

Quality Issues in Agricultural Statistics as seen through the scheme of Improvement of Crop Statistics (ICS)



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Introduction

- FOD of NSSO conducts Agricultural surveys through ICS Scheme, initiated in 1973-74
- 21 States, 1 UT and 44 crops are covered under ICS
- Crop Statistics- Area & Yield
- First introduced in 9 wheat growing States
- Evaluates the TRS, EARAS & CES Schemes
- Executed jointly by NSSO and SASA
- The joint responsibility takes the form of
 - joint selection of sample villages,
 - adoption of common instruction,
 - schedules, scrutiny and tabulation programmes and
 - exchange of raw data

ICS Scheme

■ Objective

- Studying the state system of crop estimation in its normal operative conditions
- Identifying the deficiencies in the system of area reporting and conduct of crop cutting experiments
- Quantifying the same and
- Suggesting remedial measures & providing technical guidance.

■ The programme envisaged under the ICS scheme includes:

For sample check on :

- Area enumeration and Area aggregation, a sample of about 10,000 villages (1.6%)
- Supervision of crop cutting experiments a sample of about 31,000 experiments (3.3%) is drawn every year.

Role of NSSO

- AS Wing of NSSO (FOD) is entrusted with responsibility of
 - Providing technical guidance and assisting the States in developing suitable survey techniques for obtaining timely and reliable estimates on area and yield.
 - Implementation of ICS Scheme at the centre and coordinate the work of State sample
 - Exercising supervision over primary field work on area enumeration, aggregation and conduct of CCEs under ICS.
 - For all aspects of ICS Scheme from the stage of preparation of survey design to data processing and publication of reports.
 - Imparting training to State Field Officials
 - Maintaining Liaison with State Govt. Officers/ ROs of NSSO

Sampling Design for Check on Area Enumeration (1.0)

■ Stratified Two-stage Random Sampling

- Stratum : Tehsil / CD Block /Anchal

 - (in Kerala & West Bengal : District is Stratum)

- First Stage Unit : Village

- Ultimate Sampling Unit :Survey numbers within village

 - 4 clusters of 5 survey numbers each per village

Sampling Design for Check on Crop Cutting Expts. (2.0)

- Stratified Two-stage Random Sampling
 - Stratum : District
 - Primary Unit : Village
 - Ultimate Unit :Plot for Crop Cutting Experiment
- Minimum 4 experiments in a District
- 2 experiments in each selected village

Check on Area Enumeration

- A broad Statistical check on area enumeration work carried out by primary workers.
- Designed to locate and identify avenues where improvement could be effected in the system of recording and reporting land use statistics.
- Sample for each State is fixed on joint consideration of crop area and resources.
- Sample villages are a sub-sample of TRS/EARAS villages.
- The check is done in each season

Check on Area Enumeration (Contd.)

- The check consist of
 - (i) locating a sample of four clusters of five survey numbers each
 - (ii) Recording the actual use of land by physical observation and noting down the corresponding entries made by the Patwari in the village register
- Supervisor follows the procedure followed by the primary workers stipulated in State Land Record Manual.
- Attempts to evaluate the system of Girdawari and TRS
- The check not only probes qualitative aspects but also attempts to make quantitative assessment of discrepancies observed in area statistics
- The errors are (i) missing actual crops (ii) Reporting crops not sown and (iii) incorrect assessment

Check on Area Aggregation

- Consists of arriving at page wise totals of area of different crops as recorded in khashra reg. and comparing the same with the totals arrived by the patwari
- It is carried out in sample villages selected for check on area enumeration-10,000.
- It ascertains the accuracy in crop-wise area prepared by the primary workers
- It brings to focus discrepancies in the crop abstract and the impact of aggregation errors in crop area reporting

Check on Crop Cutting Experiments

- Concurrent check
- Locates the weak and vulnerable areas in the conduct of CCE and reporting crop yield
- Examines adherence of the prescribed procedure for selection of survey number, locating and marking the plot, harvesting the crop and weighing the produce
- During the check, information on supply of equipments, training, irrigation, seed variety, use of pesticides etc. is collected

Deficiencies studied under ICS

- It is a study of non-sampling errors which can be classified as below
 - Observational error
 - eg. missing a crop
 - Recording and transcription errors
 - eg. Errors in recording details of land use in reg.
 - procedural errors
 - eg. errors due to departures from the prescribed procedure
 - errors due to non- response

Field Activities under ICS

- Organising and imparting training to primary workers
- Regular liaison with State Officials
- Checking Area Enumeration in villages
- Concurrent supervision of c.c. experiments
- Inspection of field work by Regional Officers
- Joint inspection of field work with State Officials
- Scrutiny of filled in schedules
- Dispatch of scrutinized schedule to AS Wing Faridabad

Analysis of Data

The data collected through the sample check programme under the scheme for ICS are analysed facilitating factual appraisal of the State systems 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, their frequency and impact
- Departures from the prescribed procedure for conducting crop cutting experiments and their impact

Remedial Measures

- Supervisors of NSSO & SASA must be fully conversant with the various methods and procedures laid down in various State Land Record & CES Manuals and A S Manuals of NSSO.
- Intensive training for Supervisors of NSSO & SASA to be arranged by AS Wing
- Reduction of work load of primary workers
- A regular system needs to be evolved for collecting area statistics
- The system of un-recognised crop mixtures to be needs to be corrected
- A periodical review of GCES coverage in the States is needed
- All the SASAs should calculate the standard error for the estimates of average yield for all the crops so as to assess the adequacy of sample size and also the reliability of estimates.
- Convening of meeting of HLCCs/ STCs at regular intervals needs to be pursued
- The response rate for State sample needs to be improved to bring improvement in the quality of data collected.
- Suitable action may be taken to ensure timely completion of Girdawari in all the States
- Remedial measures are required to be taken for ensuring timely submission of TRS statements only after completing the girdawari.
- Regular updation of village maps is essential.

Remedial Measures (Contd.....)

- Steps need be taken to achieve the target of cent percent supervision of crop cutting experiments at the harvest stage.
- Deficiencies noticed through the sample checks need to be emphasized in the training camps organised for primary workers in the States.
- Position of supply of equipment for conduct of crop cutting experiments and their use by the primary workers need improvement.
- Delegation of work to others including juniors for conducting crop cutting experiments to be discouraged.
- Substitution of selected villages/fields for crop cutting experiments due to various reasons can be reduced by proper selection of sample villages, timely selection of field and proper liaison with cultivators, which needs to be stressed upon the primary workers.

Preparation of Status Reports

- The status reports for each season and for each state contain full account of the present position of estimation of agricultural 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 of Improvement of Crop Statistics” are prepared on the basis of the analyzed data of ICS.
- 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 ICS, TRS, Final Forecasts and GCES.

Table - A
WORKLOAD OF PATWARI

Sl.No.	State	No. of villages	Survey / Sub survey Nos. per village('000')	Geographical Area per village ('000' Ha.)
1	Andhra Pradesh	3	1.4	1.1
2	Assam	11	0.5	0.2
3	Bihar	13	1.4	0.4
4	Chhattisgarh	7	1.0	0.4
5	Gujarat	3	0.7	0.8
6	Haryana	5	3.6	1
7	Himachal Pradesh	11	0.8	0.2
8	Jammu & Kashmir	5	1.2	0.4
9	Jharkhand	20	0.9	0.3
10	Karnataka	5	0.7	1.0
11	Kerala	#	#	#
12	Madhya Pradesh	5	0.7	0.5
13	Maharashtra	4	0.5	0.7
14	Orissa	23	1.2	0.3
15	Punjab	5	2.4	0.5
16	Rajasthan	7	0.8	1
17	Tamil Nadu	2	3.0	1.3
18	Uttar Pradesh	7	0.6	0.3
19	Uttarakhand	11	1.9	0.2
20	West Bengal	3	1.0	0.3
21	Puducherry	11	1.2	0.3
All India average		8	1.2	0.5

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

Table – B
Completion of TRS Girdawari in time (%)

Sl. No.	State	Early Kharif	Late Kharif	Rabi	Summer
1	2	3	4	5	6
1	Andhra Pradesh		8	27	
2	Assam	0	0	0	0
3	Bihar	0	0	1	2
4	Chhattisgarh		91	82	0
5	Gujarat		3	7	1
6	Haryana		99	99	81
7	Himachal Pradesh		97	99	
8	Jammu & Kashmir		80	72	
9	Jharkhand	8	6	10	10
10	Karnataka		82	73	74
11	Kerala	94	94		99
12	Madhya Pradesh		90	89	
13	Maharashtra		22	17	
14	Odisha	100	98		98
15	Punjab		43	43	
16	Rajasthan		84	85	
17	Tamil Nadu \$	90	86	88	
18	Uttar Pradesh		58	59	58
19	Uttarakhand		81	46	62
20	West Bengal	14	22	27	22
21	Puducherry		83	89	61
For States covered		47	53	50	40

Table – C
Submission of TRS statements in time (%)

Sl. No.	State	Early Kharif	Late Kharif	Rabi	Summer
1	2	3	4	5	6
1	Andhra Pradesh		6	16	
2	Assam	0	0	0	0
3	Bihar	0	0	0	0
4	Chhattisgarh		89	77	
5	Gujarat		1	3	1
6	Haryana		91	95	16
7	Himachal Pradesh		32	86	
8	Jammu & Kashmir		68	61	
9	Jharkhand	0	1	4	2
10	Karnataka		76	60	59
11	Kerala	84	88		96
12	Madhya Pradesh		92	88	
13	Maharashtra		19	14	6
14	Odisha	96	98		97
15	Punjab #		21	18	
16	Rajasthan		55	49	
17	Tamil Nadu	87	87	85	
18	Uttar Pradesh		30	22	18
19	Uttarakhand		53	46	47
20	West Bengal	16	23	31	28
21	Puducherry		50	100	89
For States covered		46	43	39	27

The following table gives the percentage of experiments without use and improper use of the crop cutting equipment during 2013-14 as observed through ICS.

Table-D
Supply and Use of Equipment for Crop Cutting Experiments

S. No.	State	Season	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
1	Andhra	Kharif	4	92	5	5	8	4	8	8
	Pradesh	Rabi	5	84	6	6	15	6	15	14
2	Assam	Early Kharif	0	88	0	2	6	4	6	6
		Late Kharif	0	90	0	0	6	0	6	6
		Rabi	0	90	0	0	1	2	1	1
		Summer	0	97	0	0	6	0	6	6
3	Bihar	Autumn	91	91	94	94	6	6	3	3
		Winter	85	90	88	88	11	6	9	9
		Rabi	73	80	77	77	25	16	22	22
		Summer	78	78	78	78	22	22	22	22
4	Chhattisgarh	Kharif	3	56	17	30	30	33	39	26
		Rabi	6	56	20	24	28	20	40	36
5	Gujarat	Kharif	8	83	24	24	39	8	38	38
		Rabi	8	81	26	26	46	8	40	42

S. No.	State	Season	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
6	Haryana	Kharif	11	91	78	82	32	5	18	14
		Rabi	13	90	87	89	36	10	11	11
7	Himachal Pradesh	Kharif	17	74	58	64	17	25	38	33
		Rabi	16	67	50	58	16	31	50	42
8	Jammu & Kashmir	Kharif	72	76	82	82	22	5	13	13
		Rabi	69	91	79	79	16	3	21	15
9	Jharkhand	Early Kharif	35	68	68	68	35	16	16	16
		Late Kharif	43	72	75	80	30	14	12	7
		Rabi	49	72	74	73	24	7	5	6
10	Karnataka	Kharif	37	81	40	41	22	6	24	24
		Rabi	38	74	38	39	23	6	26	25
		Summer	36	69	41	41	19	5	24	24
11	Kerala	Autumn	0	30	12	12	7	13	20	18
		Winter	0	20	9	9	8	17	21	21
		Summer	7	21	14	15	3	6	9	9
12	Madhya Pradesh	Kharif	4	40	21	22	15	44	50	49
		Rabi	3	39	19	20	12	34	38	37

S. No.	State	Season	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
13	Maharashtra	Kharif	51	69	64	65	26	8	14	14
		Rabi	48	70	62	62	32	13	23	22
14	Odisha	Autumn	0	0	0	0	0	0	0	0
		Winter	0	0	0	0	0	0	0	0
		Summer	0	0	0	0	0	0	0	0
15	Punjab	Kharif	22	88	90	89	11	2	2	2
		Rabi	24	97	94	96	11	1	2	1
16	Rajasthan	Kharif	36	66	61	60	41	20	35	35
		Rabi	39	76	70	70	43	12	23	24
17	Tamil Nadu		2	9	3	2	13	24	15	15
18	Uttar Pradesh	Kharif	13	74	49	58	24	8	23	23
		Rabi	15	79	53	56	27	4	31	28
		Summer	15	73	50	47	45	15	50	53
19	Uttarakhand	Kharif	3	44	14	35	15	19	17	18
		Rabi	1	39	1	1	27	27	33	35

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S. No.	State	Season	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	
20	West Bengal	Autumn	0	87	0	0	0	0	0	0	0
		Winter	0	77	0	1	3	0	2	2	
		Rabi	0	85	0	0	0	0	0	0	
		Summer	1	86	0	0	0	1	1	1	
21	Puducherry	Kharif	0	13	0	0	0	0	0	0	
		Rabi-I	0	13	0	0	38	25	38	38	
		Rabi-II	0	0	0	0	0	0	0	0	
For Covered States	Early Kharif	10	48	14	14	4	4	5	5		
	Late Kharif	17	64	36	37	20	12	21	20		
	Rabi	22	75	48	49	24	12	23	22		
	Summer	9	41	14	14	6	4	9	10		
All Seasons			18	65	37	38	20	11	20	19	

Table-E

Errors in Area Reporting (%)

S.No.	State	Autumn	Winter	Rabi	Summer
1	Andhra Pradesh		5	3	
4	Chhattisgarh		5	7	
5	Gujarat		12	8	28
6	Haryana		13	8	57
7	Himachal Pradesh		16	13	
8	Jammu & Kashmir		6	9	
9	Jharkhand	0	0	1	0
10	Karnataka		32	28	20
11	Kerala	17	15		8
12	Madhya Pradesh		16	15	
13	Maharashtra		33	22	30
14	Odisha	0	0		0
15	Punjab		8	6	
16	Rajasthan		21	16	
17	Tamil Nadu	38	19	29	
18	Uttar Pradesh		25	15	21
19	Uttarakhand		10	9	8
20	West Bengal	39	17	32	25
21	Puducherry		10	51	0
For	States Covered	28	19	15	12

The table below indicates the position of different types of errors observed during the conduct of crop cutting experiments in respective seasons

Table-F
Incidence of Errors in Conduct of Crop Cutting Experiments

S.no.	Season	% of expts. Where no error was noticed	% of expts. where error was noticed							
			e_1	e_2	e_3	e_4	e_5	e_6	e_7	e_8
1	Autumn	47	0	0	0	0	0	1	1	21
2	Winter	52	0	1	5	3	3	8	4	31
3	Rabi	54	0	0	3	5	1	8	1	38
4	Summer	72	0	0	1	1	0	2	0	26

- e_1 = Error in selection of survey/sub-survey nos.
- e_2 = Error in selection of field within survey/sub-survey nos.
- e_3 = Error in measurement of field
- e_4 = Error in selection of Random Nos., Location and Marking of plots
- e_5 = Error in weighment of produce
- e_6 = Error in reporting ancillary information
- e_7 = Inadequate arrangements for storing of produce for driage and incorrect reporting of constituents in crop mixture.
- e_8 = Others.

**COMPARISON OF ESTIMATES OF YIELD RATES UNDER
ICS AND CES DURING 2013-14**

Sl. No.	State	ICS			C.E.S. \$			Official Estimated	% Diff. (Col.4- Col.7/ x 100)	% Diff. (Col.4- Col.9/ x 100)
		No.of Expts. Planned	Estimated Yield Rate Kg/Hac	% SE	No.of Expts. Planned	Estimated Yield Rate Kg/Hac	% SE	Yield Rate Kg/Hac	Col.7/ Col.7 x 100)	Col.9/ Col.9 x 100)
1	2	3	4	5	6	7	8	9	10	11
RICE (KHARIF)										
1	Andhra Pradesh *	600	2784	2.2	6780	2829	0.4	2552	-1.59	9.09
2	Assam (Aut)*	200	1416	7.3	2000	1340	1.4	1753	5.67	-19.22
	Assam (Wint)*	240	2286	2.8	3000	2002	1.9	1921	14.19	19.00
3	Bihar (Aut/ Bhadai)*	80	1793	4.2	840	1455	NR	1142	23.23	57.01
	Bihar (Wint/Winter)*	480	1862	4.7	80920	2246	NR	1865	-17.10	-0.16
4	Chhattisgarh	160	1727	5.0	3544	1859	1.5	1766	-7.10	-2.21
5	Gujarat *	160	1952	7.5	1818	2025	1.2	2038	-3.60	-4.22
6	Haryana	180	3414	2.3	990	3248	1.2	3256	5.11	4.85
7	Himachal Pradesh*	120	1771	16.3	994	1920	1.8	1625	-7.76	8.98
8	Jammu & Kashmir*	140	2143	5.0	1214	2958	1.0	2250	-27.55	-4.76

**COMPARISON OF ESTIMATES OF YIELD RATES UNDER
ICS AND CES DURING 2013-14**

Sl. No.	State	No. of Expts.	ICS Estimated Yield Rate Kg/Hac	% SE	No. of Expts.	C.E.S. \$ Estimated Yield Rate Kg/Hac	% SE	Official Estimated Yield Rate Kg/Hac	% Diff. (Col.4- Col.7/ x 100)	% Diff. (Col.4- Col.9/ x 100)
1	2	3	4	5	6	7	8	9	10	11
9	Jharkhand (Aut/E. Kharif)*	40	1180	7.0	690	1229	0.0	2238	-3.99	-47.27
	Jharkhand (Wint/L. Kharif)*	160	1611	4.2	11346	2111	0.0	NA	-23.69	NC
10	Karnataka	288	3147	2.9	7906	3282	1.8	2666	-4.11	18.04
11	Kerala (Aut)	200	2351	6.3	3760	2720	1.5	2625	-13.57	-10.44
	Kerala (Wint)	200	2322	7.1	5129	2833	0.9	2426	-18.04	-4.29
12	Madhya Pradesh	200	1591	4.5	1972	2411	1.2	1474	-34.01	7.94
13	Maharasht ra *	164	1501	7.8	5030	1731	0.9	1924	-13.29	-21.99
14	Odisha (Aut)	440	1408	2.7	7102	1463	0.7	762	-3.76	84.78
	Odisha (Wint)	540	1712	2.3	11191	1739	0.5	1857	-1.55	-7.81
15	Punjab	380	4279	1.3	1978	3952	NR	3952	8.27	8.27

**COMPARISON OF ESTIMATES OF YIELD RATES UNDER
ICS AND CES DURING 2013-14**

Sl. No.	State	ICS			C.E.S. \$			Official	% Diff.	% Diff.
		No.of Expts.	Estimated Yield Rate Kg/Hac	% SE	No.of Expts.	Estimated Yield Rate Kg/Hac	% SE	Estimated Yield Rate Kg/Hac	(Col.4- Col.7/ x 100)	(Col.4- Col.9/ x 100)
1	2	3	4	5	6	7	8	9	10	11
16	Tamil Nadu (Phase-I)	120	4209	3.3	428	4329	1.0	4448	-2.77	-5.37
	Tamil Nadu (Phase-II)	280	3846	2.6	1260	3996	0.8	2848	-3.75	35.04
17	Uttar Pradesh *	1320	2587	1.6	89582	2444	NR	2446	5.85	5.76
18	Uttarakhand *	100	2659	3.9	2308	2871	0.9	2233	-7.38	19.08
19	West Bengal									
	E. Kharif	200	2339	3.3	4826	2596	1.1	2612	-9.90	-10.45
	L. Kharif	320	2147	2.3	13268	2740	0.6	NA	-21.64	NC
20	Puducherry (Kh.) *	20	2720	0.0	68	3466	2.4	3056	-21.52	-10.99

**COMPARISON OF ESTIMATES OF YIELD RATES UNDER
ICS AND CES DURING 2013-14**

Sl. No.	State	No. of Expts.	ICS Estimated Yield Rate Kg/Hac	% SE	No. of Expts.	C.E.S. \$ Estimated Yield Rate Kg/Hac	% SE	Official Estimated Yield Rate Kg/Hac	% Diff. (Col.4- Col.7/ x 100)	% Diff. (Col.4- Col.9/ x 100)
1	2	3	4	5	6	7	8	9	10	11
RICE (SUMMER)										
1	Andhra Pradesh	340	3800	2.4	5298	3781	0.4	3496	0.50	8.70
2	Assam *	80	3572	4.8	1500	2981	1.2	2572	19.83	38.88
3	Bihar *	80	2463	1.9	440	2342	NR	2342	5.17	5.17
4	Karnataka	80	3472	5.7	670	2576	6.1	3077	34.78	12.84
5	Kerala	200	2615	7.1	2493	2933	2.0	2682	-10.84	-2.50
6	Odisha	280	3119	2.4	4611	3422	0.3	3422	-8.85	-8.85
7	Tamil Nadu	80	5109	2.2	300	4838	1.4	3916	5.60	30.46
8	West Bengal	280	3527	1.7	11647	3373	0.6	3366	4.57	4.78
9	Puducherry (Rabi-I)*	20	3275	7.4	114	3083	2.0	3438	6.23	-4.74
	Puducherry (Rabi-II)*	20	2677	9.2	58	3149	3.2	NA	-14.99	NC

**COMPARISON OF ESTIMATES OF YIELD RATES UNDER
ICS AND CES DURING 2013-14**

Sl. No.	State	No.of Expts.	ICS Estimated Yield Rate Planned Kg/Hac	% SE	No.of Expts.	C.E.S. \$ Estimated Yield Rate Planned Kg/Hac	% SE	Official Estimated Yield Rate Kg/Hac	% Diff. (Col.4- Col.7/ x 100)	% Diff. (Col.4- Col.9/ x 100)
1	2	3	4	5	6	7	8	9	10	11
SUGARCANE										
1	Andhra Pradesh	120	73173	4.4	2992	79554	0.7	80130	-8.02	-8.68
2	Assam **	80	N.P.		700	36969	0.1	37069	NC	NC
3	Bihar *	80	58420	9.3	740	49924	NR	49929	17.02	17.01
4	Haryana *	100	74896	3.3	1070	73535	NR	73520	1.85	1.87
5	Karnataka	80	101778	6.1	1060	97000	6.0	90250	4.93	12.77
6	Maharashtra *	136	103787	8.1	10278	89000	0.4	82072	16.61	26.46
7	Punjab	140	73838	2.3	686	6197	NR	75000	1091.51	-1.55
8	Rajasthan	80	64624	4.2	450	68975	2.3	NA	-6.31	NC
9	Tamil Nadu	100	107771	3.4	468	104000	1.2	103687	3.63	3.94
10	Uttar Pradesh*	400	59302	3.0	9500	63778	NR	60452	-7.02	-1.90
11	Uttarakhand *	80	48160	9.4	0	0	0	57106	0	-15.67

**COMPARISON OF ESTIMATES OF YIELD RATES UNDER
ICS AND CES DURING 2013-14**

Sl. No.	State	ICS			C.E.S. \$			Official	% Diff.	% Diff.
		No.of Expts.	Estimated Yield	% SE	No.of Expts.	Estimated Yield	% SE	Estimated Yield Rate	(Col.4- Col.7/ x 100)	(Col.4- Col.9/ x 100)
1	2	3	4	5	6	7	8	9	10	11

WHEAT

1	Assam *	100	1702	6.5	850	1292	3.1	500	31.73	240.40
2	Bihar *	460	2959	NR	80990	2855	NR	2358	3.64	25.49
3	Chhattisgarh	80	1109	9.0	2074	1358	3.3	1304	-18.34	-14.95
4	Gujarat *	300	2587	4.2	2646	2876	0.7	3255	-10.05	-20.52
5	Haryana	360	4692	1.3	2200	4722	0.4	4722	-0.64	-0.64
6	Himachal Pradesh	220	1935	4.1	1772	2174	1.4	1873	-10.99	3.31
7	Jammu & Kashmir*	240	1789	3.5	1932	1970	0.0	2061	-9.19	-13.20
8	Jharkhand *	80	2115	5.8	7792	1611	0.0	2123	31.28	-0.38
9	Karnataka *	100	888	6.9	2792	1099	3.5	1005	-19.20	-11.64
10	Madhya Pradesh	500	2406	3.0	10590	2544	2.0	2405	-5.42	0.04
11	Maharashtra *	300	1846	5.2	8708	1757	0.5	1460	5.07	26.44
12	Punjab	440	5014	0.5	2290	5017	NR	5017	-0.06	-0.06
13	Rajasthan	260	3170	4.2	11918	3437	0.6	3083	-7.77	2.82
14	Uttar Pradesh*	1140	3072	1.5	112752	3110	NR	3038	-1.22	1.12
15	Uttarakhand*	120	2515	7.5	2228	2352	1.0	2422	6.93	3.84
16	West Bengal	220	2751	2.5	3143	2807	0.5	2791	-2.00	-1.43

Note:-	1) @ = Combined estimates prepared due to low response
	2) * = Central sample data repeated as state sample estimates not prepared due to low response
	3) ** = Both Central & State Estimates not prepared due to low response
	4) \$ = CES data pertains to the year 2013-14.
	5) # = In Tamil Nadu, for the year as a whole (Total of all seasons).
	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

Table-G

Last HLCC Meetings held in various States

Name of the State	Date of HLCC Meeting	Name of the State	Date of HLCC Meeting
Assam	08.10.2015	Madhya Pradesh	10.10.2012
Andhra Pradesh	06.10.2007	Maharashtra	09.02.2016
Bihar	11.11.2014	Odisha	16.10.2015
Chhattisgarh	22.05.2015	Punjab*	19.07.2005
Gujarat	04.08.2015	Rajasthan	24.04.2015
Haryana	22.12.2015	Tamil Nadu	25.04.2007
Himachal Pradesh	25.02.2016	Uttar Pradesh	18.11.2014
J&K	04.07.1996	Uttarakhand	03.07.2013
Jharkhand	22.12.2010	West Bengal	05.07.2011
Karnataka	22.08.2013	Puducherry	29.09.2008
Kerala	04.03.2016	Telangana	05.11.2014

Senior officers meeting held in February, 2016

Thank you