

Table 16.1
Estimated Number of Rural Households,
Farmer Households and Indebted Farmer Households

<i>State</i>	<i>Estimated Number of Rural Households('00)</i>	<i>Estimated Number of Farmer Households ('00)</i>	<i>Estimated Number of Indebted Farmer Households ('00)</i>	<i>% of Farmer Households Indebted</i>
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
Andhra Pradesh	142512	60339	49493	82.0
Arunachal Pradesh	15412	1227	72	5.9
Assam	41525	25040	4536	18.1
Bihar	116853	70804	23383	33
Chhattisgarh	36316	27598	11092	40.2
Gujarat	63015	37845	19644	51.9
Haryana	31474	19445	10330	53.1
Himachal Pradesh	11928	9061	3030	33.4
Jammu & Kashmir	10418	9432	3003	31.8
Jharkhand	36930	28238	5893	20.9
Karnataka	69906	40413	24897	61.6
Kerala	49942	21946	14126	64.4
Madhya Pradesh	93898	63206	32110	50.8
Maharashtra	118177	65817	36098	54.8
Manipur	2685	2146	533	24.8
Meghalaya	3401	2543	103	4.1
Mizoram	942	780	184	23.6
Nagaland	973	805	294	36.5
Odisha	66199	42341	20250	47.8
Punjab	29847	18442	12069	65.4
Rajasthan	70172	53080	27828	52.4
Sikkim	812	531	174	38.8
Tamil Nadu	110182	38880	28954	74.5
Tripura	5977	2333	1148	49.2
Uttar Pradesh	221499	171575	69199	40.3
Uttarakhand	11959	8962	644	7.2
West Bengal	121667	69226	34696	50.1
UTs	2325	732	372	50.8
All India	1478988	893504	434242	48.6

Source : Report No. 498(59/33/1), Situation Assessment Survey of Farmers: Indebtedness of Farmer Households, National Sample Survey 59th Round (January-December 2003)

Table 16.2
Indebtedness of Farmer Households(all-India) in Different Size Classes of Land Possessed

Land Possessed (ha)	2	3	4	5	6	7
	Estimated Number of Farmer Households (lakh)	% to Total in each Class	Estimated No. of Indebted Farmer Households (lakh)	% to Total in each Class	% of Indebted Farmer Households to Total	Average Outstanding Loan Amount (₹)
1						
Upto-0.01	12.59	1.40	5.71	1.3	45.3	6121
0.01-0.40	292.87	32.80	130.11	30.0	44.4	6545
0.41-1.00	283.61	31.70	129.21	29.8	45.6	8623
1.01-2.00	160.60	18.00	81.92	18.8	51.0	13762
2.01-4.00	93.50	10.50	54.41	12.5	58.2	23456
4.01-10.00	42.58	4.80	27.73	6.4	65.1	42532
10 & above	7.75	0.80	5.15	1.2	66.4	76232
All India	893.50	100.00	434.24	100.0	48.6	12585

Source : Report No. 498(59/33/1), Situation Assessment Survey of Farmers: Indebtedness of Farmer Households, National Sample Survey 59th Round (January-December 2003)

Table 16.3
Incidence of Indebtedness in Major States

State	Estimated Number	% Share in	% Share in Total Foodgrains	
	of Indebted Farmer Households	Estimated Farmer Households	Area	Production
1	2	3	4	5
1. Uttar Pradesh	69199	15.9	16.3	20.7
2. Maharashtra	36098	8.3	10.9	5.8
3. Madhya Pradesh	32110	7.4	9.6	6.7
4. Rajasthan	27828	6.4	9.5	5.5
5. Karnataka	24897	5.7	6.1	4.6
6. Andhra Pradesh	49493	11.4	5.9	7.0
7. Bihar	23383	5.4	5.8	5.9
8. West Bengal	34696	8.0	5.5	7.5
9. Punjab	12069	2.8	5.1	12.2
10. Odisha	20250	4.7	4.4	2.8
Sub-total	330023	76.0	79.1	78.7
All India	434242	100.0	100.0	100.0

Source : Report No. 498(59/33/1), Situation Assessment Survey of Farmers: Indebtedness of Farmer Households, National Sample Survey 59th Round (January-December 2003)

Table 16.4
Incidence of Indebtedness based on size of land possessed

State	% of Marginal Indebted Farmer Households (upto 1.0 ha of land)		% of Small Indebted Farmer Households (1.01 to 2.00 ha)		% of Semi-Medium Indebted Farmer Households (2.01 to 4.00 ha)		% of Medium Indebted Farmer Households (4.01 to 10.00 ha)		% of Large Indebted Farmer Households (>10.00 ha)	
	2	3	4	5	6	7	8	9	10	
1. Uttar Pradesh	71.3	17.4	7.8	3.4	0.3					
2. Maharashtra	36.0	26.2	23.3	12.2	2.4					
3. Madhya Pradesh	33.0	27.1	23.1	13.0	3.9					
4. Rajasthan	43.9	19.8	17.8	14.1	4.5					
5. Karnataka	50.7	22.8	15.9	9.3	1.2					
6. Andhra Pradesh	55.7	21.8	15.1	6.6	0.7					
7. Bihar	86.9	9.2	2.8	0.7	0.6					
8. West Bengal	88.7	8.5	2.4	0.4	0.0					
9. Punjab	53.3	15.8	17.0	11.8	2.2					
10. Odisha	70.3	20.6	7.3	1.7	0.0					
All India	61.0	18.9	12.5	6.4	1.2					

Source : Report No. 498(59/33/1), Situation Assessment Survey of Farmers: Indebtedness of Farmer Households, National Sample Survey 59th Round (January-December 2003)

Table 17.1
Ceilings on Land Holdings

(In Acres)

State	<i>Irrigated Land with two crops</i>	<i>Irrigated Land with one crop</i>	<i>Dry land</i>
1	2	3	4
As recommended in 1972 National Guidelines	10-18	27	54
Proposed in Agenda Notes 1985 of Regional Minister's Conference	12	18	30
Andhra Pradesh	10 to 18	15 to 27	35 to 54
Assam	17	17	17
Bihar	15 to 18	25	30 to 45
Gujarat	10 to 18	15 to 27	20 to 54
Haryana	18	27	54
Himachal Pradesh	10	15	30 to 70
Jammu & Kashmir	9 to 12.5	9 to 12.5	15 to 23 (in Ladakh 19)
Karnataka	10 to 20	25 to 30	54
Kerala	12 to 15	12 to 15	12 to 15
Madhya Pradesh	18	27	54
Maharashtra	18	27	54
Manipur	12	12	15
Mizoram	nil	nil	nil
Odisha	10	15	30 to 45
Punjab	17	27	51
Rajasthan	18	27	54 to 175
Tamil Nadu	12	30	60
Sikkim	12.5	12.5	50
Tripura	10	10	30
Uttarakhand	18	27	45
Uttar Pradesh	18	27	45
West Bengal	12	12	17
Andaman & Nicobar Islands	nil	nil	nil

Note : 1. The actual limits for lands in Karnataka and Uttar Pradesh are higher due to classification of land.

2. The actual ceiling limits in Himachal Pradesh and Rajasthan are higher due to hilly terrain and desert lands.

3. 1 Acre = 0.404686 Hectare.

Source :Department of Land Resources, New Delhi.

Table 17.2
Minimum Rates of Wages for different category of Farm Workers in different
States/ UTs. under the Minimum Wages Act, 1948 (As on 12.7.2012)

(₹ Per Day)

Sl.No.	Appropriate Governments	Category	Minium Wages for Agricultural Workers with V.D.A.
1	2	3	4
1	Central Sphere	Unskilled	162.00 - 181.00
		Semi-skilled	167.00 - 188.00
		Skilled	182.00 - 215.00
		Highly skilled	198.00 - 240.00
States/Union Territories			
1	Andhra Pradesh	Lowest	119.00
		Highest	261.00
2	Arunachal Pradesh	Unskilled	134.62 - 153.85
		Skilled	146.15 - 165.38
3	Assam	Unskilled	100.42
		Semi-skilled	110.46
		Skilled	120.50
4	Bihar		135.23
5	Chhattisgarh	Unskilled	118.76
6	Goa	Unskilled	150.00
7	Gujarat		100.00
8	Haryana	Unskilled	173.19
		Semi-skilled	178.19 - 183.19
		Skilled	188.19 - 193.19
9	Himachal Pradesh	Unskilled	120.00
10	Jammu & Kashmir	Unskilled	110.00
		Semi-skilled	150.00
		Skilled	200.00
11	Jharkhand	Unskilled	145.54
		Semi-skilled	158.54
		Skilled	203.06
12	Karnataka		145.58
13	Kerala	For Light Work	150.00
		For Hard Work	200.00
14	Lakshadweep	Unskilled	200.00
		Semi-skilled	225.00
		Skilled	250.00
		Highly skilled	275.00

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1	2	3	4
15	Madhya Pradesh	Unskilled	174.80
16	Maharashtra	Zone - I	120.00
		Zone - II	110.00
		Zone - III	105.00
		Zone - IV	100.00
17	Manipur	Unskilled	122.10
		Semi-skilled	129.97
		Skilled	132.60
18	Meghalaya	Unskilled	100.00
		Semi-skilled	120.00
		Skilled	140.00
19	Mizoram	Unskilled	170.00
		Semi-skilled	190.00
		Skilled -II	240.00
		Skilled -I	300.00
20	Nagaland	Unskilled	150.00
		Semi-skilled	110.00
		Skilled	120.00
21	Odisha	Unskilled	92.50
		Semi-skilled	105.50
		Skilled	118.50
		Highly Skilled	131.50
22	Punjab	With meal	154.62
		Without meal	170.14
23	Rajasthan	Unskilled	135.00
		Semi-skilled	145.00
		Skilled	155.00
		Highly Skilled	205.00
24	Tamil Nadu	Women workers (5 Hours)	85.00
		Men workers (6 Hours)	100.00
25	Tripura	Adult	140.00
		young	98.00
26	Uttar Pradesh	Unskilled	100.00
27	Uttarakhand	Unskilled	129.50
28	West Bengal	Unskilled With Food	102.50
		Unskilled Without Food	112.50
		Skilled	120.50
29	Andaman & Nicobar Islands	Unskilled	212.00-223.00
		Semi-skilled	224.00-232.00
		Skilled	237.00-254.00

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1	2	3	4
30	Chandigarh	Unskilled	219.93
		Semi-skilled	225.00 - 228.85
		Skilled	236.54 - 245.19
31	Dadra & Nagar Haveli	Unskilled	156.20
		Semi-skilled	162.70
		Skilled	169.20
32	Delhi	Unskilled	270.00
		Semi-skilled	298.00
		Skilled	328.00
33	Puducherry		
	(i) Karaikal	Light work 6 hours	100.00
		Hard work	150.00
	(ii) Puducherry	Light work	100.00
		Hard work	150.00
	(iii) Mahe	Hard work men 8 hours	160.00
		Light work women 8 hours	120.00
	(iv) Yanam	Light work 6 hours	100.00
		Ploughing 5 hours	100.00

Source : Ministry of Labour , New Delhi

Table 18.1
Livestock Population in India
(Million Numbers)

Species	1951	1956	1961	1966	1972	1977	1982	1987	1992	1997	2003	2007
1	2	3	4	5	6	7	8	9	10	11	12	13
Cattle	155.30	158.70	175.60	176.20	178.30	180.00	192.45	199.69	204.58	198.88	185.18	199.08
Adult Female Cattle	54.40	47.30	51.00	51.80	53.40	54.60	59.21	62.07	64.36	64.43	64.51	72.95
Buffalo	43.40	44.90	51.20	53.00	57.40	62.00	69.78	75.97	84.21	89.92	97.92	105.34
Adult Female Buffalo	21.00	21.70	24.30	25.40	28.60	31.30	32.50	39.13	43.81	46.77	50.97	54.47
Total Bovins	198.70	203.60	226.80	229.20	235.70	242.00	262.36	275.82	289.00	289.00	283.10	304.42
Sheep	39.10	39.30	40.20	42.40	40.00	41.00	48.76	45.70	50.78	57.49	61.47	71.56
Goats	47.20	55.40	60.90	64.60	67.50	75.60	95.25	110.21	115.28	122.72	124.36	140.54
Horses & Ponies	1.50	1.50	1.30	1.10	0.90	0.90	0.90	0.80	0.82	0.83	0.75	0.61
Camels	0.60	0.80	0.90	1.00	1.10	1.10	1.08	1.00	1.03	0.91	0.63	0.52
Pigs	4.40	4.90	5.20	5.00	6.90	7.60	10.07	10.63	12.79	13.29	13.52	11.13
Mules	0.06	0.04	0.05	0.08	0.08	0.09	0.13	0.17	0.19	0.22	0.18	0.14
Donkeys	1.30	1.10	1.10	1.10	1.00	1.00	1.02	0.96	0.97	0.88	0.65	0.44
Yaks	NC	NC	0.02	0.03	0.04	0.13	0.13	0.04	0.06	0.06	0.06	0.08
Total Livestock	292.80	306.60	335.40	344.10	353.60	369.00	419.59	445.29	470.86	485.39	485.00	529.70
Poultry	73.50	94.80	114.20	115.40	138.50	159.20	207.74	275.32	307.07	347.61	489.1	468.88
Dogs	NC	NC	NC	NC	NC	NC	18.54	17.95	21.77	25.48	29.03	19.09
Rabbits	NC	NC	NC	NC	NC	NC	NC	NC	NC	NC	0.48	0.42

NC : Not Collected

Department of Animal Husbandry, Dairying & Fisheries.

Table 18.2
All India Production of Milk, Eggs and Wool

<i>Year</i>	<i>Milk</i> <i>(Million Tonnes)</i>	<i>Eggs</i> <i>(Billion Nos.)</i>	<i>Wool</i> <i>(Million Kgs.)</i>
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
1985-86	44.0	16.1	39.1
1986-87	46.1	17.3	40.0
1987-88	46.7	17.8	40.1
1988-89	48.4	18.9	40.8
1989-90	51.4	20.2	41.7
1990-91	53.9	21.1	41.2
1991-92	55.7	21.9	41.6
1992-93	58.0	22.9	38.8
1993-94	60.6	24.2	39.9
1994-95	63.8	25.9	40.6
1995-96	66.2	27.2	42.4
1996-97	69.1	27.5	44.4
1997-98	72.1	28.7	45.6
1998-99	75.4	29.5	46.9
1999-00	78.3	30.4	47.9
2000-01	80.6	36.6	48.4
2001-02	84.4	38.7	49.5
2002-03	86.2	39.8	50.5
2003-04	88.1	40.4	48.5
2004-05	92.5	45.2	44.6
2005-06	97.1	46.2	44.9
2006-07	102.6	50.7	45.1
2007-08	107.9	53.6	43.9
2008-09	112.2	55.6	42.8
2009-10	116.4	60.3	43.1
2010-11	121.8	63.0	43.0

Source : Department of Animal Husbandry, Dairying & Fisheries.

Table 18.3
Production of Milk, Eggs , Meat and Wool

States/UTs	Milk (000 Tonnes)				Eggs (Lakhs Nos.)			
	2007-08	2008-09	2009-10	2010-11	2007-08	2008-09	2009-10	2010-11
	1	2	3	4	5	6	7	8
Andhra Pradesh	8925	9570	10429	11203	175884	183446	193958	201277
Arunachal Pradesh	32	24	26	28	394	361	380	407
Assam	752	753	756	790	4910	4659	4671	4707
Bihar*	5783	5934	6124	6517	10707	10740	11002	7446
Chhattisgarh	866	908	956	1029	9184	9738	10520	12454
Goa *	58	59	59	60	152	149	148	149
Gujarat*	7911	8386	8844	9321	8256	12675	12762	13269
Haryana	5442	5745	6006	6267	41031	38150	38453	39644
Himachal Pradesh	1007	1026	971	1102	843	977	1000	1021
Jammu & Kashmir	1519	1565	1592	1609	6682	7208	7242	7725
Jharkhand	1442	1466	1463	1555	7130	3995	3925	4153
Karnataka	4244	4538	4822	5114	20181	23688	29094	30674
Kerala	2253	2441	2509	2645	13831	15095	16330	16856
Madhya Pradesh	6572	6855	7167	7514	9747	6713	7075	7577
Maharashtra	7210	7455	7679	8044	34640	35502	38640	42245
Manipur	78	79	78	78	845	1105	1119	1137
Meghalaya	77	78	78	79	990	995	999	1011
Mizoram	17	17	11	11	403	411	371	387
Nagaland	45	53	78	76	802	832	834	802
Odisha	1625	1598	1651	1671	15479	19940	23193	23571
Punjab	9282	9387	9389	9423	37914	36790	32828	35449
Rajasthan	11377	11931	12330	13234	6730	6449	6713	6697
Sikkim \$	42	42	44	43	135	137	136	140
Tamil Nadu	6540	6651	6787	6831	83937	88098	108476	115137
Tripura	91	96	100	104	1320	1388	1442	1569
Uttar Pradesh	18861	19537	20203	21031	9814	10140	10596	10991
Uttarakhand *	1221	1230	1377	1383	1911	1962	2536	2614
West Bengal	4087	4176	4300	4471	30542	33056	36978	39939
A & N Islands	24	26	24	25	622	618	657	672
Chandigarh	47	47	46	45	282	273	249	180
D & N Haveli \$	10	10	10	11	70	71	71	70
Daman & Diu \$	1	1	1	1	19	19	19	19
Delhi \$	445	450	466	480	1	1	1	1
Lakshadweep	2	2	2	2	128	135	138	138
Puducherry	47	46	46	47	137	112	113	114
All India	107935	112182	116424	121844	535653	555628	602669	630242

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States/UTs	Meat (000 Tonnes)				Wool ('000 Kgs.)			
	2007-08	2008-09	2009-10	2010-11	2007-08	2008-09	2009-10	2010-11
	10	11	12	13	14	15	16	17
Andhra Pradesh	556	604	679	747	4407	4507	4605	4832
Arunachal Pradesh	20	20	21	21	12	15	16	14
Assam	30	31	32	34	-	-	-	-
Bihar*	203	209	218	223	241	250	260	260
Chhattisgarh	18	20	25	27	165	165	166	114
Goa *	5	6	6	7	-	-	-	-
Gujarat*	17	19	21	22	2996	2857	2919	2918
Haryana	194	230	241	319	1121	1200	1246	1287
Himachal Pradesh	4	4	4	3	1607	1618	1614	1642
Jammu & Kashmir	28	28	30	31	7040	7133	7282	7382
Jharkhand	47	47	47	44	147	149	136	149
Karnataka	110	115	119	124	5631	7137	7165	7179
Kerala	128	124	118	124	-	-	-	-
Madhya Pradesh	36	34	36	38	401	381	370	372
Maharashtra	525	536	545	563	1677	1707	1726	1448
Manipur	23.6	23	24	24	-	-	-	-
Meghalaya	37	37	37	38	-	-	-	-
Mizoram	11	13	10	10	-	-	-	-
Nagaland	22	63	66	65	-	-	-	-
Odisha	110	118	128	138	-	-	-	-
Punjab	109	108	147	175	435	451	485	506
Rajasthan	80	84	92	107	15451	12664	12529	12277
Sikkim \$	2	1	3	3	1	1	1	1
Tamil Nadu	429	457	502	466	25	25	31	1
Tripura	14	19	21	23	-	-	-	-
Uttar Pradesh	696	767	800	845	1481	1503	1523	1543
Uttarakhand *	9	10	10	14	360	368	353	362
West Bengal	505	516	544	577	680	687	697	705
A & N Islands	0.3	0.3	0.4	0.4	-	-	-	-
Chandigarh	1	1	1	1	-	-	-	-
D & N Haveli \$	-	0.1	0.1	0.1	-	-	-	-
Daman & Diu \$	0.3	0.2	0.2	0.2	-	-	-	-
Delhi \$	32	26	26	42	-	-	-	-
Lakshadweep	0.3	0.3	0.4	0.4	-	-	-	-
Puducherry	8	9	11	13	-	-	-	-
All India	4011	4280	4565	4869	43878	42818	43124	42992

Note: (-): Not available. * Meat production from Unregistered sector not included.

\$: Figures are estimated based on Livestock Census, 2007 and yield rate of concerned neighbouring State.

Department of Animal Husbandry, Dairying & Fisheries.

Table 19.1
Fish Production in India

('000 Tonnes)

<i>Year</i>	<i>Marine</i>	<i>Inland</i>	<i>Total</i>
<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
1950-51	534	218	752
1955-56	596	243	839
1960-61	880	280	1160
1965-66	824	507	1331
1970-71	1086	670	1756
1973-74	1210	748	1958
1978-79	1490	816	2306
1979-80	1492	848	2340
1980-81	1555	887	2442
1981-82	1445	999	2444
1982-83	1427	940	2367
1983-84	1519	987	2506
1984-85	1698	1103	2801
1985-86	1716	1160	2876
1986-87	1713	1229	2942
1987-88	1658	1301	2959
1988-89	1817	1335	3152
1989-90	2275	1402	3677
1990-91	2300	1536	3836
1991-92	2447	1710	4157
1992-93	2576	1789	4365
1993-94	2649	1995	4644
1994-95	2692	2097	4789
1995-96	2707	2242	4949
1996-97	2967	2381	5348
1997-98	2950	2438	5388
1998-99	2696	2602	5298
1999-00	2852	2823	5675
2000-01	2811	2845	5656
2001-02	2830	3126	5956
2002-03	2990	3210	6200
2003-04	2941	3458	6399
2004-05	2779	3526	6305
2005-06	2816	3756	6572
2006-07	3024	3845	6869
2007-08	2920	4207	7127
2008-09	2978	4638	7616
2009-10	3104	4894	7998
2010-11(P)	3225	5198	8423

P = Prvisional

Source: Department of Animal Husbandry Dairying & Fisheries

Table 19.2
State- wise Fish Production in India

(in Tonnes)

S. No.	States /UTs	2009-10			2010-11*		
		Marine	Inland	Total	Marine	Inland	Total
1	2	3	4	5	6	7	8
1	Andhra Pradesh	293151	1012713	1305864	288637	1079565	1368202
2	Arunachal Pradesh	0	2650	2650	0	3035	3035
3	Assam	0	218822	218822	0	227242	227242
4	Bihar	0	297400	297400	0	299910	299910
5	Goa	81927	3437	85364	89962	3308	93270
6	Gujarat	687445	84071	771516	688930	85972	774902
7	Haryana	0	100464	100464	0	96195	96195
8	Himachal Pradesh	0	7847	7847	0	7381	7381
9	J & K	0	19300	19300	0	19700	19700
10	Karnataka	248729	171332	420061	295570	204271	499841
11	Kerala	570013	128844	698857	560398	139475	699873
12	Madhya Pradesh	0	66119	66119	0	56451	56451
13	Maharashtra	415767	134595	550362	446703	148546	595249
14	Manipur	0	19200	19200	0	20200	20200
15	Meghalaya	0	4332	4332	0	4557	4557
16	Mizoram	0	3246	3246	0	2901	2901
17	Nagaland	0	6360	6360	0	6585	6585
18	Odisha	129332	253216	382548	133481	267284	400765
19	Punjab	0	122860	122860	0	97040	97040
20	Rajasthan	0	26908	26908	0	23708	23708
21	Sikkim	0	168	168	0	180	180
22	Tamil Nadu	401128	181799	582927	424842	189967	614809
23	Tripura	0	42285	42285	0	49231	49231
24	Uttar Pradesh	0	392926	392926	0	417479	417479
25	West Bengal	179004	1338004	1517008	197108	1436466	1633574
26	A&N Islands	33000	159	33159	33735	186	33921
27	Chandigarh	0	236	236	0	242	242
28	D & N Haveli	0	50	50	0	50	50
29	Daman & Diu	15880	0	15880	16851	124	16975
30	Delhi	0	715	715	0	820	820
31	Lakshadweep	12372	0	12372	12372	0	12372
32	Puducherry	36100	5849	41949	36100	5849	41949
33	Chhattisgarh	0	174246	174246	0	228207	228207
34	Uttakhand	0	3488	3488	0	3818	3818
35	Jharkhand	0	70500	70500	0	71886	71886
	Total	3103848	4894141	7997989	3224689	5197831	8422520

* Provisional

Source: Department of Animal Husbandry Dairying & Fisheries

Table 20.1
Rainfall in 2012 (January – November)

In 2012, the rainfall over the country as a whole was 89% (January to 21st November, 2012) of Long Period Average (LPA). Out of 36 meteorological subdivisions, 24 received normal rainfall and 12 received deficient rainfall. Season wise rainfall distribution over the country as a whole was as follows:

Winter (January to February 2012):	95% of LPA
Pre-monsoon (March to May 2012):	69% of LPA
Monsoon (June to September 2012):	92% of LPA
Post-Monsoon (Oct. to Dec. 2012, (Till 21st November):	83% of LPA

Season – wise Performance

Winter Season (January – February 2012)

During the winter season rainfall activity over the country as a whole was normal with 95% of the LPA rainfall. At sub-division level, 07 subdivisions received excess rainfall, 03 Subdivisions received normal rainfall, 12 received deficient, 11 received scanty rainfall and no rain in 03 met subdivisions out of 36 met sub-divisions.

Pre-Monsoon Season (March – May 2012)

Rainfall activity during the Pre-monsoon season over the country as a whole was recorded deficit 69% of LPA rainfall. Out of 36 meteorological subdivisions, 01 received excess rainfall, 06 received normal rainfall, 19 received deficient rainfall and 10 met sub-divisions received scanty rainfall.

Monsoon Season (June – September 2012)

Monsoon season witnessed normal rainfall in over the country as a whole. During the season for the country as a whole, rainfall was 92% of its Long Period Average (LPA) value. Seasonal rainfall was 93% of its LPA over Northwest India, 96% of its LPA over Central India, 90% of its LPA over south Peninsula and 89 % of its LPA over East and Northeast (NE) India. At met sub-division level, 01 subdivisions received excess rainfall, 22 subdivisions received normal rainfall and remaining 13 sub-divisions received deficient rainfall. Excess / normal rainfall sub-divisions covered 58% of the geographical area of the country. Out of 628 districts for which rainfall data were available, 62 districts (10%) received excess rainfall, 303 districts (48%) normal rainfall, 235 districts (37%) deficient rainfall and 28 districts (5%) received scanty rainfall.

Post-Monsoon Season (October – December 2012) (till 21st November, 2012)

During the post-monsoon country received normal rainfall with 83% of LPA. Out of 36 meteorological subdivisions 03 subdivisions received excess rainfall, 13 Subdivisions received normal rainfall, 07 received deficient rainfall and 13 received scanty rainfall.

Table 20.2
Performance of South West Monsoon during 1989 to 2012

Year (1 June - 30 September)	Number of Meteorological Sub-Divisions @		Percentage of Districts with	Actual Rainfall as % of Normal
	Excess/ Normal Rainfall	Deficient/ Scanty Rainfall	Normal/ Excess Rainfall	Rainfall (All India)
1	2	3	4	5
1989	29	6	72	101
1990	32	3	88	119
1991	27	8	68	91
1992	32	3	65	93
1993	31	4	78	100
1994	25	10	77	110
1995	33	2	79	100
1996	32	3	82	103
1997	32	3	81	102
1998	33	2	83	106
1999	28	7	67	96
2000	28	7	66	92
2001	30	5	68	92
2002	15	21	39	81
2003	33	3	77	102
2004	23	13	56	87
2005	32	4	72	99
2006	26	10	59	100
2007	31	5	72	106
2008	33	3	76	98
2009	14	22	41	78
2010	31	5	69	102
2011	33	3	76	101
2012	23	13	58	92

@ Total number of Meteorological sub-divisions was 35 upto 2001. From 2002 onwards, the no. of meteorological sub-divisions is 36.

Excess : + 20% or more of Long Period Average Rainfall

Normal : Between + 19% and -19% of Long Period Average Rainfall

Deficient : Between -20% and -59% of Long Period Average Rainfall

Scanty : Between -60% and -99% of Long Period Average Rainfall

Source : Directorate of Economics and Statistics, Department of Agriculture and Cooperation.

Table 20.3
All India rainfall distribution from 1992-93 to 2012-13

Year	(In Millimeters)																			
	Monsoon Season (June-September)				Post-Monsoon (October-December)				Winter Season (January-February)				Pre-monsoon Season (March-May)				Over all rainfall (June-May)			
	Actual	Normal	%Depa- rture		Actual	Normal	%Depa- rture		Actual	Normal	%Depa- rture		Actual	Normal	%Depa- rture		Actual	Normal	%Depa- rture	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1992-93	830.7	899.2	-7.6	106.5	114.1	-6.7	37.9	41.0	-7.6	116.5	121.3	-4.0	1091.6	1175.6	-7.1					
1993-94	902.1	908.9	-0.7	131.6	119.6	10.0	44.5	40.8	9.1	106.1	123.3	-13.9	1184.3	1192.6	-0.7					
1994-95	999.2	906.8	10.2	121.5	119.6	1.6	53.1	41.1	29.2	123.5	123.2	0.2	1297.3	1190.7	9.0					
1995-96	904.5	904.7	0.0	117.8	119.9	-1.8	37.4	40.8	-8.3	94.9	123.9	-23.4	1154.6	1189.3	-2.9					
1996-97	927.6	905.7	2.4	128.0	120.8	6.0	21.0	40.6	-48.3	118.9	123.2	-3.5	1196.5	1190.3	0.4					
1997-98	927.4	908.6	2.1	187.7	119.5	57.1	44.1	41.9	5.3	132.3	128.3	3.1	1291.5	1198.3	7.8					
1998-99	945.2	903.6	4.6	178.8	121.8	46.8	28.4	42.8	-33.6	123.1	130.6	-5.7	1275.5	1198.8	6.4					
1999-00	866.9	903.2	-4.0	144.7	121.8	18.8	43.1	42.5	1.4	128.8	129.5	-0.5	1183.5	1197.0	-1.1					
2000-01	833.7	902.3	-7.6	64.1	121.7	-47.3	16.2	42.2	-61.6	129.7	129.3	0.3	1043.7	1195.5	-12.7					
2001-02	826.0	901.1	-8.3	137.7	121.7	13.1	35.0	41.2	-15.0	121.5	132.0	-8.0	1120.2	1196.0	-6.3					
2002-03	737.1	911.7	-19.2	83.4	123.7	-32.6	53.2	38.3	38.9	107.7	131.7	-18.2	981.4	1205.4	-18.6					
2003-04	947.3	902.7	4.9	134.6	125.0	7.7	34.5	39.2	-12.0	161.6	129.6	24.7	1278.0	1196.5	6.8					
2004-05	779.6	893.3	-12.7	111.8	125.7	-11.1	69.8	43.8	59.0	124.7	134.5	-7.3	1085.9	1197.3	-9.3					
2005-06	879.3	892.5	-1.0	138.4	125.8	10.0	27.8	43.9	-37.0	139.9	134.6	3.9	1185.4	1196.8	-1.0					
2006-07	886.6	892.2	-0.6	99.3	125.9	-21.1	34.3	43.8	-21.7	112.8	133.6	-15.6	1133.0	1195.5	-5.2					
2007-08	936.9	892.2	5.0	85.4	125.9	-32.2	42.6	43.2	-1.4	115.3	133.5	-13.6	1180.2	1194.8	-1.2					
2008-09	873.2	892.2	-2.1	87.2	125.9	-30.7	23.6	43.8	-46.1	91.0	134.5	-32.3	1075.0	1196.4	-10.1					
2009-10	689.8	892.2	-22.7	135.5	125.9	7.6	24.6	43.8	-43.8	122.9	133.7	-8.1	972.8	1195.6	-18.6					
2010-11	912.8	893.2	2.2	153.2	126.3	21.3	31.9	40.9	-22.0	114.4	131.3	-12.9	1212.3	1191.7	1.7					
2011-12	899.9	887.5	1.4	65.7	127.2	-48.3	38.8	40.9	-5.1	90.3	131.3	-31.2	1094.7	1186.9	-7.8					
2012-13	819.5	886.9	-7.6	85.4	97.4	-12.3														

Note: * Post monsoon (October - December) 2012-13 till 14th November 2012.
Source : Directorate of Economics and Statistics, Department of Agriculture and Cooperation.

Table 20.4
Broad region wise Monsoon (June - September) Rainfall distribution from 2005 to 2012
(In Millimeters)

Year	North-west India			Central India			South Peninsula			North-east India		
	Actual	Normal	%Departure	Actual	Normal	%Departure	Actual	Normal	%Departure	Actual	Normal	%Departure
1	2	3	4	5	6	7	8	9	10	11	12	13
2005	552.1	611.6	-10	1094.9	993.2	10	808.9	722.6	12	1140.9	1430.7	-20
2006	573.7	611.6	-6	1152.2	993.9	16	684.6	722.6	-5	1177.6	1427.3	-17
2007	520.8	611.6	-15	1073.8	993.9	8	907.3	722.6	26	1485.9	1427.3	4
2008	651.7	611.6	7	956.9	993.9	-4	692.5	722.6	-4	1346.0	1427.3	-6
2009	392.1	611.6	-36	794.8	993.9	-20	693.0	722.6	-4	1037.7	1427.3	-27
2010	688.2	613.0	12	1027.9	991.5	4	853.6	722.9	18	1175.8	1436.2	-18
2011	654.8	615.0	7	1073.6	975.5	10	715.2	715.5	0	1233.6	1438.3	-14
2012	569.3	615.0	-7	934.6	974.2	-4	644.0	717.7	-10	1275.3	1437.8	-11

Source : Directorate of Economics and Statistics, Department of Agriculture and Cooperation.

Table 20.5
Rainfall in 2012

Sl. No.	Meteorological Sub-Divisions	Total Rainfall In Winter-2012			Total Rainfall In Pre-monsoon-2012			Total Rainfall In Monsoon-2012			Total Rainfall in Post-Monsoon-2012*			Total Rainfall In Year 2012 (Jan.-14 Nov)		
		Normal (CMS)	Actual (CMS)	Deviation (%)	Normal (CMS)	Actual (CMS)	Deviation (%)	Normal (CMS)	Actual (CMS)	Deviation (%)	Normal (CMS)	Actual (CMS)	Deviation (%)	Normal (CMS)	Actual (CMS)	Deviation (%)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	A & N Islands	8.3	17.0	105	46.5	62.6	35	168.3	205.3	22	48.6	38.5	-21	271.6	323.4	19
2	Arunachal Pradesh	14.8	8.5	-43	75.0	61.5	-18	176.8	175.2	-1	21.5	18.0	-16	288.2	263.2	-9
3	Assam & Meghalaya	4.7	1.3	-73	59.0	39.5	-33	179.3	172.4	-4	17.5	17.3	-1	260.5	230.5	-12
4	Naga, Mani., Mizo & Tripura	4.4	0.9	-80	49.4	33.4	-32	149.7	103.0	-31	22.1	17.5	-21	225.6	154.9	-31
5	Sub-Himalayan. WB & Sikkim	6.0	3.0	-50	45.7	36.0	-21	200.6	209.2	4	17.1	14.6	-15	269.5	262.8	-2
6	Gangetic West Bengal	3.4	5.6	62	16.5	11.4	-31	116.8	95.7	-18	14.9	11.1	-26	151.6	123.7	-18
7	Orissa	3.2	6.2	95	13.5	13.5	0	115.0	114.8	0	13.7	14.4	5	145.4	148.9	2
8	Jharkhand	3.3	3.8	13	7.9	2.8	-65	109.2	93.6	-14	8.3	7.4	-11	128.7	107.5	-16
9	Bihar	2.3	1.7	-25	7.8	4.6	-41	102.8	81.4	-21	7.1	4.4	-37	119.9	92.1	-23
10	East U.P.	2.9	4.2	46	3.2	1.0	-67	89.8	80.5	-10	5.3	0.2	-97	101.1	85.9	-15
11	West U.P.	3.3	2.1	-36	2.9	0.9	-68	76.9	54.9	-29	4.6	0.1	-99	87.7	58.0	-34
12	Uttaranchal	10.6	6.7	-37	15.6	8.8	-44	122.9	112.2	-9	6.5	0.9	-87	155.7	128.6	-17
13	Harayana, Chd., and Delhi	3.3	0.5	-86	3.4	1.7	-49	46.6	28.3	-39	2.0	0.3	-85	55.4	30.8	-44
14	Punjab	5.0	3.9	-22	5.4	2.3	-57	49.2	26.6	-46	2.6	0.3	-89	62.1	33.0	-47
15	Himachal Pradesh	19.6	17.8	-9	24.5	11.9	-51	82.5	69.8	-15	5.4	0.3	-95	132.0	99.9	-24
16	Jammu & Kashmir	21.3	23.7	11	32.6	22.5	-31	53.5	55.9	5	5.9	1.6	-72	113.2	103.7	-8
17	West Rajasthan	0.7	0.0	-95	1.9	1.8	-5	26.3	29.6	13	0.1	0.1	86	29.0	31.6	9
18	East Rajasthan	1.1	0.2	-77	1.7	1.6	-6	61.6	67.8	10	2.1	0.0	-99	66.5	69.7	5
19	West Madhya Pradesh	1.4	0.7	-48	1.4	0.5	-61	87.6	99.6	14	4.1	0.4	-91	94.4	101.2	7
20	East MP	3.5	5.0	42	2.5	0.4	-83	105.1	102.2	-3	4.4	1.7	-62	115.5	109.3	-5
21	Gujarat Region	0.1	0.0	-91	0.6	0.0	-99	90.1	64.8	-28	3.0	0.5	-84	93.8	65.3	-30
22	Saurashtra, Kutch & Diu	0.1	0.0	-100	0.4	0.0	-99	47.4	31.2	-34	2.7	0.3	-90	50.5	31.4	-38
23	Konkan & Goa	0.0	0.0	-100	3.7	0.1	-98	291.4	282.3	-3	13.9	17.6	26	309.0	299.9	-3

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
24	Madhya Maharashtra	0.2	0.0	-100	3.8	2.3	-40	72.9	54.4	-25	9.5	9.5	0	86.4	66.1	-23
25	Marathwada	0.7	0.0	-96	3.0	0.8	-74	68.3	45.7	-33	8.7	7.2	-17	80.7	53.7	-33
26	Vidarbha	1.7	1.0	-40	3.1	0.4	-86	95.5	103.2	8	6.8	4.3	-37	107.0	108.9	2
27	Chhattisgarh	2.1	4.7	119	4.5	2.6	-43	114.7	122.9	7	6.8	6.1	-10	128.2	136.2	6
28	Coastal Andhra Pradesh	1.9	3.5	88	9.7	5.7	-41	58.1	65.6	13	28.0	40.7	45	97.7	115.5	18
29	Telangana	1.1	0.8	-28	5.7	3.2	-43	75.5	78.7	4	11.0	14.5	32	93.4	97.3	4
30	Rayalseema	0.7	0.3	-48	8.2	9.0	10	39.8	35.7	-10	18.3	16.0	-12	67.0	61.1	-9
31	Tamil Nadu & Pondicherry	3.1	0.9	-70	12.8	8.8	-32	31.7	24.3	-23	31.5	31.5	0	79.1	65.5	-17
32	Coastal Karnataka	0.1	0.0	-89	17.9	8.7	-51	308.4	308.9	0	23.8	21.8	-9	350.1	339.3	-3
33	North Interior Karnataka	0.4	0.0	-97	8.5	6.4	-24	50.6	32.6	-36	13.4	13.8	3	72.9	52.9	-28
34	South Interior Karnataka	0.4	0.1	-89	14.5	16.2	12	66.0	50.9	-23	18.8	15.4	-18	99.8	82.5	-17
35	Kerala	2.3	1.7	-29	38.0	31.1	-18	204.0	154.8	-24	41.9	29.3	-30	286.2	216.8	-24
36	Lakshadweep	3.6	1.9	-46	23.2	9.9	-57	99.9	114.7	15	25.2	15.8	-37	151.8	142.3	-6
	All-India (Area Weighted)	40.9	38.8	-5	131.3	90.3	-31	886.9	819.5	-8	103.4	85.9	-17	1162.5	1034.5	-11

Winter - (January - February)

Pre-Monsoon (March - May)

Monsoon - (June - September)

Post-Monsoon - (October - December)

*:- Post-Monsoon, 2012 till 21st November, 2012.

Source : Directorate of Economics and Statistics, Department of Agriculture and Cooperation.

Table 20.6
Brief History of Most Intense Cyclones from 1970 to 2011

S.No.	Name of Cyclone	Date and Year	Intensity (T-Number)	Observed/ Estimated Max. Wind	Damage
1		3	4	5	6
I. Over the Arabian Sea					
1	Severe Cyclonic Storm over the Arabian sea	October 19-24, 1975	N/A	97 Knots 180 Kmph	85 people died in the districts of Junagarh, Jamnager and Rajkot of Gujarat state. This Cyclone caused considerable damage, estimated to be about ₹ 75 Crores.
2	Severe Cyclonic Storm over the Arabian sea	May 31 -June 5, 1976	N/A	90 Knots 167 Kmph	This Cyclone caused damage to property which was estimated to be about ₹ 3 Crore. 4 Burges each. Containing ₹ 5 Lakh and 6 fishing boats were swept away. Mehasana, Bhavnagar, Kaira, Panchmahal, Rajkot and Broach districts of Gujarat State were most affected areas.
3	Severe Cyclonic Storm over the Arabian Sea	November 13-23 1977	T- 5.5 (as per US satellite)	90 Knots	Kerala and Lakshadweep were storm. People killed - 72. Arabian sea Houses damaged - 8400 and 620 fishing Vessels damaged in Kerala coast. Total loss was estimated to be about ₹ 10 crores

Contd...

1	2	3	4	5	6
4	Gujarat Cyclone	November 5-13, 1978	N/A	278 Kmph	Damage to Property reported.
5	Severe Cyclonic Storm over the Arabian sea	October 28 - November 3, 1981	T - 4.0 (as per US satellite)	65 Knots 120 Kmph	T - 4.0 (as per Junagarh, Rajkot and Jamnagar of Gujarat state were most affected areas, Total loss of damage to property was ₹ 52 Crores.
6	Severe Cyclonic Storm over the Arabian sea	November 4-9, 1982	N/A	N/A	Saurashtra Coast of Gujarat about 45 km east of Veraval was affected very much by this storm. 507 people died and 1.5 lakh livestock perished.
7	Severe Cyclonic Storm over the Arabian sea	November 4-9, 1982	T - 4.0	50 Knots 93 Kmph	50 fishermen were reported missing in Gujarat Coast.
8	Severe Cyclonic Storm over the Arabian sea	June 17-20, 1996	T - 3.5	60 Knots 111 Kmph	19 Districts of Gujarat State were affected. 33 people died. 27964 pucca houses were destroyed. Total estimated loss was ₹ 1803.52 lakh.
9	Severe Cyclonic Storm over the Arabian sea	October 23-28, 1996	T - 4.0	60 Knots` 111 Kmph	As the system did not cross the coast no significant damage was reported.
10	Very severe Cyclonic Storm over the Arabian sea	June 4-10, 1998	T - 50	90 Knots 167 Kmph	Gujarat & Rajasthan states were affected. Porbander of Gujarat state was the most affected area. Loss incurred due to storm was estimated to be about ₹ 1855.38 Crores in Kandla. Number of lives lost

Contd...

1	2	3	4	5	6
11	Very severe Cyclonic Storm over the Arabian sea	May 16-22, 1999	T - 5.5	55 Knots 102 Kmph	1173 and number of persons missing 1774 in Gujarat. This system caused severe damage in Kutch and Jamnagar districts of Gujarat. 453 people died. Loss of property was estimated to be about ₹ 80 crores. In Rajasthan one person died and 5104 cattle heads perished. 5133 houses were partially damaged.
12	Severe Cyclonic Storm over Arabian sea	May 5-10, 2004	3.5	Weakened over sea	Widespread damage caused at Lakshadweep. Several houses damaged due to wind, sea wave, falling of trees and floods. 45 houses, 35 boats and small mechanized cargo ships lost in sea near land. 16 boats reported sunk and cargo boat damaged. Sea erosion reported over Kerala and 9 people dead and 17 people missing. Total loss worth ₹ 30 crores.
13	Severe Cyclonic" Storm MUKDA" over Arabian sea	September 21-24, 2006	3.5	55 Knots 102 Kmph	No damage as dissipated over the Arabian Sea.
14	Super cyclone "GONU"	01-07 June 2007	T - 6.5	127 knots	The system crossed Makaran coast and hence there was no damage in India
15	Cyclonic storm "YEMYIN"	25 - 26 June 2007	T - 2.5	35 knots	The system crossed Pakistan coast and hence there was no damage in India

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1	2	3	4	5	6
16	Cyclonic Storm PHYAN (Arabian sea)	9-12 Nov. 2009	3.0	45 Knots 83 Kmph	According to State Govt. and news agencies reports, it caused damage to lives, crops and properties in Goa and Konkan region especially in Ratnagiri, Sindhudurg, Raigarh and Thane districts. About 1000 houses damaged, seven persons died and about 44 fishermen missing. No damage over India.
17	Cyclonic Storm WARD (Arabian sea)	10-15 Dec.2009	3.0	45 Kts (83 Kmph)	
18	Cyclonic Storm Bandu	May 19 -23 2010	2.5	40 knots	
19	Cyclonic Storm Phet	May 31- 07 June 2010	4.5	85 knots	
20	Cyclonic Storm "KEILA"	29th October to 4th November, 2011	T 2.5	35 kts (65 kmph)	No damages over India.

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1	2	3	4	5	6
II. Over the Bay of Bengal					
1	Bangladesh (Chittagong)	November 12-13, 1970	N/A	224 Kmph	3,00,000 People died.
2	Balasure (Odisha)	October 26-31, 1971	N/A	185 Kmph	10,000 people died and 1 million people rendered homeless. 8547 People died.
3	Andhra Cyclone	November 14-20, 1977	N/A	259 Kmph	Strom surge height 5 m. 604 people died.
4	Sri Harikota (A.P.)	November 9-14, 1984	T-6.0	213 Kmph	
5	Indo-Bangladesh Border	November 24-30, 1988	T-6.0	213 Kmph	2000 people died. 6000 people missing in Bangladesh.
6	Kavali (A.P.)	November 1-9, 1989	T-6.5	235 Kmph	69 people died.
7	Machilipatnam (A.P.)	May 4-9, 1990	T-6.5	235 Kmph	967 people died.
8	Bangladesh (Chittagong)	April 25-30, 1991	T-6.5	235 Kmph	1,38,882 people died. 1,39,054 people injured.
9	Bangladesh (Teknaf)	April 24 - May 2, 1994	T - 6.0	215 Kmph	184 people killed
10	Bangladesh (Teknaf)	May 15-19, 1997	T - 6.0	230 Kmph As reported by Bangladesh Met. Office	155 people died. 9663 people injured.
11	Gopalpur Cyclone (Orissa)	October 15-19, 1999	T - 5.0	170 Kmph	198 people died. 402 persons injured.
12	Super Cyclone (Odisha)	October 25-31, 1999	T - 7.0	260 Kmph	9887 people died. 129.22 lakh people affected

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1	2	3	4	5	6
13	Very severe Cyclonic Storm over the bay of Bengal.	November 26-30, 2000	T - 5.5	102 Knots 189 kmph	Two states viz., Tamil Nadu and Pondicherry were mainly affected by this storm. The loss was mainly due to crop damage. Uprooting of big trees and partial damages to more than one thousand kuchha houses. 30,000, Plantain trees and 50,000 Plantain saplings got destroyed and 30,000 trees were uprooted in Tamil Nadu state. In Puducherry two persons lost their lives. Damage to paddy crops, plantains, coconut plantation were the major losses in Puducherry.
14	Very severe Cyclonic Storm over the bay of Bengal	December 23-28, 2000	T - 5.0	90 Knots 167 Kmph	Three districts of Tamil Nadu state were affected by this storm in the Ramnathanpuram district, 350 houses were damaged in Thirunelveli. Houses damaged - 318. In Tutocorin houses damaged-318, Fishing boats lost - 95, loss to crops - 281 hectares of paddy, 650 hectares of plaintain and 80 hectares of betal destroyed.
15	Cyclonic Storm over Bay of Bengal	October 14-17, 2001	2.5	35 Knots 65 kmph	108 people dead, 21 people missing, damage to crops about 125000 Hectares and 55747 house damaged in Andhra Pradesh.
16	Severe Cyclonic Storm over	November 10-12, 2002	3.5	55 Knots 102 kmph	Two travelers damaged and 18 people died in Odisha and another

Contd...

1	2	3	4	5	6
	Bay of Bengal				two travelers missing. In West Bengal 2 people died.
17	Severe Cyclonic Storm over Bay of Bengal	December 11-16, 2003	3.5	55 Knots 102 kmph	81 people dead in Andhra Pradesh, 1637 Building destroyed completely, 7453 Building partially damaged 61898.5 hectares of Agricultural land damaged. Loss of property to the tune of ₹ 23903.13 Lakh. No of villages electric failure are 2000 and telecommunication disruption are in 41 villages. Damages reported in Andhra Pradesh are as follows Number of Human deaths -1, Number of livestock died - 291, Buildings partly / completely destroyed - 12041, (estimated cost ₹ 177.28 lakhs), Crop loss - 4,82,188 hectares (estimated cost ₹ 627.74 lakhs), Total loss estimated by Government - 5029.82 lakhs.
18	Cyclonic Storm "PYARR" over Bay of Bengal	September 17-21, 2005	T - 2.5	35 Knots 65 kmph	
19	Cyclonic storm "BAAZ" over Bay of Bengal	November 28- December-02, 2005	T-3.0	45 Knots 83 Kmph	According to press reports, heavy rain caused floods in Nellore. Chittoor and Cuddapah districts of Andhra Pradesh. Number of deaths - 11 (Nellore), Chittoor 3 Cuddapah 1), Number of tanks breached - 27 (Nellore district), Many villages were reported to be marooned in the above districts.

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1	2	3	4	5	6
20	The Very Severe Cyclonic Storm "Mala" over the Bay of Bengal	May 25- 30, 2006	5.5	100 Knots 185 Kmph	It crossed the coast of Myanmar and hence there was no diamage in India.
21	Cyclonic Storm "OGNI" over Bay of Bengal	October 29-30, 2006	2.5	35 Knots 65 Kmph	Andhra Pradesh Loss of life : 24 Livestock :3,61,553 Loss of Crops :1,99,986 acres Villages Submerged : 900 Damage to houses (fully) : 26,853 Damage to houses (partly): 73,218 Total loss: ₹ 21,601 lakhs.
22	Cyclonic storm "AKASH"	13 -15 May 2007	T- 6.0	115 knots	The system crossed Bangladesh coast and hence there was no damage in India
23	Very serere cyclonic storm "SIDR"	11 - 16 November	T - 6.0	115 knots	The system crossed Bangladesh coast However, one person died. 46 Villages and thousands of people were affected in west Bengal. Crops were damaged in thousands of hectares of land. There was disruption of electricity supply in the coastal belt of West Bengal due to breaking of dam over Bidyadhari river. Extensive ares were flooded near Gajikhali and Kneaghat. Some houses were partially /totally damaged in Mizoram. Shillong road was also affected at several places.

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1	2	3	4	5	6
24	Nargis	27th April to 3rd May 2008	T - 5.0	Estimated 90 kts/167kmph (As per news paper 190 kmph)	As the system moved away from Indian coast there was no damage reported from India.
25	Rashmi	25th to 27th October 2008	T - 3.0	50 Knots (93 Kmph)	Significant damage was reported over northeastern states. Numbers of human death were 5 from Meghalaya and 8 from Arunachal Pradesh. The death was due to landslide caused by incessant rain along with strong wind. One person was washed away by surging water of the wahumkhran river. Incessant rain and wind uprooted most of the electric posts in Shillong. According to Assam electricity Board the uprooted trees snapped trees snapped the power supply lines causing damage to power transmission. Due to severe thunder squall and continuous heavy rain, vast areas of Tawang and Bomdila of west Arunachal Pradesh were lashed in the night hours of 27- 28th Oct. causing disruption of road and other communications. Several road bridges were broken down and a number of dwelling houses have been devastated besides injury to many persons

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1	2	3	4	5	6
.26	Khaimuk	13th November to 16th November 2008	T - 2.5	40 Knots (74 Kmph)	Major erosion of coast seen at Uppadanear Kakinada. In many areas in East & West Godavari got inundated. Twenty one country boats washed off in the sea off konapapeta in kothapalli mandal of East Godavari. A big ship was carried away by the waves along the Wakalapudi beach near Iakinada of East Godavari district. Many boats and fishing nets wear swept off in the areas adjoining Wakadu, Alluru, Mypad, Gangapatnam in Nellore district. As per the Tamil Nadu Govt. Revenue site, loss of life wear 78 over the state during 24th to 28th November, 2008. As per media reports 8 lakhs acres of paddy crops in Nagapattinam, Thanjavur and Tiruvarur (daita) districts and 55.250 hectares of paddy in cuddalore district were submerged due to heavy rain. Andhra Pradesh: Chittur, Nellore and Prakasam districts of south coastal Andhra Pradesh were affected by heavy rain/strong, 3.63 lakh hectares of crop were damaged. The heavy rain led to floods in south coastal Andhra Pradesh districts.
27	Nisha	25th to 27th November, 2008	T - 3.0	45 Knots (83 Kmph)	

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1	2	3	4	5	6
28	Cyclonic Storm BIJLI (Bay of Bengal)	14-17 April 2009	2.5	40 Knots 74 Kmph	No damage over India.
29	Severe Cyclonic Storm AILA (Bay of Bengal)	23-26 May 2009	3.5	60 Knots 112 Kmph	According to West Bengal state Government, number of people affected by storm was about 2.2 million. More than 61,000 houses were collapsed and more than 1,32,000 houses were partially damaged. About 100 people died in the state. In Odisha Numerous trees were uprooted and power lines were down . High waves produced by the storm inundated coastal villages, Forcing residents to evacuate to safer places. However there was no report of human death in the state. An estimated 1,000 acres of cropland were affected. In Meghalaya several houses were damaged, power supply was disrupted and many areas were flooded.
30	Cyclonic Storm "Laila" over Bay of Bengal	17 - 21 May, 2010	3.5	55 knots	
31	Cyclonic Storm "Giri" over Bay of Bengal	20 - 23 October, 2010	5.5	105 knots	
32	Cyclonic Storm "Jal" over Bay of Bengal	04 - 07 November, 2010	3.5	60 knots	

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1	2	3	4	5	6
33	Very Severe Cyclonic Storm "THANE"	25th - 31st December, 2011	T 4.5	75 kts (139 kmph)	46 persons died in Tamil Nadu and Puducherry. 793 trees, electric posts were uprooted. Around 6000 persons in these areas were shifted to shelters. In Puducherry the storm has caused considerable loss to the Tourism Industry. About 73292 thatched houses were fully damaged and 94633 houses were partially damaged by wind and rain. Paddy crop in 58,200 hectares; sugarcane in 5,752; groundnut in 1,402; black gram in 945; coconut in 490 hectares were damaged in the entire cyclone affected areas. In horticultural sector, cashew in 23,500 hectares; banana plantation in 2,860; Jackfruit in 340; vegetables in 320; Mango trees in 317; Guava in 270; flowers in 250; betel nuts in 128; tuber in 73; amla in 12 hectares were damaged. In Cuddalore district alone 4500 electric poles, 4500 transformer, 27 electric towers were damaged. Electric wire in 10,500 Km length was damaged. The damages are worked out to be ₹ 1300 to 1500 crores.

Source: India Meteorological Department, New Delhi

Table 21
Conversion Factors between Important Primary and
Secondary Agricultural Commodities

<i>Commodity</i>	<i>Conversion Factor</i>
1	2
Rice (Cleaned) Production	2/3 of Paddy Production
Cotton	
Cotton Lint Production	1/3 of Kapas Production
Cotton Seed Production	2/3 of Kapas Production
	2 Times of Cotton Lint Production
Jute	
100 Yards of Hessian	54 lbs. of Raw Jute
4148 Yards of Hessian	1 Ton of Raw Jute
	5.55 Bales of Raw Jute (of 180 Kgs. Each)
1 Ton of Sacking	1.11 Tons of Raw Jute
	6.17 Bales of Raw Jute (of 180 Kgs. Each)
1 Ton of Hessian Sacking etc.	1.05 Tons of Raw Jute
	5.85 Bales of Raw Jute (of 180 Kgs. Each)
Groundnut	
Kernel to Nuts in Shell	70 Percent
Oil to Nuts in Shell	28 Percent
Oil to Kernels Crushed	40 Percent
Cake to Kernels Crushed	60 Percent
Sesamum	
Oil to Seeds Crushed	40 Percent
Cake to Seeds Crushed	60 Percent
Rapseed and Mustard	
Oil to Seeds Crushed	33 Percent
Cake to Seeds Crushed	67 Percent
Linseed	
Oil to seeds Crushed	33 Percent
Cake to Seeds Crushed	67 Percent
Castorseed	
Oil to Seeds Crushed	37 Percent
Cake to Seeds Crushed	63 Percent
Cotton Seed	
Oil to Seeds Crushed	14 to 18 Percent
Cake to Seeds Crushed	82 to 86 Percent

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1	2
Coconut	
Copra to Nuts	One Ton of Copra = 6773 Nuts
Oil to Copra Crushed	62 Percent
Cake to Copra Crushed	38 Percent
Nigerseed	
Oil to Seeds Crushed	28 Percent
Cake to Seeds Crushed	72 Percent
Kardi Seed	
Oil to Seeds Crushed	40 Percent
Cake to Seeds Crushed	60 Percent
Mahua Seed	
Oil to Seeds Crushed	36 Percent
Cake to Seeds Crushed	64 Percent
Neem Seed	
Oil to Kernels Crushed	45 to 50 Percent
Cake to Kernels Crushed	50 to 55 Percent
Soyabean Seed	
Oil to Soyabean Seed Crushed	18 Percent
Meal to Soyabean Seed Crushed	73 Percent
Hull from Soyabean Seed Crushed	8 Percent
Wastage from Soyabean Seed Crushed	1 Percent
Sugar	
Gur from Cane Crushed	11.20 Percent to 11.50 Percent
Crystal Sugar from Gur Refined (Gur Refineries)	62.5 Percent
Crystal Sugar from Cane Crushed (Cane Factories)	10.20 Percent
Khandasari Sugar (Sulpher and Non-sulpher) from standard Gur Refined	46 Percent
Molasses from Cane Crushed	4.0 Percent to 4.5 Percent
Cane - Trash* from Cane Harvested	8.0 Percent to 12.0 Percent
Lac	
Seed Lac	66.0 Percent of Stick Lac
Shell Lac	57.4 Percent of Stick Lac
Cashewnut	
Cashew Kernel	25 Percent of Cashewnuts

* This consists of leaves and portion of the top of stalk which are removed from the canestalk, while harvesting and before sending the cane for milling.

Table 22:
List of Studies Conducted by Agro-Economic Research Centres

2007-08

1	Towards Evolving Agricultural Policy Matrix in a Federal Structure – The Post WTO Scenario in India.	CMA, Ahmedabad
2	Edible Oils & Oilseeds Economy of India. (Centre's own study other than the Work Plan).	CMA, Ahmedabad
3	Returns and Economic of Bt. Cotton vis-a vis Traditional Cotton Varieties in the States of Maharashtra in India.	CMA, Ahmedabad
4	Estimation of Seed, Feed & Wastage Ratio for Major Foodgrains in India. (Consolidated).	ADRT, Bangalore
5	Viable Entrepreneurial Trades for Women in Agriculture in U.P.	Allahabad
6	Estimation of Seed, Feed & Wastage Ratio for Major Foodgrains in Bihar.	Bhagalpur
7	Viable Entrepreneurial Trades for Women in Agriculture in Bihar.	Bhagalpur
8	Economics of Production & Marketing of Betal Vine in Bihar.	Bhagalpur
9	Estimation of Seed, Feed & Wastage Ratio for Major Foodgrains in Tamil Nadu	Chennai
10	Return on Bt. Cotton vis-à-vis Traditional Cotton in Tamil Nadu.	Chennai
11	Viable Entrepreneurial Trade for Women in Agriculture in Haryana.	Delhi
12	Estimation of Seed, Feed & Wastage Ratio for Major Foodgrain Crops in Haryana.	Delhi
13	Cultivation of Medicinal & Aromatic Crops as a Means of Diversification of Agriculture in Uttranchal.	Delhi
14	Factors Affecting Fertilizer Consumption in Haryan	Delhi
15	Viable Entrepreneurial Trades for Women in Agriculture – A Study in Assam.	Jorhat
16	Evaluation of Integrated Dairy Development Project (IDDP) in Non-Operation Flood, Hilly & Backward Areas in Eastern Region (Meghalaya, Arunachal Pradesh, Mizoram & Sikkim) – Consolidated.	Jorhat

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17	Evaluation of Participatory Irrigation Management in Maharashtra.	Pune
18	An Assessment of Yields & returns on Organic Sugarcane Farms in Maharashtra.	Pune
19	Study for Estimation of Seed, Feed & Wastage Ratio for Major Foodgrains in Maharashtra.	Pune
20	Cost of Production of Apple in Himachal Pradesh. (Centre's own study other than the Work Plan). *	Shimla
21	Cost of Production of Citrus Fruits in Hamachal Pradesh. *	Shimla
22	Concurrent Evaluation of Macro Management of Agriculture Scheme in Himachal Pradesh. *	Shimla
23	Return to Bt. Cotton vis-à-vis Traditional Cotton Varieties in Gujarat State.	Vallabh Vidyanagar
24	Factors Affecting fertilizer Consumption in West Bengal	Visva Bharati
25	Economic of Bt. Cotton vis-a vis Traditional Cotton Varieties. (Study in Andhra Pradesh)	Waltair
26	Viable Entrepreneurial Trades for Women in Agriculture in Andhra Pradesh.	Waltair

2008-09

1	Evaluation of Participatory Irrigation Management including water use Association in the States of A.P, Gujarat and Maharashtra – Coordinated Report.	CMA, Ahmedabad
2	Agricultural Machinery in India: A Studies of Growth, Market Structure and Business Strategies.	CMA, Ahmedabad
3	Making Great Rann of Kutch Capable of Producing Food by Specially Designed Hydroponics System – Phase I.	CMA, Ahmedabad
4	Viable Entrepreneurial Trades of Women in Agriculture : Karnataka	ADRT, Bangalore
5	Cultivation of Medicinal & Aromatic Plants as a Means of Diversification in Agriculture. (Consolidated Report).	ADRT, Bangalore
6	Market Imperfection & Farmers Distress – Consolidated Report	ADRT, Bangalore
7	Public Policies and Sustainable Agricultural Development – A Case Study of Commercialised Agriculture.	IEG, Delhi

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| 8 | Factors Affecting Fertilizer Consumption in India with Special Reference to Tamil Nadu State. | IEG, Delhi |
| 9 | Cultivation of Medicinal Crops and Aromatics Crops as Means of Diversification in Agriculture. | IEG, Delhi |
| 10 | Estimation of Seed, Feed and Wastage Ratios for Major Foodgrains in Tamil Nadu. | IEG, Delhi |
| 11 | Factors Affecting Fertilizer Consumption in India with Special Reference to Tamil Nadu State. | Chennai |
| 12 | Cultivation of Medicinal Crops and Aromatics Crops as Means of Diversification in Agriculture. | Chennai |
| 13 | Estimation of Seed, Feed and Wastage Ratios for Major Foodgrains in Tamil Nadu. | Chennai |
| 14 | State Budgetary Resources and Agriculture Development in Uttrakhand. | Delhi |
| 15 | State Budgetary Resources and Agriculture Development in Haryana. | Delhi |
| 16 | Economies of Commercial Silk Weavers in Assam : A Study in Silk Village Sualkuchi in Kamrup District. | Jorhat |
| 17 | Participation of Plains Tribal Women in Non-Agricultural Development Activities. | Jorhat |
| 18 | Factors Affecting Fertilizers Consumption in India. | Ludhiana |
| 19 | Diversification of Agriculture – The Case of Horticulture in Maharashtra with Special Reference to Horticulture Development Programme linked with Employment Guarantee Scheme. | Pune |
| 20 | State Budgetary Resources and Agriculture Development in Maharashtra. | Pune |
| 21 | Diversification of Rural Livelihood Strategies : A Study of Economics, Gender & Natural Resources, Dimension of Horticulture in Himachal Pradesh. * | Shimla |
| 22 | Food Insecurity Vulnerability and Coping Mechanisms – A Study of Agricultural Sector in Himachal Pradesh. | Shimla |
| 23 | Fish Prdocution in Himachal Pradesh (Economic Analysis of Fish Ponds). | Shimla |
| 24 | State Budgetary Resources and Agriculture Development in Himachal Pradesh. | Shimla |

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| 25 | Evaluation of Integrated Dairy Development Project (IDDP) in non-operation flood, hilly and backward areas : A Study in Sikkim. | Visva Bharati |
| 26 | Estimation of seed, feed and wastage ratio for major foodgrains in West Bengal. | Visva Bharati |
| 27 | Impact of Aquaculture on Agriculture Production, Rural Employment and Environment -A Study in Odisha. | Waltair |

2009-10

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| 1 | Bt. Cotton – Consolidated Report. | CMA,
Ahmedabad |
| 2 | Economic Policy Reforms and Indian Fertiliser Industry. | CMA,
Ahmedabad |
| 3 | Management of Agri-Business Contracts and Organisations. | CMA,
Ahmedabad |
| 4 | Fresh Food Retail Chains in India : Impact on Small Primary Vegetable Producers and Traditional F&V Retailers. | CMA,
Ahmedabad |
| 5 | Mid-term Appraisal of DBT – Rural BIO Resource Complex Project. | ADRT,
Bangalore |
| 6 | State Budgetary Resources and Agricultural Development in Karnataka. | ADRT,
Bangalore |
| 7 | Sustainable Agriculture Development Through Organic Farming in Karnataka. | ADRT,
Bangalore |
| 8 | Study in Tanks in Watershed Development Area in Karnataka. | ADRT,
Bangalore |
| 9 | An Evaluation Study of Prime Minister's Rehabilitation Package for Farmers in Suicide Prone Districts of Karnataka | ADRT,
Bangalore |
| 10 | Viable Entrepreneurial Trade for Women in Agriculture – Consolidated. | IEG, Delhi |
| 11 | The Problems and Prospects of Crop Diversification in Haryana & Punjab. | IEG, Delhi |
| 12 | Agricultural Diversification in India with Special Reference to Haryana. | IEG, Delhi |
| 13 | State Budgetary Resources and Agricultural Development. | Allahabad |
| 14 | Problems and Prospects of Fish Farming in Bihar and Jharkhand. | Bhagalpur |
| 15 | Impact Evaluation of Revised National Watershed Development Projects for Rainfed Areas (NWDPRAs) during 10th Plan. | Bhagalpur |
| 16 | Understanding the Growth and Prospects of Agro-Processing Industries in Bihar. | Bhagalpur |

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17	State Budgetary Resources and Agricultural Development in Bihar.	Bhagalpur
18	An Evaluation Study of Prime Minister's Rehabilitation Package for Farmers in Suicide Prone Districts of Kerela	Chennai
19	The Impact of Macro Management Agriculture Scheme in Haryana.	Delhi
21	Instability in Production and Trade of Pulses : A Global Analysis.	Bhagalpur
22	Impact Assessment Study of Agricultural Market Reforms in Uttarakhand and Haryana.	Bhagalpur
23	State Budgetary Resources and Agricultural Development in Haryana.	Bhagalpur
24	An Economic Analysis of Chickpea and its Value Added Products in Agri-Export Zone for Pulses in M.P.	Jabalpur
25	State Budgetary Resources in Agricultural Development in M.P. and Chhattisgarh.	Jabalpur
26	Potentialities of Horticulture Crop and Market Accessibilities in Assam and Meghalaya.	Jorhat
27	Current Situation of Jhum Cultivation and to analyse Jhum Cycle in Mizoram and Meghalaya.	Jorhat
28	State Budgetary Resources in Agricultural Development – A Study in Assam.	Jorhat
29	Value Chain Analysis for High Value Crops (HVCs) in the Punjab State.	Ludhiana
30	Performance Evaluation of Bt. Cotton Cultivation in Punjab.	Ludhiana
31	State Budgetary Resources and Agricultural Development in Punjab.	Ludhiana
32	Understanding the Growth and Prospects of Agro-Economic Industries in Maharashtra.	Pune
33	Mid-Term Evaluation of Revised National Watershed Development Projects for Rainfed Areas (NWDPRAs) during 10th Plan.	Pune
34	Evaluation of Five Decades of Livestock Development in Maharashtra and Threats and Opportunities in WTO Regime.	Pune
35	An Evaluation Study of Prime Minister's Rehabilitation Package for Farmers in Suicide Prone Districts of Maharashtra	Pune
36	The Impact of Macro Management of Agriculture Scheme in Maharashtra	Pune

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37	(Coordinator – ADRT, Bangalore)- Proposed by Macro Management	Pune
38	Food in Security Vulnerability and Coping Mechanism : A Study of Agricultural Sector in H.P. *	Shimla
39	Determinants of Stagnation in Productivity, of Important Crops in HP	Shimla
40	The Impact of Macro Management of Agriculture Scheme. (Coordinator – ADRT, Bangalore)- Proposed by Macro Management Division of the Ministry.	Shimla
41	State Budgetary Resources and Agricultural Development in Rajasthan.	Vallabh Vidyanagar
42	Mid-Term Evaluation of Revised National Watershed Development Projects for Rainfed Areas (NWDPPRA) during 10th Plan in Rajasthan.	Vallabh Vidyanagar
43	State Budgetary Resources and Agricultural Development in Gujrat.	Vallabh Vidyanagar
44	Understanding the Growth and Prospect of Agro-Processing Industries in West Bengal.	Visva Bharati
45	State Budgetary Resources and Agricultural Development (West Bengal).	Visva Bharati
46	Market Access and Constraints in Marketing of Goats and Their Products in West Bengal.	Visva Bharati
47	Impact of Macro Management of Agricultural Scheme.	Visva Bharati
48	Environmental Degradation, Tank Irrigation and Agricultural Yields in North Coastal Andhra.	Waltair
49	State Budgetary Resources in Agricultural Development in Andhra Pradesh.	Waltair

2010-11

1.	Organic input Production & Marketing in India – Efficiency , Issues & Policies –	CMA, Ahmedabad
2.	Assessing Policy Interventions in Agri—business and Allied Sector Credit versus Credit Plus Approach for Livelihood Promotion Proposed / Cord.by- CMA , Coverage- Gujarat, AP Centres- V.V. Nagar, Waltair	CMA, Ahmedabad
3	Determinants of stagnation in Productivity of Important Crops in Karnataka	ADRT, Bangalore
4	Studies of Tanks in Watershed Development Area in Karnataka	ADRT, Bangalore

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| 5 | Consolidated study-Evaluation of PM's Package for Rehabilitation of Farmers in Suicide Prone States Proposed By: Credit Division Coverage- AP, Karnataka, Kerala & Maharashtra | ADRT,
Bangalore |
| 6 | Production, Market Structure and the Role of Govt. Policy : Foodgrains in the New Economy (Proposed by the IEG). | IEG, Delhi |
| 7 | Policy analysis for Increasing Rural Non –Farm Employment for farm households in India (FAO Study , not in work plan) | IEG, Delhi |
| 8 | Market Access and Constraints in Goat Marketing and Their Products in Uttar Pradesh | Allahabad |
| 9 | Management of Water Logged Areas in U.P. – Proposed by the Centre). – copy to be obtained. | Allahabad |
| 10 | Impact of NREGA on wage rates, cost of production, food Security and Rural Urban Migration, in Bihar . | Bhagalpur |
| 11 | Impact of emerging marketing channels in agricultural marketing--- benefit to producer-sellers and marketing costs and margins of major agricultural commodities in bihar & jharkhand | Bhagalpur |
| 12 | Possibilities and Constraints in Increasing Pulses Production in Bihar and the Impact of National Food Security Mission on Pulses” | Bhagalpur |
| 13 | The Impact of Macro Management of Agriculture Scheme. (Coordinator – ADRT, Bangalore)- Proposed by Macro Management Division of the Ministry. | Chennai |
| 14 | Irrigated Agriculture (Pattern and Scope for Diversification in Tamil Nadu (Proposed by the Centre). | Chennai |
| 15 | Evaluation of PM's Package for Rehabilitation of Farmers in Suicide Prone States- Kerla, Proposed by Credit Division , Cord -ISEC Bangalore | Chennai |
| 16 | Market Access and Constraints in Marketing of Goats and Their Products (Coordinator-AERC, Allahabad). | Jabalpur |
| 17 | The Impact of Macro Management of Agriculture Scheme. (Coordinator – ADRT, Bangalore)- Proposed by Macro Management Division of the Ministry. | Jabalpur |
| 18 | The Impact of Macro Management of Agriculture Scheme. (Coordinator – ADRT, Bangalore)- Proposed by Macro Management Division of the Ministry. | Jorhat |
| 19 | An Evaluation of Impact Macro Management of Agriculture in Punjab | Ludhiana |

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20	Estimating Infrastructural , institutional and Org.requirements of promoting High Value Chain Analysis for Promoting High Value Crops (HVCs) in Punjab State	Ludhiana
21	Determinants/Trends in Productivity in important crops(Proposed by DAC)-Coordinator, ADRT, Bangalore).	Ludhiana
22	An Evaluation Study of Prime Minister's Rehabilitation Package for Farmers in Suicide Prone Districts of Kerala	Pune
23	Determinants of stagnation in Productivity of Important Crops in Maharastra	Pune
24	Market Access and Constraints in Goat Marketing and Their Products in Maharastra	Pune
25	Impact of emerging marketing channels in Agricultural Marketing – Benefit to producer – seller & Marketing Costs and Margins of Agricultural Commodities Coverage -	Pune
26	Possibilities and Constraints for increasing the Production of Pulses in India; and Impact of National Food Security Mission on Pulses Coverage -	Pune
27	Economics of Contract Broiler Farming in Maharashtra. Coverage	Pune
28	Impact of NREGA on wage rates, cost of production, food Security and Rural Urban Migration, with all India coverage,	Pune
29	Production & Marketing Problems of Mushrooms in H.P.	Shimla
30	Impact of emerging marketing channels in Agricultural Marketing – Benefit to producer – seller & Marketing Costs and Margins of Apple & Tamato in H.P.	Shimla
31	Impact of NREGA on wage rates, cost of production, food Security and Rural Urban Migration, in H.P.	Shimla
32	Possibilities and Constraints for increasing the Production of Pulses in India and Impact of National Food Security Mission on Pulses	Vallabh Vidyanagar
33	Determinants of Stagnation in Productivity in Important Crops in W.B.(Consolidated by ADRT, Bangalore).	Visva Bharati
34	Mid-Term Evaluation Studies of National Development for Rainfed Areas for Tenth Plan in West Bengal.	Visva Bharati
35	Mid-Term Evaluation Studies of National Development for Rainfed Areas for Tenth Plan (Coonsolidated)	Visva Bharati

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| 36 | Understanding the Growth & Prospects of Agro-Processing Industries. Coordinated Report based on the study reports of AERC, Visva-Bharati, Bhagalpur and Pune. | Visva Bharati |
| 37 | Hulling and Milling Ratio in major Paddy growing states-for W.B.- | Visva Bharati |
| 38 | Impact of Aquaculture on Agriculture Production, Rural Employment and Environment -A Study in A.P. (for Odisha- Completed during 2008-09) | Waltair |
| 39 | Estimation of Total Production of Broiler Meat and its Costing in Andhra Pradesh - (Suggested by Deptt. of AH&D – Coordinated Report). | Waltair |
| 40 | Credit Linkage of with factor & product markets in Agriculture –A study in Andhra Pradesh | Waltair |
| 41 | An Evaluation Study of Prime Minister's Rehabilitation Package for Farmers in Suicide Prone Districts of Andhra Pradesh----- one draft copy | Waltair |
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| 2 | Impact of NREGA on wage rates, cost of production, food Security and Rural Urban Migration of Karnataka | ADRT,
Bangalore |
| 3 | Impact Study of the National Horticulture Mission (NHM) Scheme in Karnataka | ADRT,
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| 4 | State Budgetary Resources and Agriculture Development (Consolidated Report). | ADRT,
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| 5 | Impact of Macro Management of Agriculture Scheme. (Consolidated Report) | ADRT,
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| 6 | Role of Climate Change & Agricultural Performance. Proposed by- IEG , IEG, Delhi Delhi | |
| 7 | Possibilities and Constraints increasing the production of pulses in India; and the Impact of National Food Security Mission on Pulses | IEG, Delhi |

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8	Impact of emerging marketing channels in Agricultural Marketing – Benefit to producer – seller & Marketing Costs and Margins of Agricultural Commodities.	IEG, Delhi
9	Market Access and Constraints in Marketing of Goats and Their Products (Consolidated)	Allahabad
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12	Impact of NREGA on wage rates, cost of production, food Security and Rural Urban Migration, at Kerala.	Chennai
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14	Impact Study of the National Horticulture Mission (NHM) Scheme.	Delhi
15	Impact of NREGA on wage rates, cost of production, food Security and Rural Urban Migration,	Delhi
16	Economics of fodder cultivation & its processing and marketing.	Jabalpur
17	Potential & prospects of Rabi cultivation in Assam.	Jorhat
18	Impact of emerging marketing channels in Agricultural Marketing – Benefit to producer – seller & Marketing Costs and Margins of Agricultural Commodities in Assam.	Jorhat
19	Impact of NREGA on wage rates, cost of production, food Security and Rural Urban Migration in Assam,	Jorhat
20	Economics of fodder cultivation & its processing and marketing in Punjab.	Ludhiana
21	Impact of NREGA on wage rates, cost of production, food Security and Rural Urban Migration of in Punjab.	Ludhiana
22	Impact of NREGA on wage rates, cost of production, food Security and Rural Urban Migration, with all India coverage in Rajasthan & Gujrat	Vallabh Vidyanagar
23	Impact Study of the National Horticulture Mission (NHM) Scheme in Rajasthan	Vallabh Vidyanagar

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24	Mid-Term Evaluation Studies of National Watershed Development for Rain fed Areas during Tenth Plan	Vallabh Vidyanagar
25	Study report on Evaluation Studies of National Watershed Development for Rainfed Areas during Tenth Plan.	Vallabh Vidyanagar
26	Economics of production processing and marketing of fodder crops in Gujrat.	Vallabh Vidyanagar
27	Impact and Constraints Evaluation of Organic Farming at Household Level.	Visva Bharati
28	Impact Study of the National Horticulture Mission (NHM) Scheme in W.B.	Visva Bharati
29	Impact of emerging marketing channels in Agricultural Marketing – Benefit to producer – seller & Marketing Costs and Margins of Agricultural Commodities in W.B.	Visva Bharati
30	Impact of NREGA on wage rates, cost of production, food Security and Rural Urban Migration in W.B.	Visva Bharati
31	Possibilities and Constraints for increasing the Production of Pulses in India and Impact of National Food Security Mission on Pulses in A.P.	Waltair
32	The Impact of Macro Management of Agriculture Scheme in A.P.	Waltair

Appendix I

Explanatory Notes

Advance Estimates

The estimates of area, production and yield rates for 2011-12 are “advance estimates” as on 16.07.2012 and are based on deliberations held in weekly inter-disciplinary meetings of Crop Weather Watch Group, availability of water in important reservoirs in the country, availability/supply of important inputs including credit to farmers community, feed back received from states etc. These estimates are “advance” in the sense that these have been prepared in advance of availability of results of CCE (Crop Cutting Experiments) and are subject to revision as more precise information flows from states to DES.

Yield

Yield rate is defined as production per unit of area. However, yield rates of various crops given in this publication may not exactly tally with the ratio of production to the corresponding area because figures of area and production of various crops have been generally rounded off in ten thousands.

Principal Crops

Principal Crops as referred to in this publication include only those crops which are covered for preparation of index numbers. The details of these crops are given in Appendix II.

Estimation Procedure for Non-Availability Of Data For 2011-12

The index numbers of area, production and yield rate for 2011-12 (from where growth rates have been derived) are based on advance estimates of principal crops as on 16.07.2012. However, there are a number of ‘non-forecast’ crops such as plantation crops, cardamom and spices for which no advance estimates for 2011-12 (or for that matter any year) are prepared. In such cases, the estimates of area and production for 2010-11 are repeated for the purpose of index numbers.

Nine Oilseeds

Wherever “Nine oilseeds” is mentioned in this publication, it includes

Castorseed, Groundnut, Linseed, Nigerseed, Safflower, Sesamum, Soyabean, Sunflower and Rapeseed & Mustard.

Total Oilseeds

Total oilseeds include cottonseed and coconut besides nine oilseeds mentioned in the above paragraph.

Net Availability of Foodgrains

The Net availability of foodgrains is defined as

$$\text{NAF} = \text{GP} - \text{SFW} - e + i + s$$

NAF = Net availability of Foodgrains

GP = Gross Production of Foodgrains

SFW = Seed, feed and wastages of Foodgrains

e = Exports of Foodgrains

i = Imports of Foodgrains

s = Change in Stocks of Foodgrains

To work out per capita net availability of foodgrains in terms of kg. per year, NAF is divided by the estimated population for a particular year. When this is further divided by the number of days in a year i.e. 365 days, it gives net availability of foodgrains per day.

Appendix II

Methodology of Index Numbers of Area, Production and Yield

Base Year

The Directorate of Economics and Statistics (DES) had adopted Triennium Ending (T.E.) 1981-82 as base year for the purpose of Index Numbers of Area, Production and Yield in Agriculture until 1999-2000. In 2000-2001, it was decided to adopt T.E. 1993-94 as a way of updating the base to a recent year and keep it in harmony with the other series of indices such as Index of Industrial Production, Wholesale Price Index and the series of National Accounts Statistics. Since area and production in agriculture can fluctuate a great deal from year to year, the average of area/ production over the TE 1993-94 was taken as the base year.

It was observed that the base year 1993-94 currently in use for construction of index numbers of Area, Production and Yield of crops has become outdated and stressed on the need for updating of the base year at regular intervals preferably in consonance with the base year revisions of other important indices.

As the period 2005-06 to 2007-08 remained normal from agriculture point of view and the price data available with CSO was for the year 2006-07 which could be used as mid period price for assessment of contribution in value terms for preparation of weighting diagram, it has been considered appropriate to take more recent base, i.e., (TE 2007-08 = 100) as the base for agricultural indices.

Weighting Diagram

The weight of a commodity for the production index is taken as the average production of the commodity in the TE 2007-08 and the national average price of the commodity during 2006-07 as obtained from the National Accounts Statistics. This has been done to fix the base production at its average level by eliminating the cyclical variation and to evaluate the production with the same price for all states in view of wide variations observed in the state prices.

Methodology

- Let
- a_{ij} - the area under i^{th} crop in the j^{th} year.
 - a_{i0} - the area under i^{th} crop in base year period.
 - p_{ij} - production of i^{th} crop in the j^{th} year.
 - p_{i0} - production of i^{th} crop in base year period.
 - w_i - weight of i^{th} crop.

For the the year j , individual crop indices are calculated as below :

$$(a) \text{ Index number of area} = \frac{a_{ij}}{a_{i0}} \times 100 = IA_{ij}$$

$$I. \quad \text{Index number of production} = \frac{p_{ij}}{p_{i0}} \times 100 = IP_{ij}$$

$$(c) \text{ Index number of yield} = \frac{IP_{ij}}{IA_{ij}} \times 100$$

For any sub-group G of commodities, the indices for the year j are calculated as below:

$$a) \text{ Index number of area} = \frac{\sum_{i \in G} w_i IA_{ij}}{\sum_{i \in G} w_i}$$

$$b) \text{ Index number of production} = \frac{\sum_{i \in G} w_i IP_{ij}}{\sum_{i \in G} w_i}$$

$$c) \text{ Index number of yield} = \frac{\text{Index number of production} \times 100}{\text{Index number of area}}$$

Appendix III

Glossary of English, Botanical and Hindi Names of Important Crops

<i>Crop/ Group of Crops</i>	<i>English</i>	<i>Botanical</i>	<i>Hindi</i>
1	2	3	4
Cereals	Bara (Bulrush or spiked millet)	Pennisetum Typhoides	Bajra
	Barley	Hordeum vulgare	Jau
	Barnyard millet	Echinochloa frumentacea	Kutki
	Cholam(Great Millet)	Sorghum bicolor	Jowar
	Common Millet	Panicum milliaceum	Cheena
	Little Millet	Penicum milliare	Sawan
	Italian foxtail Millet	Setarisiaitalica	Kangani
	Kodo Millet	Paspalum scrobiculatum	Koden
	Maize or Indian corn	Zea mays	Makka
	Oat	Avena sativa	Jaie
	Ragi	Eleusine coracana	Mundua
	Paddy (Rice)	Oryza sativa	Dhan (Chawal)
	Wheat	Triticum acstivum	Gehun
Pulses and Beans	Black gram	Vignamungo	Urad
	Chickpea (Bengal gram)	Cicer arietinum	Chana
	Chicking vetch	Lathyrus sativus	Khesari
	Cluster Bean	Cyamopiss tetragonoloba	Guar
	Cowpea	Vigna unguiculate	Lobia
	Green Gram	Vigna radiata	Mung
	Horsegram	Dilichos biflorus	Kulthi
	Kidney bean	Vigna aconitifolia	Moth
	Lentil	Lens culimaris	Masur
	Peas	Pisum sativum vararvense	Matar
	Red gram (Pigion pea)	Cajanus cajan	Tur,Arhar
Soyabean	Glucine max	Soyabean	
Sugar	Sugarcane	Saccharum Officinarum	Ganna
Fruits	Apple	Malus sylvespris	Seb
	Apricot	Prunus armeniaca	Khoobani
	Cashewnut	Anaardium occidentale	Kaju
	Fig	Ficus carica	Anjeer
	Grape	Vitis vinifera	Angur

Contd...

1	2	3	4
	Guvava	Psidium guajava	Amrood
	Jackfruit	Artocarpur heterophyllus	Katahal
	Lemon	Citrus Lemon	Nimbu
	Lime	Citrus Urantifolia	Bara Nimbu
	Litchi	Litchi chinensis	Litchi
	Mango	Magnifera indica	Aam
	Orange Mandar	Citrus reticulata	Santara, Narangi
	Papaya	Carica papaya	Papeeta
	Pear	Pyrus communis	Naspati
	Pineapple	Ananas comosus	Ananas
	Banana	Musa paradisiaca	Kela
	Pomegranate	Punica granatum	Anaar
	Sweet Orange	Citrus sincensis	Malta, Mosambi
Vegetables	Ash gourd	Benincasa hispida	Petha
	Beet	Beta vulgaris	Chukandar
	Bitter gourd	Momordica charantia	Karela
	Bottle gourd	Lagenaria siceraria	Lauki
	Brinjal	Lolanum melongena	Baingan
	Cabbage	Brassica oleracca var, Capitata	Band gobi
	Carrot	Daucus carota	Gajar
	Cauliflower	Brassica oleracca var Botrytis	Phul gobi
	Cowpea	Vigna unguiculate	Lobia
	Cucumber	Cucumis satius	Kheera
	French bean	Phaseolus vulgaris	Faras bean
	Indian flat bean or sem	Dolichos lablab	Sem
	Kaol Khol	Brassica oleracea var, Gongylodes	Ganth gobi
	Lady's finger	Abelmoschus esculentus	Bhindi
	Little gourd	Cuccinia cordifolia	Kundur
	Musk melon	Cucumis melo	Kharbooza
	Onion	Allium cepa	Piyaz
	Pointed gourd	Trichosanthes dioica	Parwal, Potal
	Potato	Solanum tuberosum	Aaloo
	Pumpkin	Curcurbita moschata	Sitaphal, Lal Kaddu, Kumbhra

Contd...

1	2	3	4
	Radish	Raphanus satius	Muli
	Round gourd of India	Citrullus vulgaris var, fistulosus	Tinda
	Snap melon	Cucumis melovvar, momordica	Phoot
	Snake gourd	Trichosanthes anguina	Chachinda
	Tomato	Lycopersicon escen lentum	Tamatar
	Turnip	Brassica rapa	Shalgam
	Water melon	Citrullus vulgaris	Tarbooz
Drugs and Narcotics			
	Betal Leave		Paan
	Betalnut(arecanut)	Areca catechu	Supari
	Indian hemp	Cannabis sativa	Bhang
	Opium	Papaver somniferum	Afeem
	Tobacco	Nicotiana tabacum and Nicotiana rustica	Tambaku
Condiments and Spices			
	Black pepper	Piper nigrum	Kalimirch
	Cardamom, Cardamum (lesser)	Elettaria cardamomum	Chhoti Ilaichi
	Chillies	Capsicum annum	Lalmirch

Appendix IV

Crop Calendar of Major Crops

States/Uts	Period	3	4	5	6	7	8
		Kharif Paddy	Rabi Paddy	Summer Paddy	Kharif Bajra	Summer Bajra	Rabi Wheat
1	2	3	4	5	6	7	8
Andhra Pradesh	Sowing	May-June	Nov-Dec	March-April	Jun(B)-Jul(M)		
	Harvesting	Nov-Dec	May-June	July-Aug.	Aug(B)-Oct(B)		
Assam	Sowing	Feb-March	June-July	Nov-Dec			Nov(B)-Dec(M)
	Harvesting	June-July	Nov-Dec	May-June			Mar(B)-Apr(E)
Bihar		Sowing	Jun-Sept.	Oct-Nov	Feb.-March		Nov(M)-Dec(E)
	Harvesting		April-May	July-Aug.			Mar(M)-Apr(E)
Goa	Sowing						
	Harvesting						
Gujarat	Sowing	June-July					
	Harvesting	Oct-Nov					
Haryana	Sowing	June-July					
	Harvesting	Sept-Oct.					
Himachal Pradesh	Sowing	May-June					
	mmu & Kashmir	Sowing	April-May				
	Harvesting	Sept-Oct.					
Karnataka	Sowing	May-June	Sept-Oct.	Jan.-Feb.	Jul(B)-Sep(E)	Jan(B)-Feb(E)	Oct(B)-Dec(E)
	Harvesting	Sept-Oct.	Jan.-Feb	May-June	Oct(B)-Nov(E)	Apr(B)-May(E)	Jan(B)-Feb(E)
Kerala	Sowing	April-May	Sept-Oct.	Dec-Jan.			
	Harvesting	Sept-Oct.	Dec-Jan.	March-April			

Contd...

Appendix IV

	1	2	3	4	5	6	7	8
Madhya Pradesh	Sowing	June-July				Jun(M)-Jul(E)		Oct(M)-Dec(E)
	Harvesting	Oct-Nov				Sep(E)-Dec(M)		Feb(M)Apr(E)
Maharashtra	Sowing	June-July				Jun(B)-Jul(E)		Oct(B)-Dec(E)
	Harvesting	Oct-Nov				Sep(B)-Oct(E)		Feb(B)-Mar(E)
Odisha	Sowing	May-June		June-July	Dec-Jan.	Jun-Jul		Oct-Nov
	Harvesting	Sept-Oct.		Nov-Dec	April-May	Sep-Oct		Mar-Apr
Punjab	Sowing	May-Oct.						Oct(B)-Nov(E)
	Harvesting							Apr(B)-May(E)
Rajasthan	Sowing	June-July				Jun(B)-Jul(E)		Nov(B)-Dec(E)
	Harvesting	Oct-Nov				Sep(B)-Oct(E)		Mar(B)-May(E)
Uttar Pradesh	Sowing	June-July		Nov-Dec		Jun(B)-Jul(E)		Oct(B)-Jan(M)
	Harvesting	Oct-Nov		April-May		Oct(B)-Nov(M)		Apr(B)-Apr(M)
West Bengal	Sowing							Nov(B)-Dec(E)
	Harvesting							Mar(B)-Apr(E)
All India	Sowing	May-Aug		Dec-Jan.		Jun-Jul	Jan-Feb	Oct-Dec
	Harvesting	Sep-Jan		April-May		Sep-Nov	Apr-May	Feb-Jun

States	Period	Early kharif Arhar/Tur	Kharif Arhar/Tur
1	2	3	4
Andhra Pradesh	Sowing	June (B)-June (M)	Jun (M)- July (M)
	Harvesting	Nov(M).- Dec (E).	Dec (M)-Jan.(M)
Karnataka	Sowing	June (B)- June(M)	Jun (M)-July (M)
	Harvesting	Nov(B).- Dec (M).	Dec. (M) Jan. (M)
Maharashtra	Sowing	June (B)-June (M)	Jun (M)-July (M)
	Harvesting	Dec(M).-Jan (M).	Dec. (M)- Feb. (M)
Rajasthan	Sowing	June (B)-June (M)	Jun (M)-July (M)
	Harvesting	Nov (M).-Dec (M).	Jan.(M)-Feb. (M)
Uttar Pradesh	Sowing	June (B)-June(M)	July (B)-July (E)
	Harvesting	Dec (M)- Dec. (E).	March (M)-April (E)
Tamil Nadu	Sowing	June (B)-June(M)	Jun (M)-July (M)
	Harvesting	Nov (M). -Dec (M)	Jan (M).- Feb.. (M)
Gujarat	Sowing	June (B)-June (M)	Jun (M)- July (M)
	Harvesting	Nov (M).-Dec (M) .	Dec. (M)-. Jan.(M)
Bihar	Sowing	-	July (B)- July (E)
	Harvesting	-	March (M)- April (E)
Madhya Pradesh	Sowing	June (B)-June (M)	Jun (M)-July (M)
	Harvesting	June (B)-June (M)	Jan (M)- Feb. (M)
Uttaranchal	Sowing	June (B)-June (M)	-
	Harvesting	Nov.(M) -Dec (M).	-
Odisha	Sowing	June (B)-June (M)	Jun (M)- July (M)
	Harvesting	Nov (M). - Dec (M).	Jan(M)-Feb (M)
Haryana	Sowing	June (B)-June (M)	-
	Harvesting	Nov (M).- Dec (M).	-
Punjab	Sowing	June (B)-June (M)	-
	Harvesting	Nov. (M)- Dec (M).	-
Jharkhand	Sowing	June (B)-June (M)	July (B)- July (E)
	Harvesting	Nov (M).- Dec (M).	March (M)- April (E)
Chattisgadth	Sowing	June (B)-June (M)	Jun (M)- July (M)
	Harvesting	Nov (M).-Dec (M).	Jan M)- Feb. (M)
Tripura	Sowing	June (B)-June (M)	Jun (M)-July(M)
	Harvesting	Nov (B).-Dec (M).	Dec (M)-Jan. (M)
Nagaland	Sowing	June (B)-June (M)	Jun (M)- July (M)
	Harvesting	Nov (M).- Dec (M).	Dec (M)-Jan. (M)
All India	Sowing	June (B)-June (M)	June (B)-July (E)
	Harvesting	Nov. (M)- Jan (M),	Dec (M).- April (E)

Contd...

States/Uts	Period	Kharif Mungbean/ Urdbean	Rabi Mungbean/ Urdbean	Spring/Summer Mungbean/ Urdbean	Horsegram Kharif	Chickpea rabi
1	2	3	4	5	6	7
Andhra Pradesh	Sowing Harvesting	Jun(M)-Jul(E) Sept(M)-Oct(M)	Oct(B)-Nov(B) Jan(B)-Feb(B)	Jan(B).-Feb(B) Mar(B)-April(M)		
Assam	Sowing Harvesting	July(B)-Aug(E) Sep(M)-Oct(E)	Aug(B)-Sep(M). Nov(B)-Dec(M)	Feb(E)-Mar(M) May(B)-May(M)		Oct. (M) - Nov. (M) March (B) - March (E)
Bihar	Sowing Harvesting	July(B)-Aug(E) Sep(M)-Oct(E)		Feb(E)-April(B) May(B)-June(M)	Aug (M)-Aug(E) Oct(E)-Nov(B)	Oct. (M) - Nov. (M) March (B) - March (E)
Chattishgarh	Sowing Harvesting	Jun-Jul Sep-Sep				Oct. (B) - Oct. (E) Feb. (E) - March (E)
Gujarat	Sowing Harvesting	July(B)-Aug(E) Sep(M)-Oct(E)				Oct. (B) - Nov. (M) Feb. (M) - March (E)
Haryana	Sowing Harvesting	July(B)-Aug(E) Sep(M)-Oct(E)		Feb(E)-April(B) May(B)-June(M)		Oct. (M) - Nov. (E) March (M) - April (B)
Jharkhand	Sowing Harvesting	Jul(B)-Aug(E) Sep(M)-Oct(E)		Feb(E)-April(B) May(B)-June(M)		
Karnataka	Sowing Harvesting	Jun(M)-Jul(E) Sept(M)-Oct(M)	Oct(B)-Nov(B) Jan(B)-Feb(B)	Jan(B).-Feb(B) Mar(B)-April(M)	Aug (E) Oct(M)-Nov(B)	Sept. (E) - Oct. (E) Jan. (M) - Feb. (E)
Kerala	Sowing Harvesting	Jun(M)-Jul(E) Sept(M)-Oct(M)		Jan(B).-Feb(B) Mar(B)-April(M)		
Madhya Pradesh	Sowing Harvesting	Jun(M)-Jul(E) Sept(M)-Oct(M)			August (E) Oct (E)	Oct. (B) - Nov. (B) Feb. (M) - March (E)
Maharashtra	Sowing Harvesting	Jun(M)-Jul(E) Sept(M)-Oct(M)			Jul(M) Oct(M)	Sept (E) - Oct. (E) Feb. (M) - March (E)
Odisha	Sowing Harvesting	Jun(M)-Jul(E)	Oct(B)-Nov(B)	Jan(B).-Feb(B)		

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<i>State</i>	<i>Period</i>	<i>Kharif-Soybean</i>	<i>Niger(Khaif)</i>	<i>Niger(Late Kharif)</i>
1	2	3	4	5
Madhya Pradesh	Sowing	June(M)- July(M)	June(B) – July(E)	Aug(B)- Sept(B)
	Harvesting	Sept(E)- October(B)	Oct(B)- Nov(M)	Nov(B)-Dec(B)
Maharashtra	Sowing	June(M)- July(M)	June(B) – July(E)	Aug(B)- Sept(B)
	Harvesting	Sept(E)- Oct(B)	Oct(B)- Nov(M)	Nov(B)-Dec(B)
Rajasthan	Sowing	June(E)- July(M)		
	Harvesting	Sept(E)- October(B)		
Karnataka	Sowing	June(M) – July(B)	June(B) – July(E)	Aug(B)- Sept(B)
	Harvesting	Sept(E)- Oct(B)	Oct(B)- Nov(M)	Nov(B)-Dec(B)
Andhra Pradesh	Sowing	June(M)- July(M)	June(B) – July(E)	Aug(B)- Sept(B)
	Harvesting	Sept(E)- Oct(B)	Oct(B)- Nov(M)	Nov(B)-Dec(B)
Chhatisgarh	Sowing	June(M)- July(M)		
	Harvesting	Sept(E)- October(B)		
Uttar Pradesh	Sowing	June(E)- July(M)		
	Harvesting	Sept(E)- October(B)		
Manipur	Sowing	June- July		
	Harvesting	Sept(E)- October(B)		
Meghalaya	Sowing	June - July		
	Harvesting	Sept(E)- October(B)		
West Bengal	Sowing	June - July		
	Harvesting		Sept(E)- October(B)	
Odisha	Sowing		June(B) – July(E)	Aug(B)- Sept(B)
	Harvesting		Oct(B)- Nov(M)	Nov(B)-Dec(B)
Bihar/ Jharkhand	Sowing		June(B) – July(E)	Aug(B)- Sept(B)
	Harvesting		Oct(B)- Nov(M)	Nov(B)-Dec(B)
Gujarat	Sowing		June(B) – July(E)	Aug(B)- Sept(B)
	Harvesting		Oct(B)- Nov(M)	Nov(B)-Dec(B)

States/Uts	Period	Rabi Gram	Rabi Masur	Kharif Pulses / Lentil	Rabi Pulses / Lentil	Rabi Pea
1	2	3	4	5	6	7
Assam	Sowing				Oct(M) – Nov(M)	Oct(M) – Nov(M)
	Harvesting				Mar(M)-Apr(M)	Mar(M)-Apr(M)
Bihar	Sowing			Jun(M)-Jul(B)	Oct(M) – Nov(M)	Oct(M) – Nov(M)
	Harvesting			Nov(B)-Dec(E)	Mar(M)-Apr(M)	Mar(M)-Apr(M)
Chattisgarh					Oct(M) – Nov(M)	Oct(M) – Nov(M)
				Mar(M)-Apr(M)	Mar(M)-Apr(M)	
Goa	Sowing			Aug(B)-Sep(E)	Dec(B)-Jan(E)	
	Harvesting			Nov(B)-Dec(E)	Mar(B)-Mayu(E)	
Jharkhand	Sowing				Oct(M) – Nov(M)	Oct(M) – Nov(M)
	Harvesting			Mar(M)-Apr(M)	Mar(M)-Apr(M)	
Rajasthan	Sowing				Oct(E) – Nov(M)	Oct(E) – Nov(M)
	Harvesting			Mar(B)-Apr(M)	Mar(B)-Apr(M)	
Tripura	Sowing				Oct(E) – Nov(M)	Oct(E) – Nov(M)
	Harvesting			Mar(B)-Apr(M)	Mar(B)-Apr(M)	
Gujarat	Sowing	Oct(B)-Nov(E)			Oct(M) – Nov(M)	Oct(M) – Nov(M)
	Harvesting	Feb(B)-Mar(E)			Mar(M)-Apr(M)	Mar(M)-Apr(M)
Haryana	Sowing	Oct(B)-Oct(M)			Oct(M) – Nov(M)	Oct(M) – Nov(M)
	Harvesting	Mar(M)-Mar(E)			Mar(M)-Apr(M)	Mar(M)-Apr(M)
Karnataka	Sowing	Oct(B)-Nov(E)				
	Harvesting	Jan(B)-Mar(E)				
Madhya Pradesh	Sowing	Oct(B)-Dec(B)	Sep(M)-Nov(E)		Oct(E) – Nov(M)	Oct(E) – Nov(M)
	Harvesting	Feb(B)-Apr(B)	Feb(M)-Apr(B)		Mar(B)-Apr(M)	Mar(B)-Apr(M)

Contd...

1	2	3	4	5	6	7
Maharashtra	Sowing	Sep(B)-Oct(E)				
	Harvesting	Feb(B)-Mar(E)				
Manipur	Sowing	Sep-Oct				
	Harvesting	Mar-Apr				
Meghalaya	Sowing	Sep(B)-Oct(E)		Sep(B)-Oct(E)		
	Harvesting	Dec(B)-Jan(E)		Feb(B)-Mar(E)		
Punjab	Sowing			Jun(B)-Jul(E)	Oct. – Nov.	Oct. – Nov.
	Harvesting				March-April	March-April
Uttar Pradesh	Sowing	Oct(B)-Nov(E)	Oct(B)-Nov(E)		Oct(M) – Nov(M)	Oct(M) – Nov(M)
	Harvesting	Mar(B)-Apr(E)	Mar(B)-Mar(E)		Mar(M)-Apr(M)	Mar(M)-Apr(M)
West Bengal	Sowing	Nov(M)-Dec(B)		Nov(B)-Nov(E)	Oct(M) – Nov(M)	Oct(M) – Nov(M)
	Harvesting	Mar(B)-Mar(E)		Feb(B)-Mar(E)	Mar(M)-Apr(M)	Mar(M)-Apr(M)

State	Period	Groundnut		
		Kharif	Rabi	Summer / Spring
1	2	3	4	5
Andhra Pradesh	Sowing	Jun(B)-July(E)	Nov(M)-Jan(E)	
	Harvesting	Sep(M)-Nov(M)	Feb(E)-May(B)	
Assam	Sowing		July(B)-Aug(E)	
	Harvesting		Nov(B)-Dec(E)	
Bihar	Sowing			
	Harvesting			
Chattisgarh	Sowing			
	Harvesting			
Gujarat	Sowing	Jun(B)-July(E)		Jan(B)-Feb(E)
	Harvesting	Sep(B)-Nov(E)		Apr(B)May(E)
Haryana	Sowing			
	Harvesting			
J&K	Sowing			
	Harvesting			
Jharkhand	Sowing			
	Harvesting			
Karnataka	Sowing	Jun(B)-Jul(E)	Nov(M)-Jan(E)	Dec(B)-Jan(E)
	Harvesting	Sep(B) – Oct(E)	Feb(E)-May(B)	Mar(B)-Apr(E)
MadhyaPradesh	Sowing	Jun(M)-July(E)		
	Harvesting	Sep(M)-Oct(E)		
Maharashtra	Sowing	Jun(E)-Jul(E)		Jan(B)-Feb(E)
	Harvesting	Oct(B)-Nov(B)		Apr(B)May(E)
Odisha	Sowing			
	Harvesting			
Punjab	Sowing			
	Harvesting			
Rajasthan	Sowing	Jun(B)-Jul(E)		
	Harvesting	Oct(B)-Nov(E)		
Tamil Nadu	Sowing			
	Harvesting			
Uttar Pradesh	Sowing	Jul(B)-Jul(E)		
	Harvesting	Oct(B)-Nov(B)		
West Bengal	Sowing	Jun(E)-Jul(B)	Oct(E)-Nov(B)	Feb(B)-Mar(E)
	Harvesting	Sep(E)-Oct(B)	Jan(E)-March(B)	May(B)-Jun(E)

<i>State</i>	<i>Period</i>	<i>Rabi Linseed</i>
1	2	3
Assam	Sowing	Oct (B) - Nov (B)
	Harvesting	Mar (B) – Apr (E)
Andhra Pradesh	Sowing	Oct (B)- Oct (E)
	Harvesting	Feb (E)-Mar (E)
Bihar	Sowing	Oct (B)- Nov (B)
	Harvesting	Mar (B)- Apr (E)
M. P.	Sowing	Oct (B)- Nov (M)
	Harvesting	Mar (B)-Mar (E)
Chhatisgarh	Sowing	Oct (B)- Nov (M)
	Harvesting	Mar (B)-Mar (E)
Maharashtra	Sowing	Oct (B)-Oct (E)
	Harvesting	Mar (B)-Mar (E)
Uttar Pradesh	Sowing	Oct (B) - Nov (B)
	Harvesting	Mar (B) – Apr (E)
Orissa	Sowing	Oct (B)-Oct (E)
	Harvesting	Mar (B)-Mar (E)
Jharkhand	Sowing	Oct (B) - Nov (B)
	Harvesting	Mar (B) – Apr (E)
Karnatka	Sowing	Oct (B)-Oct (E)
	Harvesting	Feb (B)-Mar (M)
Nagaland	Sowing	Oct (B)- Nov (B)
	Harvesting	Mar (B) – Apr (E)
West Bengal	Sowing	Oct (B) - Nov (B)
	Harvesting	Mar (B) – Apr (M)
Rajasthan	Sowing	Oct (B)-Oct (E)
	Harvesting	Mar (B)-Mar(E)
Himachal Pradesh	Sowing	Oct (B)- Nov(B)
	Harvesting	Apr (E) –May (M)
J & K	Sowing	Oct (B)- Nov (B)
	Harvesting	Apr (E) – May (M)
Punjab	Sowing	Oct (M) –Nov (M)
	Harvesting	Mar (E) – Apr (E)

<i>States</i>	<i>Period</i>	<i>Sesame Kharif</i>	<i>Sesame Pre Rabi</i>	<i>Sesame Rabi</i>	<i>Sesame Summer</i>
1	2	3	4	5	6
Andhra Pradesh	Sowing	June(B)-July(E)	Aug(B)- Sept(M)		Jan(M)- Feb(E)
	Harvesting	Oct(M)- Nov(M)	Dec(E)- Jan(M)		Apr(M)-May(E)
Karnataka	Sowing	June(B)-July(E)			
	Harvesting	Oct(M)- Nov(M)			
Kerala	Sowing	June(B)-July(E)			Jan(M)-Feb(E)
	Harvesting	Oct(M)- Nov(M)			Apr(M)-May(E)
Madhya Pradesh	Sowing	June(B)-July(E)	Aug(B)- Sept(M)		
	Harvesting	Oct(M)- Nov(M)	Dec(E)- Jan(M)		
Maharashtra	Sowing	June(B)-July(E)	Aug(B)- Sept(M)		Jan(M)- Feb(E)
	Harvesting	Oct(M)- Nov(M)	Dec(E)- Jan(M)		Apr(M)-May(E)
Odisha	Sowing	June(B)-July(E)		Oct(B)-Nov(M)	Jan(M)- Feb(E)
	Harvesting	Oct(M)- Nov(M)		Feb(M)- Mar(E)	May(M)-June(M)
Rajasthan	Sowing	June(B)-July(E)			
	Harvesting	Oct(M)- Nov(M)			
Uttar Pradesh	Sowing	June(B)-July(E)			Feb.- March
	Harvesting	Oct(M)- Nov(M)			May(M)-Jun(M)
West Bengal	Sowing				Feb(M)-Mar(M)
	Harvesting				May(M)-June(M)
Gujarat	Sowing	June-July			Feb.- March
	Harvesting	Oct- Nov			May -June
Tamil Nadu	Sowing	June-July	Aug(B)- Sept(M)	Oct(B)-Nov(M)	Jan.- Feb
	Harvesting	Oct- Nov	Dec(E)- Jan(M)	Feb(M)- Mar(E)	May(M)-June(M)
All India	Sowing	May-July	Aug(B)- Sept(M)	Oct(B)-Nov(M)	Jan.- March
	Harvesting	Sep-Nov	Dec(E)- Jan(M)	Feb(M)- Mar(E)	May -June

<i>State</i>	<i>Rapeseed-Mustard</i>	<i>Sowing Time</i>	<i>Harvesting Time</i>
1	2	3	4
Andhra Pradesh	Mustard/ Banarasi rai	Nov (L)- Dec (E)	Feb-March
Assam	Toria	Nov (L) - Dec (E)	Feb-March
Bihar	Mustard	Oct (L) - Nov (L)	Feb-March
	Toria	Sep (L)- Oct(E)	Jan-Feb
	Yellow Sarson	Oct (E)	Feb-March
Chhattisgarh	Mustard	Oct (E)- Nov(E)	March
	Toria	Sep (L)	Dec-Jan
Delhi	Mustard	Oct (L)- Nov(E)	Feb-March
	Toria	Sep (L)	Jan
	Taramira	Nov(E)	March
Gujarat	Mustard	Oct(L)	Feb-March
	Yellow Sarson	Oct (L)	Feb
Haryana	Mustard	Within Oct	Feb-March
	Toria	Sep (L)	Dec-Jan
	Taramira	Nov(E)	March
Himachal Pradesh	Mustard	Oct (L)- Nov (L)	March-April
	Brown Sarson	Within Oct	April
	Gobhi Sarson	Oct (L) - Nov (L)	April
J&K	Mustard	Oct(L)- Nov (E)	March-April
	Brown sarson	Within Oct	April-May
Jharkhand	Mustard	Oct (L)	March
	Toria	Oct (E)	Feb-March
	Yellow Sarson	Oct (E)	Feb-March
Karnataka	Mustard	Within Oct	Feb
Madhya Pradesh	Mustard	Within Oct	Feb-March
	Toria	Sep (L)	Dec-Jan
Manipur	Mustard	Within Nov	March
	Toria	Oct (E)	Feb-March
Maharashtra	Mustard	Oct (L)- Nov (E)	Feb-March
Odisha	Mustard	Oct (L) - Nov (L)	Feb-March
	Toria	Oct (E)	Feb
	Yellow Sarson	Oct (E)	Feb-March
Punjab	Mustard	Oct (L)- Nov (L)	March- April
	Toria	Sep (L)	Dec-Jan
	Taramira	Nov (E)	March
	Gobhi Sarson	Oct (L)- Nov (L)	March-April
	Karan rai	Oct (L)- Nov (L)	March-April
Rajasthan	Mustard	Sep (L) - Oct (L)	Feb-March
	Taramira	Oct (L)- Nov(E)	March
Uttaranchal	Mustard/ Karan rai	Oct (L)- Nov (L)	March
	Toria	Sep (L)	Dec-Jan
	Yellow Sarson	Oct (E)	March
Uttar Pradesh	Mustard	Within Oct	Feb-March
	Toria	Sep(L)	Dec-Jan
	Yellow Sarson	Within Oct	Feb-March
West Bengal	Mustard	Within Oct	Feb-March
	Toria	Oct (L)- Nov (E)	Feb
	Yellow Sarson	Oct (L)- Nov (E)	Feb-March

States/Uts	Period	Kharif	Sunflower Rabi	Summer / Spring	Castor Kharif	Sunflower Rabi
1	2	3	4	5	6	7
Andhra Pradesh	Sowing	Jun(B)-Aug(E)	Oct		Jun(B)-Jul(E)	October
	Harvesting	Sep - Nov	Jan		Oct-Dec	Feb
Assam	Sowing					
	Harvesting					
Bihar	Sowing					
	Harvesting					
Chattisgarh	Sowing					
	Harvesting					
Gujarat	Sowing				Jul-Aug	
	Harvesting				Jan-Feb	
Haryana	Sowing					
	Harvesting					
J&KSowing						
	Harvesting					
Jharkhand	Sowing					
	Harvesting					
Karnataka	Sowing	Jun(B)-Aug(E)	Oct	Dec-Jan	Jul-Aug	October
	Harvesting	Sep - Nov	Jan	Mar-Apr	Nov-Dec	Feb
Madhya Pradesh	Sowing					
	Harvesting					
Maharashtra	Sowing	Jul(B)-Aug(E)	Oct			Sep(M)-Oct(M)

Contd...

1	2	3	4	5	6	7
Odisha	Harvesting Sowing Harvesting	Oct - Nov	Jan			Feb-Mar
Punjab	Sowing Harvesting			Feb Apr-May		
Rajasthan	Sowing Harvesting				Jul-Aug Jan-Feb	
Tamil Nadu	Sowing Harvesting	Jun(B)-Aug(E) Sep - Nov	Oct Jan			
Uttar Pradesh	Sowing Harvesting					
West Bengal	Sowing Harvesting			Feb Apr-May		
All India	Sowing Harvesting	Jun-Aug Sep-Nov	Oct Jan	Feb Apr-May	Jul-Aug Jan-Feb	October Feb

Contd...

<i>States / UTs</i>	<i>Period</i>	<i>Kharif Cotton</i>	<i>Kharif Maize</i>	<i>Rabi Maize</i>
1	2	3	4	5
Andhra Pradesh	Sowing Harvesting	Jun(E)-Jul(E) Dec(E)-Mar(M)	Jun(M)-Jul(M) Sep(M)-Oct(E)	Oct(E)-Jan(M) Feb(E)-May(B)
Bihar Jul(B)	Oct(M)-Nov(M) Harvesting	Sowing	Nov(B)-Dec(E)	Jun(M)- Feb(B)-Mar(B)
Gujarat	Sowing Harvesting	May(B)-May(E) Oct(B)-Apr(E)	Jun(B)-Jul(E) Sep(B)-Nov(E)	
Haryana	Sowing Harvesting	Apr(B)-Apr(M) Oct(M)-Nov(M)	Jul(M)-Aug(B) Oct(M)-Oct(E)	
Himachal Pradesh	Sowing Harvesting		May(M)-Jun(E) Sep(M)-Oct(M)	
Karnataka	Sowing Harvesting		May(B)-Jun(E) Sep(B)-Oct(E)	Sep(B)-Oct(E) Jan(B)-Mar(E)
Kerala	Sowing Harvesting	Jun(B)-Oct(E) Dec(B)-Mar(E)		
Madhya Pradesh	Sowing Harvesting	Jun-Jul Nov-Dec	Jun(M)-Jul(E) Aug(M)-Dec(E)	
Maharashtra	Sowing Harvesting	Jun-Jul Nov-Dec	Jul(B)-Aug(E) Oct(B)-Nov(E)	
Odisha	Sowing Harvesting	Jun-Jul Nov-Dec	Jun-Ju; Sep-Oct	
Punjab	Sowing Harvesting	Apr(B)-Mar(E) Sep(B)-Oct(E)	May(B)-Jun(E) Sep(B)-Oct(E)	
Rajasthan	Sowing Harvesting	Apr(B)-May(E) Nov(B)-Dec(E)	Jun(B)-Jul(E) Oct(B)-Nov(E)	
Uttar Pradesh	Sowing Harvesting	Apr(B)-Jun(E) Sep(B)-Nov(E)	Jun(B)-Jul(E) Sep(B)-Sep(E)	
West Bengal	Sowing Harvesting	Oct(B)-Nov(E) Sep(B)-Sep(E)	Mar(B)-May(E) Jun(B)-Aug(E)	Nov(B)-Nov(E) Mar(B)-Mar(E)
All India	Sowing Harvesting	Apr-Jul Sep-Dec	Mar-Jul Sep-Dec	Sep-Jan Jan-May

States / UTs	Period	Kharif Sugarcane	Rabi Sugarcane	Kharif Jute
1	2	3	4	5
Andhra Pradesh	Sowing Harvesting	Dec(E)-Jun(M) Dec(E)_May(M)		
Assam	Sowing Harvesting	Mar(B)-Apr(E) Dec(B)-Jan(E)		
Haryana	Sowing Harvesting	Feb(M)-Mar(M) Dec(M)-March(E)		
Karnataka	Sowing Harvesting	Dec(B)-Mar(E)* Aug(B)-May(E)		
Kerala	Sowing Harvesting			Jun(B)-Oct(E) Oct(B)-Jan(E)
Madhya Pradesh	Sowing Harvesting	Oct(B)-Apr(E) Oct(E)-Mar(E)		
Maharashtra	Sowing Harvesting	Jul(B)-Aug(E) Oct(B)-Nov(E)		
Manipur	Sowing Harvesting			Feb-Mar Aug-Sep
Odisha	Sowing Harvesting	Feb-May Nov-Feb		May-Jun Aug-Sep
Punjab	Sowing Harvesting	Feb(B)-Mar(E) Nov(B)-Feb(E)		
Rajasthan	Sowing Harvesting	Mar(B)-Apr(E) Dec(B)-Mar(E)		
Tamil Nadu	Sowing Harvesting	Dec(B)-Jan(E)*** Dec(B)-Jan(E)		
Tripura	Sowing Harvesting	Feb-May Dec-Mar		Mar-May Aug-Sep
West Bengal	Sowing Harvesting			Mar(B)-May(E) Jul(B)-Aug(E)
All India	Sowing Harvesting	Feb(B)-Aug(E) Aug(B)-Nov(E)	Jun(B)-Oct(E) Oct(B)-Jan(E)	Feb-Jun Aug-Oct

*=Annual; **Early Kharif; ***Early sugarcane

Source : Indian Council of Agricultural Research (Crop Science Division)

Harvesting Season of Major Fruits

Appendix V

States /UTs	Mango	Apple	Banana	Lime / Lemon	Grapes
1	2	3	4	5	6
Andhra Pradesh	March - June		round the year	Aug - Jan.	Feb. - April & Nov. - Dec.
Arunanchal Pradesh	July - Sept.	Aug.- oct.	*	Nov.-Jan	
Assam	May - July		round the year	round the year	Nov.-Jan
Bihar		May - July		Aug. - Dec.*	
Chhatisgarh	March - June		Feb. - Apr.	Nov.-Feb.	Dec. - Jan.
Delhi	Jun. - Aug.				May - July
Goa	Jan. - June.		round the year		
Gujarat	April - July		Aug. - March	Aug. - Nov.	
Haryana	Jun. - Aug.			Nov.-Feb.	May - July
Himanchal Pradesh	Jun. - Aug.	July - Oct.		Nov.-Jan.	Jan. - Feb.
Jammu & Kashmir	July - Aug.	Aug. - Nov.		Oct. - Nov.	June - July & Nov-Dec
Jharkhand	May - July		Aug. -Dec.	*	
Karnataka	March-July		round the year	*	Jan. - May
Kerala	*		*		
Madhya Pradesh	March-June		Feb. - Apr.	Nov. - Feb.	Dec. - May
Maharashtra	March-June		round the year	Jan. - July	Feb. - May
Manipur	April - Sept.	Sep. - Nov.	round the year	Oct. - Dec.	Nov. - Dec.
Meghalaya			June - Aug.		Jan. - Feb.
Mizoram	May - July		June - Dec.	Jun - Nov.	Dec.& Feb.
Nagaland	Jun. - Aug.		Aug. - Oct.		
Odisha	April - June		round the year	*	
Punjab	Jun. - Aug.			Nov. - March	May. -Aug.
Rajasthan	May - July		round the year	May - Sept.	March.&May- Aug. Nov.& Jan.
Sikkim					
Tamil Nadu	April - July		round the year	May - Sept.	March & May.-July & Sep.- Nov.
Tripura	May - July		round the year	April - Oct.	Nov.
Uttar Pradesh	April - Sept.		Sept. -Nov.		July - Sep.
Uttarakhand	May - Sept.	June - Oct.	June - Sept.	Sept. - Nov.	Dec. & Feb.
West Bengal	May - Aug.		July - Oct.		Jan. - Feb.
Andaman & Nicobar	April - July		round the year		
Chandigarh					Jan. - April
D & N Haveli					
Daman & Diu	May - July		round the year		
Lakshadweep			round the year		
Puducherry	April - Aug.		June - Sept.	Nov.-Feb.	

* Information not available.

Source : National Horticulture Board

Harvesting Season of Major Vegetables

Appendix VI

States /UTs	Potato	Onion	Tomato	Cabbage	Cauliflower
1	2	3	4	5	6
Andhra Pradesh	Mar. - Dec. Aug. - Dec.	Mar. - June &		Nov. - Feb.	
Arunachal Pradesh	-	-	*	*	*
Assam	Apr.- sep.	Dec.. - Mar.	Nov. - Mar.	Nov. -Mar.	Nov. - Mar.
Bihar	Mar.- Oct.	Feb. -April	Oct. - apr.	Nov. - Apr.	Oct. - apr.
Chhatisgarh	Dec.. - Mar.	April - June	Dec. - Mar.	Dec. - Mar.	Dec. - Mar.
Delhi	July - Oct.	April - June	Oct. - Mar.	Dec. - Mar.	Oct. - Mar.
Goa	-	-	-	-	-
Gujarat	round the year	Jan. - Mar.	*	Oct. - Mar.	*
Haryana	Mar. -May	Mar. - May.	Oct. - Mar.	*	Oct. - Mar.
Himanchal Pradesh	-	-	*	*	*
Jammu & Kashmir	-	-	*	*	*
Jharkhand	Mar. -Oct.	Feb. - Apr.	Oct. - apr.	Nov. - Apr.	Oct. - apr.
Karnataka	June - Sep.	Aug. - Jan.	Dec. - Mar. Aug. - Oct.	Jan. - Mar.&	Dec. - Mar.
Kerala	*	-	-	-	-
Madhya Pradesh	Dec.. - Mar.	Apr. - July	Dec. - Mar.	Dec. - Mar.	Dec. - Mar.
Maharashtra	Jan. -July Oct. - Dec.	Mar. - May.&	*	Dec. - Mar.	*
Manipur	Apr. - Aug.	-	Aug. - Dec.	Oct. - Feb.	Aug. - Dec.
Meghalaya	-	Mar. - May.	Oct. - Mar.	Aug. - Mar.	Oct. - Mar.
Mizoram	June - Oct.	-	Dec. - Feb.	Dec. - Feb.	Dec. - Feb.
Nagaland	-	Jan. - Apr.	June - Oct.	June. - Oct.	June - Oct.
Odisha	round the year	Feb. -May	Sep. - Jan.	Dec. - Mar.	Sep. - Jan.
Punjab	Apr. - June	Mar. -May	Oct. -Feb.	-	Oct. -Feb.
Rajasthan	Apr. -Nov.	Mar. -May	Sep. - Dec.	Sep. - Dec.	Sep. - Dec.
Sikkim	-	-	Oct. -Feb.	Oct. - Apr.	Oct. -Feb.
Tamil Nadu	June -Aug.	Oct. - Dec.	-	Nov. - Jan.& Apr. - June	-
Tripura	-	-	-	-	-
Uttar Pradesh	Mar. - Nov.	Feb. - Apr.	Sep. - Feb.	Dec. - Apr.	Sep. - Feb.
Uttarakhand	June - Sep.	Mar. -May	July. - Mar.	July. - Mar.	July. - Mar.
West Bengal	round the year	Mar. -May	Nov. - Mar.	Sep. - Apr.	Nov. - Mar.
Andaman & Nicobar	-	-	Jan. - Mar.	Jan. - Mar.	Jan. - Mar.
Chandigarh	-	-	-	-	-
D & N Haveli	-	-	-	-	-
Daman & Diu	-	-	-	-	-
Lakshadweep	-	-	-	-	-
Puducherry	Mar. - Aug.	Mar. -May & Oct. - Dec.	-	-	-

* Information not available.

Source : National Horticulture Board

Appendix-VII**General Seed Rate of Sowing for Important Field Crops****Kg/ha.*

<i>Crop</i>	<i>Variety</i>	<i>Hybrid</i>
<i>1</i>	<i>2</i>	<i>3</i>
Cereal Crops		
<u>Rice</u>		
Direct sowing	75-100	-
Transplanting	50-75	15
Wheat	100-125	-
Maize	20	15
Barley	100	-
Jowar	12-15	75
Bajra	5	5
Ragi	5	-
Sorgum	8-10	8-10
Pulses		
Tur(Arhar)	10	10
Green Gram (Kharif) 15-20 (Ravi) 25-30 & Summer)	30-35	-
Black Gram (Kharif) 15-20 (Ravi) 25-30 & Summer)	30-35	-
Lentil	50-60	-
Peas	80-100	-
Chickpea (Desi)	65-75	-
Chickpea (Kabuli)	100-120	-
Pigeonpea	15-20	-
Rajmash	75-100	-
Moth	15-18	-
Kulthi	22-30	-
Oilseed		
Groundnut	90-110	-
Rape/Mustard	5	35
Soyabean	75-85	-
Til (Sesamum)	5	-
Castor	6	5
Sunflower	6	5
Safflower	10-12	8-10
Linseed	25-30 & Linseed(DP)	40-45
Niger	5-8	-
Cotton	7.5	2.5
Jute	8-10	-

Contd...

1	2	3
Mesta	12-5	-
Sunhemp	25	-
Foder Crops		
Jowar	20-25	12
Barseem	20-25	-
Lucern	7.5	-
Oats	62.5	-
Maize	25	-
Others		
Sugarcane	5500-6000 (35000 -40000) setts with 3-buds	-

* The quantity of seed may vary according to variety (duration), seed size, recommended spacing, method of sowing , agro - climatic conditions and cropping system.