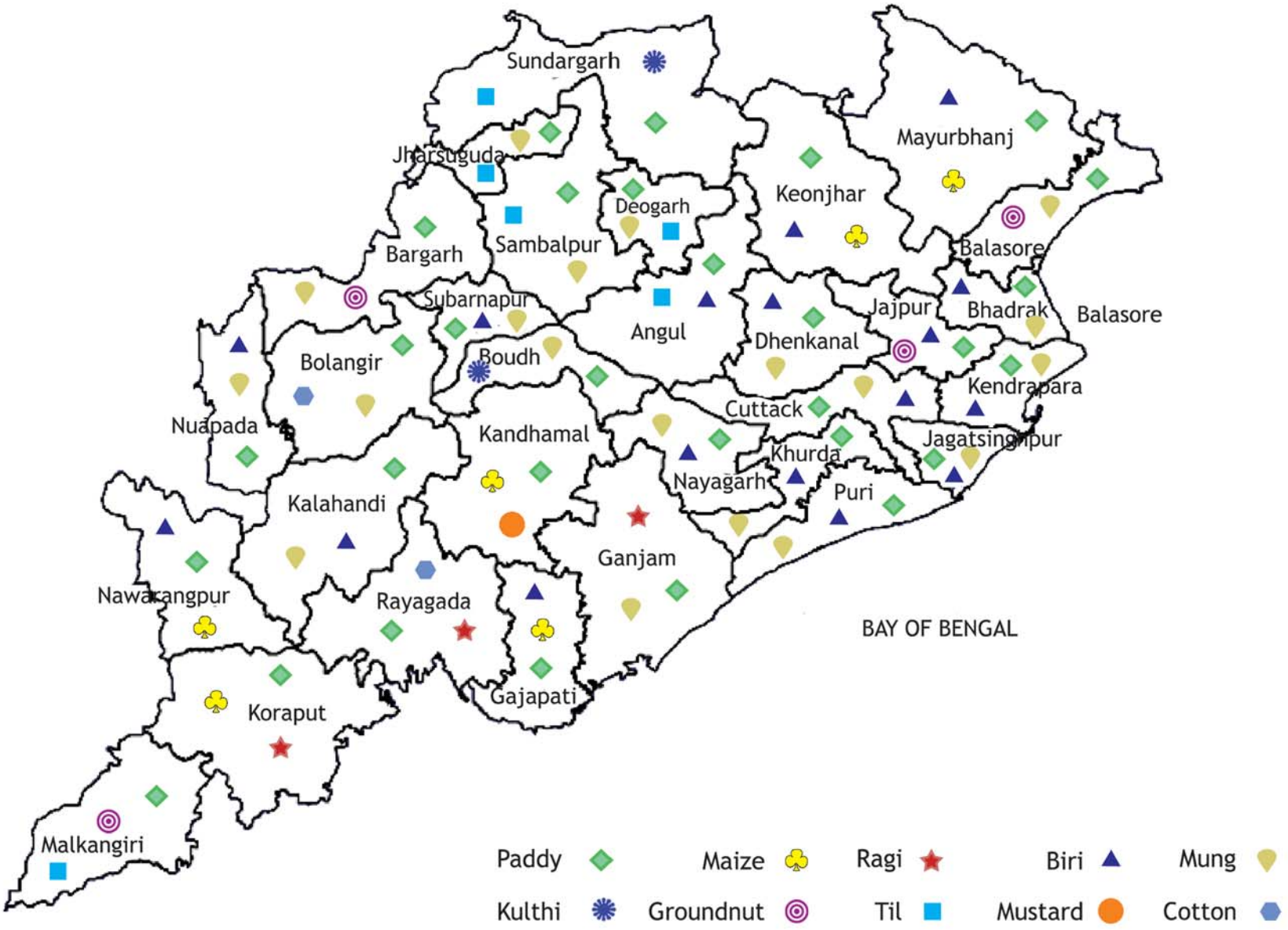
As on 31.12.2014

Government of Odisha

STATUS OF AGRICULTURE IN ODISHA 2014-15

DIRECTORATE OF AGRICULTURE & FOOD PRODUCTION
ODISHA, BHUBANESWAR

DISTRIBUTION OF MAJOR CROPS IN ODISHA



CONTENTS

STATUS OF AGRICULTURE IN ODISHA

Agriculture in Odisha is the mainstay of majority of the populace and thus, holds the key to socio-economic development of the State. It suffers from frequent natural calamities like cyclones, drought and flash floods. The share of Agriculture Sector in the State's GSDP has been declining over the years. The share of this Sector in Odisha's GSDP is expected to be 15.6 percent in 2013-14 as per advance estimates. Despite wide annual variations in its growth, the agriculture sector grew in real terms at 2004-05 prices, at a rate of 12.72 percent during 2012-13. However, a negative growth of 3.53 percent is anticipated during 2013-14 due to cyclonic storm 'Phailin' and flash floods in the State in October 2013. This Sector still provides employment to more than 60% of the population directly or indirectly, making it the largest employment sector of the state. Hence, development in agriculture sector is vital to set the pace of development in the state.

2. Land and Climate

Land use

The State has a cultivated area of 61.80 lakh ha out of which 29.14 lakh ha. is high land, 17.55 lakh ha medium land and 15.11 lakh ha low land. The coverage under Paddy during Kharif is about 38.80 lakh & during Rabi 3.00 lakh ha .The land use pattern of the State is indicated below.

(Area in lakh hectares)

Sl.No.	Items	Area
1.	Forest	58.13
2.	Miscellaneous Trees & Groves	3.42
3.	Permanent Pasture	4.94
4.	Culturable waste	3.75
5.	Land put to Non-Agriculture use	12.98
6.	Barren & un-culturable land	8.40
7.	Current fallow	7.56
8.	Other fallow	2.29
9.	Net Area Sown	54.24
Total Geographical Area		**155.71**
Gross cropped area		**90.54**
Cropping Intensity (%)		**167**

(Area in lakh hectares)

	Cultivated Area		Kharif Paddy Area
1.	High	29.14	8.06
2.	Medium	17.55	15.80
3.	Low	15.11	14.94
Total:		61.80	38.80

Soil and Topography

The State is broadly divided in to 4 Physiographic zones namely, Coastal Plains, Central Tableland, Northern Plateau and Eastern Ghats. These are further subdivided into 10 agro-climatic zones, viz., North-western plateau, North-central Plateau, North-Eastern coastal plain, East and South-Eastern coastal plain, North-Eastern Ghat, Eastern Ghat high land, South-Eastern Ghat, Western undulating zone, Western-Central table land and Mid-Central table land. Soil types range from fertile alluvial deltaic soils in coastal plains, mixed red and black soils in Central tableland, red and yellow soils with low fertility in Northern Plateau to red, black & brown forest soils in Eastern Ghat region. They differ widely from highly acidic to slightly alkaline and from light sandy to stiff clays. Soils are mainly acidic with the degree of acidity varying widely. Further, about 4 lakh ha. is exposed to saline inundation, 3.54 lakh ha. to flooding and 0.75 lakh ha to water-logging, particularly in the deltaic areas.

Climate & Rainfall

State's climate is tropical, characterized by high temperature, high humidity, medium to high rainfall and short and mild winters. The normal rainfall of the State is 1451.2 mm. The month-wise normal rainfall is indicated below.

Month	Normal Rainfall (in mm)	Normal Rainydays (in mm)
January	11.4	0.7
February	22.9	1.5
March	25.5	1.7
April	33.1	2.3
May	63.3	3.8
June	216.5	9.9
July	339.9	15.4
August	356.0	15.6
September	231.9	11.5
October	114.7	5.3
November	31.5	1.3
December	4.5	0.3
State Average	1451.2	69.3

The actual rainfall received, vary from district to district. About 84% of rainfall is received during the period from June to September. Even though the quantum of rainfall is quite high, its distribution during the monsoon period is highly uneven and erratic. Flood, drought and cyclone visit regularly with varying intensity. Due to frequent occurrence of

these natural calamities there is always reduction in the yield of Kharif rice, the major crop of the State. Similarly, in drought years, there is considerable loss in production of Pulses and Oilseeds both during Kharif and Rabi. The following table indicates the frequency of natural calamities over the years.

Sl. No.	Year	Normal Rainfall (in mm)	Actual rainfall (in mm)	Kharif Rice Production (In lakh MTs.)	Remarks
1.	1961	1502.5	1262.8	36.99	
2.	1962	1502.5	1169.9	36.32	
3.	1963	1502.5	1467.0	42.47	
4.	1964	1502.5	1414.1	43.59	
5.	1965	1502.5	997.1	31.89	Severe drought
6.	1966	1502.5	1134.9	35.37	Drought
7.	1967	1502.5	1326.7	34.43	Cyclone & Flood
8.	1968	1502.5	1296.1	38.48	Cyclone & Flood
9.	1969	1502.5	1802.1	38.39	Flood
10	1970	1502.5	1660.2	39.13	Flood
11.	1971	1502.5	1791.5	33.76	Flood, Severe Cyclone
12.	1972	1502.5	1177.1	37.35	Drought, flood
13.	1973	1502.5	1360.1	41.91	Flood
14.	1974	1502.5	951.2	29.67	Flood, severe drought
15.	1975	1502.5	1325.6	42.74	Flood
16.	1976	1502.5	1012.5	29.58	Severe drought
17.	1977	1502.5	1326.9	40.50	Flood
18.	1978	1502.5	1261.3	41.89	Tornados, hail storm
19.	1979	1502.5	950.7	27.34	Severe drought
20.	1980	1502.5	1321.7	40.31	Flood, drought
21.	1981	1502.5	1187.4	36.63	Flood, drought, Tornado
22.	1982	1502.5	1179.9	27.07	High flood, drought, cyclone
23.	1983	1502.5	1374.1	47.63	
24.	1984	1502.5	1302.8	38.50	Drought
25.	1985	1502.5	1606.8	48.80	Flood
26.	1986	1502.5	1566.1	44.56	
27.	1987	1502.5	1040.8	31.03	Severe drought
28.	1988	1502.5	1270.5	48.96	
29.	1989	1502.5	1283.9	58.40	
30.	1990	1502.5	1865.8	48.42	Flood
31.	1991	1502.5	1465.7	60.30	
32.	1992	1502.5	1344.1	49.76	Flood, drought
33.	1993	1502.5	1421.6	61.02	
34.	1994	1502.5	1700.2	58.31	
35.	1995	1502.5	1588.0	56.48	

Sl. No.	Year	Normal Rainfall (in mm)	Actual rainfall (in mm)	Kharif Rice Production (In lakh MTs.)	Remarks
36.	1996	1502.5	990.1	38.27	Severe drought
37.	1997	1502.5	1493.0	57.51	
38.	1998	1502.5	1277.5	48.85	Severe drought
39.	1999	1502.5	1435.7	42.75	Severe Cyclone
40.	2000	1502.5	1035.1	41.72	Drought & Flood
41.	2001	1482.2	1616.2	65.71	Flood
42.	2002	1482.2	1007.8	28.26	Severe drought
43.	2003	1482.2	1663.5	61.99	Flood
44.	2004	1482.2	1273.6	58.84	Moisture stress
45.	2005	1451.2	1519.5	62.49	Moisture stress
46.	2006	1451.2	1682.8	61.96	Moisture stress/Flood
47.	2007	1451.2	1591.5	68.26	Flood
48.	2008	1451.2	1523.6	60.92	Flood , Moisture Stress
49.	2009	1451.2	1362.6	62.93	Flood/ Moisture stress/ Pest attack.
50.	2010	1451.2	1293.0	60.51	Drought/ Un-seasonal rain
51.	2011	1451.2	1327.8	51.27	Drought & Flood
52.	2012	1451.2	1391.3	86.29	Drought in Balasore, Bhadrak, Mayurbhanj & Nowapara districts.
53.	2013	1451.2	1627.0	65.85	Flood & Cyclone in 18 districts due to Phailin.
53	2014	1451.2	1457.4	85.78 (Prov.)	Cyclone in 8 districts due to Hud Hud.

3. Population:

The population of Odisha has started registering a declining growth rate, as can be seen from the figures given below.

(Figures in crores)

	CENSUS				
	1971	**1981**	**1991**	**2001**	**2011**
Population	2.19	2.64	3.17	3.68	4.20
Rural	2.01	2.33	2.75	3.13	3.50
Urban	0.18	0.31	0.42	0.55	0.70
Agril. Workers	0.53	0.64	0.76	0.55	0.57
Cultivators	0.34	0.40	0.46	0.34	0.33
Agril. Labourers	0.19	0.24	0.30	0.21	0.24
% of Rural population	91.6	88.3	86.6	85.0	83.3
Decennial population growth rate.	25.1	20.2	20.1	16.25	14.05%

Poverty Line

The figures relating to the people below the poverty line in Odisha is indicated below.

% of people below poverty line

Expert committee methodology

Year	Odisha			India
	Rural	Urban	Total	
1973-74	67.28	55.62	66.18	54.88
1977-78	72.38	50.92	70.07	51.32
1983-84	67.53	49.15	65.29	44.48
1987-88	57.64	41.53	55.58	38.36
1993-94	49.72	41.64	48.56	35.97
1999-00	48.01	42.83	47.15	26.10
2004-05	46.80	44.30	46.40	27.50

Tendulkar committee Methodology

Year	Odisha			India
	Rural	Urban	Total	
1993-94	63.00	34.50	59.10	45.30
2004-05	60.80	37.60	57.20	37.20
2009-10	39.20	25.90	37.00	29.80
2011-12	35.69	17.29	32.59	21.92

4. Land holding

The per capita availability of cultivated land was 0.39 hectares in 1950-51, which has declined to 0.15 hectares in 2010-11. During 2010-11 there were 46.67 lakh operational holdings in the state out of which marginal and small holdings account for 91.8%, medium 8.0% and large, less than 1%. The total number of operational holdings registered an increase of 7.14% over 2005-06. The average size of holding during 1970-71 was 1.89 ha which has been decreased to 1.04 ha during 2010-11. The average size of holding in marginal, small, semi-medium, medium and large categories in 2010-11 was 0.57ha, 1.63 ha, 2.95 ha, 5.99 ha and 23.72 ha respectively. The total No. of SC & ST holdings were 7.02 lakh and 14.26 lakh respectively. The average area of holdings operated by SC & ST during 2010-11 were 0.81 ha and 1.13 ha respectively. 96.71% of the total individual holdings correspond to male category, where as female category of holdings accounts for 3.29%. The predominance of small size of operational holdings along with wide spread-poverty poses a big problem in agricultural growth of the State. The details are given below.

Category of farmers	No of Holdings (Lakhnos.)		Area (lakh ha.)		Percentage To total Nos.		% to total area	
	2005-06	2010-11	2005-06	2010-11	2005-06	2010-11	2005-06	2010-11
Marginal (< 1.0 ha.)	25.97	33.68	13.42	19.22	59.62	72.17	26.73	39.61
Small (1 – 2 ha.)	11.56	9.18	15.88	14.98	26.54	19.68	31.63	30.87
Semi-medium (2- 4 ha.)	4.72	3.11	12.50	9.19	10.84	6.67	24.92	18.94
Medium (4 – 10ha.)	1.20	0.64	6.58	3.81	2.70	1.36	13.11	7.86
Large (> 10 ha.)	0.11	0.06	1.81	1.32	0.30	0.12	3.61	2.72
TOTAL	**43.56**	**46.67**	**50.19**	**48.52**	**100**	**100**	**100**	**100**

In the present agricultural scenario, the marginal and small farmers, constituting more than 90% of the farmers, either own or rent a piece of land for cultivation. Because of the endemic poverty, they generally cultivate their crops with little inputs and hence crop production is low. In this backdrop, besides enhancing their capacity, increase in productivity per unit land area and cropping intensity hold the key to agricultural development.

5. Irrigation

Out of the cultivated area of 61.80 lakh ha, about 54% is under irrigated conditions and 46% is under un-irrigated during Kharif. The source wise irrigation potential created so far up to 2013-14 is indicated below.

(Area in lakh ha.)

Sl. No.	Sources	2011-12		2012-13		2013-14 (Prov.)	
		Kharif	Rabi	Kharif	Rabi	Kharif	Rabi
1.	Major & Medium	13.64	6.23	13.69	6.27	13.83	6.32
2.	Minor (Flow)	5.76	0.75	5.95	0.77	6.05	0.78
3.	Minor (Lift)	5.34	3.02	5.49	3.11	7.08	3.51
4.	Other Sources	5.90	5.29	6.17	5.58	6.43	5.91
	TOTAL	**30.64**	**15.29**	**31.30**	**15.73**	**33.39**	**16.52**

The irrigation potential created from all sources till Kharif'2013 is 39.39 lakh ha & in Rabi'2013-14 is 16.52 lakh ha. The gross irrigated cropped area is 35.21 lakh ha, which is about 70.5% of the potential created. There is a constant endeavour to enhance the water use efficiency through adoption of proper water management practices in addition to appropriate irrigation devices.

Year wise and season wise irrigation potential utilized (Lakh ha.)

Year	Kharif	Rabi	Total
1990-91	15.13	8.01	23.14
1991-92	16.14	9.15	25.29
1992-93	15.82	8.94	24.76
1993-94	16.43	8.67	25.10
1994-95	16.27	8.41	24.68
1995-96	16.90	9.39	26.29
1996-97	15.59	7.04	22.63
1997-98	15.99	7.19	23.18
1998-99	16.50	7.08	23.58
1999-00	16.83	8.29	25.12
2000-01	15.90	5.36	21.26
2001-02	17.52	7.94	25.46
2002-03	12.47	4.65	17.12
2003-04	17.37	7.81	25.18
2004-05	18.46	8.45	26.91
2005-06	19.23	10.43	29.66
2006-07	20.02	11.47	31.49
2007-08	20.27	12.81	33.08
2008-09	20.81	10.96	31.77
2009-10	20.59	9.80	30.39
2010-11	20.85	10.21	31.06
2011-12	20.79	10.08	30.87
2012-13	21.87	11.79	33.66
2013-14 (Prov.)	22.54	12.67	35.21

Besides, the irrigation potential created through government sector mainly through flow system, private irrigation sources are also being developed with funds available under the *Agriculture Policy* (*Jalanidhi Scheme)*. The number of shallow tube wells, bore wells, dug wells and surface lifts installed since 1996-97 till 2013-14 is indicated below.

Items	Nos. installed till 2012-13	Nos. installed during 2013-14	TOTAL till 2013-14	Nos. installed during 2014-15 till 30.09.2014
Shallow Tube Well	144966	5148	150114	1669
Bore Well	30453	6511	36964	2368
Dug well	10653	1634	12287	488
Surface lift	933	04	937	1
Total	**187005**	**13297**	**200302**	**4526**

6. Status of Agri-Input use

(i) Seeds

The use of certified / quality seed alone can raise productivity of the crops by about 15-20%. Hence, due importance has been given in the State Agriculture Policy-2013 to increase the Seed Replacement Rate (SRR) and production of certified seeds. Quality seed multiplication programme is organized through Agricultural farms of the Department, Odisha State Seeds Corporation and Registered Seed Growers under the seed village scheme. Registered seed growers are supplied with foundation seeds and the seed produced in their fields are certified by the Odisha State Seed and Organic Product Certification Agency (OSSOPCA). Certified seeds are also produced by the Odisha State Seeds Corporation (OSSC). The year wise seed supply position is indicated below.

(Figures in qtls.)

Year	Distribution of Certified/ Quality Seeds		
	Paddy	Non-Paddy	Total
1980-81	103324	25844	129168
1981-82	48998	27982	76980
1982-83	40500	21743	62243
1983-84	51223	17177	68400
1984-85	34717	38659	73376
1985-86	34333	43297	77630
1986-87	37542	11052	48594
1987-88	65362	23493	88855
1988-89	52119	16258	68377
1989-90	48310	54460	102770
1990-91	44770	55230	100000
1991-92	76920	79290	156210
1992-93	55420	46200	101620
1993-94	49910	18860	68770
1994-95	66446	37604	104050
1995-96	113274	29426	142700
1996-97	120717	71146	191863
1997-98	199976	89210	289186
1998-99	231636	84922	316558
1999-00	230251	92627	322878
2000-01	220135	71814	291949
2001-02	254886	74874	329760
2002-03	138096	61128	199224
2003-04	145085	76881	221966
2004-05	127427	37765	165192
2005-06	160223	71664	231887
2006-07	169464	99525	268989
2007-08	291850	107529	399379

Year	Distribution of Certified/ Quality Seeds		
	Paddy	Non-Paddy	Total
2008-09	360044	118802	478846
2009-10	499350	150755	650105
2010-11	523298	149440	672738
2011-12	521375	158285	679660
2012-13	535129	151140	686269
2013-14	548710	46018	594728
2014-15 (As on 19.11.14)	526288	17868	544155

Popularisation of High Yielding Varieties of Paddy

Rice is the predominant crop and in order to increase productivity, supply of quality seeds of suitable varieties specific to the agro-climatic situation is inevitable. The scientists of OUAT and CRRI are constantly in the lookout for evolving such promising high yielding and hybrid varieties through breeding programmes. Some popular High Yielding Varieties of Paddy have been developed by OUAT and CRRI for upland, medium land & low land which have been listed below.

Name of the Paddy variety	Duration (days)
(A) For Up land	
Parijat	95
Pathara	95
Khandagiri	95
Ghanteswari	95
Udaygiri	95
Dhala Heera	80-85
Jogesh	90
Sidhanta	95
Satabadi	100
Khandagiri-III	85
Vandana	95

Name of the Paddy variety	Duration (days)
(A) For Up land	
GR	80
GR	95
PNR	90
Pusa	96
Dhan Sugandha	95
Anjali	95

Name of the Paddy variety	Duration (days)
(B) For Medium Lands	
Sarathi	120
Lalat	130
Jajati	135
Birupa	135

Name of the Paddy variety	Duration (days)
(C) For Low Land	
Kanchan	160
Ramachandi	155
Mahanadi	150
Indravati	150

Name of the Paddy variety	Duration (days)
Bhanja	140
Samanta	140
Meher	140
Konark	125
Surendra	135
Gajapati	130
Kharavela	125
MTU -1001	125-130
MTU-1010	120
RGL-2538	130
Navin	120
Tapaswini	135
Geetanjali	135
KRH-2	135
PA 6201	130
PA 6444	135
PRH-122(Ganga)	130
Suruchi	130
Rajalaxmi	130
Ajaya	135
Naveen	135
JKRH-401	140
Nidhi	125
Satyabhama	110
Luna Sankhi (CR Dhan 405)	110
Mandakini	110
Jyotirmayee	110

Name of the Paddy variety	Duration (days)
Jagabandhu	150
CR-1014	160
Pratikhya	145
BPT-5204	150
Ketakijoha	150
Pooja	150
Sonamani	155
CR-1017	150
Sarala	160
Durga	160
RGL-2537	160
Barshadhan	160
Upahar	160
MTU-7029	140
CR-1009	155
CR-1018	160

The farmers are being motivated by the agriculture extension machinery to cultivate their land, with above suggested varieties and following recommended package of practices to harvest better yield.

(II) Fertiliser

The fertilizer consumption in the state has taken great strides from a meager 0.76 kg/ ha during 1961-62 to 63.78 ha during 2014-15. Still the consumption is much below the national average and thus can be raised to a higher level with availability of the materials in required quantities at affordable price. Fertiliser consumption of the state from 1961-62 to 2014-15 is indicated below.

Year	Fertiliser consumption in nutrient basis in '000 MT				Consumption in Kg./ha
	N	P	K	Total	
1961-62	4.38	0.49	-	4.87	0.76
1971-72	37.43	8.38	4.01	49.82	7.25
1981-82	54.16	17.92	9.91	81.99	9.68
1991-92	126.22	41.52	28.29	196.03	19.96
2001-02	221.17	71.95	51.55	344.67	41.00
2002-03	185.41	62.86	42.29	290.56	39.00
2003-04	210.07	66.64	49.50	326.21	39.00
2004-05	223.54	77.99	53.77	355.31	43.00
2005-06	243.21	91.05	60.62	294.88	46.00
2006-07	256.54	92.77	53.57	402.88	47.00
2007-08	273.63	121.48	67.21	462.32	52.10
2008-09	297.77	147.93	89.17	534.87	61.50
2009-10	292.29	148.59	78.46	519.34	59.78
2010-11	294.72	153.97	89.16	537.85	62.85
2011-12	323.41	135.48	55.80	514.69	62.85
2012-13	315.04	124.19	50.97	490.20	58.74
2013-14 (Prov.)	312.99	117.70	56.45	487.14	57.11
2014-15 (Likely)	324.91	143.76	75.42	544.09	63.78

(iii) Plant Protection

Adoption of Integrated Pest Management (IPM), emphasizing conservation and augmentation of natural enemies of pest such as parasites, predators and pathogens for control of harmful insects and diseases of crops, is being given due thrust for increasing the crop productivity. IPM is organized by use of pest resistant varieties, seed treatment, crop sanitation, use of bio-control agents and conservation of beneficial insects & pathogens. The increased emphasis on IPM methodologies has led to a slower growth rate in case of chemical pesticide consumption in the state. On the other hand there has been an increasing trend on consumption of bio- pesticides. Seed treatment campaign has been taken up as earnest vigour. During 2013-14, 2716 Nos. of seed treatment camps have been organized. This year it has planned to organize 4710 Nos. of campaigns out of which 3140 Nos. have already been completed.

(Technical Grade in MT)

Year	Total Pesticides consumed		Total	Per hectares consumption (gms of a.i.)
	Chemical	Bio-pesticides		
2000-01	780.55	225.00	1005.55	157.00
2001-02	757.00	261.00	1018.00	159.00
2002-03	748.00	280.00	1028.00	139.00
2003-04	710.90	317.60	1028.50	138.00

Year	Total Pesticides consumed		Total	Per hectares consumption (gms of a.i.)
	Chemical	Bio-pesticides		
2004-05	669.00	318.00	987.00	148.68
2005-06	720.00	319.00	1039.00	138.53
2006-07	812.00	343.00	1155.00	148.94
2007-08	744.25	345.00	1089.25	148.34
2008-09	810.75	345.00	1155.75	149.00
2009-10	921.24	297.19	1218.43	141.00
2010-11	870.50	305.00	1175.50	159.00
2011-12	844.00	311.00	1155.00	148.00
2012-13	928.50	277.00	1205.50	158.00
2013-14 (Prov.)	904.00	315.00	1219.00	144.00
2014-15 (Likely)	979.00	315.00	1294.00	151.00

(iv) Power consumption

The power consumption for Irrigation in Agriculture is in declining trend. Minor irrigation programme cannot be successful without large-scale rural electrification. However, as per the incentives announced under Hon'ble Chief Ministers Package and State Agriculture Policy, energy use in Agriculture Sector is expected to rise. The share of power consumption for Agriculture purpose since 1992-93 is indicated below.

Year	Share of power consumption for Agriculture Purpose (In million units)	In %
1992-93	305.00	5.6
1993-94	341.00	5.6
1994-95	426.00	6.6
1995-96	491.00	6.5
1996-97	150.00	2.8
1997-98	201.00	3.6
1998-99	258.00	4.8
1999-00	217.00	3.9
2000-01	186.00	3.1
2001-02	164.00	2.8
2002-03	139.00	2.1
2003-04	124.00	1.8
2004-05	147.00	1.9
2005-06	137.00	1.7
2006-07	130.00	1.4
2007-08	132.00	1.2
2008-09	155.00	1.3
2009-10	158.00	1.3
2010-11	188.00	1.4
2011-12	210.50	1.7

Year	Share of power consumption for Agriculture Purpose (In million units)	In %
2012-13	162.94	1.2
2013-14 (Prov)	186.14	1.29

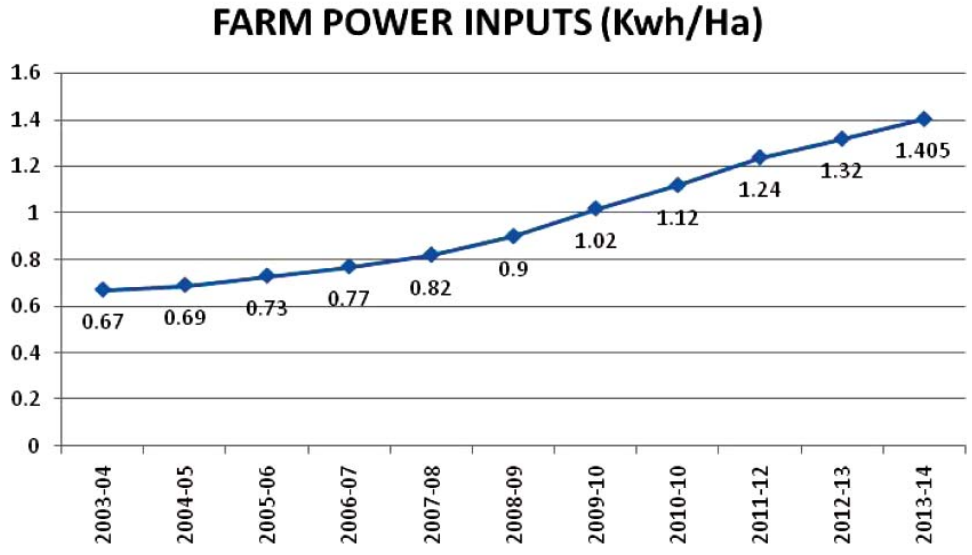
(v) *Farm Mechanization*

Farm mechanization has become utterly essential for timely operation of agricultural activities leading to increase in production and productivity besides reducing drudgery of labour associated with farm activities. It also enables efficient utilisation of agricultural inputs and reduces the cost of production. The Government has been encouraging the farmers to adopt improved farm machinery & equipments by providing financial assistance in form of subsidies and credit facility. Besides, the Agriculture Directorate is equipped with a proto-type Development Center (Odisha Farm Machinery Research and Development Center, Bhubaneswar) which designs, and manufactures popular implements for supply to farmers. It also indulges in training, testing and modifying the equipments as per the farmer's requirement.

Because, of the awareness generation programme taken up by the Department through demonstration and farmers awareness trainings, mechanization has picked up in the State and there is a great demand for tractor, power tiller, paddy reaper, and other power driven/ self-propelled equipments. Similarly, small manually operated/ bullock drawn implements are also being increasingly used by the farmers of hilly and tribal areas. The farm power input touched 1.405 kWH/ hect. by the end of 2011-12 and it has been targeted to increase **2.00** kWH/ha by the end of 12th Plan period.

Farm Power Input *(Unit: KWH/hect.)*

2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14
0.67	0.69	0.73	0.77	0.82	0.90	1.02	1.12	1.24	1.32	1.405



The trend of tractors & power tiller popularised is indicated below.

Year	Nos supplied	
	Tractor	Power tillers
1992-93	76	--
1993-94	152	--
1994-95	273	--
1995-96	103	76
1996-97	512	345
1997-98	774	393
1998-99	303	748
1999-00	143	783
2000-01	168	775
2001-02	102	822
2002-03	251	1242
2003-04	585	1734
2004-05	788	2125
2005-06	800	1631
2006-07	1247	2974
2007-08	705	3364
2008-09	1500	5280
2009-10	2325	7615
2010-11	4750	12742
2011-12	5317	11257
2012-13	5977	12503
2013-14	4534	13032

(vi) Farm Credit

Since modern agriculture is capital intensive, farmer's access to farm credit is crucial in enhancing crop productivity, especially in Odisha's context. The crop loan disbursed to farmers exhibits an increasing trend and needs to be greatly increased.

(In crore Rupees)

Year	Crop loan disbursed
1995-96	252.00
1996-97	275.00
1997-98	326.00
1998-99	463.00
1999-00	595.00
2000-01	611.00
2001-02	754.00
2002-03	869.00
2003-04	1107.00
2004-05	1481.00

Year	Crop loan disbursed
2005-06	2111.00
2006-07	2494.00
2007-08	2665.00
2008-09	2614.00
2009-10	3945.00
2010-11	5449.00
2011-12	8520.00
2012-13	8457.00
2013-14	12582.00

7. Crop Insurance

Rashtriya Krishi Bima Yajana (RKBY) was introduced in the state from Rabi 1999-2000. Both Loanee & Non-loanee farmers have been covered under this scheme. It is compulsory for loanee farmers and optional for non-loanee farmers.

The crops covered under this scheme are Paddy, Maize, Groundnut, Jute, Niger, Arhar, Cotton during Kharif season & Paddy, Groundnut, Mustard, Potato, during Rabi season.

The year wise achievements made under crop insurance is given below.

Year	Farmers covered (In lakh Nos)	Farmers paid compensation (In lakh Nos)	Sum insured Rs. in crores	Premium collected Rs. in crores	Compensation paid Rs. in crores
1999-00					
Rabi	2.33	0.17	131	2.28	0.002
2000-01					
Kharif	6.82	3.41	482	11.23	105.47
Rabi	1.24	0.26	91	1.86	1.50
2001-02					
Kharif	6.28	0.09	400	10.22	2.34
Rabi	2.13	0.18	166	3.32	1.08
2002-03					
Kharif	12.05	8.39	1066	31.69	244.03
Rabi	1.43	0.17	130	2.54	1.17
2003-04					
Kharif	6.38	0.38	540	13.82	18.18
Rabi	2.03	0.01	190	3.37	0.10
2004-05					
Kharif	8.73	0.46	898	25.49	14.69
Rabi	2.11	0.07	230	4.99	0.36
2005-06					
Kharif	9.00	0.19	963	24.00	3.74
Rabi	2.30	0.07	276	6.00	2.21

Year	Farmers covered (In lakh Nos)	Farmers paid compensa-tion (In lakh Nos)	Sum insured Rs. in crores	Premium collected Rs. in crores	Compen-sation paid Rs. in crores
2006-07					
Kharif	6.80	0.68	1071	27.50	27.48
Rabi	2.00	0.13	269	5.26	0.46
2007-08					
Kharif	8.41	0.66	1118	28.24	24.02
Rabi	1.32	0.01	200	3.81	0.17
2008-09					
Kharif	6.11	0.56	841	21.77	30.35
Rabi	1.62	0.44	252	4.98	8.37
2009-10					
Kharif	10.69	0.99	1575	39.70	46.90
Rabi	1.35	0.21	259	4.65	6.50
2010-11					
Kharif	11.83	2.27	1994.79	59.28	138.76
Rabi	0.75	0.11	163.27	5.76	4.76
2011-12					
Kharif	15.56	6.74	3072	94.42	673.94
Rabi	0.83	1.40	241	5.38	1.40
2012-13					
Kharif	14.78	1.15	3219.48	85.86	63.80
Rabi	0.98	0.17	323.88	7.47	8.43
2013-14					
Kharif	16.05	5.56	4054.07	109.47	60.29
Rabi	NA	NA	NA	NA	NA

8. The Developmental Approach

The Department of Agriculture is always in search of new interventions/ innovations, such as; introduction of new varieties of HYV / Hybrid seeds, increase in seed replacement ratio, fertilizer consumption, Integrated Nurient Management, Integrated Pest Management, Farm Mechanisation, Water management, post-harvest management of agri-produce etc. for maximization of production and productivity of different crops there by enhance farm income through implementation of different schemes assisted by the State and Center . Some of the important schemes implemented through the Directorate of Agriculture are listed below –

A. State Plan Schemes

1. Input Subsidy
2. Promotion of need based plant protection.
3. Subsidy under Agricultural Policy (Capital Investment Subsidy)

4. Popularisation of Agricultural Implements, Equipment and Diesel Pump sets.
5. Promotion of SRI.
6. Promotion of Improved Agronomic Package of Practices.
7. Promotion of Integrated Farming.
8. Technology Mission on oilseed and pulses.
9. Technology Mission on Sugarcane development.
10. Technology mission on Jute and Mesta.
11. Management of Acid Soils.
12. Organic Farming.
13. Operationalisation of Soil Testing and Quality Control labs.
14. Establishment of Agro-Industrial Estate.
15. Development of Infrastructure for post-harvest Management.
16. Refreshers training for extension functionaries.
17. Intensive extension campaign on agriculture.
18. Jalanidhi
19. Biju Krushak Kalyan Yojana.

B. Central Sector Plan Schemes

20. National Mission on Oilseeds and Oil palm (NMOOP).

    - Mini Mission-I of NMOOP (Cultivation of Vegetable Oilseeds Crops)

21. National Mission for sustainable Agriculture (NMSA).
    a. Soil Health Management
    b. Climate Change & Sustainable Agriculture: Monitoring, Modeling and Networking
22. National Mission on Agriculture Extension and Technology (NMAET).
    a. Sub Mission on Agriculture Mechanization (SMAM).
    b. Sub Mission on Agriculture Extension (SMAE).
    c. Sub Mission on Seed and Planting Material (SMSP).
    d. Sub Mission on Plant Protection and Quarantine (SMPP).

C. Other Flagship Programmes

23. National Food Security Mission (NFSM).
    a. NFSM-Rice,
    b. NFSM - Pulses,

c. NFSM- Commercial crops (Cotton, Jute, Sugarcane) and

d. NFSM- Coarse Cereals.

24. Rastriya Krishi Vikas Yojana (RKVY).

a. e-pest Surveillance and pest management.

b. Seed production of Hybrid paddy and Maize.

c. Supply of POS machine to Input dealers.

d. Incentivizing Hybrid Maize Cultivation in PPP mode.

e. BGREI

These schemes are implemented through the departmental field functionaries posted at grass root level and at the higher level in coordination with the Panchayati Raj Institutions.

9. Crop coverage & Crop production

(a) Food grains

Food grains consist of cereals and pulses. Rice, Maize, Ragi, Wheat, Jowar, Bajra & Small millets crops grown in the State come under cereals and Arhar, Mung, Biri, Kulthi, Cowpea, Fieldpea, Gram, Lentil crops under Pulses. The crops of Wheat, Bajra, Jowar, Small millets are grown to lesser extent. Mung, Biri and Kulthi crops are mostly grown during Rabi season in the rice fallows with residual moisture. If there is a good rainfall during last part of October, the coverage under pulse crops & production are higher. The area, production & yield rate of food grains since 1950-51 till date is indicated below.

Year	Area (in lakh ha.)			Production (in lakh MT)			Productivity (kgs./ ha.)		
	Cereals	Pulses	Total	Cereals	Pulses	Total	Cereals	Pulses	Total
1950-51	40	4	44	21	2	24	510	520	546
1960-61	40	5	45	38	2	40	943	443	906
1970-71	49	8	57	44	5	49	898	552	847
1980-81	52	17	69	51	9	60	982	514	865
1990-91	50	21	71	59	11	70	1181	551	992
1998-99	49	16	65	58	6	64	1180	391	989
1999-00	51	16	67	56	7	63	1108	403	937
2000-01	49	14	63	50	5	55	1032	365	884
2001-02	49	17	66	75	7	82	1526	400	1232
2002-03	47	13	60	36	4	40	767	349	675
2003-04	49	16	65	71	6	77	1444	379	1178
2004-05	49	17	66	70	6	76	1414	378	1154
2005-06	49	19	68	74	8	82	1513	422	1211
2006-07	49	19	68	74	9	83	1520	444	1213
2007-08	49	20	69	83	9	92	1702	458	1344
2008-09	49	20	69	76	10	86	1556	497	1249
2009-10	48	21	69	77	10	87	1604	460	1258

2010-11	47	21	68	78	10	88	1652	481	1293
2011-12	45	20	65	67	9	76	1495	460	1175
2012-13	45	20	65	103	10	113	2293	508	1737
2013-14 (Prov.)	47	21	68	86	10	96	1837	507	1426
2014-15 (Likely)	45	25	70	107	14	121	2376	554	1729

In the year when there are no natural calamities the food grain production is increased. However the food grain production scenario in the backdrop of projected demand has been as under.

Year wise Surplus/Deficit of Food grain Production & Consumption:

Year	Projected population (in lakhs)	Adult population @88% (in lakhs)	Total Consumption requirement (in lakh MTs.)	Total Requirement (including seed, feed & wastage) (in lakh MTs.)	Total Production (in lakh MTs.)	Surplus / Deficit (in lakh MTs.)
2001-02	370.48	326.02	47.60	54.40	82.33	27.93
2002-03	375.35	330.31	48.22	55.11	40.44	-14.67
2003-04	380.29	334.66	48.86	55.84	77.37	21.53
2004-05	385.30	339.06	49.50	56.58	75.89	19.31
2005-06	390.37	343.53	50.15	57.32	82.20	24.88
2006-07	395.51	348.05	50.82	58.07	82.98	24.91
2007-08	400.72	352.63	51.48	58.84	92.54	33.70
2008-09	406.00	357.28	52.16	59.61	86.34	26.73
2009-10	411.34	361.98	52.85	60.40	87.08	26.68
2010-11	416.76	366.75	53.55	61.19	87.70	26.51
2011-12	422.24	371.57	77.44	88.50	76.16	-12.34
2012-13	427.80	376.49	78.47	89.68	113.99	24.31
2013-14 (Prov.)	433.49	381.47	79.51	90.86	96.32	5.46
2014-15 (Likely)	439.14	386.44	80.54	92.05	120.44	28.39

Rice

Rice is the principal food crop in the state occupying about 40.27 lakh ha annually (37.48 lakh ha. during Kharif season + 2.79 lakh ha. during Rabi season). The Kharif Paddy area consists of 6.06 lakh ha of high land 16.51 lakh ha of medium land and 14.91 lakh ha of low land. The entire Rabi area is irrigated & covered by HYV Paddy where as 42% of Kharif Paddy area is covered under irrigation. The yield rate of rice is 2.44 tonnes/ ha as against national average of 2.46 tonnes / ha. The year wise position is indicated below.

Year	Area (in lakh ha.)			Production (in lakh MTs)			Productivity (kgs./ ha.)		
	Kharif	Rabi	Total	Kharif	Rabi	Total	Kharif	Rabi	Total
1950-51	38.5	0.1	38.6	20.0	0.1	20.1	520	600	520
1960-61	37.7	0.3	38.0	37.2	0.2	37.4	988	697	986
1970-71	43.3	1.4	44.7	39.1	1.9	41.0	902	1387	917
1980-81	40.2	1.7	41.9	40.3	2.7	43.0	1003	1571	1026
1990-91	41.9	2.1	44.0	48.4	4.3	52.7	1156	2019	1198
1998-99	41.8	2.7	44.5	48.9	5.0	53.9	1169	1889	1212
1999-00	42.2	3.8	46.0	42.8	9.1	51.9	1013	2389	1127
2000-01	42.3	2.0	44.3	41.7	4.4	46.1	987	2136	1041
2001-02	42.3	2.7	45.0	65.7	5.8	71.5	1554	2127	1589
2002-03	40.9	1.8	42.7	28.2	4.2	32.4	690	2352	759
2003-04	42.5	2.5	45.0	62.0	5.3	67.3	1459	2112	1496
2004-05	42.0	2.9	44.9	58.8	6.5	65.3	1401	2230	1455
2005-06	41.54	3.25	44.79	62.49	7.14	69.63	1504	2193	1554
2006-07	41.36	3.14	44.50	61.96	7.32	69.28	1498	2328	1557
2007-08	41.18	3.34	44.52	68.26	8.29	76.55	1658	2484	1720
2008-09	41.24	3.31	44.55	60.92	8.24	69.16	1477	2488	1553
2009-10	41.00	2.65	43.65	62.93	7.29	70.22	1535	2754	1609
2010-11	39.33	2.93	42.26	60.51	8.80	69.31	1539	3004	1640
2011-12	37.69	2.36	40.05	51.27	7.68	58.95	1360	3262	1472
2012-13	37.49	2.74	40.23	86.29	8.68	94.97	2302	3165	2361
2013-14 (Prov.)	38.80	3.00	41.80	65.85	10.28	76.13	1697	3422	1821
2014-15 (Likely)	36.00	3.50	39.50	84.30	11.90	96.50	2350	3400	2443

The scope for increasing Rabi rice area is very limited as it entirely depends upon irrigation. The problems faced in increasing kharif rice productivity and the steps taken to overcome them are as follows.

i) More & more Kharif rice area is being brought under irrigation.

ii) Kharif rice is grown in all types of land, even on sub-marginal lands, with the hope of getting some yield if the rainfall is normal. Due to weak economic condition, especially the tribal farmers in hilly areas, cultivate rice with least / no agri-inputs and obtain low yield, particularly from high lands. In these areas, growing short duration paddy varieties of 70-90 days and mixed cropping are being advocated as an insurance against crop failure. Steps are being taken to divert 2 lakh ha. of paddy land especially high land paddy area to more remunerative crops like cereals, pulses, oilseeds, vegetables, spices, fruit trees, fibres, flowers etc.

iii) A good number of High Yielding Varieties have come up for high & medium land, choice for low, water logged and saline inunadated lands is limited. Late varieties like Panidhan, Tulasi, Kanchan, Rambha, Lunisree have been developed by CRRI & OUAT for these lands.

iv) Pest built-up due to continuous cloudy weather in Kharif season & loss of nutrients due to leaching have become serious risks, the poor farmer of the state can hardly afford. Besides their resource poorness is one of the main reasons for low fertilizer consumption.

v) The operational units are small & fragmented. Small, marginal & tribal farmers are economically too weak to adopt new technology. Since the situation is changing, a large number of farmers are being brought into the fold of institutional finance.

To increase production and productivity of Rice Centrally Sponsored Programme like BGREI, NFSM (Rice) are in operation in the State. Under these schemes interventions like line sowing / line transplanting, use of micronutrients, exposure visit of farmers (outside and inside state), supply of certified seeds based on soil test reports, farm implements, power tillers, tractors at subsidized rates, asset building mainly supply of diesel pump sets etc. are being taken up. Besides, from 2007-08 such developmental activities for enhancement of rice production and productivity are also being taken up under the National Food Security Mission - Rice in 15 low productivity districts in a mission mode. **Because of the consistent effort the state has bagged 'Krishi Karman Award" for the 3rd time in a span of 5 years.**

Other cereals

Maize & Ragi are the important coarse cereals. Jowar, Bajra & Small millets are also grown in the state to a lesser extent. These crops are mostly grown in tribal districts during Kharif in un-irrigated uplands with poor management practices and more as subsistence crop. The Area, Production & Yield rate of Ragi & Maize during last few years are given below.

A= Area in lakh hects *P= Production in lakh MTs* *Y= Yield rate in Kgs/hect*

Year	Ragi			Maize		
	A	P	Y	A	P	Y
1950-51	1.21	0.28	235	0.23	0.09	390
1960-61	0.67	0.29	431	0.22	0.09	417
1970-71	1.56	1.41	901	0.72	0.59	821
1980-81	3.36	2.65	786	1.81	1.75	964
1990-91	2.48	2.54	1023	1.67	2.07	1238
1998-99	1.98	1.44	725	1.64	1.83	1117
1999-00	2.09	1.54	735	1.74	2.17	1248
2000-01	1.89	1.52	801	1.76	2.17	1235
2001-02	1.96	1.45	738	1.64	1.85	1128
2002-03	1.87	1.27	783	1.58	1.77	1123
2003-04	1.90	1.40	737	1.75	1.96	1116
2004-05	1.94	1.42	731	1.85	2.44	1322
2005-06	1.90	1.42	747	1.87	2.80	1496
2006-07	1.90	1.44	760	1.99	3.19	1602
2007-08	1.87	1.65	883	2.15	4.82	2245
2008-09	1.83	1.64	896	2.24	5.14	2291

Year	Ragi			Maize		
	A	P	Y	A	P	Y
2009-10	1.85	1.74	938	2.28	4.99	2191
2010-11	1.79	1.47	821	2.53	6.49	2570
2011-12	1.69	1.51	895	2.62	6.08	2321
2012-13	1.73	1.49	863	2.81	6.76	2407
2013-14 (Prov.)	1.66	1.44	867	2.80	7.79	2785
2014-15 (Likely)	1.88	1.72	915	3.28	8.55	2605

The area under Ragi crop is showing a declining trend due to diversion of traditionally Ragi growing areas to Cotton, Maize Vegetables & Pulses. So, improved & high yielding varieties of Ragi have been introduced in the state and Ragi development is being promoted though incorporating the scheme under work plan for enhancing the production & productivity.

Pulses

Arhar, Mung, Biri, Kulthi, Gram, Fieldpea, Cowpea, Lentil are the pulse crops grown in the State. The major crops are Arhar, Mung, Biri and Kulthi. Pulses are grown mainly in uplands during Kharif season predominantly in inland districts & in rice fallows during Rabi season, mostly in coastal districts under available moisture condition. Mung & Biri are also grown as third crop in summer under irrigated condition. Post monsoon rains, mostly govern the Rabi coverage of pulses in rice fallows. The area, production & productivity of pulses crops of last few years is indicated below.

Year	Area (In lakh ha.)			Production (in lakh MT)			Productivity (kgs./ ha.)		
	Kharif	Rabi	Total	Kharif	Rabi	Total	Kharif	Rabi	Total
1970-71	1.7	6.7	8.4	1.0	3.6	4.6	600	542	552
1980-81	3.2	14.1	17.3	1.6	7.3	8.9	490	520	514
1990-91	6.7	14.6	21.3	4.1	7.6	11.7	614	523	551
1998-99	5.0	10.6	15.6	2.0	4.1	6.1	399	387	391
1999-00	5.1	11.2	16.3	2.2	4.3	6.5	437	387	403
2000-01	5.4	8.5	13.9	2.3	2.8	5.1	426	326	365
2001-02	5.5	11.9	17.4	2.4	4.5	6.9	444	379	400
2002-03	4.6	8.5	13.1	1.6	3.0	4.6	356	345	349
2003-04	6.1	10.3	16.4	2.5	3.7	6.2	406	363	379
2004-05	5.9	10.6	16.5	2.4	3.8	6.2	408	362	378
2005-06	6.9	11.9	18.8	2.9	5.0	7.9	429	419	422
2006-07	7.1	12.4	19.5	3.4	5.2	8.6	482	422	444
2007-08	7.2	12.6	19.8	3.6	5.5	9.1	507	431	458
2008-09	7.4	12.6	20.0	3.9	6.0	9.9	527	479	497
2009-10	7.5	13.4	20.9	3.8	5.8	9.6	505	435	460
2010-11	7.2	13.6	20.8	3.9	6.1	10.0	539	450	481
2011-12	7.3	12.7	20.0	4.0	5.2	9.2	540	414	460
2012-13	7.23	13.19	20.42	4.1	6.3	10.40	564	477	508

Year	Area (In lakh ha.)			Production (in lakh MT)			Productivity (kgs./ ha.)		
	Kharif	Rabi	Total	Kharif	Rabi	Total	Kharif	Rabi	Total
2013-14(Prov.)	6.86	14.02	20.88	3.8	6.8	10.6	559	481	507
2014-15 (Likely)	9.60	15.33	24.93	5.8	8.0	13.8	606	522	554

Area, production and productivity figures show an increasing trend from 2002-03 onwards, with the exception of the all-time high achieved during 90-91. The reason for low productivity of pulses is untimely rains and unfavorable weather conditions. The other reason for low productivity is non-availability of suitable high yielding varieties of Mung & Biri grown in rice fallows in pre-Rabi & Rabi seasons. Besides, they are grown under poor management practices. Pulse crops are comparatively less remunerative when grown without fertilizer broadcasted under residual moisture. Further, the area under pulses is encroached by high value crops like vegetables. Thus, attempts are being made to bring more area under pulses crops through adoption of mixed cropping, crop rotation, Paddy bund plantation and introducing appropriate varieties suitable for cultivation in the State.

The centrally sponsored scheme, National Food Security Mission (NFSM) Pulse has been launched from 2007-08 in the State with the objective of increasing production process through area expansion and enhancement of productivity in a sustainable manner in all the 30 districts of the State. Besides a special scheme, Accelerated Pulse Production Programme is being implemented from 2010-11.

b) Oilseeds

Groundnut, Sesamum, Castor, Mustard, Niger, Sunflower, Safflower, Soybean, Linseed are the Oilseed crops grown in the State. Of these, Groundnut, Sesamum, Mustard and Niger are the major ones. Now, Sunflower is gaining popularity in the state. These crops are grown in upland during Kharif season and in river beds & rice fallows during Rabi season. The area, production and productivity during past few years are indicated below.

Year	Area (in lakh hects)			Production (in lakh MTs)			Productivity (kgs./ hects)		
	Kharif	Rabi	Total	Kharif	Rabi	Total	Kharif	Rabi	Total
1970-71	1.3	2.0	3.3	1.0	1.2	2.2	788	567	652
1980-81	2.0	5.3	7.3	1.5	3.4	4.9	712	637	658
1990-91	5.5	6.0	11.5	4.2	5.3	9.5	766	871	821
1998-99	4.7	3.9	8.6	2.3	2.2	4.5	487	570	525
1999-00	4.3	4.2	8.5	2.1	3.6	5.7	490	853	668
2000-01	3.8	3.2	7.0	1.7	2.0	3.7	436	642	531
2001-02	4.2	4.2	8.4	1.9	3.5	5.4	444	826	635
2002-03	2.8	3.0	5.8	1.1	2.1	3.2	392	697	550
2003-04	4.0	3.9	7.9	1.6	3.3	4.9	408	851	626

Year	Area (in lakh hects)			Production (in lakh MTs)			Productivity (kgs./ hects)		
	Kharif	Rabi	Total	Kharif	Rabi	Total	Kharif	Rabi	Total
2004-05	4.5	3.9	8.4	1.9	3.3	5.2	431	854	627
2005-06	4.5	3.7	8.2	2.1	3.4	5.5	471	908	668
2006-07	4.4	4.0	8.4	2.1	3.9	6.0	490	972	719
2007-08	4.3	4.1	8.4	2.6	4.2	6.8	597	1019	804
2008-09	4.2	4.1	8.3	2.7	4.3	7.0	661	1038	848
2009-10	4.0	3.9	8.0	2.3	3.9	6.2	579	974	776
2010-11	3.7	4.0	7.7	2.3	4.1	6.4	621	1023	828
2011-12	3.5	4.1	7.6	2.3	4.3	6.6	664	1024	867
2012-13	3.3	4.2	7.5	2.2	4.7	6.9	674	1115	919
2013-14 (Prov.)	3.0	4.5	7.5	2.1	4.9	7.0	699	1081	928
2014-15 (Likely)	4.5	5.8	10.3	3.1	6.9	10.00	690	1195	974

Coverage under oilseeds has been fairly constant and hovering around 8.5 Lakh ha. The productivity too exhibited an increasing trend except for 2009-10 when there was a decline in production & productivity because of adverse climatic condition.

Besides inadequate use of chemical fertilizer, problems in marketing, lack of avenues for value addition and non-remunerative prices in the offing for oilseeds like Groundnut, Sunflower and Niger, do dishearten farmers to some extent.

Efforts are being made to increase the productivity through compact area and location specific approach by providing minikits, conducting demonstrations, supply of seed treating chemicals, bacterial inoculants, gypsum, micronutrients, farm implements, sprinkler sets at subsidized costs to boost growers morale.

ISOPOM oilseed was being implemented in the state since 2004-05, with funding of 75% of C.S & 25% S.S. During 2014-15, similar interventions are proposed to be taken up under newly formed schemes, Mini Mision-I of National Mission on Oilseeds & Oil Palm (NMOOP) for the development of cultivation of Oilseed Crops.

(c) Jute & Mesta

Among the fiber crops Jute & Mesta are the important ones. Jute is mainly cultivated in the coastal districts of Balasore, Cuttack & Anandpur subdivision of Keonjhar. Mesta is mostly grown in the districts of Ganjam, Mayurbhanj, Keonjhar & Koraput. The area, production & yield rate of Jute and Mesta are given below.

Year	Jute			Mesta		
	Area in '000 ha	Production in '000 Bales	Yield in Kg/ha	Area in '000 ha	Production in '000 Bales	Yield in Kg/ha
1960-61	40	264	1180	8	40	889
1970-71	44	328	1348	28	152	959
1980-81	44	310	1275	42	209	897
1990-91	36	472	2372	34	223	1189

1998-99	13	110	1485	29	110	693
1999-00	14	92	1189	30	129	768
2000-01	14	107	1386	24	103	773
2001-02	14	92	1199	26	109	746
2002-03	14	85	1115	25	97	688
2003-04	9	53	1064	27	109	738
2004-05	9	83	1620	25	105	751
2005-06	10	91	1665	23	97	761
2006-07	12	115	1741	22	95	783
2007-08	13	126	1769	22	101	826
2008-09	11	105	1799	20	95	847
2009-10	9	104	2050	17	82	849
2010-11	9	113	2145	16	77	866
2011-12	11	115	1966	14	69	873
2012-13	10	110	1968	14	66	875
2013-14 (Prov.)	9	93	1882	13	63	884
2014-15 (Likely)	11	140	2170	15	79	900

The area under Jute & Mesta is shrinking fast, mainly due to invasion of polythene & synthetic fibers as a cheaper & convenient substitute in addition to the inadequate marketing support. Besides, the crops being grown rain fed suffer on account of erratic monsoon. Jute Development was being taken up under work plan, a Centrally Sponsored Programme in the state since 2001-02 and being followed up under the Jute Technology Mission from 2008-09 for improving production, productivity and the quality of fiber in the Jute & Mesta growing districts. Emphasis is being laid on supply of certified Jute & Mesta seeds, timely distribution of critical inputs, demonstration on improved production technologies, organization of farmers field school, exposure visit of farmers (both in side & outside state), retting technology demonstration for improving the quality of the fiber etc. Owing to the rise in public awareness on environmental concerns the Jute & Mesta crop is gaining its ground both in area & production terms. Now a new scheme titled NFSM-Commercial crop is being implemented under which it has been envisaged to promote fibre crops like Jute & Cotton.

(d) Cotton

Cotton is mostly grown in KBK districts (un-divided Koraput, Kalahandi, Bolangir) and Ganjam. This crop is gaining more importance in the State. The year wise position is indicated below.

Year	Area ('000 hects)	Production ('000 bales)	Yield (Lint) (in kgs/hects)
1950-51	10	2	33
1960-61	8	2	51
1970-71	0.3	0.5	295
1980-81	4	4	170
1990-91	6	8	215

1998-99	29	53	306
1999-00	38	61	272
2000-01	39	65	283
2001-02	63	55	147
2002-03	29	50	287
2003-04	37	88	408
2004-05	46	111	412
2005-06	57	145	435
2006-07	60	108	307
2007-08	50	125	423
2008-09	58	147	430
2009-10	54	147	464
2010-11	74	241	550
2011-12	102	231	386
2012-13	119	336	482
2013-14 (Prov.)	124	299	410
2014-15 (Likely)	135	382	510

The present aim is to raise the area under cotton to above 134000 ha. by substituting the crop in high land where non-remunerative non-paddy & paddy crops are grown.

Steps are being taken to make available quality hybrid & high yielding seeds to cotton growers in the state. Besides, technical assistance for raising the crop is being rendered through the extension personnel of the department.

(e) Sugarcane

Sugarcane is mostly cultivated in undivided districts of Puri, Cuttack, Ganjam, Koraput, Dhenkanal, Bolangir, Kalahandi & Sambalpur districts. The year wise Area, Production & Productivity is indicated below.

Year	Area ('000 hects)	Production ('000 MTs)	Yield (in kgs/hects)
1950-51	25	1107	44284
1960-61	25	744	29179
1970-71	30	1627	53907
1980-81	49	3060	62449
1990-91	49	3549	72429
1998-99	47	3060	64917
1999-00	31	1827	58990
2000-01	31	2103	66951
2001-02	30	1890	63728
2002-03	25	1516	60150
2003-04	29	1810	62908
2004-05	34	2321	68600
2005-06	37	2543	69286

Year	Area ('000 hects)	Production ('000 MTs)	Yield (in kgs/hects)
2006-07	41	2836	70008
2007-08	38	2679	70360
2008-09	38	2665	70250
2009-10	37	2612	70852
2010-11	41	2908	71192
2011-12	39	2789	72000
2012-13	39	2604	66500
2013-14 (Prov.)	35	2544	71980
2014-15 (Likely)	50	3700	74000

There are six sugar mills in the state, out of which five mills are in operation & one at Baramba,Cuttack is not functioning for which area and production of sugarcane crop has registered a decline during 2007-08 & 2008-09 but current year production has been increased.

Steps are being taken to revive the above sugarcane mill. Besides this, to improve the productivity, steps are also being taken to provide quality seed materials, conduct farmer field schools, for up gradation of technical skill of farmers, supply of agricultural implements at subsidized rates and demonstration for ratoon management etc. under centrally sponsored plan scheme NFSM (Commercial Crops).

10. Seed Replacement Rate

The Seed Replacement Rate (SRR) of different crops from 2006-07 to 2013-14 is indicated below.

(SRR in %)

Name of the crop	2006-07			2007-08		
	Kharif	Rabi	Total	Kharif	Rabi	Total
Paddy	5.87	14.16	6.35	11.25	21.83	12.04
Maize	1.15	4.90	1.39	2.01	3.00	2.05
Wheat		20.66	20.66		25.85	25.85
Moong	2.77	1.89	2.15	1.20	1.43	1.36
Urd	0.61	3.76	2.42	1.07	1.98	1.57
Gram		13.05	13.05		20.46	20.46
Arhar	2.68	5.29	2.68	1.98		1.98
F.Pea		8.44	8.44		3.10	3.10
G.Nut	6.67	32.28	22.89	7.57	29.89	22.19
Mustard		14.45	14.45		12.20	12.20
Sunflower	100.00	49.87	60.71	100.00	10.83	19.09
Castor	10.99		5.74	14.90		7.37
Jute	42.86		42.86	46.47		46.47
Cotton	3.85		3.85	1.75		1.75

(SRR in %)

Name of the crop	2008-09			2009-10		
	Kharif	Rabi	Total	Kharif	Rabi	Total
Paddy	14.13	24.84	15.05	18.33	30.47	19.07
Maize	1.76	4.04	1.89	3.51	5.93	3.63
Wheat	--	34.22	34.22	--	41.81	41.81
Moong	0.49	1.63	1.27	2.07	0.79	1.16
Urd	1.34	7.05	4.40	2.34	4.54	3.55
Gram	--	21.53	21.53	--	30.72	30.72
Arhar	2.40	--	2.40	2.54	--	2.54
F.Pea	--	7.59	7.59	--	17.93	17.93
G.Nut	7.41	32.20	23.53	13.20	41.49	31.28
Mustard	-	18.13	18.13	--	26.81	26.81
Sunflower	83.33	13.02	15.86	--	48.53	48.53
Jute	45.84	-	45.84	39.10	--	39.10
Cotton	0.60	-	0.60	61.78	--	61.78
Sesamum				0.21	2.87	0.87
Niger				0.14	--	0.14

(SRR in %)

Name of the crop	2010-11			2011-12		
	Kharif	Rabi	Total	Kharif	Rabi	Total
Paddy	19.99	29.37	20.64	21.54	23.37	21.65
Maize	19.21	44.83	20.86	13.20	13.24	13.20
Wheat	--	29.96	29.96	--	38.95	38.95
Moong	1.56	5.42	4.36	1.88	2.62	2.41
Urd	1.19	5.64	3.64	3.27	3.72	3.52
Gram	--	5.32	5.32	--	5.67	5.67
Arhar	1.43	--	1.43	4.75	--	4.75
F.Pea	--	12.82	12.82	--	10.94	10.94
G.Nut	14.26	37.36	29.70	10.96	43.47	32.41
Mustard	--	30.03	30.03	--	32.42	32.42
Sunflower	25.27	100.00	100.00	--	64.03	64.03
Jute	32.85	--	32.85	28.53	--	28.53
Cotton	66.80	--	66.80	65.67	--	65.67
Sesamum	0.36	3.23	1.06	0.19	0.31	0.22
Niger	0.13	--	0.13	0.97	--	0.44

(SRR in %)

Name of the crop	2012-13			2013-14		
	Kharif	Rabi	Total	Kharif	Rabi	Total
Paddy	22.80	16.04	22.19	23.93	42.23	25.23
Ragi				2.71	0.22	2.66
Maize	21.53	-	20.00	19.26	-	17.90
Wheat	-	8.76	8.76	-	13.09	13.09
Moong	1.32	2.74	2.35	3.27	8.66	7.32
Urd	2.39	1.21	1.67	1.95	5.28	3.87
Gram	-	0.91	0.91	-	6.79	6.79
Arhar	4.14	-	4.14	7.62	-	7.62
F.Pea	-	1.42	1.42	-	6.58	6.58
G.Nut	16.65	29.65	25.97	19.52	24.76	23.11
Mustard	-	7.42	7.42	-	40.55	40.55
Sunflower	100	-	1.23	-	31.50	31.06
Jute	30.76	-	30.76	32.79	-	32.79
Cotton	60.01	-	60.01	68.96	-	68.96
Sesamum	-	0.73	0.73	-	0.06	0.02
Niger	0.03	-	0.03	0.82	-	0.82

11. Minimum Support Price

The minimum support price of different Agricultural Products for the year from 2006-07 to 2014-15 fixed by Govt. of India on the recommendation of Commission for Agriculture Costs and Prices (CACP) for all the States is indicated below.

(Rs. Per Qtls for FAQ

Sl. No	Commodity	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
	KHARIF CROPS									
1	Paddy Common	580µ	645$	850 €	1000¥	1000	1080	1250	1310	1360
2	Paddy (F)/Grade'A'	610µ	675 $	880 €	1030¥	1030	1110	1280	1345	1400
3	Jowar-Hybrid	540	600	840	840	880	980	1500	1500	1530
4	Jowar-Maldandi	555	620	860	860	900	1000	1520		1550
5	Bajra	540	600	840	840	880	980	1175	1250	1250
6	Ragi	540	600	915	915	965	1050	1500	1500	1550
7	Maize	540	620	840	840	880	980	1175	1310	1310
8	Tur (Arhar)	1410	1550	2000	2300	3000*	3200*	3850	4300	4350
9	Moong	1520	1700	2520	2760	3170*	3500*	4400	4500	4600
10	Urad	1520	1700	2520	2520	2900*	3300*	4300	4300	4350
11	Groundnut	1520	1550	2100	2100	2300	2700	3700	4000	4000

12	Sunflower Seed	1500	1510	2215	2215	2350	2800	3700	3700	3750
13	Soyabean Black	900	910	1350	1350	1400	1650	2200	2500	2500
14	Soyabean Yellow	1020	1050	1390	1390	1440	1690		2560	2560
15	Sesamum	1560	1580	2750	2850	2900	3400	4200	4500	4600
16	Nigerseed	1220	1240	2405	2405	2450	2900	3500	3500	3600
17	Medium Staple Cotton ^	1770	1800	2500	2500	2500	2800	3600	3700	3750
18	Long Staple Cotton ^^	1990	2030	3000	3000	3000	3300	3900	4000	4050
	RABI CROPS									
19	Wheat	750α	1000	1080	1100	1120&	1285	1350	1400	1450
20	Barley	565	650	680	750	780	980	980	1100	1150
21	Gram	1445	1600	1730	1760	2100	2800	3000	3100	3175
22	Lentil (Masur)	1545	1700	1870	1870	2250	2800	2900	2950	3075
23	Rapeseed/ mustard	1715	1800	1830	1830	1850	2500	3000	3050	3100
24	Safflower	1565	1650	1650	1680	1800	2500	2800	3000	3050
	OTHER COMMERCIAL CROPS									
25	Jute (TD5)	1055	1250	1375	1575	1675	2200	2300	2400	
26	Sugarcane	81.18	81.18	129.84	139.12	145	170	210	220	
27	Copra (Milling)	3620	3660	4450	4450	4525	5100	5250	5250	
28	Copra (Ball)	3870	3910	4700	4700	4775	5350	5500	5500	

©: Additional Rs.10.00 per quintal for paddy may be given to farmers in Punjab and Haryana

µ: An additional incentive bonus of Rs. 40/- per quintal is payable on Procurement between 1.10.2006 to 31.3.2007. This will be subject to the condition that State Government fully exempt this

bonus amount from all state taxes and levies.

$: Additional bonus of Rs 100 per quintal

€: Additional bonus of Rs 50 per quintal

¥: Additional bonus of Rs 50 per quintal

%: Additional bonus of Rs 40 per quintal

α: Additional bonus of Rs 100 per quintal is subject to the condition that state Government fully exempt this bonus amount from all state taxes and levies

*: Additonal Bonus of Rs 500 per quintal for market arrivals within the first two months of harvesting

^ : Staple length(mm) of 24.5-25.5 and micronaire value of 4.3-5.1

^^: Staple length(mm) of 29.5-30.5 and micronaire value of 3.5-4.3.1

&: Additional bonus of Rs 50 per quintal

£: 10 percent bonus if exports are banned and in a revised reccomendation bonus of Rs 40 per quintal subject to liquidation of 15 million tonnes of Central Pool stocks

§: The nomenclature SMP has been changed to Fair and Remunerative Price (FRP) since 2009-10, based on 9.5 percent recovery ratio.

Revised later to Rs 3850 per quintal for tur and Rs 4400 per quintal for moong

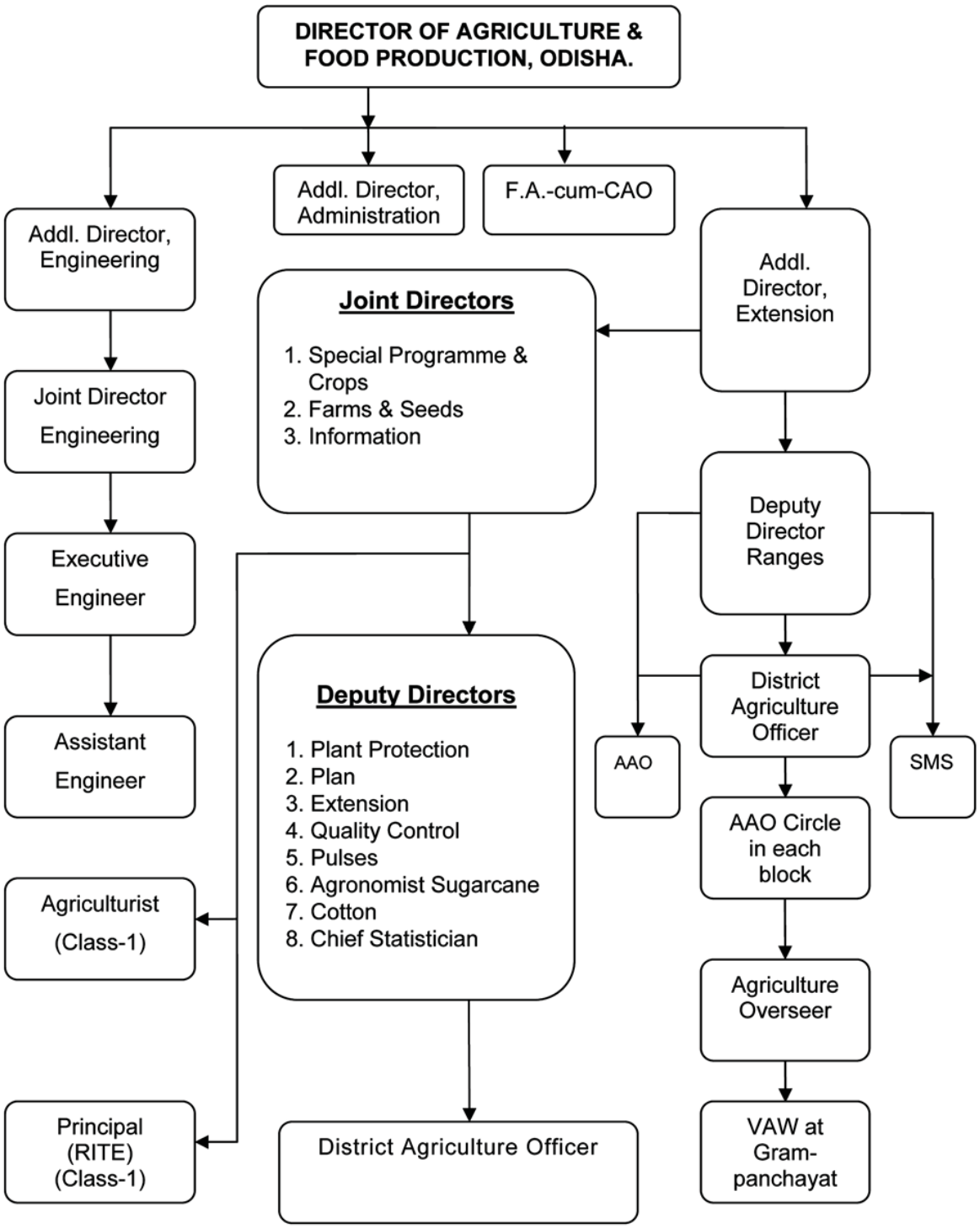
12. Agro climatic Zone Wise Districts

Sl. No	Name of the Agro-climatic zone	Name of the districts
1.	**North – Western Plateau**	Sundargarh, Deogarh
2.	**North Central Plateau**	Mayurbhanj, Keonjhar
3.	**North Eastern Coastal Plain**	Balasore, Bhadrak, Jajpur
4.	**East and South Eastern Coastal Plain**	Cuttack, Jagatsingpur, Kendrapada, Puri, Khurdha, Nayagarh
5.	**North Eastern Ghat**	Ganjam, Gajapati, Rayagada, Phulbani
6.	**Eastern Ghat High Land**	Koraput, Nowragpur
7.	**South Eastern Ghat**	Malkangiri
8.	**Western Undulating Zone**	Kalahandi, Nuapada
9.	**Western Central Table Land**	Bolangir, Sonepur, Boudh, Sambalpur, Baragarh, Jharsuguda
10.	**Mid Central Table Land**	Dhenkanal, Angul

13. Administrative Set-up (Odisha)

Sl. No.	District	No of							
		Block	GP	Village	Sub-Division	Taha-sils	Municipality/ Municipal Corp.	NAC	Assembly Constitu-encies
1	Angul	8	209	1910	4	8	1	2	4
2	Balangir	14	284	1794	3	14	1	3	6
3	Balasore	12	289	2952	2	12	1	3	7
4	Bargarh	12	246	1207	2	12	1	2	5
5	Bhadrak	7	193	1311	1	7	1	1	5
6	Boudh	3	63	1186	1	3		1	1
7	Cuttack	14	342	1950	3	15	2	2	10
8	Deogarh	3	60	875	1	3	1		1
9	Dhenkanal	8	198	1215	3	8	1	2	4
10	Gajapati	7	129	1619	1	7	1	1	3
11	Ganjam	22	475	3212	3	23	1	17	12
12	Jagatsingpur	8	194	1288	1	8	1	1	4
13	Jajpur	10	280	1778	1	10	2		6
14	Jharsuguda	5	78	348	1	5	2	1	3
15	Kalahandi	13	272	2236	2	13	1	2	6
16	Kandhamal	12	153	2546	2	12		2	3
17	Kendrapara	9	230	1540	1	9	1	1	6
18	Keonjhar	13	286	2122	3	13	3	1	6
19	Khurda	10	168	1551	2	10	3	2	6
20	Koraput	14	226	2028	2	14	1	3	4
21	Malkangiri	7	108	1045	1	7		2	2
22	Mayurbhanj	26	382	3950	4	26	1	3	10
23	Nabarangpur	10	169	901	1	10	1	1	4
24	Nayagarh	8	178	1695	1	8		2	4
25	Nuapada	5	108	663	1	5		2	2
26	Puri	11	230	1715	1	11	1	3	6
27	Rayagada	11	171	2667	2	11	1	2	4
28	Sambalpur	9	148	1322	3	9	1	4	3
29	Subarnapur	6	96	959	2	6	1	2	3
30	Sundargarh	17	262	1764	3	18	4		7
ODISHA		**314**	**6227**	**51349**	**58**	**317**	**35**	**68**	**147**

ORGANIZATION SETUP OF AGRICULTURE DIRECTORATE



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