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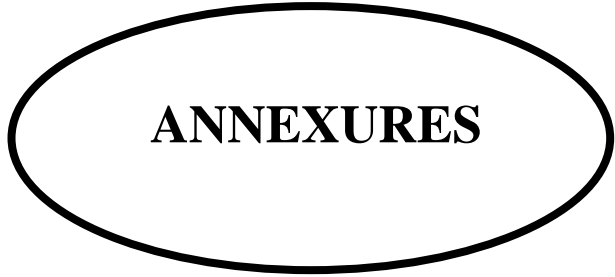
**PROJECT ON
STRATEGIC PLAN FOR EXTENDING
GREEN REVOLUTION
IN EASTERN INDIA**



**Dept. of Agriculture & Cane Development
Govt. of Jharkhand**

C O N T E N T

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Table 1: Jharkhand State: Basic Information

Indicators	Unit	Figures	Remark
State Formation	Date	15 November, 2000	
Number of Districts	Number	24	
Population (1991)	Million	21.95	2.6% of India population
Population (2001)	Million	26.91	
Population (2009)	Millions	31.0	
Annual increase	million	0.5	
Growth rate : annual	%	2.31	
Sex ratio	Female per thousand male	941	933 in India
Population density	persons /Km ²	338	
Population engaged in agriculture	%	77	
Population in rural areas	%	73	
Tribal population : (2001)	Million	7.1	67.7 millions in India
Tribal Population	%	26	10 % India
Schedule caste population	Million	3.1	138.2: India
Schedule caste Population	%	11	(2 % India)
BPL Population	%	46	(26% India)
Per capita annual income (2001-02)	Rs	11,100	18,500 India
Literacy	%	54.1	65.4 % India
Male literacy	%	67.9	75.8 % India
Female literacy	%	39.4	54%: India
Cultivators : 2001	Lakhs	34.5	
Agricultural Laborer: 2001	Lakhs	14	

Table 2: Jharkhand State: Agricultural Information

Indicators	Unit	Figure	Remarks
Geographical Area	lakh ha	79.70	
Area Available for Cultivation	Lakh ha	25.95	
Gross Cropped Area	Lakh ha	20.7	
Net Area Sown	Lakh ha	22.3	28.08% of total area
Area sown more than once	Lakh ha	2.6	
Area Under Irrigation	Lakh ha	2.05	10.6% of net area
Forest Area	Lakh ha	23.33	29% total area
Land under non agricultural use	Lakh ha	6.82	
Fallow land	Lakh ha	20.98	26.3%
Cultivable wasteland	Lakh ha	2.74	3.4%
Permanent pasture & grazing land	Lakh ha	0.87	
Barren and uncultivated land	Lakh ha	5.73	
Land under misc. Trees	Lakh ha	1.13	
Fertilizer consumption (2006-07)*	NPK kg ha ⁻¹	67	113.4 India
Cropping intensity	(%)	114	134 % India
Average land holding	ha	1.58	
Contribution of Agric. to State GDP	(%)	28.60	

* Source : Agricultural Research Data Book. 2008

Table 3: Agro climatic conditions of three sub-zones in Jharkhand

Parameters	Central & North Eastern Plateau	Western Plateau	South Eastern Plateau	Jharkhand
Number of Districts	13	8	3	24
Name of districts	Hazaribag, Chatra, Giridih, Dhanbad, Godda, Pakur, Ramgarh, Deoghar, Sahibganj, Dumka, Bokaro, Koderma, Jamtara,	Palamu, Garhwa, Gumla, Latehar, Simdega, Ranchi, Lohardaga, Khunti	East Singhbhum, West Singhbhum, Saraikela	-
Altitude (m msl)	275-670	222-1142	250-1000	222-1142
Latitude (° N)	23.25-25.30	22.30-24.30	21.28-23.36	21.28-25.30
Longitude (E)	84.25-87.40	83.22-85.06	85.05-86.54	83.22-87.40
Rainfall (mm) South-West monsoon (June-September)	1093 (85 %)	1101 (86 %)	1053 (81 %)	1093 (85 %)
Rainfall (mm) North-East monsoon (October-November)	79 (6 %)	70 (5 %)	69 (5 %)	77 (6 %)
Rainfall (mm) Winter (Dec.-Feb.)	22 (2 %)	52 (4 %)	58 (4 %)	33 (3 %)
Rainfall (mm) Summer (Mar- May)	91 (7 %)	62 (5 %)	122 (9 %)	85 (7 %)
Total rainfall (mm)	1286	1285	1308	1289
Maximum temperature °C	44.2	43.6	44	44
Minimum temperature °C	4.8	5.3	6.6	5.6
Average temperature	25.2	25.8	27.2	26
Relative Humidity % Maximum (7 am)	62.5	56.5	63	60.7
Relative Humidity % Minimum (2 pm)	47.5	42	45	44.8
Cropping intensity	112 %	112%	129%	114 %
Major Crops	Rice, Wheat, Maize, Urad, Linseed	Rice, Maize, Arhar, Gram, Toria	Rice, Maize, Niger	

Table 4: Typology of land holdings in Jharkhand State

Land holdings (ha)	Typology	Percentage
0	Land less	9.3
Up to 0.4	Sub marginal	49.8
0.41-1.0	Marginal	22.8
1.01-2.0	Small	12.5
2.01-4.0	Medium	4.4
> 4.0	Large	1.2

Table 5: Soils of Jharkhand State:

Indicators	Unit (%)	Land typology
Soils with Phosphorus Deficiency	66.0	Upland , midlands & Lowlands
Acid upland soils	71.0	Uplands
pH (<5.5)	49.0	Mainly uplands
Soil typed : pH (5.5-6.0)	22.0	Upland and midlands
Red and Lateritic (Tanr 2, 3 and Don 3)	78.0	Upland and midlands
Alluvium (Don 1 & Don 2)	19.0	Lowlands

Table 6: District wise and average rainfall in Jharkhand

Sl. No.	Districts	Actual Rainfall (mm)								Av. Rainfall
		2001	2002	2003	2004	2005	2006	2007	2008	
1	Ranchi	1500.60	1504.50	1102.00	1502.80	1198.90	896.90	1306.40	1197.30	1276.18
2	Gumla	1335.90	1063.60	852.70	1167.00	941.00	743.90	906.90	1201.30	1026.54
3	Simdega	1758.80	1278.90	967.80	1167.30	826.00	995.60	1253.10	1271.50	1189.88
4	Lohardaga	1281.10	1126.50	805.60	1540.40	932.20	724.30	1398.50	926.70	1091.91
5	East Singhbhum	1321.60	1152.10	901.90	1170.90	834.20	858.20	1802.90	1667.30	1213.64
6	West Singhbhum	1330.70	877.50	890.40	1042.40	922.10	820.20	1396.80	1424.70	1088.10
7	Saraikela	1279.30	738.10	790.80	873.50	856.50	718.20	1413.50	1391.40	1007.66
8	Palamau	1163.40	1089.70	774.40	914.10	688.40	608.70	1040.50	850.10	891.16
9	Garhwa	1246.70	1109.00	876.20	1089.00	470.20	745.60	1140.50	687.20	920.55
10	Latehar	1196.50	1274.30	895.90	1148.40	756.60	670.80	1046.70	947.40	992.08
11	Hazaribag	1317.80	1288.70	951.70	1220.70	974.70	832.50	1413.40	1389.00	1173.56
12	Chatra	1192.60	1008.80	1009.70	1003.40	570.40	594.20	1325.90	1282.00	998.38
13	Koderma	1091.90	1071.20	1099.90	816.80	709.00	7125.30	1125.60	1417.40	1807.14
14	Giridih	1350.00	1311.10	1189.40	1121.80	859.50	637.70	1263.60	1597.40	1166.31
15	Dhanbad	1334.50	1533.80	1330.50	1486.40	945.80	778.40	1375.70	1666.40	1306.44
16	Bokaro	1550.40	1135.00	1337.30	1331.00	615.70	751.60	1359.60	1450.60	1191.40
17	Dumka	1378.70	1382.10	1591.50	1211.90	928.10	913.20	1976.40	1469.70	1356.45
18	Jamtara	1381.30	971.10	1476.60	1060.10	1067.80	1305.70	1480.10	1616.80	1294.94
19	Deoghar	1197.40	1600.20	1750.60	974.80	1108.60	734.20	1525.40	1520.50	1301.46
20	Godda	1101.00	1221.40	1219.60	1126.60	861.90	936.80	1320.80	1250.90	1129.88
21	Sahebganj	1230.90	1234.90	1595.80	1489.40	923.30	956.20	1331.00	1094.10	1231.95
22	Pakur	1708.80	1576.70	1912.60	1280.00	1425.60	1450.00	1946.10	1803.00	1637.85
Average		1206.8	1329.54	1206.78	1151.04	1169.94	882.57	1127.19	1370.43	1323.76

Table 7: Classification of districts based on average rainfall in Jharkhand

SN	Average rainfall (mm)	Number of districts	Name of districts
1	> 1500	1	Pakur
2	1200-1300	5	Ranchi,Dhanbad,Dumka,Deoghar,Sahebganj
3	1100-1200	1	Jamtara
4	1000-1100	6	Simdega,Lohardaga, Hazaribag, Giridih, Bokaro, Godda
5	900-1000	4	Gumla, East Singhbhum, West Singhbhum, Latehar
6	800-900	4	Palamau, Garhwa,Chatra,Koderma
7	700-800	1	Saraikela

Table 8: Food and nutritional Security in Jharkhand State (2008-09)

Food	Production (Lakh tones)	Minimum requirements (Lakh tones)	Food Self sufficiency	Deficiency %	Remark
Food grains	42.20	49.0	49	-40	
Vegetables	34.0	28.0	121	+ 21	Self sufficient/ need for export
Fruits	3.88	12.5	31	- 69	
Milk	13.3	23.3	57	- 43	
Meat	4.33	6.7	45	-55	
Fish	0.27	5.3	3	-97	
Egg (lakhs)	6,980	8,380	80	-20	

Source: Mishra and Jayram. 2006 (Revised)

Table 9: Area, Production and Productivity of Rice in Jharkhand

Year	Area (ha)	Production (tons)	Productivity (kg/ha)	Remarks
1995-96	1,166,000	1,724,000	1,478	-
1996-97	1,164,000	1,723,000	1,480	-
1997-98	1,037,000	2,306,000	2,223	Maximum productivity
1998-99	1,159,000	1,485,000	1,281	Drought
1999-00	1,222,000	1,284,000	1,050	Drought
2000-01	1,420,244	1,755,110	1,235	-
2001-02	1,520,611	2,732,584	1,797	Max. area & production
2002-03	1,383,233	2,071,473	1,498	Drought
2003-04	1,363,866	2,310,121	1,694	-
2004-05	1,276,421	1,908,446	1,495	Drought
2005-06	1,354,726	1,558,021	1,150	Drought
2006-07	1,623, 614	2967,763	1,832	Normal
2007-08	1,643,782	3,326,407	2,023	Maximum area, production & Yield
2008-09	1670.330	3400.187	2035	

Table 10: Rice area, production and productivity in different districts of Jharkhand

Sl. No.	Districts	Area (ha)	Production (tons)	Yield (Kg ha ⁻¹)
		2008-09	2008-09	2008-09
I. Central and north eastern plateau zone.				
1.	Dumka	103995	256857	2470
2.	Deoghar	49005	149832	3058
3.	Godda	46712	143743	3077
4.	Pakur	47345	144097	3044
5.	Sahebganj	46303	92471	1997
6.	Jamtara	44193	11822	2675
7.	Hazaribag	107450	241547	2248
8.	Koderma	15090	36367	2410
9.	Chatra	32738	48789	1438
10.	Giridih	75465	229665	3343
11.	Bokaro	30276	46696	1542
12.	Dhanbad	50698	12542	2468
	Sub-Total Zone –I	649270	1414428	2178
II. Western Plateau Zone				
13.	Ranchi	228691	647195	2830
14.	Lohardaga	43100	71546	1660
15.	Gumla	177250	411243	2320
16.	Palamau	44414	695508	1565
17.	Garhwa	20625	33804	1639
18.	Simdega	89138	251369	2820
19.	Lathehar	47229	74622	1580
	Sub-Total Zone – II	650447	2185287	3359
III. South eastern plateau zone				
20.	East Singhbhum	112358	303940	2714
21.	West Singhbhum	166945	204507	1225
22.	Saraikela	91300	205425	2250
	Sub-Total Zone III	370603	713872	1926
	Total	1670320	4313587	2582

Table 11: Area, Production and Productivity of Maize in Jharkhand

1999-00	118,107	186,609	1,580	
2001-02	139,881	209,187	1,495	Drought Year
2002-03	157,603	269,181	1,708	Max. yield
2003-04	187,517	300,027	1,600	Max production
2004-05	185,870	268,400	1,444	Drought Year
2005-06	181,240	229,497	1,266	Drought year
2006-07	240,863	296,410	1.504	Normal
2007-08	237,410	356,115	1500	Normal
2008-09	198935	267728	1345	

Table 12: Area, Production and Productivity of Wheat in Jharkhand.

Year	Area(ha)	Production (tons)	Productivity (kg/ha)	Remarks
1995-96	68,030	124,200	1,825	
1996-97	66,200	125,090	1,889	
1997-98	68,570	111,510	1,626	
1998-99	58,900	86,980	1,476	Drought
1999-00	57,206	83,173	1,454	Drought
2001-02	65,381	115,359	1,764	
2002-03	67,886	117,714	1,734	
2003-04	74,560	128,140	1,719	
2004-05	64,504	104,136	1,614	Drought
2005-06	57,995	77,694	1,340	
2006-07	84,317	128,875	1,528	
2007-08	86,341	129,512	1,500	

Table 13: Area, Production and Productivity of Cereals in Jharkhand (2008-09)

Crops	Area (ha)	Production (Tonnes)	Yield (Kg/ ha)
Rice	1670330	3400187	2055
Maize	198935	267728	1345
Ragi / Marua	12098	8237	674
Jowar	455	250	549
Bajra	123	56	463
Total Cereals	1881941	3676458	1953

Table 14: Area, Production and Productivity of Total Pulses in Jharkhand.

Year	Area (ha)	Production (tons)	Productivity (kg/ha)	Remark
1999-00	144,460	117,370	812	
2000-01	116,300	96,000	825	
2001-02	211,643	165,823	782	Normal
2002-03	231,810	160,450	692	
2003-04	295,100	208,170	705	
2004-05	291,322	190,636	653	Drought
2005-06	291,072	124,269	527	Drought
2006-07	376,634	258,179	727	Normal
2007-08	393,668	295,183	749	Normal
2008-09	236928	157431	664	

Table 15: Area, Production and Productivity of different Pulse crops in Jharkhand State

SN.	Pulse crops	Area (ha)	Production (tons)	Yield (Kg /ha)
1.	Arhar	130, 543	93,570	801
2.	Urd bean	82,904	60,914	625
3.	Gram	74, 064	69,130	929
4.	Lentil	22,672	15,286	683
5.	Field Pea	21.010	22,358	1064
6.	Mung bean	14,548	8,624	550
7.	Kulthi	11,983	5,445	440
8.	Khesari	8,537	6,487	994
	Kharif Pulses	257,896	182,429	
	Rabi Pulses	128, 746	112,752	
	TOTAL	386,642	295,181	

Table 16: Area, Production and productivity of different Oilseed crops in Jharkhand

SN.	Oilseed crops	Area (ha)	Production (tons)	Yield (kg/ ha)
1.	Rapeseed & Mustard	60,368	37,428	620
2.	Linseed	31,599	12,323	390
3.	Groundnut	21,164	14,814	700
4.	Til	5,365	2,414	450
5.	Niger (Surguja)	3,756	1127	300
6	Kusum (Safflower)	546	230	422
7	Soybean	272	87	320
8.	Sunflower	220	49	353
9.	Castor	130	52	400
	Total Oil Seeds (Kharif)	30,907	18,544	
	Total Oil Seeds (Rabi)	93,439	50,337	
	Total Oil Seeds	124,346	68,881	

Table 17: Major Crops in Jharkhand State

SN.	Crops	Area (ha)	% of Cropped area	Production in tons	Average Yield (kg/ ha)
1.	Food Grains	2,361,201	87	4,107,214	1,740
2.	Cereals	1,967,533	80	3,812,031	1,938
3.	Pulses	393,668	7	295,183	749
4.	Vegetables	224,120	7	3,401,340	15,176
5.	Oilseeds	124,346	3	68,881	554
6.	Fruits	32,700	2	388,572	11,655
7.	Sugarcane	400	-	-	
8.	Others	29,000	1	-	-
	Total	2,771,767	100	7,966,007	2873

Table 18: Area, Production and Productivity of Cereals Crops in Jharkhand

Crops	Area (ha)	Production (Tonnes)	Yield (Kg/ ha)
Rice	1,643,782	3,326,407	2,023
Maize	237,410	356,115	1500
Wheat	86,341	129,512	1500
Ragi / Marua	13,210	5,944	450
Barley *	12,147	10,751	885
Jowar	633	253	400
Bajra	154	23	150
Total Cereals	1,967,533	3,812,031	1937