
		S	180	122	4762	1.9						21	
		P	360	302	4908	1.2	2200	2182	4407	0.7	11.37	21	
6	Himachal Pradesh	C	110	95	2362	6.6						65	
		S	110	92	2025	6.6						63	
		P	220	187	2166	4.7	2666	2236	1940	1.2	11.65	64	
7	Jammu & Kashmir	C	120	108	2296	3.7						39	
		S	120	36	2216	8.1						49	
		P	240	144	2281	3.4	1956	1576	2154	4.0	5.90	41	
8	Jharkhand *	C	40	38	1713	14.9						92	
		S	40	2	N.P.							N.C.	
		P	80	40	1713	14.9	17520	11902	2022	0.0	-15.28	94	
9	Karnataka *	C	50	27	1002	9.4						49	
		S	50	38	N.P.							0	
		P	100	65	1077	8.8	3854	3172	1224	3.5	-12.01	71	
10	Madhya Pradesh	C	250	203	2836	3.5						50	
		S	250	195	1077	8.8						66	
		P	500	398	2836	3.5	5830	5146	2896	0.6	-2.07	70	

ANNEX XIV (Contd.....)

ANNEX XIV (Contd....)												
Sl. No.	State	A G E N C Y	ICS				C.E.S. \$				% Diff. (Col.6- Col.10/ Col.10 x 100)	Coeffi- cient of Varia- tion
			No.of Expts.		Estimated Yield Rate Kg/Hac	% SE	No.of Expts.		Estimated Yield Rate Kg/Hac	% SE		
			Planned	Analysed			Planned	Analysed				
1	2	3	4	5	6	7	8	9	10	11	12	13
11	Maharashtra *	C	150	71	1567	7.5						63
		S	150	83	N.P.							N.C.
		P	300	154	1567	7.5	7990	7762	1657	0.5	-5.43	93
12	Punjab	C	220	219	5188	1.0						14
		S	220	201	5191	1.4						20
		P	440	420	5189	0.8	2332	2330	5077	NR	2.21	16
13	Rajasthan	C	130	123	3844	3.5						38
		S	130	103	3852	4.6						47
		P	260	226	3847	2.8	39636	37348	3698	0.2	4.03	42
14	Uttar Pradesh *	C	570	553	3711	1.3						31
		S	570	137	N.P.							N.C.
		P	1140	690	3711	1.3	226442	225838	3655	NR	1.53	34
15	Uttarakhand*	C	60	60	2857	6.0						46
		S	60	47	N.P.							N.C.
		P	120	107	2857	6.0	2956	2940	2663	0.9	7.29	62
16	West Bengal	C	110	107	2995	3.1						32
		S	110	34	3628	3.3						19
		P	220	141	3240	2.3	2528	2285	2682	0.9	20.81	27
For states covered			4920	3434	3523	0.7	399895	385621	3509	0.1	0.39	44
BARLEY												
1	Haryana	C	30	30	3456	10.8						59
		S	30	30	4176	3.9						21
		P	60	60	4063	3.7	516	355	3414	1.6	19.01	28
2	Himachal Pradesh	C	40	24	1307	5.0						24
		S	40	28	1913	18.2						96
		P	80	52	1328	4.8	1160	750	1635	2.7	-18.78	35
3	Punjab	C	30	30	3858	5.7						31
		S	30	26	4160	4.7						24
		P	60	56	4029	3.6	240	240	3880	NR	3.84	27
4	Rajasthan	C	80	80	3287	6.6						59
		S	80	70	3846	4.4						37
		P	160	150	3634	3.7	5852	5748	3324	0.5	9.33	45
For states covered			360	318	3332	2.4	7768	7093	3248	0.5	2.58	43
GRAM												
1	Andhra Pradesh *	C	60	57	680	21.0						159
		S	60	50	398	18.6						N.C.
		P	120	107	456	14.0	1328	1292	1132	1.4	-59.72	145
2	Bihar	C	40	37	1246	10.4						63
		S	40	28	1200	9.1						N.C.
		P	80	65	1084	18.8	800	714	1154	0.0	-6.07	152
3	Chhattisgarh	C	40	40	759	15.6						99
		S	40	38	1085	10.6						65
		P	80	78	928	8.9	452	360	884	2.8	4.98	79
4	Gujarat *	C	40	28	1172	19.7						104
		S	40	2	N.P.							N.C.
		P	80	30	1172	19.7	3860	3674	1285	0.0	-8.79	108
5	Haryana *	C	70	70	1298	8.1						68
		S	70	62	1399	8.4						66
		P	140	132	1343	5.8	562	512	619	0.0	116.96	67
6	Jharkhand *	C	20	18	747	26.8						114
		S	20	8	N.P.							N.C.
		P	40	26	749	17.4	7830	5094	1120	NR	-33.13	89
7	Karnataka *	C	40	26	721	16.0						82
		S	40	34	N.P.							0
		P	80	60	623	12.3	9368	7778	784	1.6	-20.54	95
8	Madhya Pradesh *	C	140	112	1130	7.3						77
		S	140	100	1043	5.3						53
		P	280	212	1072	4.3	5330	4306	1115	0.8	-3.86	63
9	Maharashtra *	C	100	64	772	9.9						79
		S	100	49	N.P.							N.C.
		P	200	113	772	9.9	5526	5499	917	9.9	-15.81	105
10	Punjab *	C	30	30	1590	6.3						35
		S	30	6	N.P.							0
		P	60	36	1590	6.3	100	100	1181	NR	34.63	38
11	Rajasthan	C	120	100	989	10.8						108
		S	120	91	1207	8.5						81
		P	240	191	1103	6.7	14684	12216	1074	0.8	2.70	93
12	Uttar Pradesh *	C	50	48	1216	6.6						46
		S	50	18	N.P.							N.C.
		P	100	66	1216	6.6	13898	13171	1155	NR	5.28	54
13	West Bengal **	C										N.C.
		S	Not Planned									N.C.
		P					725	630	1030	4.5	-100.0	N.C.
For states covered			1500	1116	851	3.8	64463	55346	1017	2.1	-16.31	128

ANNEX XIV (Contd.....)

ANNEX XIV (Contd....)												
Sl. No.	State	A G E N C Y	ICS				C.E.S. \$				% Diff. (Col.6- Col.10/ Col.10 x 100)	Coeffi- cient of Varia- tion
			No.of Expts.		Estimated Yield Rate Kg/Hac	% SE	No.of Expts.		Estimated Yield Rate Kg/Hac	% SE		
			Planned	Analysed			Planned	Analysed				
1	2	3	4	5	6	7	8	9	10	11	12	13
RAPE & MUSTARD												
1	Assam	C	70	48	721	6.9						48
	*	S	70	36	N.P.							N.C.
		P	140	84	759	4.9	1250	1088	639	0.8	18.78	45
2	Bihar	C	40	32	1084	18.8						106
		S	40	30	1241	9.0						N.C.
		P	80	62	1201	8.6	1064	1018	1245	NR	-3.53	68
3	Chhattisgarh	C	30	26	327	5.0						25
		S	30	23	350	15.0						72
		P	60	49	329	4.7	416	260	438	4.4	-24.89	33
4	Gujarat	C	50	43	1644	5.1						33
	*	S	50	8	N.P.							N.C.
		P	100	51	1644	5.1	3535	3489	1808	1.0	-9.07	36
5	Haryana	C	100	100	1762	3.6						36
		S	100	84	1896	3.5						32
		P	200	184	1825	2.5	1040	990	1434	0.5	27.27	34
6	Jharkhand	C	20	20	644	22.3						100
		S	20	10	1322	16.2						N.C.
		P	40	30	853	14.0	7830	4860	935	NR	-8.77	77
7	Madhya Pradesh	C	60	38	1171	14.9						92
	*	S	60	26	N.P.							0
		P	120	64	1190	10.1	1116	996	1178	2.0	1.02	81
8	Punjab	C	40	40	1630	5.8						37
		S	40	35	1573	9.3						55
		P	80	75	1613	4.9	566	566	1498	NR	7.68	43
9	Rajasthan	C	90	86	1586	7.0						65
		S	90	67	1657	4.9						40
		P	180	153	1632	4.0	30268	27467	1614	0.3	1.12	50
10	Uttar Pradesh	C	100	99	1464	5.2						52
	*	S	100	20	N.P.							N.C.
		P	200	119	1464	5.2	28076	27593	1392	NR	5.17	57
11	West Bengal	C	110	107	1224	4.3						44
		S	110	42	1449	4.8						N.C.
		P	220	149	1305	3.2	5030	4397	1077	0.9		39
For states covered			1420	1020	1487	2.1	80191	72724	1397	0.3	6.45	66

- Note:
- 1) ** = Combined estimates prepared due to low response
 - 2) * = State sample estimates not prepared due to low response
 - 3) Only combined estimates are prepared for Cotton crop
 - 4) \$ = CES data pertains to the year 2012-13 except Jammu & Kashmir (2012-13).
 - 5) # = In the light of introduction of concept of Kharif and Rabi seasons in the Tamil Nadu state from Agricultural year 2017-18 and consequent categorization of crops, the data have been presented seasonwise instead of whole year.
 - 6) N.P. = Not prepared, N.C.= Not Calculated, NR = Not reported
 - 7) The CES figures though reported against pooled figures are based on the experiments analysed in totality by the State Govt.
 - 8) NA = Not Applicable

**ESTIMATES OF YIELD RATE ACCORDING TO IRRIGATION
AND SEED VARIETY UNDER ICS DURING 2018-19**

Sl. No.	State	A G E N C Y	S E A S O N	High Yield Varieties						Other Varieties						Both HYV & Other varieties					
				Irrigated		Unirrigated		Total		Irrigated		Unirrigated		Total		Irrigated		Unirrigated		Total	
				No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
PADDY																					
1	Andhra Pradesh	C S	Kh.	148	3336	10	2051	158	3255	0	0	0	0	0	0	148	3336	10	2051	158	3255
		S		132	3207	10	2279	142	3142	0	0	0	0	0	0	132	3207	10	2279	142	3142
		P		280	3275	20	2165	300	3201	0	0	0	0	0	0	280	3275	20	2165	300	3201
		C	Sum.	82	3643	0	0	82	3643	2	2346	0	0	2	2346	84	3612	0	0	84	3612
		S		50	4210	0	0	50	4210	10	4119	2	4893	12	4248	60	4195	2	4893	62	4218
		P		132	7853	0	0	132	3858	12	3824	2	4893	14	3641	144	3855	2	4893	146	3869
2	Assam	C S	Aut.	0	0	7	1998	7	1998	2	1126	36	1635	38	1608	2	1126	43	1694	45	1669
		S		4	2869	0	0	4	2869	10	1354	36	1554	46	1511	14	1787	36	1554	50	1619
		P		4	2869	7	1998	11	2315	12	1316	72	1595	84	1555	16	1704	79	1630	95	1643
		C	Win.	2	2008	8	1935	10	1950	0	0	98	2319	98	2319	2	2008	106	2290	108	2285
		S		0	0	12	2592	12	2592	0	0	78	2271	78	2271	0	0	90	2314	90	2314
		P		2	2008	20	2329	22	2300	0	0	176	1006	176	2298	2	2008	196	2140	198	2298
		C	Sum.	6	2372	6	3410	12	2891	14	3219	5	2576	19	3050	20	2965	11	3031	31	2988
		S		16	3562	4	4544	20	3758	10	3349	4	2647	14	3148	26	3480	8	3596	34	3507
		P		22	3237	10	3864	32	3433	24	3273	9	2608	33	3092	46	3256	19	3269	65	3260
3	Bihar	C S	Bha.	0	0	10	1934	10	1934	0	0	13	1512	13	1512	0	0	23	1695	23	1695
		S		8	1594	0	0	8	1594	0	0	10	1788	10	1788	8	1594	10	1788	18	1702
		P		8	1594	10	1934	18	1783	0	0	23	1632	23	1632	8	1594	33	1723	41	1698
		C	Agh.	74	2450	26	1336	100	2160	46	2107	39	1401	85	1783	120	2318	65	1375	185	1987
		S		83	2227	4	996	87	2170	42	1890	18	1215	60	1688	125	2114	22	1175	147	1973
		P		157	2332	30	1291	187	2165	88	2003	57	1342	145	1744	245	2214	87	1324	332	1981
		C	Sum.	20	2538	0	0	20	2538	6	2270	0	0	6	2270	26	2476	0	0	26	2476
		S		10	2320	0	0	10	2320	0	0	0	0	0	0	10	2320	0	0	10	2320
		P		30	2465	0	0	30	2465	6	2270	0	0	6	2270	36	2433	0	0	36	2433
4	Chhattisgarh	C S	Kh.	38	2591	24	1680	62	2238	0	0	16	1192	16	1192	38	2591	40	1485	78	2024
		S		21	2450	42	1734	63	1973	0	0	12	1136	12	1136	21	2450	54	1601	75	1839
		P		59	2541	66	1714	125	2104	0	0	28	1168	28	1168	59	2541	94	1552	153	1933
5	Gujarat	C S	Kh.	36	2471	9	1817	45	2340	4	1523	21	800	25	916	40	2376	30	1105	70	1831
		S		11	2611	0	0	11	2611	13	1868	4	840	17	1626	24	2208	4	840	28	2013
		P		47	2504	9	1817	56	2393	17	1787	25	806	42	1203	64	2313	34	1074	98	1883
6	Haryana	C S	Kh.	89	11374	0	0	89	11374	0	0	0	0	0	0	89	11373	0	0	89	11373
		S		75	10842	0	0	75	10842	6	11219	0	0	1	67314	81	10869	0	0	81	10869
		P		164	11131	0	0	164	11131	6	11219	0	0	1	67314	170	11133	0	0	170	11133
7	Himachal Pradesh	C S	Kh.	17	2752	6	2065	23	2573	19	2019	12	1380	31	1772	36	2365	18	1608	54	2113
		P		10	2011	3	2590	13	2145	19	1439	12	1985	31	1650	29	1636	15	2106	44	1796
		C	Sum.	27	2478	9	2240	36	2418	38	1729	24	1682	62	1711	65	2040	33	1834	98	1971
8	Jammu & Kashmir	C S	Kh.	9	2089	4	1561	13	1927	47	2421	8	1195	55	2243	56	2367	12	1317	68	2182
		P		8	2131	2	1365	10	1978	8	2496	0	0	8	2496	16	2314	2	1365	18	2209
		C	Sum.	17	2109	6	1496	23	1949	55	2432	8	1195	63	2275	72	2355	14	1324	86	2187
9	Jharkhand	C S	Aut.	0	0	0	0	0	0	0	0	20	839	20	839	0	0	20	839	20	839
		S		0	0	0	0	0	0	0	0	8	984	8	984	0	0	8	984	8	984
		P		0	0	0	0	0	0	0	0	28	880	28	880	0	0	28	880	28	880
9	Jharkhand	C S	Wint.	4	1412	14	1727	18	1657	6	1083	55	882	61	902	10	1215	69	1053	79	1074
		P		2	666	6	912	8	851	0	0	10	1169	10	1169	2	666	16	1073	18	1028
		C	Sum.	6	1163	20	1483	26	1409	6	1083	65	926	71	939	12	1124	85	1057	97	1065
10	Karnataka	C S	Kh.	45	2961	21	2398	66	2782	14	2499	13	1515	27	2025	59	2852	34	2060	93	2562
		P		75	2609	25	2858	100	2671	14	2368	14	2090	28	2229	89	2571	39	2582	128	2574
		C	Sum.	120	2741	46	2648	166	2715	28	2434	27	1813	55	2129	148	2683	73	5440	221	2569
		S		19	3488	2	2483	21	3392	1	3550	0	0	1	3550	20	3491	2	2483	22	3399
		P		28	3047	0	0	28	3047	4	3352	0	0	4	3352	32	3085	0	0	32	3085
		C	Sum.	47	3225	2	2483	49	3195	5	3391	0	0	5	3391	52	3241	2	2483	54	3213
11	Kerala	C S	Aut.	33	1652	49	1770	82	1723	2	890	11	1394	13	1316	35	1609	60	1701	95	1667
		P		24	1900	59	1932	83	1923	0	0	6	947	6	947	24	1900	65	1841	89	1857
		C	Win.	57	1756	108	1859	165	1823	2	890	17	1236	19	1200	59	1727	125	1774	184	1759
		S		70	3066	11	2269	81	2958	5	1335	14	886	19	1004	75	2951	25	1494	100	2587
		P		80	2664	3	2310	83	2651	7	1510	10	806	17	1096	87	2571	13	1153	100	2387
		C	Sum.	150	2852	14	2278	164	2803	12	1437	24	853	36	1047	162	2747	38	1377	200	2487
		S		84	2644	8	2099	92	2597	5	358	2	1388	7	652	89	2516	10	1957	99	2460
		P		88	2832	1	1719	89	2819	9	1688	1	1602	10	1679	97	2726	2	1660	99	2704
		C	Sum.	172	2740	9	2058	181	2706	14	1213	3	1459	17	1256	186	2626	12	1908	198	2582
12	Madhya Pradesh	C S	Kh.	32	2835	38	1346	70	2027	0	0	23	890	23	890	32	2835	61	1174	93	1746
		P		18	2481	20	1465	38	1946	7	2911	31	1570	38	1817	25	2602	51	1529	76	1882
		C	Sum.	50	2708	58	1387	108	1998	7	2911	54	1280	61	1467	57	2733	112	1336	169	1807

Sl. No.	State	A G E N C Y	S E A S O N	High Yield Varieties						Other Varieties						Both HYV & Other varieties					
				Irrigated		Unirrigated		Total		Irrigated		Unirrigated		Total		Irrigated		Unirrigated		Total	
				No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
13	Mahara-shtra	C	Kh.	18	1240	25	2008	43	1687	0	0	17	1010	17	1010	18	1240	42	1604	60	1495
		S		7	1267	13	1633	20	1505	3	782	22	1196	25	1146	10	1122	35	1358	45	1306
		P		25	1248	38	1880	63	1629	3	782	39	1115	42	1091	28	1198	77	1492	105	1414
14	Odisha	C	Aut.	1	2137	42	1880	43	1886	2	1529	5	1628	7	1600	3	1731	47	1853	50	1846
		S		8	1633	139	1375	147	1389	0	0	12	1281	12	1281	8	1633	151	1367	159	1380
		P		9	1689	181	1492	190	1502	2	1529	17	1383	19	1398	11	1660	198	1482	209	1492
		C	Win.	33	1965	107	2163	140	2116	8	2355	16	1170	24	1565	41	2041	123	2034	164	2036
		S		40	2225	95	1821	135	1941	2	1311	11	1764	13	1694	42	2181	106	1815	148	1919
		P		73	2107	202	2002	275	2030	10	2146	27	1412	37	1610	83	2112	229	1933	312	1980
		C	Sum.	137	2986	0	0	137	2986	0	0	0	0	0	0	137	2986	0	0	137	2986
		S		136	36341	0	0	136	36341	0	0	0	0	0	0	136	36341	0	0	136	36341
		P		273	19602	0	0	273	19602	0	0	0	0	0	0	273	19602	0	1589	273	19602
15	Punjab	C	Kh.	181	4561	1	3199	182	4554	5	4087	0	0	5	4087	186	4548	1	3199	187	4541
		S		150	4389	0	0	150	4389	0	0	0	0	0	0	150	4389	0	0	150	4389
		P		331	4483	1	3199	332	4479	5	4087	0	0	5	4087	336	4477	1	3199	337	4473
16	Tamil Nadu	C	Phase I	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		S		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		P		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		C	Phase II	35	3957	2	4974	37	4012	1	3070	0	0	1	3070	36	3932	2	4974	38	3987
		S		40	3824	0	0	40	3824	0	0	0	0	0	0	40	3824	0	0	40	3824
		P		75	3886	2	4974	77	3914	1	3070	0	0	1	3070	76	3875	2	4974	78	3903
		C	Phase III	67	4480	9	0	76	3949	0	0	0	0	0	0	67	4480	9	0	76	3949
		S		68	3947	4	0	72	3728	0	0	4	7	4	7	68	3947	8	3	76	3532
		P		135	4212	13	0	148	3842	0	0	4	7	4	7	135	4212	17	1	152	3741
17	Telangana	C	Kh.	53	3264	5	2623	58	3209	1	2656	2	884	3	1475	54	3253	7	2126	61	3124
		S		47	3332	10	2418	57	3172	8	3250	0	0	8	3250	55	3320	10	2418	65	3181
		P		100	3296	15	2486	115	3190	9	3184	2	884	11	2766	109	3287	17	2298	126	3153
		C	Rabi	87	3744	0	0	87	3744	0	0	0	0	0	#DIV/0!	87	3743	0	0	87	3743
		S		72	3735	2	2900	74	3712	0	0	0	0	0	#DIV/0!	72	3735	2	2900	74	3712
		P		159	3740	2	2900	161	3729	0	0	0	0	0	#DIV/0!	159	3739	2	2900	161	3729
18	Uttar Pradesh	C	Kh.	521	2690	15	2493	536	2684	67	2324	1	831	68	2302	588	2648	16	2389	604	2641
		S		147	2684	13	2525	160	2671	12	2512	0	0	12	2512	159	2671	13	2525	172	2660
		P		668	2689	28	2508	696	2681	79	2353	1	831	80	2334	747	2653	29	2450	776	2645
19	Uttara-khand	C	Kh.	19	3830	0	0	19	3830	6	2634	16	1141	22	1548	25	3543	16	1141	41	2606
		S		28	2755	1	0	29	2660	2	619	13	1086	15	1024	30	2612	14	1009	44	2102
		P		47	3190	1	0	48	3123	8	2130	29	1116	37	1336	55	3035	30	1079	85	2345
20	West Bengal	C	Aut.	66	2890	25	2173	91	2693	8	2730	0	0	8	2730	74	2872	25	2173	99	2695
		S		4	2580	0	0	4	2580	0	0	0	0	0	0	4	2580	0	0	4	2580
		P		70	2872	25	2173	95	2688	8	2730	0	0	8	2730	78	2857	25	2173	103	2691
		C	Am.	99	3146	41	2697	140	3015	7	3326	11	2475	18	2806	106	3158	52	2650	158	2991
		S		25	2987	2	2020	27	2915	0	0	0	0	0	0	25	2987	2	2020	27	2915
		P		124	3114	43	2666	167	2998	7	3326	11	2475	18	2806	131	3125	54	2627	185	2980
		C	Sum.	121	3698	0	0	121	3698	19	4179	0	0	19	4179	140	3763	0	0	140	3763
		S		20	1372	0	0	20	1372	0	0	0	0	0	0	20	1372	0	0	20	1372
		P		141	3368	0	0	141	3368	19	4179	0	0	19	4179	160	3464	0	0	160	3464
21	Pudu-cherry	C	Kh.	10	3198	0	0	10	3198	0	0	0	0	0	0	10	3198	0	0	10	3198
		S		10	2604	0	0	10	2604	0	0	0	0	0	0	10	2604	0	0	10	2604
		P		20	2901	0	0	20	2901	0	0	0	0	0	0	20	2901	0	0	20	2901
		C	R-I	6	2016	0	0	6	2016	0	0	0	0	0	0	10	2283	0	0	10	2283
		S		10	3043	0	0	10	3043	0	0	0	0	0	0	10	3043	0	0	10	3043
		P		16	2658	0	0	16	2658	0	0	0	0	0	0	20	2663	0	0	20	2663
		C	R-II	10	2922	0	0	10	2922	0	0	0	0	0	0	10	2922	0	0	10	2922
		S		10	3464	0	0	10	3464	0	0	0	0	0	0	10	3464	0	0	10	3464
		P		20	3193	0	0	20	3193	0	0	0	0	0	0	20	3193	0	2873	20	3193
For States Covered		C		2132	3450	520	1990	2652	3164	296	2424	354	1227	748	1837	2432	3324	972	1745	3404	2873
		S		1448	6559	454	1785	1904	5413	178	2447	338	1545	491	1950	1626	6108	792	1682	2418	4659
		P		3578	4710	978	1887	4556	4104	474	2433	770	1242	1239	1882	4056	4442	1748	1733	5804	3626
JOWAR																					
1	Karna-taka	C	Kh.	10	2133	12	789	22	1400	0	0	4	239	4	239	10	2133	16	652	26	1222
		S		6	2809	30	1868	36	2025	0	0	4	207	4	207	6	2809	34	1673	40	1843
		P		16	2387	42	1560	58	1788	0	0	8	223	8	223	16	2387	50	1346	66	1598
		C	Rabi	10	1484	20	774	30	1011	0	0	26	1044	26	1044	10	1484	46	927	56	1026
		S		7	1011	42	1067	49	1059	0	0	4	1207	4	1207	7	1011	46	1080	53	1071
		P		17	1289	62	972	79	1041	0	0	30	1066	30	1066	17	1289	92	1004	109	1048
2	Madhya Pradesh	C	Kh.	0	0	37	1395	37	1395	0	0	43	1561	43	1561	0	0	80	1484	80	1484
		S		0	0	22	1644	22	1644	0	0	46	890	46	890	0	0	68	1134	68	1134
		P		0	0	59	1488	59	1488	0	0	89	1214	89	1214	0	0	148	1323	148	1323

Sl. No.	State	A G E N C Y	S E A S O N	High Yield Varieties						Other Varieties						Both HYV & Other varieties					
				Irrigated		Unirrigated		Total		Irrigated		Unirrigated		Total		Irrigated		Unirrigated		Total	
				No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
3	Maharashtra	C	Kh.	5	1884	49	960	54	1046	0	0	2	0	2	0	5	1884	51	923	56	1009
		S		0	0	25	811	25	811	0	0	18	1111	18	1111	0	0	43	937	43	937
		P		5	1884	74	910	79	971	0	0	20	1000	20	1000	5	1884	94	929	99	978
		C	Rabi	37	1119	0	0	37	1119	39	6397	0	0	39	6396	76	3827	0	0	76	3827
		S		30	1353	0	0	30	1353	30	4695	0	0	30	4695	60	3024	0	0	60	3024
		P		67	1224	0	0	67	1224	69	5657	0	0	69	5656	136	3473	0	0	136	3473
4	Rajasthan	C	Kh.	1	970	17	636	18	655	2	747	40	588	42	596	3	821	57	602	60	613
		S		0	0	18	736	18	736	0	0	28	526	28	526	0	0	46	608	46	608
		P		1	970	35	687	36	695	2	747	68	562	70	568	3	821	103	605	106	611
5	Tamil Nadu	C	**	4	1183	30	1387	34	1363	0	0	6	1395	6	1395	4	1183	36	1388	40	1368
		S		2	746	20	1011	22	987	0	0	14	346	14	346	2	746	34	737	36	738
		P		6	1037	50	1237	56	1215	0	0	20	661	20	661	6	1037	70	1072	76	1069
6	Telangana	C	Kh.	0	0	9	736	9	736	0	0	27	855	27	855	0	0	36	825	36	825
		S		2	527	13	851	15	808	0	0	22	881	22	881	2	527	35	870	37	851
		P		2	527	22	804	24	781	0	0	49	867	49	867	2	527	71	847	73	838
		C	Rabi	2	1352	9	1291	11	1302	4	1984	25	1035	29	1166	6	1773	34	1103	40	1204
		S		2	944	6	1550	8	1399	13	1142	7	1457	20	1252	15	1116	13	1500	28	1294
		P		4	1148	15	1394	19	1343	17	1340	32	1127	49	1201	21	1303	47	1212	68	1241
7	Uttar Pradesh	C	Kh.	1	636	7	298	8	340	0	0	24	679	24	679	1	636	31	593	32	594
		S		0	0	0	0	0	0	0	0	12	1019	12	1019	0	0	12	1019	12	1019
		P		1	636	7	298	8	340	0	0	36	792	36	792	1	636	43	712	44	710
For States Covered		C		70	10761	190	8266	260	10366	45	9128	197	7396	242	13930	115	13741	387	8497	502	1481
		S		49	7390	176	9538	225	10821	43	5837	155	7644	198	12134	92	9233	331	9558	423	1333
		P		119	11102	366	9350	485	10886	88	7744	352	7512	440	13248	207	13357	718	9050	925	1413
BAJRA																					
1	Andhra Pradesh	C	Kh.	6	3388	18	1131	24	1695	0	0	14	1057	14	1057	6	3388	32	1099	38	1460
		S		6	2843	15	1138	21	1625	0	0	19	1236	19	1236	6	2843	34	1193	40	1441
		P		12	3116	33	1134	45	1663	0	0	33	1160	33	1160	12	3116	66	1147	78	1450
2	Gujarat	C	Kh.	50	1913	47	1502	97	1714	2	646	2	0	4	323	52	1864	49	1440	101	1658
		S		9	3766	25	1934	34	2419	11	1566	2	1375	13	1537	20	2556	27	1892	47	2175
		P		59	2196	72	1652	131	1897	13	1424	4	688	17	1251	72	2056	76	1601	148	1822
3	Haryana	C	Kh.	82	4100	18	4771	100	4221	2	9852	0	0	2	9852	84	4237	18	4771	102	4331
		S		81	4465	23	4090	104	4382	0	0	0	0	0	0	81	4465	23	4090	104	4382
		P		163	4281	41	4389	204	4303	2	9852	0	0	2	9852	165	4349	41	4389	206	4357
4	Karnataka	C	Kh.	0	0	20	775	20	775	2	952	0	0	2	952	2	952	20	775	22	791
		S		6	534	30	1115	36	1018	2	948	4	690	6	776	8	637	34	1065	42	983
		P		6	534	50	979	56	931	4	950	4	690	8	820	10	700	54	958	64	917
5	Maharashtra	C	Kh.	9	1192	24	821	33	922	0	0	6	1007	6	1007	9	1192	30	858	39	935
		S		6	2161	20	848	26	1151	0	0	6	620	6	620	6	2161	26	795	32	1051
		P		15	1580	44	833	59	1023	0	0	12	814	12	814	15	1580	56	829	71	987
6	Rajasthan	C	Kh.	2	1397	27	1489	29	1483	1	572	26	984	27	969	3	1122	53	1241	56	1235
		S		0	0	28	949	28	949	0	0	26	567	26	567	0	0	54	765	54	765
		P		2	1397	55	1214	57	1221	1	572	52	776	53	772	3	1122	107	1001	110	1004
7	Tamil Nadu	C	**	4	4059	23	2030	27	2331	0	0	13	1228	13	1228	4	4059	36	1740	40	1972
		S		4	3139	23	2415	27	2522	0	0	13	1295	13	1295	4	3139	36	2010	40	2123
		P		8	3599	46	2223	54	2426	0	0	26	1262	26	1262	8	3599	72	1875	80	2047
8	Uttar Pradesh	C	Kh.	54	2476	67	2344	121	2403	3	1451	13	1337	16	1358	57	2422	80	2180	137	2281
		S		12	2752	30	2034	42	2239	0	0	1	1738	1	1738	12	2752	31	2024	43	2227
		P		66	2526	97	2248	163	2361	3	1451	14	1366	17	1381	69	2479	111	2136	180	2268
For States Covered		C		207	2974	244	1869	451	2376	10	2783	74	1078	84	1281	217	2965	318	1684	535	2204
		S		124	3826	194	1820	318	2602	13	1471	71	930	84	1014	137	3602	265	1581	402	2270
		P		331	3293	438	1847	769	2469	23	2041	145	1006	168	1147	354	3212	583	1638	937	2232
MAIZE																					
1	Bihar	C	Kh.	8	4808	0	0	8	4808	2	3043	5	2376	7	2567	10	4455	5	2376	15	3762
		S		4	1471	0	0	4	1471	8	1690	4	1317	12	1566	12	1617	4	1317	16	1542
		P		12	3696	0	0	12	3696	10	1961	9	1905	19	1934	22	2907	9	1905	31	2616
2	Chhattisgarh	C	Kh.	1	4774	14	3886	15	3945	0	0	25	2217	25	2217	1	4774	39	2816	40	2865
		S		0	0	12	3258	12	3258	0	0	24	2913	24	2913	0	0	36	3028	36	3028
		P		1	4774	26	3596	27	3640	0	0	49	2558	49	2558	1	4774	75	2918	76	2942
3	Gujarat	C	Kh.	6	2192	10	1623	16	1836	0	0	16	1978	16	1978	6	2192	26	1842	32	1908
		S		2	1934	1	3058	3	2309	0	0	1	2689	1	2689	2	1934	2	2873	4	2404
		P		8	2128	11	1753	19	1911	0	0	17	2020	17	2020	8	2128	28	1916	36	1963

Sl. No.	State	A G E N C Y	S E A S O N	High Yield Varieties						Other Varieties						Both HYV & Other varieties					
				Irrigated		Unirrigated		Total		Irrigated		Unirrigated		Total		Irrigated		Unirrigated		Total	
				No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
4	Haryana	C	Kh.	13	10508	5	5338	18	9072	0	0	2	9205	2	9205	13	10507	7	6443	20	9085
		S		3	3006	9	2570	12	2679	1	1198	1	2763	2	1981	4	2554	10	2590	14	2580
		P		16	9101	14	3559	30	6515	1	1198	3	7058	4	5593	17	8636	17	4177	34	6406
5	Himachal Pradesh	C	Kh.	1	4046	29	4166	30	4162	3	2137	49	2391	52	2376	4	2614	78	3051	82	3030
		S		2	2118	19	4481	21	4256	1	1968	45	3152	46	3126	3	2068	64	3546	67	3480
		P		3	2761	48	4291	51	4201	4	2095	94	2755	98	2728	7	2380	142	3274	149	3232
6	Jammu & Kashmir	C	Kh.	0	0	24	2799	24	2799	4	3350	58	1824	62	1922	4	3350	82	2110	86	2168
		S		2	1965	11	2265	13	2219	2	655	8	1405	10	1255	4	1310	19	1903	23	1800
		P		2	1965	35	2631	37	2595	6	2452	66	1773	72	1830	8	2330	101	2071	109	2090
7	Jharkhand	C	Kh.	0	0	7	1471	7	1471	0	0	12	1431	12	1431	0	0	19	1446	19	1446
		S		0	0	0	0	0	0	0	0	4	260	4	260	0	0	4	260	4	260
		P		0	0	7	1471	7	1471	0	0	16	1138	16	1138	0	0	23	1240	23	1240
8	Karnataka	C	Kh.	6	2767	27	3278	33	3185	0	0	1	3319	1	3319	6	2767	28	3279	34	3189
		S		12	5211	38	2178	50	2906	0	0	0	0	0	0	12	5211	38	2178	50	2906
		P		18	4396	65	2635	83	3017	0	0	1	3319	1	3319	18	4396	66	2645	84	3020
9	Madhya Pradesh	C	Kh.	0	0	36	2793	36	2793	1	6359	40	1782	41	1894	1	6359	76	2261	77	2314
		S		0	0	27	3159	27	3159	0	0	31	1364	31	1364	0	0	58	2199	58	2199
		P		0	0	63	2950	63	2950	1	6359	71	1599	72	1666	1	6359	134	2234	135	2265
10	Odisha	C	Kh.	0	0	18	2730	18	2730	1	169	21	1576	22	1512	1	169	39	2108	40	2060
		S		0	0	21	2041	21	2041	0	0	19	1539	19	1539	0	0	40	1802	40	1802
		P		0	0	39	2359	39	2359	1	169	40	1558	41	1525	1	169	79	1953	80	1931
11	Punjab	C	Kh.	29	4725	13	3492	42	4343	6	2592	0	0	6	2592	35	4359	13	3492	48	4124
		S		30	3989	5	3026	35	3851	2	4356	2	2722	4	3539	32	4012	7	2940	39	3820
		P		59	4351	18	3363	77	4120	8	3033	2	2722	10	2971	67	4193	20	3299	87	3988
12	Rajasthan	C	Kh.	0	0	12	3302	12	3302	1	5380	33	1653	34	1763	1	5380	45	2092	46	2163
		S		0	0	15	3564	15	3564	3	1034	26	1352	29	1319	3	1034	41	2161	44	2084
		P		0	0	27	3448	27	3448	4	2121	59	1520	63	1558	4	2121	86	2125	90	2125
13	Tamil Nadu	C	Kh.	16	10510	24	7070	40	8446	0	0	0	0	0	0	16	10510	24	7070	40	8446
		S		14	8938	26	6355	40	7259	0	0	0	0	0	0	14	8937	26	6355	40	7259
		P		30	9776	50	6698	80	7853	0	0	0	0	0	0	30	9776	50	6698	80	7852
14	Telangana	C	Kh.	14	6401	25	3592	39	4600	0	0	1	3043	1	3043	14	6401	26	3571	40	4562
		S		20	4937	11	4256	31	4695	0	0	7	2505	7	2505	20	4937	18	3575	38	4292
		P		34	5540	36	3795	70	4642	0	0	8	2572	8	2572	34	5540	44	3573	78	4430
15	Uttar Pradesh	C	Kh.	52	2813	33	1653	85	2363	3	488	41	1281	44	1227	55	2686	74	1447	129	1975
		S		36	2767	10	1793	46	2555	0	0	10	1820	10	1820	36	2767	20	1806	56	2424
		P		88	2794	43	1686	131	2430	3	488	51	1387	54	1337	91	2718	94	1523	185	2111
For States Covered		C		132	5039	252	3345	384	3927	21	2611	303	1889	324	1935	153	4705	555	2550	708	3016
		S		105	4132	194	3289	299	3585	17	1754	175	2086	192	2057	122	3801	369	2718	491	2987
		P		237	4637	446	3321	683	3778	38	2227	478	1961	516	1981	275	4304	924	2617	1199	3004
RAGI																					
1	Karnataka	C	Kh.	2	2223	19	1415	21	1492	2	2480	7	1212	9	1494	4	2351	26	1360	30	1492
		S		6	1935	24	772	30	1005	0	0	2	197	2	197	6	1935	26	727	32	954
		P		8	2007	43	1056	51	1205	2	2480	9	986	11	1258	10	2101	52	1044	62	1214
2	Uttarakhand	C	Kh.	0	0	0	0	0	0	2	160	34	1347	36	1281	2	160	34	1347	36	1281
		S		0	0	0	0	0	0	0	0	34	917	34	917	0	0	34	917	34	917
		P		0	0	0	0	0	0	2	160	68	1132	70	1104	2	160	68	1132	70	1104
For States Covered		C		2	2223	19	1649	21	2585	4	2431	41	2217	45	0	6	0	60	0	66	0
		S		6	1935	24	1256	30	1052	0	0	36	1714	36	0	6	0	60	0	66	0
		P		8	2007	43	1430	51	1683	4	5334	77	1981	81	0	12	0	120	0	132	0
GROUNDNUT																					
1	Andhra Pradesh	C	Kh.	3	2866	128	695	131	745	0	0	6	1315	6	1315	3	2866	134	723	137	770
		S		5	1277	126	734	131	755	0	0	9	644	9	644	5	1277	135	727	140	747
		P		8	1873	254	714	262	750	0	0	15	912	15	912	8	1873	269	725	277	758
2	Gujarat	C	Kh.	80	2672	42	2052	122	2459	3	3142	4	1504	7	2206	83	2689	46	2005	129	2445
		S		35	2814	25	1930	60	2446	17	2833	7	1057	24	2315	52	2820	32	1739	84	2408
		P		115	2715	67	2007	182	2454	20	2880	11	1220	31	2290	135	2740	78	1896	213	2431
3	Karnataka	C	Kh.	3	671	17	1591	20	1453	0	0	6	709	6	709	3	671	23	1361	26	1281
		S		8	1016	40	1230	48	1194	2	1353	4	1419	6	1397	10	1083	44	1247	54	1217
		P		11	922	57	1338	68	9740	2	1353	10	993	12	1053	13	988	67	1286	80	1238
4	Madhya Pradesh	C	Kh.	0	0	6	1009	6	1009	6	597	26	1428	32	1272	6	597	32	1349	38	1230
		S		0	0	8	1616	8	1616	0	0	22	1426	22	1426	0	0	30	1476	30	1476
		P		0	0	14	1356	14	1356	6	597	48	1427	54	1335	6	597	62	1410	68	1339
5	Maharashtra	C	Kh.	10	1294	19	1367	29	1342	0	0	12	879	12	879	10	1294	31	1178	41	1206
		S		0	0	9	1631	9	1631	0	0	9	2061	9	2061	0	0	18	1846	18	1846
		P		10	1294	28	1452	38	1410	0	0	21	1386	21	1386	10	1294	49	1423	59	1401
6	Rajasthan	C	Kh.	14	2232	3	1790	17	2154	16	2772	3	1678	19	2599	30	2520	6	1734	36	2389
		S		10	2416	2	898	12	2163	17	1770	7	1808	24	1781	27	2009	9	1606	36	1908
		P		24	2309	5	1433	29	2158	33	2256	10	1769	43	2143	57	2278	15	1657	72	2149

ANNEX- XV (Contd....)																					
Sl. No.	State	A G E N C Y	S E A S O N	High Yield Varieties						Other Varieties						Both HYV & Other varieties					
				Irrigated		Unirrigated		Total		Irrigated		Unirrigated		Total		Irrigated		Unirrigated		Total	
				No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
7	Tamil Nadu	C	**	6	2787	39	2376	45	2431	0	0	4	3047	4	3047	6	2787	43	2438	49	2481
		S		4	2486	40	2545	44	2540	0	0	2	2308	2	2308	4	2486	42	2534	46	2530
		P		10	2667	79	2462	89	2485	0	0	6	2801	6	2801	10	2667	85	2485	95	2505
8	Telangana	C	Kh.	4	3399	29	1387	33	1631	0	0	5	1402	5	1402	4	3399	34	1389	38	1601
		S		6	1110	20	1480	26	1395	0	0	2	1078	2	1078	6	1110	22	1444	28	1372
		P		10	2026	49	1425	59	1527	0	0	7	1309	7	1309	10	2026	56	1411	66	1504
For States Coverd	C		116	2459	254	1308	370	1669	25	2294	61	1362	86	1633	141	2430	315	1319	456	1589	
	S		62	2373	250	1285	312	1501	36	2249	60	1434	96	1740	98	2327	310	1313	408	1557	
	P		178	2429	504	1296	682	1592	61	2267	121	1398	182	1689	239	2388	625	1316	864	1574	
SUGARCANE																					
1	Andhra Pradesh	C	Kh.	26	97830	1	56000	27	96281	24	85867	4	65700	28	82986	50	92088	5	63760	55	89513
		S		28	99904	0	0	28	99904	26	77729	4	63530	30	75836	54	89227	4	63530	58	87455
		P		54	98905	1	56000	55	98125	50	81635	8	64615	58	79288	104	90602	9	63658	113	88456
2	Assam	C	Kh.	0	0	2	35200	2	35200	0	0	22	30005	22	30005	0	0	24	30438	24	30438
		S		0	0	0	0	0	0	0	0	12	27711	12	27711	0	0	12	27711	12	27711
		P		0	0	2	35200	2	35200	0	0	34	29195	34	29195	0	0	36	29529	36	29529
3	Bihar	C	Kh.	0	0	4	33950	4	33950	8	55297	14	53466	22	54132	8	55297	18	49129	26	51027
		S		9	25093	1	25920	10	25176	8	49961	2	75410	10	55051	17	36796	3	58913	20	40114
		P		9	25093	5	32344	14	27683	16	52629	16	56209	32	54419	25	42716	21	50527	46	46282
4	Haryana	C	Kh.	39	77084	0	0	39	77084	3	69066	0	0	3	69066	42	76511	0	0	42	76511
		S		40	78480	2	99510	42	79481	0	0	0	0	0	0	40	78480	2	99510	42	79481
		P		79	77791	2	99510	81	78327	3	69066	0	0	3	69066	82	77471	2	99510	84	77996
5	Karnataka	C	Kh.	24	86383	0	0	24	86383	1	52960	0	0	1	52960	25	85046	0	0	25	85046
		S		34	92170	0	0	34	92170	0	0	0	0	0	0	34	92170	0	0	34	92170
		P		58	89775	0	0	58	89775	1	52960	0	0	1	52960	59	89151	0	0	59	89151
6	Maharashtra	C	Kh.	46	122060	0	0	46	122060	10	154594	0	0	10	154594	56	127870	0	0	56	127870
		S		14	72771	1	58800	15	71840	1	43200	1	65000	2	54100	15	70800	2	61900	17	69753
		P		60	110559	1	58800	61	109711	11	144467	1	65000	12	137845	71	115813	2	61900	73	114336
7	Punjab	C	Kh.	62	76337	0	0	62	76337	4	87900	0	0	4	87900	66	77038	0	0	66	77038
		S		54	79961	0	0	54	79961	0	0	0	0	0	0	54	79961	0	0	54	79961
		P		116	78024	0	0	116	78024	4	87900	0	0	4	87900	120	78353	0	0	120	78353
8	Rajasthan	C	Kh.	12	76979	2	141600	14	86211	17	56919	0	0	17	56919	29	65220	2	141600	31	70148
		S		10	94560	0	0	10	94560	18	71469	0	0	18	71469	28	79516	0	0	28	79516
		P		22	84970	2	141600	24	89690	35	64402	0	0	35	64402	57	72243	2	141600	59	74594
9	Tamil Nadu	C	**	37	110921	0	0	37	110921	0	0	0	0	0	0	37	110921	0	0	37	110921
		S		40	102615	0	0	40	102615	0	0	0	0	0	0	40	102615	0	0	40	102615
		P		77	106606	0	0	77	106606	0	0	0	0	0	0	77	106606	0	0	77	106606
10	Uttar Pradesh	C	Kh.	146	77197	0	0	146	77197	17	71870	0	0	17	71870	163	76642	0	0	163	76642
		S		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		P		146	77197	0	0	146	77197	17	71870	0	0	17	71870	163	76642	0	0	163	76642
11	Uttarakhand	C	Kh.	32	70431	0	0	32	70431	6	60000	0	0	6	60000	38	68784	0	0	38	68784
		S		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		P		32	70431	0	0	32	70431	6	60000	0	0	6	60000	38	68784	0	0	38	68784
For States Covered	C		424	86139	9	60600	433	85609	90	80114	40	41786	130	68321	514	85085	49	45242	563	81617	
	S		229	85952	4	70935	233	85694	53	70760	19	42235	72	63233	282	83077	23	47227	305	80374	
	P		653	86074	13	63780	666	85638	143	76647	59	41931	202	66507	796	84373	72	45876	868	81180	
WHEAT																					
1	Assam	C	Rabi	0	0	0	0	0	0	0	0	24	1289	24	1289	0	0	24	1289	24	1289
		S		0	0	4	1873	4	1873	0	0	4	1159	4	1159	0	0	8	1516	8	1516
		P		0	0	4	1873	4	1873	0	0	28	1270	28	1270	0	0	32	1346	32	1346
2	Bihar	C	Rabi	108	3030	9	2138	117	2961	52	2658	6	1653	58	2554	160	2909	15	1944	175	2826
		S		103	3051	3	2168	106	3026	21	2867	3	2726	24	2849	124	3020	6	2447	130	2994
		P		211	3040	12	2146	223	2992	73	2718	9	2011	82	2640	284	2957	21	2088	305	2898
3	Chhattisgarh	C	Rabi	20	1976	4	1111	24	1832	0	0	16	1172	16	1172	20	1976	20	1160	40	1568
		S		14	1796	12	1101	26	1475	0	0	4	2514	4	2514	14	1796	16	1454	30	1614
		P		34	1902	16	1104	50	1646	0	0	20	1440	20	1440	34	1902	36	1291	70	1588
4	Gujarat	C	Rabi	104	3059	8	712	112	2891	7	2641	4	202	11	1754	111	3033	12	542	123	2790
		S		18	2691	2	288	20	2451	10	2987	0	0	10	2987	28	2797	2	288	30	2630
		P		122	3005	10	627	132	2825	17	2845	4	202	21	2341	139	2985	14	506	153	2759
5	Haryana	C	Rabi	179	4960	0	0	179	4960	1	4976	0	0	1	4976	180	4960	0	0	180	4960
		S		122	5030	0	0	122	5030	0	0	0	0	0	0	122	5030	0	0	122	5030
		P		301	4988	0	0	301	4988	1	4976	0	0	1	4976	302	4988	0	0	302	4988
6	Himachal Pradesh	C	Rabi	11	2856	23	2729	34	2770	5	3112	56	1921	61	2019	16	2936	79	2156	95	2287
		S		6	2917	25	2044	31	2213	6	3101	55	1759	61	1891	12	3009	80	1848	92	1999
		P		17	2878	48	2372	65	2504	11	3106	111	1841	122	1955	28	2967	159	2001	187	2146
7	Jammu & Kashmir	C	Rabi	31	2644	50	2329	81	2450	4	2156	23	1825	27	1874	35	2588	73	2171	108	2306
		S		12	2316	20	2423	32	2383	0	0	4	929	4	929	12	2316	24	2174	36	2221
		P		43	2552	70	2356	113	2431	4	2156	27	1692	31	1752	47	2519				

ANNEX XV (Contd.)																							
Sl. No.	State	A G E N C Y	S E A S O N	High Yield Varieties						Other Varieties						Both HYV & Other varieties							
				Irrigated		Unirrigated		Total		Irrigated		Unirrigated		Total		Irrigated		Unirrigated		Total			
				No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22		
9	Karnataka	C	Rabi	15	1671	5	628	20	1410	4	1236	3	426	7	889	19	1579	8	552	27	1275		
				12	1487	24	1145	36	1259	0	0	2	671	2	671	12	1487	26	1109	38	1228		
				27	1589	29	1056	56	1313	4	1236	5	524	9	840	31	1543	34	978	65	1248		
10	Madhya Pradesh	C	Rabi	90	3055	4	1758	94	3000	61	2906	48	1519	109	2295	151	2995	52	1538	203	2622		
				92	3104	18	1933	110	2912	38	2572	47	1779	85	2134	130	2949	65	1822	195	2573		
				182	3080	22	1901	204	2953	99	2778	95	1648	194	2224	281	2974	117	1696	398	2598		
11	Maharashtra	C	Rabi	67	1600	0	0	67	1600	4	587	0	0	4	587	71	1543	0	0	71	1543		
				55	1628	5	352	60	1522	17	1295	6	4087	23	2023	72	1549	11	2389	83	1660		
				122	1613	5	352	127	1563	21	1160	6	4087	27	1811	143	1546	11	2389	154	1606		
12	Punjab	C	Rabi	212	5208	1	1630	213	5191	5	4531	1	1669	6	4054	217	5193	2	1650	219	5161		
				199	5293	1	1749	200	5275	1	6201	0	0	1	6201	200	5298	1	1749	201	5280		
				411	5249	2	1690	413	5232	6	4809	1	1669	7	4361	417	5243	3	1683	420	5218		
13	Rajasthan	C	Rabi	75	3777	0	0	75	3777	47	3284	1	2896	48	3276	122	3587	1	2896	123	3581		
				66	3675	0	0	66	3675	37	3600	0	0	37	3600	103	3648	0	0	103	3648		
				141	3729	0	0	141	3729	84	3423	1	2896	85	3417	225	3615	1	2896	226	3612		
14	Uttar Pradesh	C	Rabi	509	3693	4	1900	513	3679	40	3271	0	0	40	3271	549	3662	4	1900	553	3649		
				124	3968	0	0	124	3968	11	3589	2	3994	13	3651	135	3937	2	3994	137	3938		
				633	3747	4	1900	637	3735	51	3340	2	3994	53	3364	684	3716	6	2598	690	3707		
15	Uttarakhand	C	Rabi	29	3675	4	3955	33	3709	5	2942	22	1637	27	1879	34	3567	26	1994	60	2885		
				20	3521	1	2564	21	3475	10	2396	16	2396	26	2396	30	3146	17	2406	47	2878		
				49	3612	5	3677	54	3618	15	2578	38	1957	53	2132	64	3370	43	2157	107	2882		
16	West Bengal	C	Rabi	55	2737	1	1194	56	2709	0	0	0	0	0	0	55	2737	1	1194	56	2709		
				16	3140	0	0	16	3140	0	0	0	0	0	0	16	3140	0	0	16	3140		
				71	2828	1	1194	72	2805	0	0	0	0	0	0	71	2828	1	1194	72	2805		
For States Covered	C	Rabi	1513	3724	113	2168	1626	3616	255	2864	214	1573	469	2275	1768	3600	327	1779	2095	3316			
			859	3898	115	1702	974	3639	153	2833	143	1952	296	2407	1012	3737	258	1840	1270	3352			
			2372	3787	228	1933	2600	3624	408	2852	357	1725	765	2326	2780	3650	585	1806	3365	3329			
BARLEY																							
1	Haryana	C	Rabi	26	3816	0	0	26	3816	4	2275	0	0	4	2275	30	3611	0	0	30	3611		
				28	4096	2	4254	30	4107	0	0	0	0	0	0	28	4096	2	4254	30	4107		
				54	3961	2	4254	56	3972	4	2275	0	0	4	2275	58	3845	2	4254	60	3859		
2	Himachal Pradesh	C	Rabi	0	0	0	0	0	0	4	1456	20	1540	24	1526	4	1456	20	1540	24	1526		
				0	0	2	1580	2	1580	4	2375	22	1954	26	2019	4	2375	24	1923	28	1988		
				0	0	2	1580	2	1580	8	1916	42	1757	50	1782	8	1916	44	1749	52	1775		
3	Punjab	C	Rabi	26	4044	0	0	26	4044	4	3696	0	0	4	3696	30	3998	0	0	30	3998		
				26	4301	0	0	26	4301	0	0	0	0	0	0	26	4301	0	0	26	4301		
				52	4173	0	0	52	4173	4	3696	0	0	4	3696	56	4139	0	0	56	4139		
4	Rajasthan	C	Rabi	49	3515	0	0	49	3515	31	2830	0	0	31	2830	80	3250	0	0	80	3250		
				41	3801	0	0	41	3801	29	3672	0	0	29	3672	70	3748	0	0	70	3748		
				90	3645	0	0	90	3645	60	3237	0	0	60	3237	150	3482	0	0	150	3482		
For States Covered	C	Rabi	101	3729	0	0	101	3729	43	2731	20	1540	63	2353	144	3431	20	1540	164	3200			
			95	4025	4	0	99	3980	33	3515	22	1954	55	2890	128	3893	26	2102	154	3591			
			196	3872	4	0	200	3853	76	3071	42	1757	118	2603	272	3649	46	1858	318	3390			
GRAM																							
1	Andhra Pradesh	C	Rabi	10	996	47	780	57	818	0	0	0	0	0	0	10	996	47	780	57	818		
				0	0	50	432	50	432	0	0	0	0	0	0	0	0	50	432	50	432		
				10	996	97	601	107	638	0	0	0	0	0	0	10	996	97	601	107	638		
2	Bihar	C	Rabi	2	1169	2	994	4	1082	9	779	24	1173	33	1066	11	850	26	1159	37	1067		
				2	823	4	1235	6	1098	0	0	22	1068	22	1068	2	823	26	1094	28	1075		
				4	996	6	1155	10	1091	9	779	46	1123	55	1067	13	846	52	1127	65	1070		
3	Chhattisgarh	C	Rabi	8	822	0	0	8	822	18	887	14	844	32	868	26	867	14	844	40	859		
				8	984	18	1126	26	1082	2	229	10	847	12	744	10	833	28	1027	38	976		
				16	903	18	1126	34	1021	20	821	24	845	44	834	36	858	42	966	78	916		
4	Gujarat	C	Rabi	21	1322	3	1294	24	1319	0	0	4	556	4	556	21	1322	7	872	28	1210		
				0	0	0	0	0	0	2	1548	0	0	2	1548	2	1548	0	0	2	1548		
				21	1322	3	1294	24	1319	2	1548	4	556	6	887	23	1342	7	872	30	1232		
5	Haryana	C	Rabi	26	1286	14	1157	40	1241	14	1227	16	1308	30	1270	40	1265	30	1238	70	1253		
				32	1493	21	1319	53	1424	2	1080	7	1549	9	1445	34	1469	28	1376	62	1427		
				58	1400	35	1254	93	1345	16	1209	23	1381	39	1310	74	1359	58	1305	132	1335		
6	Jharkhand	C	Rabi	0	0	0	0	0	0	8	1026	10	770	18	884	8	1026	10	770	18	884		
				0	0	0	0	0	0	0	0	8	521	8	521	0	0	8	521	8	521		
				0	0	0	0	0	0	8	1026	18	659	26	772	8	1026	18	659	26	772		
7	Karnataka	C	Rabi	0	0	13	696	13	696	4	854	9	624	13	695	4	854	22	667	26	696		
				2	894	20	484	22	521	2	662	10	332	12	387	4	778	30	433	34	474		
				2	894	33	568	35	586	6	790	19	470	25	547	8	816	52	532	60	570		
8	Madhya Pradesh	C	Rabi	14	1604	0	0	14	1604	42	1312	56	1039	98	1156	56	1385	56	1039	112	1212		
				22	1368	4	355	26	1212	36	1219	38	955	74	1083	58	1276	42	897	100	1117		
				36	1460	4	355	40	1349	78	1269	94	1005	172	1125	114	1330	98	978	212	1167		
9	Maharashtra	C	Rabi	32	861	19	560	51	749	5	1479	8	859	13	1097	37	944	27	649	64	820		
				24	1099	5	741	29	1037	10	966	10	388	20	677	34	1060	15	506	49	890		
				56	963	24	598	80	853	15	1137	18	597	33	843	71	1000	42	598	113	855		

Sl. No.	State	A G E N C Y	S E A S O N	High Yield Varieties						Other Varieties						Both HYV & Other varieties					
				Irrigated		Unirrigated		Total		Irrigated		Unirrigated		Total		Irrigated		Unirrigated		Total	
				No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha	No. Of Exp.	Yield Rate Kg/ha
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
10	Punjab	C	Rabi	23	1523	5	2337	28	1668	1	1885	1	1410	2	1648	24	1538	6	2182	30	1667
		S		6	1331	0	0	6	1331	0	0	0	0	0	0	6	1331	0	0	6	1331
		P		29	1483	5	2337	34	1609	1	1885	1	1410	2	1648	30	1497	6	2182	36	1611
11	Raja- sthan	C	Rabi	26	1294	7	972	33	1226	33	1399	34	958	67	1175	59	1353	41	961	100	1192
		S		22	1384	7	899	29	1267	39	1587	23	677	62	1249	61	1514	30	729	91	1255
		P		48	1335	14	936	62	1245	72	1501	57	845	129	1211	120	1435	71	863	191	1222
12	Uttar Pradesh	C	Rabi	6	1627	3	1298	9	1517	15	1010	24	1256	39	1161	21	1187	27	1261	48	1229
		S		4	968	2	1503	6	1146	2	1240	10	1980	12	1857	6	1059	12	1901	18	1620
		P		10	1363	5	1380	15	1369	17	1037	34	1469	51	1325	27	1159	39	1458	66	1335
For States Covered		C	Rabi	168	1241	113	892	281	1101	149	1191	200	1028	349	1098	317	1218	313	979	630	1099
		S		122	1294	131	753	253	1014	95	1315	138	912	233	1076	217	1304	269	834	486	1044
		P		290	1263	244	817	534	1060	244	1239	338	981	582	1089	534	1253	582	912	1116	1075
RAPE & MUSTARD																					
1	Assam	C	Rabi	0	0	0	0	0	0	2	868	46	688	48	696	2	868	46	688	48	696
		S		0	0	0	0	0	0	4	643	32	724	36	715	4	643	32	724	36	715
		P		0	0	0	0	0	0	6	718	78	703	84	704	6	718	78	703	84	704
2	Bihar	C	Rabi	8	1128	0	0	8	1128	18	1341	6	831	24	1214	26	1275	6	831	32	1192
		S		9	1269	0	0	9	1269	17	1249	4	856	21	1174	26	1256	4	856	30	1203
		P		17	1203	0	0	17	1203	35	1296	10	841	45	1195	52	1266	10	841	62	1197
3	Chattis- garh	C	Rabi	0	0	0	0	0	0	3	148	23	322	26	302	3	148	23	322	26	302
		S		0	0	0	0	0	0	0	0	23	304	23	304	0	0	23	304	23	304
		P		0	0	0	0	0	0	3	148	46	313	49	303	3	148	46	313	49	303
4	Gujarat	C	Rabi	39	1669	0	0	39	1669	4	1910	0	0	4	1910	43	1691	0	0	43	1691
		S		6	1660	0	0	6	1660	2	1850	0	0	2	1850	8	1707	0	0	8	1707
		P		45	1668	0	0	45	1668	6	1890	0	0	6	1890	51	1694	0	0	51	1694
5	Haryana	C	Rabi	91	1808	5	1422	96	1788	4	1660	0	0	4	1660	95	1802	5	1422	100	1783
		S		81	1939	2	1097	83	1919	1	2354	0	0	1	2354	82	1944	2	1097	84	1924
		P		172	1870	7	1329	179	1849	5	1799	0	0	5	1799	177	1868	7	1329	184	1847
6	Jhar- khand	C	Rabi	4	1103	0	0	4	1103	9	471	7	614	16	534	13	665	7	614	20	647
		S		0	0	1	1461	1	1461	0	0	9	1457	9	1457	0	0	10	1457	10	1457
		P		4	1103	1	1461	5	1175	9	471	16	1088	25	866	13	665	17	1110	30	917
7	Madhya Pradesh	C	Rabi	9	1379	0	0	9	1379	13	1545	16	641	29	1046	22	1477	16	641	38	1125
		S		6	973	0	0	6	973	4	894	16	457	20	544	10	584	16	457	26	506
		P		15	1217	0	0	15	1217	17	1392	32	549	49	841	32	1198	32	549	64	873
8	Punjab	C	Rabi	34	1735	2	1443	36	1719	4	884	0	0	4	884	38	1646	2	1443	40	1636
		S		32	1704	0	0	32	1704	1	1354	2	377	3	703	33	1693	2	377	35	1618
		P		66	1720	2	1443	68	1712	5	978	2	377	7	806	71	1668	4	910	75	1627
9	Raja- sthan	C	Rabi	56	1630	5	2231	61	1679	21	863	4	623	25	825	77	1421	9	1516	86	1431
		S		40	1561	3	2271	43	1611	21	1394	3	780	24	1317	61	1503	6	1526	67	1505
		P		96	1601	8	2246	104	1651	42	1129	7	690	49	1066	138	1457	15	1520	153	1463
10	Uttar Pradesh	C	Rabi	64	1580	1	1148	65	1573	28	1174	0	0	28	1174	92	1457	1	1148	93	1454
		S		21	1927	0	0	21	1927	2	1010	2	883	4	946	23	1847	2	883	25	1770
		P		85	1666	1	1148	86	1660	30	1163	2	883	32	1146	115	1535	3	971	118	1521
11	West Bengal	C	Rabi	73	1354	14	1017	87	1300	12	744	7	1341	19	964	85	1268	21	1125	106	1240
		S		28	1266	10	1164	38	1239	0	0	0	0	0	0	28	1266	10	1164	38	1239
		P		101	1330	24	1078	125	1281	12	744	7	1341	19	964	113	1268	31	1138	144	1240
For States Covered		C		378	355	27	958	405	395	118	76	109	86	227	81	496	289	136	259	632	1331
		S		223	2716	16	2284	239	2687	52	2469	91	774	143	1391	275	2670	107	1000	382	1363
		P		601	1635	43	1364	644	1617	170	1144	200	647	370	875	771	1522	243	774	1014	1343

Note :-

** = In the light of introduction of concept of Kharif and Rabi seasons in the Tamil Nadu state from Agricultural year 2017-18 and consequent, categorization of crops, the data have been presented seasonwise instead of whole year.

**ESTIMATES OF YIELD RATE ACCORDING TO USE OF
FERTILISERS, MANURES AND UNMANURED UNDER ICS DURING 2018-19**

Sl. No.	State	S E A S O N	A G E N C Y	Treated with						Not treated with Manure or Fertiliser		Pooled	
				Fertilisers only		Manures only		Both Fert. & Manures		No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac
				No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
PADDY													
1	Andhra Pradesh	Kharif	C	76	3472	1	2576	79	3122	2	614	158	3255
			S	66	3578	0	0	74	2782	2	2036	142	3141
			P	142	3521	1	2576	153	2958	4	1325	300	3201
		Summer	C	40	3699	1	3752	42	3613	1	0	84	3613
			S	30	4348	0	0	32	4095	0	0	62	4217
			P	70	3977	1	3752	74	3821	1	0	146	3869
2	Assam	Early Kharif	C	5	1049	14	1929	4	1932	22	1596	45	1669
			S	12	2079	6	672	4	1338	28	1665	50	1619
			P	17	1776	20	1552	8	1635	50	1635	95	1643
		Late Kharif	C	32	2231	12	2989	14	2438	55	2065	113	2256
			S	34	2259	9	2159	5	2075	50	2333	98	2278
			P	66	2245	21	2633	19	2342	105	2193	211	2266
		Summer	C	18	2946	7	3057	8	2907	3	3727	36	3024
			S	25	3778	0	0	9	2755	0	0	34	3507
			P	43	3430	7	3057	17	2827	3	3727	70	3259
3	Bihar	Bhadai	C	14	1397	3	1943	6	2268	0	0	23	1695
			S	10	1808	0	0	8	1569	0	0	18	1702
			P	24	1568	3	1943	14	1869	0	0	41	1698
		Aghani	C	155	1989	10	1128	20	2402	0	0	185	1987
			S	126	2014	0	0	16	1812	5	1473	147	1974
			P	281	2000	10	2600	36	2140	5	1473	332	1981
		Summer	C	26	2476	0	0	0	0	0	0	26	2476
			S	3	1708	0	0	5	2552	0	0	8	2236
			P	29	2397	0	0	5	2552	0	0	34	2419
4	Chhattisgarh	Kharif	C	53	2087	10	1445	14	2279	1	852	78	2023
			S	55	1873	0	0	12	2166	8	1114	75	1839
			P	108	1978	10	1445	26	2227	9	1085	153	1933
5	Gujarat	Kharif	C	34	1831	1	3049	32	1930	3	373	70	1831
			S	20	2101	0	0	8	1791	0	0	28	2012
			P	54	1931	1	3049	40	1902	3	373	98	1883
6	Haryana	Kharif	C	88	2965	0	0	2	2610	0	0	90	2957
			S	45	3083	0	0	2	4702	2	4313	49	3199
			P	133	3005	0	0	4	3656	2	4313	139	3042
7	Himachal Pradesh	Kharif	C	6	2976	9	1640	39	2089	0	0	54	2113
			S	2	2796	10	921	30	1978	2	2450	44	1796
			P	8	2931	19	1262	69	2041	2	2450	98	1971
8	Jammu & Kashmir	Kharif	C	7	1615	8	2303	53	2239	0	0	68	2182
			S	6	1905	0	0	12	2360	0	0	18	2208
			P	13	1749	8	2303	65	2261	0	0	86	2188
9	Jharkhand	Bhadai	C	6	920	9	765	5	873	0	0	20	839
			S	0	0	0	0	0	0	8	984	8	984
			P	6	920	9	765	5	873	8	984	28	880
		Aghani	C	25	1201	17	978	37	1032	0	0	79	1074
			S	14	950	0	0	4	1298	0	0	18	1027
			P	39	1111	17	978	41	1058	0	0	97	1065

ANNEX XVI (Contd.....)

Sl. No.	State	S E A S O N	A G E C Y	Treated with						Not treated with Manure or Fertiliser		Pooled	
				Fertilisers only		Manures only		Both Fert. & Manures					
				No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac
1	2	3	4	5	6	7	8	9	10	11	12	13	14
10	Karnataka	Kharif	C	14	2099	6	2502	70	2603	3	3885	93	2562
			S	21	1997	6	2843	87	2710	14	2482	128	2574
			P	35	2038	12	2673	157	2662	17	2730	221	2569
		Summer	C	3	3224	5	2695	14	3688	0	0	22	3399
			S	10	3260	1	3001	12	2575	7	3288	30	2984
			P	13	3252	6	2746	26	3174	7	3288	52	3160
11	Kerala	Autumn	C	30	1728	21	1024	37	2011	7	1513	95	1667
			S	22	1656	19	1744	40	2025	8	1837	89	1857
			P	52	1698	40	1366	77	2018	15	1686	184	1759
		Winter	C	31	3164	18	1071	50	2817	1	449	100	2587
			S	39	2853	12	1149	45	2479	4	515	100	2387
			P	70	2991	30	1102	95	2657	5	502	200	2487
		Summer	C	30	2545	9	1343	54	2723	5	1404	98	2474
			S	29	3116	5	1950	62	2639	3	1339	99	2705
			P	59	2826	14	1560	116	2678	8	1380	197	2590
12	Madhya Pradesh	Kharif	C	53	1977	5	719	25	1799	10	898	93	1745
			S	50	1819	9	2179	8	2736	9	1170	76	1881
			P	103	1900	14	1658	33	2026	19	1027	169	1807
13	Maharashtra	Kharif	C	35	1716	0	0	12	2799	0	0	47	1993
			S	5	905	0	0	2	1421	0	0	7	1052
			P	40	1615	0	0	14	2602	0	0	54	1871
14	Odisha	Autumn	C	14	1725	2	2430	31	1938	3	1075	50	1846
			S	31	1265	15	2154	103	1309	10	1323	159	1381
			P	45	1408	17	2186	134	1454	13	1266	209	1492
		Winter	C	42	2158	1	259	118	2038	3	841	164	2036
			S	30	1688	8	1613	100	2025	10	1795	148	1919
			P	72	1962	9	1463	218	2032	13	1575	312	1980
		Summer	C	89	3085	7	4582	38	2672	4	1370	138	2998
			S	73	3118	0	0	61	77253	2	1183	136	36341
			P	162	3100	7	4582	99	48626	6	1308	274	19548
15	Punjab	Kharif	C	167	4586	0	0	18	4270	1	3122	186	4548
			S	134	4363	2	5210	6	4468	11	4035	153	4355
			P	301	4487	2	5210	24	4320	12	3959	339	4460
16	Tamil Nadu	Phase-I	C	4	2712	0	0	32	2924	0	0	36	2900
			S	8	2603	0	0	28	2571	0	0	36	2578
			P	12	2639	0	0	60	2759	0	0	72	2739
		Phase-II	C	12	3599	0	0	26	4166	0	0	38	3987
			S	4	3980	0	0	36	3807	0	0	40	3824
			P	16	3694	0	0	62	3958	0	0	78	3904
		Phase-III	C	14	4277	7	0	53	4534	2	0	76	3950
			S	13	1780	1	2065	61	3987	1	0	76	3532
			P	27	3075	8	258	114	4241	3	0	152	3741

ANNEX XVI (Contd.....)

Sl. No.	State	S E A S O N	A G E N C Y	Treated with						Not treated with Manure or Fertiliser		Pooled	
				Fertilisers only		Manures only		Both Fert. & Manures					
				No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac
1	2	3	4	5	6	7	8	9	10	11	12	13	14
17	Telangana	Kharif	C	45	3010	0	0	16	3444	0	0	61	3124
			S	48	2958	0	0	17	3811	0	0	65	3181
			P	93	2983	0	0	33	3633	0	0	126	3153
		Rabi	C	70	3584	0	0	17	4398	0	0	87	3743
			S	56	3692	0	0	18	3776	0	0	74	3712
			P	126	3632	0	0	35	4078	0	0	161	3729
18	Uttar Pradesh	Kharif	C	509	2563	1	4785	94	3043	0	0	604	2641
			S	167	2694	0	0	2	2477	3	875	172	2660
			P	676	2595	1	4785	96	3031	3	875	776	2645
19	Uttarakhand	Kharif	C	16	3958	16	1332	7	3142	2	103	41	2606
			S	22	2542	16	960	6	3535	0	0	44	2102
			P	38	3138	32	1146	13	3323	2	103	85	2345
20	West Bengal	Aus	C	70	2724	4	1809	23	2861	2	1589	99	2696
			S	3	3335	0	0	1	315	0	0	4	2580
			P	73	2749	4	1809	24	2755	2	1589	103	2691
		Aman	C	100	2951	2	2066	51	3118	4	2844	157	2991
			S	15	3080	0	0	12	2710	0	0	27	2915
			P	115	2968	2	2066	63	3040	4	2844	184	2980
		Summer	C	77	3220	0	0	40	3140	1	2693	118	3188
			S	54	3242	0	0	18	3367	4	2663	76	3241
			P	131	3229	0	0	58	3210	5	2669	194	3209
21	Puducherry	Kharif	C	3	2193	0	0	7	3628	0	0	10	3198
			S	6	2316	0	0	4	3036	0	0	10	2604
			P	9	2275	0	0	11	3413	0	0	20	2901
		Rabi-I	C	6	2015	0	0	4	2685	0	0	10	2283
			S	10	3043	0	0	0	0	0	0	10	3043
			P	16	2658	0	0	4	2685	0	0	20	2663
		Rabi-II	C	4	2880	0	0	6	2950	0	0	10	2922
			S	10	3464	0	0	0	0	0	0	10	3464
			P	14	3297	0	0	6	2950	0	0	20	3193
For states covered			C	2023	2793	206	1658	1198	2759	135	1730	3562	2675
			S	1308	2820	119	1698	950	7384	191	2017	2568	4397
			P	3331	2803	325	1673	2148	4804	326	1898	6130	3397
JOWAR													
1	Karnataka	Kharif	C	8	502	3	1272	11	1137	4	2855	26	1222
			S	12	1524	1	1858	14	1843	13	2138	40	1844
			P	20	1115	4	1419	25	1532	17	2307	66	1599
		Rabi	C	16	949	7	1217	12	935	21	1073	56	1026
			S	11	1334	5	406	9	478	31	1249	56	1067
			P	27	1106	12	879	21	739	52	1178	112	1046
2	Madhya Pradesh	Kharif	C	34	1386	17	1530	10	1594	19	1560	80	1484
			S	22	768	3	1775	0	0	43	1276	68	1134
			P	56	1143	20	1567	10	1594	62	1363	148	1323
3	Maha-rashtra	Kharif	C	23	941	2	0	12	636	2	271	39	765
			S	9	729	0	0	2	2317	0	0	11	1018
			P	32	881	2	0	14	876	2	271	50	820
		Rabi	C	20	1186	0	0	0	0	56	4770	76	3827
			S	5	1113	0	0	1	1200	54	3234	60	3023
			P	25	1171	0	0	1	1200	110	4016	136	3472

ANNEX XVI (Contd.....)

Sl. No.	State	S E A S O N	A G E N C Y	Treated with						Not treated with Manure or Fertiliser		Pooled			
				Fertilisers only		Manures only		Both Fert. & Manures		No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac
				No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac						
1	2	3	4	5	6	7	8	9	10	11	12	13	14		
4	Rajasthan	Kharif	C	26	738	11	548	10	637	13	403	60	614		
			S	26	687	0	0	0	0	20	506	46	608		
			P	52	713	11	548	10	637	33	465	106	611		
5	Tamil Nadu	@	C	5	2124	10	1274	9	2375	6	1110	30	1713		
			S	0	0	15	848	10	540	4	943	29	755		
			P	5	2124	25	1018	19	1409	10	1043	59	1242		
6	Telangana	Kharif	C	23	676	0	0	3	899	9	1045	35	790		
			S	24	851	0	0	6	969	7	753	37	852		
			P	47	765	0	0	9	946	16	917	72	822		
		Rabi	C	38	1174	0	0	2	1754	0	0	40	1203		
			S	14	1516	0	0	6	1331	8	878	28	1294		
			P	52	1266	0	0	8	1437	8	878	68	1241		
7	Uttar Pradesh	Kharif	C	6	513	2	1038	0	0	24	578	32	595		
			S	0	0	0	0	0	0	12	1019	12	1019		
			P	6	513	2	1038	0	0	36	725	44	710		
For states covered			C	199	10189	52	6879	69	9967	154	13665	474	13237		
			S	123	8522	24	4887	48	8678	192	11996	387	12613		
			P	322	10798	76	6469	117	10370	346	13163	861	12886		
BAJRA															
1	Andhra Pradesh	Kharif	C	14	1435	9	1718	9	1753	6	694	38	1460		
			S	17	1566	10	1268	10	1697	3	447	40	1440		
			P	31	1507	19	1481	19	1724	9	612	78	1450		
2	Gujarat	Kharif	C	39	1641	7	333	49	2018	6	382	101	1658		
			S	23	2502	1	2292	16	2199	7	1029	47	2175		
			P	62	1960	8	578	65	2063	13	730	148	1822		
3	Haryana	Kharif	C	96	1905	1	3097	1	2446	6	2156	104	1936		
			S	43	1726	0	0	0	0	12	1867	55	1757		
			P	139	1850	1	3097	1	2446	18	1963	159	1874		
4	Karnataka	Kharif	C	7	944	8	919	0	0	7	491	22	791		
			S	17	1085	0	0	1	1380	24	895	42	983		
			P	24	1044	8	919	1	1380	31	804	64	917		
5	Mahara-shtra	Kharif	C	26	446	3	224	3	470	4	103	36	391		
			S	2	878	2	847	2	694	0	0	6	806		
			P	28	477	5	473	5	559	4	103	42	451		
6	Rajasthan	Kharif	C	21	1816	1	1363	2	1397	32	839	56	1235		
			S	22	944	8	592	2	681	22	658	54	766		
			P	43	1370	9	678	4	1039	54	765	110	1004		
7	Tamil Nadu	@	C	1	6635	16	4279	11	4826	8	4964	36	4664		
			S	7	2780	8	2424	14	4143	4	4248	33	3450		
			P	8	3262	24	3661	25	4444	12	4725	69	4083		
8	Uttar Pradesh	Kharif	C	122	2261	2	3669	11	2373	2	1576	137	2281		
			S	38	2298	0	0	2	4049	3	115	43	2227		
			P	160	2270	2	3669	13	2631	5	699	180	2268		
For states covered			C	326	1858	47	2257	86	2331	71	1309	530	1897		
			S	169	1811	29	1407	47	2604	75	1123	320	1730		
			P	495	1842	76	1933	133	2428	146	1214	850	1834		
MAIZE															
1	Bihar	Kharif	C	10	4363	2	2705	2	3043	1	1301	15	3762		
			S	10	1581	0	0	6	1478	0	0	16	1542		
			P	20	2972	2	4200	8	1869	1	1301	31	2616		

ANNEX XVI (Contd.....)

ANNEX XVI (Contd.....)													
Sl. No.	State	S E A S O N	A G E N C Y	Treated with						Not treated with Manure or Fertiliser		Pooled	
				Fertilisers only		Manures only		Both Fert. & Manures		No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac
				No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
2	Chhattisgarh	Kharif	C	9	3875	10	2219	2	6745	19	2319	40	2865
			S	7	4718	10	2579	1	8809	18	2300	36	3028
			P	16	4244	20	2399	3	7433	37	2310	76	2943
3	Gujarat	Kharif	C	8	1384	0	0	24	2082	0	0	32	1908
			S	3	2186	0	0	1	3058	0	0	4	2404
			P	11	1603	0	0	25	2121	0	0	36	1963
4	Haryana	Kharif	C	6	5344	0	0	14	3503	0	0	20	4055
			S	3	750	0	0	7	2943	2	3664	12	2515
			P	9	3813	0	0	21	3316	2	3664	32	3478
5	Himachal Pradesh	Kharif	C	0	0	28	3008	54	3041	0	0	82	3030
			S	4	3929	22	2622	33	3668	8	4843	67	3480
			P	4	3929	50	2838	87	3279	8	4843	149	3232
6	Jammu & Kashmir	Kharif	C	4	3331	26	1617	50	2416	6	1710	86	2168
			S	5	2997	0	0	18	1467	0	0	23	1800
			P	9	3145	26	1617	68	2165	6	1710	109	2090
7	Jharkhand	Kharif	C	4	2157	6	983	8	1523	1	761	19	1446
			S	0	0	0	0	0	0	4	260	4	260
			P	4	2157	6	983	8	1523	5	360	23	1240
8	Karnataka	Kharif	C	8	4302	0	0	18	2572	8	3465	34	3189
			S	8	3977	2	8772	27	1932	13	3368	50	2906
			P	16	4140	2	8772	45	2188	21	3405	84	3021
9	Madhya Pradesh	Kharif	C	27	3233	14	1554	20	2062	16	1746	77	2315
			S	21	3026	9	1270	12	2846	16	1153	58	2200
			P	48	3142	23	1443	32	2356	32	1450	135	2265
10	Odisha	Kharif	C	12	2765	12	1798	7	2198	9	1362	40	2060
			S	8	2192	12	1246	12	1977	8	1985	40	1802
			P	20	2536	24	1522	19	2058	17	1655	80	1931
11	Punjab	Kharif	C	35	3904	2	9246	11	3896	0	0	48	4125
			S	31	4004	0	0	0	0	8	3106	39	3820
			P	66	3951	2	9246	11	3896	8	3106	87	3988
12	Rajasthan	Kharif	C	18	1862	5	1560	21	2626	2	1532	46	2164
			S	30	2483	8	982	4	2007	2	674	44	2085
			P	48	2250	13	1204	25	2527	4	1103	90	2125
13	Tamil Nadu	@	C	3	11650	5	7699	27	8526	2	3691	37	8406
			S	4	6572	2	3494	22	7099	0	0	28	6766
			P	7	8748	7	6498	49	7885	2	3691	65	7700
14	Telangana	Kharif	C	26	4447	2	1920	12	5251	0	0	40	4562
			S	22	4215	0	0	13	4471	2	2050	37	4188
			P	48	4341	2	1920	25	4845	2	2050	77	4382
15	Uttar Pradesh	Kharif	C	113	2026	0	0	12	1877	4	824	129	1975
			S	50	2504	0	0	4	2637	2	0	56	2424
			P	163	2173	0	0	16	2067	6	549	185	2111
For states covered			C	283	2997	112	2426	282	3307	68	2030	745	2940
			S	206	3127	65	2188	160	3323	83	2372	514	2947
			P	489	3052	177	2339	442	3313	151	2218	1259	2943
RAGI													
1	Karnataka	Kharif	C	5	1290	3	1386	22	1553	0	0	30	1492
			S	4	670	3	458	20	1131	5	770	32	954
			P	9	1014	6	922	42	1352	5	770	62	916
2	Tamil Nadu	@	C	4	1670	2	3290	29	3541	3	2074	38	3215
			S	18	4541	8	2356	12	2087	2	275	40	3155
			P	22	4019	10	2543	41	3115	5	1354	78	3184

ANNEX XVI (Contd.....)

Sl. No.	State	S E A S O N	A G E N C Y	Treated with						Not treated with Manure or Fertiliser		Pooled	
				Fertilisers only		Manures only		Both Fert. & Manures		No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac
				No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
3	Uttarakhand	Kharif	C	0	0	36	1281	0	0	0	0	36	1281
			S	0	0	26	919	0	0	8	911	34	917
			P	0	0	62	1129	0	0	8		70	1104
For states covered			C	9	1459	41	1387	51	2683	3	0	104	1947
			S	22	3837	37	1192	32	1490	15	779	106	1698
			P	31	3147	78	1294	83	2223	18	995	210	1821
GROUNDNUT													
1	Andhra	Kharif	C	26	527	16	1176	59	690	6	718	107	725
	Pradesh		S	26	962	14	937	58	669	11	861	109	793
			P	52	745	30	1064	117	680	17	811	216	759
2	Gujarat	Kharif	C	62	1574	2	470	72	1501	4	1	140	1476
			S	33	1135	1	3123	22	38967	0	0	56	16033
			P	95	1422	3	1354	94	10270	4	1	196	5635
3	Karnataka	Kharif	C	16	773	4	714	14	664	4	683	38	717
			S	11	905	4	794	18	634	29	679	62	713
			P	27	827	8	754	32	647	33	679	100	715
4	Madhya Pradesh	Kharif	C	20	1457	4	1869	4	1127	8	1708	36	1522
			S	10	1174	8	1441	6	1455	4	1732	28	1390
			P	30	1362	12	1584	10	1324	12	1716	64	1464
5	Maharashtra	Kharif	C	27	1376	1	679	8	954	5	801	41	1207
			S	6	503	0	0	8	906	4	574	18	698
			P	33	1217	1	679	16	930	9	700	59	1051
6	Rajasthan	Kharif	C	18	1632	0	0	6	1652	4	1367	28	1598
			S	21	1979	0	0	9	1462	6	2274	36	1899
			P	39	1819	0	0	15	1538	10	1911	64	1767
7	Tamil Nadu	Kharif	C	5	2332	16	2440	2	3152	7	1981	30	2362
			S	1	1866	6	1351	18	2181	7	1894	32	1953
			P	6	2254	22	2143	20	2278	14	1937	62	2151
8	Telangana	Kharif	C	15	2755	2	3561	16	2707	0	0	33	2781
			S	21	2312	0	0	6	1668	1	2803	28	2192
			P	36	2497	2	3561	22	2424	1	2803	61	2510
For States Covered			C	189	1441	45	1710	181	1269	38	1159	453	1375
			S	129	1389	33	1183	145	6799	62	1098	369	3448
			P	318	1420	78	1487	326	3729	100	1121	822	2306
SUGARCANE													
1	Andhra Pradesh	Kharif	C	24	91721	0	0	30	90456	1	8200	55	89512
			S	26	79773	1	150200	31	91875	0	0	58	87456
			P	50	85508	1	150200	61	91177	1	8200	113	88457
2	Assam	Kharif	C	2	35200	7	33019	6	27167	9	29552	24	30438
			S	0	0	0	0	0	0	12	27711	12	27711
			P	2	35200	7	33019	6	27167	21	28500	36	29529
3	Bihar	Kharif	C	15	53397	0	0	11	47795	0	0	26	51027
			S	16	37646	0	0	2	24560	2	75410	20	40113
			P	31	45267	0	0	13	44220	2	75410	46	46282

ANNEX XVI (Contd.....)

Sl. No.	State	S E A S O N	A G E N C Y	Treated with						Not treated with Manure or Fertiliser		Pooled	
				Fertilisers only		Manures only		Both Fert. & Manures		No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac
				No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
4	Haryana	Kharif	C	32	66852	0	0	18	78348	0	0	50	70991
			S	21	68190	0	0	4	65175	0	0	25	67707
			P	53	67382	0	0	22	75953	0	0	75	69896
5	Karnataka	Kharif	C	7	69011	1	79300	14	98158	3	63200	25	85048
			S	4	44126	0	0	18	98254	12	99059	34	92170
			P	11	59962	1	79300	32	98212	15	91887	59	89152
6	Mahara-shtra	Kharif	C	12	92171	0	0	21	73192	0	0	33	80093
			S	13	70208	0	0	1	156000	0	0	14	76336
			P	25	80750	0	0	22	76956	0	0	47	78974
7	Punjab	Kharif	C	56	77198	2	64620	8	79020	1	54000	67	76694
			S	54	79961	0	0	0	0	0	0	54	79961
			P	110	78554	2	64620	8	79020	1	54000	121	78152
8	Rajasthan	Kharif	C	15	89856	6	54991	8	55600	2	26000	31	70148
			S	22	77164	0	0	4	118600	2	30020	28	79716
			P	37	82309	6	54991	12	76600	4	28010	59	74689
9	Tamil Nadu	Kharif	C	9	125756	2	135000	20	121675	0	0	31	123719
			S	6	103400	0	0	17	110359	0	0	23	108544
			P	15	116814	2	135000	37	116476	0	0	54	117256
10	Uttar Pradesh	Kharif	C	132	74855	0	0	31	84252	0	0	163	76642
			S	0	0	0	0	0	0	0	0	0	0
			P	132	74855	0	0	31	84252	0	0	163	76642
11	Uttarakhand	Kharif	C	32	70394	0	0	6	60200	0	0	38	68784
			S	0	0	0	0	0	0	0	0	0	0
			P	32	70394	0	0	6	60200	0	0	38	68784
For States covered			C	336	76599	18	57757	246	57757	16	35611	543	76527
			S	162	73046	1	150200	49	150200	28	61861	268	78914
			P	498	75443	19	62622	346	62622	44	52315	811	77316
WHEAT													
1	Assam	Rabi	C	12	1065	6	1181	4	2292	2	946	24	1289
			S	0	0	0	0	4	1159	4	1873	8	1516
			P	12	1065	6	1181	8	1726	6	1564	32	1345
2	Bihar	Rabi	C	145	2837	8	1746	20	3169	2	2969	175	2827
			S	116	2972	2	3879	10	3213	2	2252	130	2993
			P	261	2897	10	2173	30	3184	4	2611	305	2898
3	Chattisgarh	Rabi	C	36	1654	0	0	0	0	4	793	40	1568
			S	24	1486	2	2290	3	2344	1	1154	30	1614
			P	60	1587	2	2290	3	2344	5	865	70	1588
4	Gujarat	Rabi	C	80	2898	1	2608	37	2676	5	1936	123	2790
			S	18	2586	2	288	10	3177	0	0	30	2630
			P	98	2841	3	1061	47	2783	5	1936	153	2758
5	Haryana	Rabi	C	174	4978	0	0	6	4458	0	0	180	4961
			S	120	5030	0	0	2	5045	0	0	122	5030
			P	294	4999	0	0	8	4605	0	0	302	4989

ANNEX XVI (Contd.....)

Sl. No.	State	S E A S O N	A G E N C Y	Treated with						Not treated with Manure or Fertiliser		Pooled	
				Fertilisers only		Manures only		Both Fert. & Manures		No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac
				No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
6	Himachal Pradesh	Rabi	C	3	3191	29	1963	62	2386	1	2874	95	2287
			S	2	2575	32	1995	56	2019	2	954	92	2000
			P	5	2945	61	1980	118	2212	3	1594	187	2146
7	Jammu & Kashmir	Rabi	C	21	2105	8	2037	79	2387	0	0	108	2306
			S	17	2291	5	1441	13	2522	1	1023	36	2221
			P	38	2188	13	1808	92	2406	1	1023	144	2285
8	Jharkhand	Rabi	C	26	1551	0	0	12	2125	0	0	38	1732
			S	2	1057	0	0	0	0	0	0	2	1057
			P	28	1516	0	0	12	2125	0	0	40	1699
9	Karnataka	Rabi	C	10	1454	1	1514	3	2250	13	894	27	1275
			S	8	607	2	278	0	0	28	1473	38	1228
			P	18	1078	3	690	3	2250	41	1289	65	1247
10	Madhya Pradesh	Rabi	C	153	2663	2	1946	37	2830	10	1470	202	2627
			S	128	2708	3	2948	21	2276	43	2290	195	2573
			P	281	2683	5	2547	58	2629	53	2135	397	2601
11	Maha-rashtra	Rabi	C	46	1648	2	418	23	1429	0	0	71	1542
			S	57	1968	0	0	14	1105	12	847	83	1660
			P	103	1825	2	418	37	1306	12	847	154	1606
12	Punjab	Rabi	C	200	5157	0	0	17	5186	0	0	217	5159
			S	200	5281	0	0	1	5227	0	0	201	5281
			P	400	5219	0	0	18	5188	0	0	418	5218
13	Rajasthan	Rabi	C	86	3699	2	3928	31	3358	4	2598	123	3581
			S	86	3782	4	2742	11	2897	2	3809	103	3648
			P	172	3741	6	3137	42	3237	6	3002	226	3611
14	Uttar Pradesh	Rabi	C	495	3635	0	0	57	3776	1	3417	553	3649
			S	131	4011	0	0	4	2385	2	2286	137	3938
			P	626	3714	0	1974	61	3685	3	2663	690	3707
15	Uttarakhand	Rabi	C	30	3686	24	1857	6	2997	0	0	60	2886
			S	12	3916	29	2403	0	0	6	3101	47	2878
			P	42	3752	53	2156	6	2997	6	3101	107	2882
16	West Bengal	Rabi	C	39	2775	0	0	17	2559	0	0	56	2709
			S	9	3333	0	0	7	2891	0	0	16	3140
			P	48	2880	0	0	24	2656	0	0	72	2805
For states covered			C	1556	3561	83	1874	411	2856	42	1516	2092	3315
			S	930	3790	81	2148	156	2318	103	1910	1270	3352
			P	2486	3647	164	2010	567	2708	145	1796	3362	3329
BARLEY													
1	Haryana	Rabi	C	30	3611	0	0	0	0	0	0	30	3611
			S	30	4107	0	0	0	0	0	0	30	4107
			P	60	3859	0	0	0	0	0	0	60	3859
2	Himachal Pradesh	Rabi	C	0	0	22	1544	2	1332	0	0	24	1526
			S	0	0	16	1616	10	2749	2	1151	28	1987
			P	0	0	38	1574	12	2513	2	1151	52	1775
3	Punjab	Rabi	C	26	3759	0	0	4	5550	0	0	30	3998
			S	24	4321	0	0	0	0	2	4053	26	4300
			P	50	4029	0	0	4	5550	2	4053	56	4138

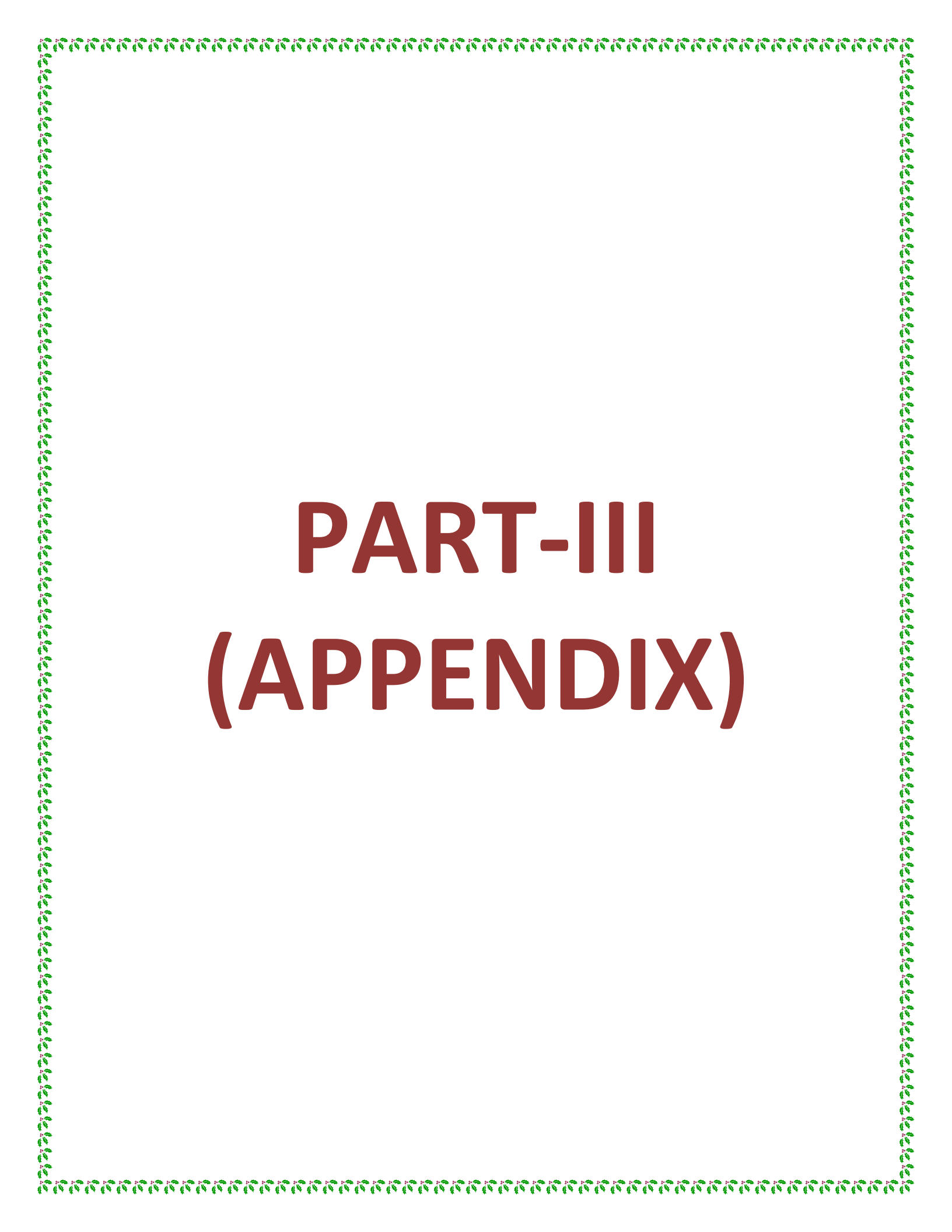
ANNEX XVI (Contd.....)

Sl. No.	State	S E A S O N	A G E N C Y	Treated with						Not treated with Manure or Fertiliser		Pooled	
				Fertilisers only		Manures only		Both Fert. & Manures		No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac
				No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
4	Rajasthan	Rabi	C	49	3514	2	1230	29	2942	0	0	80	3250
			S	64	3728	0	0	4	3410	2	5039	70	3747
			P	113	3635	2	1230	33	2999	2	5039	150	3482
For states covered			C	105	3602	24	1518	35	3148	0	0	164	3200
			S	118	3945	16	1616	14	2938	6	3414	154	3591
			P	223	3784	40	1557	49	3088	6	3414	318	3389
GRAM													
1	Andhra Pradesh	Rabi	C	30	1276	0	0	27	310	0	0	57	818
			S	33	475	0	0	11	402	6	250	50	432
			P	63	856	0	0	38	337	6	250	107	638
2	Bihar	Rabi	C	31	1059	0	0	0	0	6	1111	37	1067
			S	14	1046	0	0	0	0	14	1104	28	1075
			P	45	1055	0	0	0	0	20	1106	65	1071
3	Chattisgarh	Rabi	C	24	867	4	416	6	1145	6	838	40	859
			S	29	1019	4	935	1	898	4	720	38	976
			P	53	950	8	676	7	1110	10	791	78	916
4	Gujarat	Rabi	C	12	1315	2	1362	6	1399	8	871	28	1209
			S	2	1548	0	0	0	0	0	0	2	1548
			P	14	1348	2	1362	6	1399	8	871	30	1232
5	Haryana	Rabi	C	42	1324	0	0	0	0	28	1148	70	1254
			S	27	1457	3	1183	0	0	32	1426	62	1428
			P	69	1376	3	1183	0	0	60	1296	132	1335
6	Jharkhand	Rabi	C	6	1274	4	792	2	692	6	619	18	884
			S	2	0	0	0	0	0	6	695	8	521
			P	8	956	4	792	2	692	12	657	26	772
7	Karnataka	Rabi	C	8	715	5	506	4	421	9	905	26	695
			S	4	224	0	0	7	457	23	523	34	474
			P	12	551	5	506	11	444	32	630	60	570
8	Madhya Pradesh	Rabi	C	71	1219	12	1208	8	1158	21	1213	112	1212
			S	62	1074	1	747	2	520	35	1238	100	1117
			P	133	1151	13	1173	10	1030	56	1229	212	1167
9	Maha-rashtra	Rabi	C	37	713	4	743	10	1246	13	820	64	820
			S	35	984	2	308	2	1180	10	621	49	890
			P	72	845	6	598	12	1235	23	733	113	850
10	Punjab	Rabi	C	12	1640	0	0	0	0	18	1684	30	1666
			S	4	1541	0	0	0	0	2	913	6	1332
			P	16	1615	0	0	0	0	20	1607	36	1611
11	Rajasthan	Rabi	C	48	1156	7	1005	7	1148	38	1279	100	1192
			S	36	1376	2	552	5	1169	48	1202	91	1255
			P	84	1250	9	904	12	1157	86	1236	191	1222
12	Uttar Pradesh	Rabi	C	27	1303	1	1152	3	1039	17	1148	48	1228
			S	10	2088	4	1023	0	0	4	1048	18	1620
			P	37	1515	5	1049	3	1039	21	1129	66	1335
For states covered			C	348	1149	39	916	73	816	170	1160	630	1099
			S	258	1088	16	866	28	634	184	1059	486	1044
			P	606	1123	55	902	101	766	354	1108	1116	1075

Sl. No.	State	S E A S O N	A G E N C Y	Treated with						Not treated with Manure or Fertiliser		Pooled	
				Fertilisers only		Manures only		Both Fert. & Manures		No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac
				No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac	No.of expts.	Yield Rate Kg/hac				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
RAPE & MUSTARD													
1	Assam	Rabi	C	23	703	14	745	2	547	9	631	48	695
			S	21	741	0	0	2	384	13	725	36	715
			P	44	721	14	745	4	466	22	687	84	704
2	Bihar	Rabi	C	28	1234	0	0	0	0	4	902	32	1193
			S	24	1171	0	0	3	1571	3	1086	30	1203
			P	52	1205	0	0	3	1571	7	981	62	1197
3	Chattisgarh	Rabi	C	6	330	10	274	2	430	8	283	26	302
			S	0	0	4	294	0	0	19	306	23	304
			P	6	330	14	280	2	430	27	299	49	303
4	Gujarat	Rabi	C	33	1737	0	0	8	1650	2	1100	43	1691
			S	7	1703	0	0	1	1740	0	0	8	1708
			P	40	1731	0	0	9	1660	2	1100	51	1694
5	Haryana	Rabi	C	93	1816	0	0	3	1861	4	953	100	1783
			S	74	1933	0	0	4	1996	6	1768	84	1924
			P	167	1868	0	0	7	1938	10	1442	184	1847
6	Jharkhand	Rabi	C	7	707	3	879	5	380	5	692	20	647
			S	0	0	0	0	0	0	10	1457	10	1457
			P	7	707	3	879	5	380	15	1202	30	917
7	Madhya Pradesh	Rabi	C	17	1444	6	931	5	1592	10	467	38	1125
			S	10	584	4	531	0	0	12	432	26	506
			P	27	1125	10	771	5	1592	22	448	64	874
8	Punjab	Rabi	C	30	1633	1	1625	5	1675	4	1610	40	1636
			S	31	1628	0	0	0	0	4	1542	35	1618
			P	61	1630	1	1625	5	1675	8	1576	75	1628
9	Rajasthan	Rabi	C	62	1498	0	0	21	1352	3	582	86	1430
			S	47	1492	6	1570	10	1824	4	774	67	1506
			P	109	1495	6	1570	31	1504	7	692	153	1463
10	Uttar Pradesh	Rabi	C	81	1495	2	640	5	1265	5	1289	93	1453
			S	23	1670	0	0	2	2921	0	0	25	1770
			P	104	1534	2	640	7	1738	5	1289	118	1520
11	West Bengal	Rabi	C	78	1318	2	197	26	1083	0	0	106	1239
			S	27	1384	0	0	11	884	0	0	38	1239
			P	105	1335	2	197	37	1024	0	0	144	1239
For States Covered			C	458	1472	38	650	82	1242	54	747	632	1331
			S	264	1518	14	909	33	1485	71	819	382	1363
			P	722	1489	52	719	115	1312	125	788	1014	1343

Note:

@ =In the light of introduction of concept of Kharif and Rabi seasons in the Tamil Nadu state from Agricultural year 2017-18 and consequent, categorization of crops, the data have been presented seasonwise instead of whole year.



PART-III

(APPENDIX)

APPENDIX

Procedure for estimation of area and yield rate of different crops along with the standard errors

I - Estimation of Area

1. Observations found during sample check on Area Enumeration are recorded in schedule AS 1.0. The schedule gives two sets of area figures under various crops for the selected 20 survey numbers, one set of figures as observed by the Senior Statistical Officers of NSO/State Supervisors and the other set as copied from the corresponding entries of the Khasra Register prepared by Patwari. Two separate estimates based on the patwari's record and Senior Statistical Officers/State Supervisors observations are prepared for comparison purpose.

The estimated area under a crop in the i^{th} stratum is given by :

$$\hat{Y}_i = \frac{N_i}{n_i} \sum_{j=1}^{n_i} \left[\frac{H_{ij} \times a_{ij}}{S_{ij}} \right]$$

where

$\hat{Y}_i$

= Estimated Area under a crop in the i^{th} stratum

a_{ij} = Total area under a crop in the selected clusters of survey numbers in j^{th} village of i^{th} stratum,

S_{ij} = Number of selected survey/serial numbers in the j^{th} sample in the i^{th} stratum,

H_{ij} = Highest survey/serial number in the j^{th} sample village in the i^{th} stratum,

n_i = Number of sample villages analysed in the i^{th} stratum and

N_i = Total number of revenue villages in the i^{th} stratum.

The estimates of area thus obtained for each stratum in a district are added to get the estimates of area at the district level (Y_d) and the total of the district level estimates gives the state level estimate of area.

However, for unsurveyed villages for which total geographical area of the village is not available and selection of plots has been done by method of selection of households in the village, the village level estimate will be obtained by using the inflation factor:

$$\frac{(\text{Total number of households in the village})}{\text{Number of sample households}} \times a_{ij}$$

where

a_{ij} = Area under the crop in the plots belonging to selected households in the j^{th} sample village of i^{th} stratum.

The estimates of variance at district level is calculated from

$$V(Y_d) = \frac{N(N-n)}{n} \left[\frac{\sum_{i=1}^{K^I} \sum_{j=1}^{n_i} Y_{ij}^2 - \left\{ \sum_{i=1}^{K^I} \sum_{j=1}^{n_i} Y_{ij} \right\}^2 / n}{(n-1)} \right]$$

where,

Y_{ij} = estimated area under the crop in the j^{th} sample village in i^{th} stratum in the district which is given by

$$Y_{ij} = \frac{H_{ij}}{S_{ij}} \times a_{ij}$$

K^I = the number of strata in a district in which the estimates of area under the reference crop is not zero.

$$N = \sum_{i=1}^{K^I} N_i \text{ and } n = \sum_{i=1}^{K^I} n_i$$

The variance at state level is the sum of the variance of district level estimate.

The percentage standard error of the estimate of area at state level is obtained as follows:

$$\% \text{ Standard Error} = \frac{\text{SE of the Estimate}}{\text{Estimate}} \times 100$$

Where standard error is the square root of the state level variance which is the sum of variance of the district level estimates.

2. Estimates of area based on Sch. AS 1.1 data :

Patwari prepares crop abstracts on the basis of entries of area figures under different crops in the Khasra Register. Senior Statistical Officers of NSO/State Supervisor checks the page-wise totaling of area figures recorded under different crops under Khasra Register and records the corrected totals of area under crop alongwith the corresponding figures reported by Patwari in the crop abstract in schedule A.S.1.1. Based on these two sets of area figures under a crop in a village two estimates are prepared. The estimation procedure -for preparing these estimates is similar to that given at para 1 above.

3. Pooling of estimates:

The estimates of the Central and State samples at State level are pooled as under:

Let

$\hat{Y}_C$ = estimates of area at state level for Central sample.

$\hat{Y}_S$ = estimates of area at state level for State sample.

$\hat{V}_C$ = estimates of variance at state level for central sample and

$\hat{V}_S$ = estimates of variance at state level for state sample.

Calculate
$$e_c = \frac{1}{\hat{V}_C} \quad \text{and} \quad e_s = \frac{1}{\hat{V}_S}$$

Then pooled estimate of area is given by

$$\hat{Y}_p = \frac{\hat{e}_c Y_c + \hat{e}_s Y_s}{\hat{e}_c + \hat{e}_s}$$

And an estimate of its variance by

$$V(\hat{Y}_p) = \frac{1}{\hat{e}_c + \hat{e}_s}$$

II - Estimate of Yield Rates

Sample check a crop cutting experiments is planned on two experiments in a crop in each of the selected villages. The experiments are conducted by the State primary workers in the presence of Senior Statistical Officers /State Supervisors who supervise the experiment and also correct the errors, if any, in the conduct of the experiments. The corrected yield rate as observed by the Senior Statistical Officers/State Supervisors is filled in the schedule AS 2.0. On the basis of this information the estimates of yield rates for the district and state are worked out.

Let ,

Y_{ijk} = plot yield in gms. in the k^{th} experimental plot of j^{th} sample village in the i^{th} district,

n_{ij} = number of experiments analysed in the j^{th} sample village of the i^{th} district,

n_i = number of experiments analysed in the i^{th} district,

a_i = area under the crop in the i^{th} district,

m_i = number of sample villages in which experiments are analysed in the i^{th} district,

E = mean square of yield between villages,

F = mean square of yield within villages and

d = number of districts in the State.

Then simple average of yield in the sample experiments under the crop in i^{th} districts given by:-

$$\bar{Y}_i = \frac{\sum_{j=1}^{m_i} \sum_{k=1}^{n_{ij}} Y_{ijk}}{n_i}$$

and the estimated average yield rate at state level is given by

$$\bar{Y} = \frac{\sum_{i=1}^d a_i \times \bar{Y}_i}{\sum_{i=1}^d a_i}$$

Average yield thus obtained is converted to dry grain yield in terms of Kg./Ha.

The estimated variance of estimated yield rate at state level is given by

$$V(\bar{Y}) = \frac{\left[F \sum_{i=1}^d \frac{a_i^2}{n_i} + (E - F) \sum_{i=1}^d \frac{a_i^2 \sum_{j=1}^{m_i} n_{ij}^2}{\lambda_i n_i^2} \right]}{\left[\sum_{i=1}^d a_i \right]^2}$$

Where

$V(\bar{Y})$ = Estimated variance of the estimate of average yield at state level

$$n_i^2 - \sum_{j=1}^{m_i} n_{ij}^2$$

Where $\lambda_i =$ _____

$$n_i (m_i - 1)$$

$$E = \frac{\sum_{i=1}^d \left[\sum_{j=1}^{m_i} \frac{\left(\sum_{k=1}^{n_{ij}} Y_{ijk} \right)^2}{n_{ij}} - \frac{\left(\sum_{j=1}^{m_i} \sum_{k=1}^{n_{ij}} Y_{ijk} \right)^2}{n_i} \right]}{\sum_{i=1}^d (m_i - 1)}$$

$$F = \frac{\sum_{i=1}^d \left[\sum_{j=1}^{m_i} \sum_{k=1}^{n_{ij}} Y_{ijk}^2 - \sum_{j=1}^{m_i} \frac{\left(\sum_{k=1}^{n_{ij}} Y_{ijk} \right)^2}{n_{ij}} \right]}{\sum_{i=1}^d (n_i - m_i)}$$

And percentage standard error is given by

$$\% SE (\bar{Y}) = \frac{\sqrt{V(\bar{y})}}{\bar{y}} \times 100$$

Abbreviations used in various Annexures

C = Central	S = State	P = Pooled
NA= Not Available	NC= Not Calculated	NR= Not Reported/Received
E.Kh.= Early Kharif	L.Kh. = Late Kharif	Wh.Year= Whole Year
R-I= Rabi-I	R-II= Rabi-II	Sum. = Summer
Ph-I=Phase-I	Ph-II=Phase-II	Ph-III=Phase-III
HYV= High Yielding Variety	F=Fertilisers	L= Local
Irr. = Irrigated	UI= Un-Irrigated	NP= Not prepared
Tra=Traditional		

State-wise seasons covered under ICS

Sl. No.	State	E. Kharif	L.Kharif	Rabi	Summer
1	Andhra Pradesh		Kharif	Rabi	
2	Assam	Early Kharif	Late Kharif	Rabi	Summer
3	Bihar	Bhadai	Aghani	Rabi	Summer
4	Chhattisgarh		Kharif	Rabi	
5	Gujarat		Kharif	Rabi	Summer
6	Haryana		Kharif	Rabi	
7	Himachal Pradesh		Kharif	Rabi	
8	Jammu & Kashmir		Kharif	Rabi	
9	Jharkhand	Bhadai	Aghani	Rabi	Summer
10	Karnataka		Kharif	Rabi	Summer
11	Kerala	Autumn	Winter		Summer/ Whole Year
12	Madhya Pradesh		Kharif	Rabi	
13	Maharashtra		Kharif	Rabi	Summer
14	Odisha	Autumn	Winter		Summer
15	Punjab		Kharif	Rabi	
16	Rajasthan		Kharif	Rabi	
17	Tamil Nadu	Phase-I	Phase-II	Phase-III	
18	Uttar Pradesh		Kharif	Rabi	Summer
19	Uttarakhand		Kharif	Rabi	Summer
20	West Bengal	Aus.	Aman	Rabi	Summer
21	Puducherry		Kharif	Rabi-I	Rabi-II