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Government of Maharashtra

STATUS OF AGRICULTURE IN TRIBAL SUB-PLAN AREAS AND APPROACH TO ITS DEVELOPMENT IN MAHARASHTRA

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1986

Preface

The agriculture plays a pivotal role in the State's economy as nearly 70 percent of the population in the State is dependent on the agriculture for their livelihood. In addition, the agriculture also supports the industrial units with the requisite raw materials and other stuffs despite the food to the population.

In the peculiar geographical situation of the State, the development of agricultural economy is not eye-catching due to low level of the irrigation. The agriculture, in general is mostly rain-fed and is covered under rain-shadow zone causing very often the draught-prone conditions for the most of the population of the State.

The agricultural economy in tribal areas of the State possesses some distinct characteristics from the general agriculture because of the difference in natural topography. The tribal tracts fall in the areas of extensive rain-fall. The Tribal lands are slopy, undulatory and hilly areas with the lack of irrigation facilities. The typical topography has rendered the tribal agriculture less profitable. The development of agriculture, therefore, becomes pivotal for any change in the tribal economy.

Shri S.R.Shevkari, Research Assistant, drafted the report under the supervision of Shri D.S.Mahajan, Statistical Officer and Shri M.B.Surana, Dy.Director who worked under my guidance.

The report presents the analytical view of the agriculture in general and the tribal agriculture in particular on the basis of the data collected under the Universal Bench Mark Survey (1980) conducted in the Tribal Sub-Plan Area of the State. The report will be of immense help to the researchers and executives interested in the tribal development.

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ABBREVIATIONS USED

Abbreviation		Meaning
T.S.P.	:	Tribal Sub Plan
A.T.S.P.	:	Additional Tribal Sub Plan
O.T.S.P.	:	Outside Tribal Sub Plan
I.T.D.P.	:	Integrated Tribal Development Project
T. and V.	:	Training and Visit
S.T.	:	Scheduled Tribe
B.M.S.	:	Bench Mark Survey
I.R.D.P.	:	Integrated Rural Development Programmes
Estt.	:	Establishment
Mah.	:	Maharashtra
A.D.C.M.	:	Agricultural Development Corporation of Maharashtra
S.T.C.P.	:	Scheduled Tribe comprehensive plan
S.C.	:	Scheduled Caste
N.B.	:	Nao Buddha

CHAPTER I

General Over-view of Agriculture in Maharashtra State

1.1 Agriculture as a main stay of Adiwasi life

In Maharashtra, Agriculture is the main source of livelihood of about 70 percent of State's population. Agriculture not only provides food to the people but also provides the raw material for the industries at home in addition to the raw finished goods for the export in bulk quantity. Thus it helps to earn the foreign exchange for the economic development of the country. Moreover, the share of agriculture in the total State-income is estimated to the extent of 26 percent. This fact also highlights the importance of agriculture and its pivoted role in the State economy.

1.2 Maharashtra in comparison with India

Maharashtra ranks second in the net sown area and third in gross cropped area accounting for 13% and 12% of the respective areas in India. It has a higher land man ratio than other States in India. However, the productivity of land in Maharashtra is low, though Maharashtra accounted for 11% of the area under food grains and 33% under cotton in 1982-83. The production of food grains was 7% and that of cotton was 21% of all India production. The low productivity is largely the result of low irrigation facilities available in the State. The percentage of gross irrigated area to gross cropped area in the State was only 12.7 while that of India was 30.1 in 1985-86. The percentage of gross irrigated area of State when compared with that of the country accounts for only 4.9%.

1.3 Major factors affecting agriculture

The agriculture in the State is essentially dependent on the rain which is uncertain. However, the large tracks in the State fall in the rain shadow areas and 90 talukas out of 303 talukas in the State are subject to frequent draught prone conditions.

1.4 Coverage of scarcity villages by seasons

The overall impact of the erratic behaviour of the mansoon resulted in the slight reduction in second year 1986-87 also in succession in the areas sown under principal Kharif crops. 6607 villages spread over 103 talukas in the State in the Kharif season and 4739 villages spread over 78 talukas in the State in the rabi season had their paisewari below 50 paise in the year 1985-86.

1.5 Area under principal crops

The areas under principal crops (average for years 1981-82 to 1983-84) of Maharashtra State are given below.

Table No.1.

Area under principal crops in Maharashtra State and India with percentages

	Crops	Area in '000 hectares		Percentage of area of Maharashtra comparing with India
		Maharashtra	India	
1.	Rice	1,507	39,831	3.8
2.	Wheat	1,111	23,230	4.8
3.	Jawar	6,588	16,324	40.4
4.	Bajari	1,648	11,489	14.3
5.	All cereals	11,362	1,01,387	11.2
6.	All food grains cereals and pulses	14,125	1,27,602	11.1
7.	Sugarcane	306	3,241	9.4
8.	Cotton	2,680	7,942	33.7
9.	Ground nut	801	7,478	10.7

From the above table, it is seen that 40.4% and 33.7% of the areas under Jawar and Cotton of the country respectively are sown in Maharashtra. The major irrigated cash crops of Maharashtra is sugarcane and groundnut.

1.6 Agricultural profile in the tribal areas

Agricultural condition in tribal areas is some what different from other areas mainly on account of the difference in natural topography. The tribal tracts include the areas of extensive rainfall and megre incidence of irrigation facilities. Tribal land being poor in fertility and mostly without irrigation. There is no double or multiple cropping in tribal area.

1.7 The tribal economy is primarily rural where agri--cultural and allied activities constitute the main stay of the life. The Scheduled Tribes living in the inaccessible and far flunged remote forest areas practice ash and burn, "Dali, Rab" cultivation in the hilly terrain where the productivity of the soil is quite low. However, the settled agriculture is the primary source of livelihood for the overwhelming majority of the tribal population in the State. The tribal farmers possess sub-marginal and slopy lands.

1.8 Tribal Sub Plan Area coverage of Maharashtra

The tribal Sub Plan areas in the State covers 6767 villages and 13624 hamlets spread over 75 talukas of 15 districts. The main occupation of the tribals in the Sub Plan Areas the agriculture. The development of agriculture, therefore, becomes pivoted for any change in the tribal economy.

1.9 Tribal Typical topography

The typical topography of undulating and hilly areas and lack of irrigation facilities have rendered the tribal agriculture less profitable. This situation is again coupled with the lack of awareness in the use of improved agricultural techniques. The ameliorative measures for improving soil fertility and water retention are necessary to increase productivity of land. The agricultural practices would need revision in some cases to permit a second crop being raised on moisture left at the end of the first crop. The fast growing or early maturity high yielding varieties may offer good solution for the problem in the tribal areas.

1.10 The agriculture developmental efforts in the tribal areas have so far followed the uniform pattern usually adopted for the more developed areas in the State. There has been a conspicuous lack of understanding and awareness in recognising the difference between the agri-cultural conditions in the developed areas on the one hand and the traditional agronomy practices, economic canstraits and general backwardness of the tribal people and areas on the other. There has been a constant need for adoptive research in the proven technology and practices in the developed areas for the tribals with their distinct traits.

1.11 Government Programmes

The Government of Maharashtra has already initiated the action in the matter and introduced the schemes such as "supply of mini-kits and input kits to the tribal farmers" with the idea of boosting up the agriculture production.

1.12 Food and productivity are among the main objectives of the VIIth Five Year Plan. In this context, efforts to motivate the tribal cultivators who inhabit nearly 20% of the geographical areas of the country and form the bulk of the country's cultivating population, need a special attention.

1.13 Agro-climatic zones- State's picture at a glance

The State has been divided into 9 Agro-climatic zones depicting the total rainfall range, soil texture, predominant croppings. Table No.1.1 given below highlights the situation of Agro-climatic zones of the State in general.

1.14 Agro-climatic zone Integrated Tribal Development Project Position

The I.T.D.P.wise classification of agro-climatic zones in the Tribal Sub Plan area of the State is provided in Table No.1.2. It highlights in the rainfall range, of the particular zone, soil texture and the predominant crops grown in the I.T.D.P. areas of the State.

1.15 Current Agricultural Practices in T.S.P.Area

In the Tribal Sub Plan areas of the State, two types of agricultural practices are in vogue. One is "ash and burn, Dali and Rab cultivation" while other is "settled cultivation". The problems of two types of agriculturist are required to be tackled by adopting two different strategies. Another practice of share cropping is currently practised by the tribals. The exact position of share cropping practiced by the tribal communities in the Sub Plan Area of the State is arrived at through the data collected under the Universal Bench Mark Survey highlights the number of Scheduled Tribe households engaged in share-cropping at the I.T.D.P./District level.

TABLE NO. 1.3

I.T.D.P.wise number of Scheduled Tribes' households engaged in share cropping

Sr No.	State/Region/ I.T.D.P.	Total No.of house--holds	Households engaged in share-cropping	Area under share cropp--ing (hect.)	%age of house-holds engaged in share cropping to total no.of households
1	2	3	4	5	6
	MAHARASHTRA	4,35,258	18,644	38,119	4.29
1.	Thane district	1,02,776	5,513	8,767	5.37
	I.T.D.P. Jawhar	69,078	3,345	3,086	6.44
	Shahapur	33,698	2,168	3,086	6.44
2.	Raigad district I.T.D.P.Karjat	4,824	584	814	12.11
3.	Nasik district	70,698	2,800	4,653	3.97
	I.T.D.P. Kalwan	30,500	920	1,537	3.02
	Dindori	40,198	1,880	3,116	4.68
4.	Dhule district	1,05,014	5,585	13,042	5.32
	I.T.D.P. Taloda	32,643	1,670	4,028	5.12
	Nandurbar	72,371	3,915	9,014	5.41
5.	Jalgaon district I.T.D.P. Yawal	3,302	82	180	2.49
6.	Ahmednagar district I.T.D.P.Rajur	11,672	105	194	0.90
7.	Pune district I.T.D.P.Sal	10,103	183	290	1.82
	Sahyadri Region	3,08,389	14,852	27,940	4.82

Table No.1.3 (contd)

1	2	3	4	5	6
8.	Nanded district I.T.D.P.Kinwat	7,012	108	357	1.55
9.	Amravati district I.T.D.P.Dharni	15,306	467	1,288	3.06
10.	Nagpur district I.T.D.P.Ramtek	5,745	138	267	2.41
11.	Bhandara district I.T.D.P.Deori	14,713	280	462	1.91
12.	Yavatmal district I.T.D.P. Pandharkawada	29,077	1,233	4,514	4.25
13.	Gadchiroli dist. I.T.D.P.	36,295	1,091	2,041	3.01
	Ettapalli	14,924	590	1,138	3.96
	Dhanora	21,371	501	903	2.35
14.	Chandrapur dist. I.T.D.P.	17,405	435	1,112	2.50
	Dewada	5,954	193	593	3.25
	Chimur	11,451	242	519	2.12
15.	Wardha district* I.T.D.P. Arvi	1,516	40	138	3.04
	Total Gondwana region	1,26,869	3,792	10,179	2.99

* Wardha district M.A.D.A.Pocket area is treated as separate I.T.D.P.

Agricultural practices in T.S.P.Area

General views

1.16 The adoption of agricultural practices includes ploughing and harrowing. In the Tribal Sub-Plan area, the agricultural holdings are comparatively small in size.

1.17 The ploughing is performed with wooden plough.

The tribals generally sow the local variety of seeds available with them. They do not go in for improved variety of seeds. They like hand-spraying of seeds or sowing with chawfan - seed drills.

1.18 The seedling plantations in the T.S.P. area are not carried out in commensurate with the area under cultivation. As many as seedlings taken in the hand are planted and no weeding is later on done.

1.19 The tribal area cultivators do not find any interest in the inter-cultivation such as weeding, manuring etc.

1.20 Tribal Sub Plan area cultivators are averse to spraying of pesticides and insecticides on the crops.

1.21 The tribal cultivators are interested in the subsistance level production. They take little care for watering the crops. If the irrigation facility is easily available, then and then it is made use of by the tribal cultivators. They show little inclination for cash crops.

TABLE NO 1.1

Different Agro-climatic zones of Maharashtra State

Sr No.	Title of Zone	Rainfall (in M.M.)	Soils	Predominant Cropping	Coverage	
					District	Talukas
1	2	3	4	5	6	7
I.	Very high rainfall zone with Lateritic soils	2500 to 3000	Laterites and Lateritic	Paddy, Nagli and hill Millets (Warai/Sawa etc.)	Ratnagiri -	All tahsils
					Kolhapur -	Chandgad
II.	Very high rainfall zone with non-lateritic soils	2250 to 3000	Non-lateritic loans of brown to red colour formed from trap rock.	- do -	Greater Bombay -	All tahsils
					Thane -	All tahsils
					Raigad -	All tahsils
					Nasik -	Igatpuri
III.	Ghat zone	3000 to 5000 and above	Mostly forest land and Varkas soils	Varkas lands growing inferior hill millets like Warai, Sawa etc.	Satara -	Mahabaleshwar
					Kolhapur -	Bavda, Radhanagari
IV.	Transition-A with red to reddish brown soils	1250 to 3000	Mainly red or brown soils	Paddy and Nagli	Nasik -	Surgana, Peth
					Pune -	Khed, Maval, Mulshi, Velhe, Bhor
					Satara -	Javali, Patan
					Kolhapur -	Shahuwadi, Panhala, Kapal, Bhudargad, Ajra, Gadhinglaj
V.	Transition-B-with grey black soils	700 to 1250	Predominently greyish black soils of varying texture.	Kharif crops like Bajri-Groundnut, cotton, Jawar Paddy etc.	Nasik -	Kalwan, Dindori
					Dhule -	Akrani, Akkalkuwa, Taloda Nandurbar, Ner Nawapur
					Ahmednagar -	Akola
					Pune -	Junnar, Ambegaon, Pune City
					Ko Satara -	Wai, Satara, Karad
					Kolhapur -	Hatkangale, Karvir
VI.	Scarcity zone with Kharif-cum-Rabi cropping.	500 to 700	Medium black calcareous soils formed from trap.	Kharif (excluding paddy) cum - rabi crops mainly depending upon soil depth.	Nasik -	Baglan, Malegaon, Chandor, Nandgaon, Nasik, Niphad, Yeola, Sinnar
					Dhule -	Shahada, Dhule, Sakri, Sindkheda
					Jalgaon -	Amalner
					Ahmednagar -	All tahsils except Akola
					Pune -	Sirur, Haveli, Dhond, Purandhar Baramati, Indapur
					Satara -	Khandala, Phaltan, Koregaon Khatav, Man
					Sangli -	All tahsils
					Kolhapur -	Shirol
					Solapur -	Karmala, Barshi, Madha, Malsiras, Pandharpur, Mohol, Sangola, Mangalvedha, Akkalkot
					Aurangabad -	Vaijapur, Gangapur, Paithan
					Beed -	Patoda, Ashti

1	2	3	4	5	6		7
VII.	Assured rainfall zone with mainly Kharif cropping	700 to 900	Medium black, calcareous soils from trap	Mainly Kharif crops but mostly excluding paddy.	Dhule	-	Shirpur
					Jalgaon	-	All tahsils except Amalner
					Solapur	-	West Solapur, South Solapur
					Aurangabad	-	All tahsils except Vaijapur, Paithan, Gangapur
					Parbhani	-	Pastar, Jintur, Pathari, Gangakhed
					Beed	-	Beed, Kaij, Georad, Ambejogai Manjlegaon
					Nanded	-	Mukhed, Degloor, Kandhar
					Osmanabad	-	Ahmedpur, Osmanabad, Latur, Tuljapur, Udgir, Ausa, Nilanga, Omerga
					Akola	-	All tahsils except Washim
					Amravati	-	Melghat, Achalpur, Daryapur, Amravati, Chandur
					Buldhana	-	All tahsils
VIII.	Moderate to moderately high rainfall zone.	900 to 1250	Brown to dark calcreous soils formed from trap	Kharif crops of all types and rabi crops on deeper soils	Parbhani	-	Hingoli, Kalamnuri, Parbhani Basmath
					Nanded	-	Kinwat, Hadgaon, Nanded Bhokar, Billoli
					Akola	-	Washim
					Amravati	-	Morshi
					Yavatmal	-	All tahsils
					Wardha	-	All tahsils
					Nagpur	-	Katol, Saoner, Ramtek, Nagpur
					Chandrapur	-	Warora, Rajura
IX.	High rainfall zone	1250 to 1700	Yellowish brown to red soils mixed percentage	Paddy, Kharif and Jowar Wheat, Til, Lakh, Linseed as rabi crops.	Nagpur	-	Umrer
					Bhandara	-	All tahsils
					Chandrapur	-	Brahmapuri, Gadchiroli, Chandrapur, Sironcha

TABLE NO. 1.2

Different Agro-climatic zones in Tribal Sub-Plan Area

Sr No.	District	I.T.D.P.	No.of tahsils (P.S.)	Zone	Rainfall (in M.M.)	Soil texture	Predominant cropping pattern
1	2	3	4	5	6	7	8
	Sahyadri Region						
1.	Thane	Jawar	5	Very high rainfall	2250 to 3000	Non lateritic loams of brown to red colour	Paddy, Nagli, Hill Millets like Warai and Sawa
	Shahapur	Shahapur	5				
2.	Raigad	Karjat	2	- do -	- do -	- do -	- do -
3.	Nashik	Kalwan	3	Transition A	1250 to 3000	Red to reddish	Paddy and Nagli
		Dindori	4	Transition A	700 to 1250	brown soil Greyish Black	Kharif crops like Bajari, Groundnut, Cotton, Jawar
4.	Dhule	Taloda	3	- do -	- do -	- do -	- do -
		Nandurbar	5	- do -	- do -	- do -	- do -
5.	Jalgaon	Yawal	3	Assured rainfall zone	700 to 900	Medium black	Mainly kharif crops excluding paddy
6.	Pune	Sal	3	Transition B	700 to 1250	Greyish black	Bajra, Groundnut, Cotton, Jawar, Paddy etc.
7.	Ahmednagar	Rajur (Akola)	1	- do -	- do -	- do -	- do -
	Gondwan Region						
8.	Nanded	Kinwat	1	Moderate to moderately high rainfall.	900 to 1250	Brown to dark calcaseous soil.	Kharif crops of all types.
9.	Amravati	Dharni	2	Assured rainfall zone	700 to 900	Medium black calcaseous	Mainly kharif crops
10.	Nagpur	Ramtek	2	Moderate to moderately high rainfall	900 to 1250	Brown to dark calcaseous	Kharif crops of all types.
11.	Bhandara	Deori	6	High rainfall zone	1250 to 1700	Yellowish brown to red soils	Kharif crops with paddy as predominent crops, Jawar, Wheat, Til, Rabi crops.
12.	Yavatmal	Pandharkwada	10	Moderate to moderately high rainfall	900 to 1250	Brown to dark calcaseous	Kharif crops of all Types
13.	Gadchiroli	Aheri	3	High rainfall zone	1250 to 1700	Yellowish brown to red soils	Paddy as predominant Kharif crops/Jawar Wheat, Til as rabi crops
		Dhanora	5				
14.	Chandrapur	Rajura	1	Moderate to moderately high rainfall	900 to 1250	Brown to dark calcaseous	Kharif crops of all types and rabi crops on deeper soils.
		Chimur	9				
15.	Wardha	Arvi	2	- do -	- do -	- do -	- do -

CHAPTER II

Profile of Scheduled Tribes Population

Population coverage under T.S.P./O.T.S.P.

2.1 Out of 57 lakhs, 25 lakhs (45%) Scheduled Tribes population covered under Tribal Sub Plan Areas are found in the concentrated and compact areas. The Scheduled Tribe population in Outside Tribal Sub Plan Areas are scattered over the entire State and as much as 32 lakhs (55%) tribal population are remained outside the Sub Plan Area of the State.

Distribution of total and Scheduled Tribe Population

2.2 Districtwise total population and the Scheduled Tribe population according to 1981 census are presented in Table No.2.1.

TABLE NO.2.1

Districtwise Distribution of Scheduled Tribes population in the T.S.P. and O.T.S.P. Areas of the State

(Population in '00)

Sr No.	District	Total S.T. Population (According to 1981)	Scheduled Tribes' Population in T.S.P. and O.T.S.P. areas with their concentration in each area			
			T.S.P. Area		Outside T.S.P.Area	
			Population in T.S.P. area	Percentage distribution in T.S.P.area	Population in O.T.S.P. area	Percentage distribution in O.T.S.P.area
1	2	3	4	5	6	7
1.	Bombay	841	-	-	841	100.00
2.	Thane	7294	5802	79.55	1492	20.45
3.	Raigad	1902	192	10.10	1770	89.90
4.	Ratangiri	317	-	-	317	100.00
5.	Nasik	7016	4352	62.03	2664	37.97
6.	Dhule	8311	5870	69.63	2441	29.37
7.	Jalgaon	2160	223	10.33	1937	89.67
8.	Ahmednagar	1877	612	32.61	1265	67.39
9.	Pune	1587	663	41.78	924	58.22
10.	Satara	131	-	-	131	100.00
11.	Sangli	155	-	-	155	100.00
12.	Solapur	516	-	-	516	100.00

Table No.2.1 (contd)

1	2	3	4	5	6	7
13.	Kolhapur	273	-	-	273	100.00
14.	Aurangabad	757	-	-	757	100.00
15.	Parbhani	786	-	-	786	100.00
16.	Beed	134	-	-	134	100.00
17.	Nanded	1782	392	22.00	1390	78.00
18.	Osmanabad	520	-	-	520	100.00
19.	Buldhana	665	-	-	665	100.00
20.	Akola	1148	-	-	1148	100.00
21.	Amravati	2417	1057	43.73	1360	56.27
22.	Yavatmal	3701	1497	40.45	2204	59.55
23.	Wardha	1422	67	4.71	1355	95.29
24.	Nagpur	3533	329	9.31	3204	90.69
25.	Bhandara	2980	777	26.07	2203	73.93
24.	Chandrapur	5495	3542	64.46	1953	35.54
	Maharashtra State	57720	25375	43.96	32345	56.04

Distribution of Scheduled Tribe Population by Occupation

2.3 The I.T.D.P.wise occupational distribution of the tribal population brings out that large chunk of the population is dependant on the agriculture in the Tribal Sub Plan Area of the State. (Table 2.2 A and B). The general occupational distribution of tribal workers (1981) is also presented.

TABLE No. 2.2 (A)

Occupational distribution of tribal workers (1981)

Sr No.	Item	Working Population (in lakh)	Percentage with the total working population
1	2	3	4
1.	Cultivators	10.93	39.53
2.	Agricultural labourers, Household industries, Manufacturing and Processing	12.50	45.31
3.	Servicing and repairs	0.55	1.99
4.	Other workers	3.67	13.17
	Total Workers	27.65	100.00

S.T.households in percentages for the selected categories.

(Bench Mark Survey 1980)

Sr No.	District	I.T.D.P.	Distribution of S.T.households in percentages by occupation	
			Percentage of cultivating households	Percentage of Agri.labour and forest labour households
1	2	3	4	5
1.	Thane	1.Jawhar	44.28	55.72
		2.Shahapur	37.90	62.10
2.	Raigad	3.Pen (Karjat)	22.68	77.32
3.	Nasik	4.Kalwan	32.03	67.97
		5.Nasik (Dindori)	32.06	67.94
4.	Dhule	6.Taloda	30.99	69.01
		7.Nandurbar	41.66	58.34
5.	Jalgaon	8.Yawal	38.98	61.02
6.	Ahmednagar	9.Rajur	37.77	62.23
7.	Pune	10.Sal	38.32	61.68
8.	Nanded	11.Kinwat	48.19	51.81
9.	Amravati	12.Dharni	44.26	55.74
10.	Nagpur	13.Ramtek	40.87	59.13
11.	Bhandara	14.Deori	39.22	60.78
12.	Yavatmal	15.Pandharkawada	43.22	56.78
13.	Gadchiroli	16.Ettapalli	42 .03	57.97
		17.Dhanora	32.02	67.98
14.	Chandrapur	18.Rajura(Dewada)	55.81	44.19
		19.Chimur	39.60	60.40
15.	Wardha	20.Arvi	35.03	64.97
	Sub Total		39.09	60.91

Note : The occupational classification is based on the principal sources of livelihood.

The data analysed in the above tables lead to the conclusion that the major occupation of the tribals is the agril. labour (60.91%) followed by the agriculture cultivation (39.09 %). In short, it can be stated that major of the tribal workers are engaged in agriculture and allied activities. Very minor working force is engaged in miscellaneous activities. The manufacturing, processing, servicing and repairs have attracted a negligible percentage of tribal working force.

2.4 The analysis of the data in this regard indicates that I.T.D.P.Pen has lowest percentage of cultivating households and the I.T.D.P.Ettapalli has maximum percentage of forest labourers. In general the percentage of Agricultural labourers and forest labourers fall in the range of 55 to 70 percent.

Cultivating households by income range

2.5 The distribution of cultivating populations as arranged according to the income range of Rs. 1 to 3500 as revealed from the Universal Bench Mark Survey 1980 (Household phase) will indicate the strength of the Scheduled Tribes' household living below poverty line. Table No.2.3 shows I.T.D.P.wise position of the total Scheduled Tribe households and the cultivating households within the income range of Rs.1 to 3500 in the tribal sub plan area of the State.

TABLE NO.2.3

Integrated Tribal Development Projectwise total and cultivating households according to income range Rs.1 to 3500 (i.e. Below families Poverty Line)

Sr No.	District	I.T.D.P.	S.T.Households		Percentage of S.T. households below poverty line	Total Cultivating households	Percentage cultivatir S.T.housel to total s households (Col.7 to Col.4) x 1
			Total	Household within income range Rs.1 to 3500			
1	2	3	4	5	6	7	8
	Maharashtra State		435258	395647	90.91	401896	92.34
1.	Thane	Jawhar	69078	65992	95.52	67288	97.38
		Shahapur	33698	32550	96.66	32503	96.52
2.	Raigad	Karjat	4824	4562	94.71	4644	96.41
3.	Nasik	Kalwan	30500	27582	90.84	28539	93.58
		Dindori	40198	36616	91.09	38122	94.84
4.	Dhule	Taloda	32643	29322	89.97	31062	95.31
		Nandurbar	72371	63728	88.00	55868	77.15
5.	Jalgaon	Yaval	3302	3005	90.93	3119	94.29
6.	A'nagar	Rajur	11672	10809	92.61	10994	94.20
7.	Pune	Sal	10103	9042	89.50	9374	92.79
(A)	Sahyadri Region		308389	283208	91.84	281513	91.29

Table No.2.3 (contd)

3	4	5	6	7	8
Kinwat	7012	6322	90.16	6548	93.39
Dharni	15306	13873	90.64	14499	94.39
Ramtek	5745	5268	91.75	5427	94.73
Deori	14713	13633	92.71	14095	95.86
Pandhar--kawada	29077	26469	91.02	27252	93.72
Ettapali	14918	14508	97.20	14367	96.26
Dhanora	21377	14884	69.66	20337	95.18
Devada	5954	5628	93.73	5759	95.91
Chimur	11451	10614	93.18	10830	95.08
Arvi	1314	1240	94.37	1269	96.58
egion	126869	112439	88.64	120383	94.90

--- The analysis of the Scheduled Tribe households leads to the conclusion that the majority of the households i.e. 91% are below poverty line. The regionwise percentage of the families below poverty line indicates that 92% of the households in Sahyadri region falls below the poverty line while 89% of the Scheduled Tribe families in Gondwan region lead a life below poverty line.

2.7 Further analysis of data regarding the Scheduled Tribes cultivating households in the Sub Plan area indicates that 91% of the cultivating households are in Sahyadri region and 95% in the Gondwan region. It can, therefore, be concluded that the economic condition of the tribals in the Sub Plan Area is vividly poor and needs special attention when the developmental programmes of economic upliftment are formulated and implemented for the tribals.

CHAPTER III

Pattern of land utilisation

Appraisal of land-use pattern

The study of land use pattern brings out the areas under different categaries of land generally classified. The major categaries of classification of land cover the total geographical area, forest area, area sown and total cropped area,land under current, old fallows and pastures, grazing land, together with the land put to non-agricultural use. The appraisal of land use pattern in both, the Tribal Sub Plan area and the outside in the State, highlights the status of the Agricultural economy and the potential for its development having regard to the natural resources that are available.

The land-use pattern in Tribal Sub Plan area is generally indicates that the forest occupy about 47 percent while net sown area constitutes about 30 percent of the total geographical area in the State. Table No.3.1 presents the land use pattern in the Tribal Sub Plan and outside Tribal Sub Plan area. Similarly the table No.3.2 points out the percentage distribution of land use in both the areas.

(Area in hectares)

Sr No.	Item	Maharashtra State Area under	Area in	
			Tribal Sub Plan	Outside Tribal Sub Plan
1	2	3	4	5
1.	Total Geographical area	3,07,58,300 (100.00)	48,54,422 (15.81)	59,03,879 (84.19)
2.	Forest Area	53,09,400 (100.00)	22,94,948 (43.22)	30,14,452 (56.78)
3.	Net area sown	1,82,98,600 (100.00)	14,59,017 (7.97)	1,68,39,583 (92.03)
4.	Total gross cropped area	2,01,33,000 (100.00)	15,44,023 (7.97)	1,85,88,977 (92.03)
5.	Land put to non-agriculture	9,93,100 (100.00)	1,55,563 (15.66)	8,37,537 (84.34)
6.	Barren and uncultivable land	17,33,400 (100.00)	2,80,451 (16.19)	14,52,949 (83.81)
7.	Permanent pastures and grazing land	15,90,800 (100.00)	3,09,082 (19.43)	12,81,718 (80.57)
8.	Current fallows	8,52,000 (100.00)	74,000 (8.68)	7,78,000 (91.32)
9.	Other fallow	8,02,400 (100.00	76,592 (9.55)	7,25,808 (90.45)
10.	Culturable waste	9,92,900 (100.00)	1,84,458 (18.58)	8,08,442 (81.42)
11.	Land put to Miscellaneous use, trees growes etc.	1,85,700 (100.00)	20,310 (10.94)	1,65,390 (89.06)

Figures in Parenthesis indicate percentage with the total of item.

TABLE NO.3.2

Percentage of land utilisation in T.S.P. and O.T.S.P. Areas of the State according to 1981 Census

Sr No.	Item	Percentage of Area		
		In Maharashtra State	In T.S.P. Area	In O.T.S.P. Area
1	2	3	4	5
1.	Forest Area	17.26	47.28	11.64
2.	Net area sown	59.49	30.06	65.01
3.	Total Gross cropped area	65.46	31.81	71.84
4.	Land put to Non-agril. use	3.23	3.20	3.23
5.	Barren and uncultivable land	5.64	5.78	5.61
6.	Permanent pastures and grazing land	5.17	6.37	4.93
7.	Current fallow	2.76	1.52	3.02
8.	Other fallow	2.61	1.58	2.80
9.	Culturable waste	3.23	3.80	3.12
10.	Land put to misc. trees etc.	0.61	0.41	0.64
11.	Total geographical Area	100.00	100.00	100.00

... the Tribal Sub Plan Area covers about 48,54,421 hect. of the geographical area of the State. The percentage of coverage with the State geographical area works out to 15.81 i.e. 16 % percentage. The Tribal Sub Plan Area of the State is characterised by the forest and mountain terrain and slopy lands which are mostly barren and uncultivable. The forest area occupy 47% of the geogra--phical area in the Sub Plan Area of the State. The net area sown accounts for 30 percent while gross cropped area in the Tribal Sub Plan Area accounts for 32 percent of the total area under Tribal Sub Plan in the State.

3.3 The total land-use under the head - "land put to non-agriculture use", barren and uncultivable lands and permanent pasture and grazing land covers the total area of 43,17,300 hect. in the State according to 1981 census. The corresponding coverage of land in the respective categories in the Tribal Sub Plan Area is about 7,45,096 hect. which works out to 15 % of the Tribal Sub Plan Area in the State.

3.4 The current and other fallow land cover an area of 1,50,592 hect. in the Tribal Sub Plan Area of the State. The percentage of the current and other fallow-land to total areas in the State works out to 19 percent.

3.5 The total gross irrigated area in the State according to 1981 census accounts for 10% of the total 20,16,000 ha. which works out cropped area of the State.

The figures for total irrigated area in the Tribal Sub Plan Area and O.T.S.P. Area are not available. However in the Sub Plan Area and the irrigation facilities as are made available through the Medium and Minor Irrigation Projects are very scanty. The typical circumstances of the Tribal Sub Plan Area allow scope only for the minor irrigation project through which the irrigation facilities can be extended to these areas.

3.6 Land use pattern under Bench Mark Survey (1980)

The I.T.D.P.wise land use profile revealed through the data collected under Universal Bench Mark Survey (village and Hamlet phase) (1980) will present the picture of the Tribal Sub Plan Area of the State in respect of the selected items only. Table No.3.3 highlights the situation.

3.7 Predominance of forest areas

In the Sub Plan Area of the State out of the total geographical area of 48,54,421 hect. Sahyadri region occupies as much as 23,44,582 hect. while Gondwan region is spread over 25,09,839 hect. Further the total forest area in the Sub Plan is 22,94,948 hectares. The distribution of forest area between the two region reveals that 13,11,388 hect. of forest areas are covered by Gondwan region while 9,83,560 hect. of forest area are covered by the Sahyadri region, the percentage distribution of forest area to the total forest area in Sub Plan points out that 57 percent of forest area is covered by Gondwan [illegible]

TABLE NO. 3.3

I.T.D.P.wise Land Utilisation Statistics of Tribal Sub Plan Areas (1979-80)

(Area in Hectare

Sr No.	State/Region District/I.T.D.P.	AREA UNDER										
		Net area sown	Area sown more than once	Total gross cropped area	Current fallow	Culturable waste	Old fallow	Land put to non-agril.uses	Barren and culturable waste	Permanent pastures and grazing land	Forest	
1	2	3	4	5	6	7	8	9	10	11	12	
	MAHARASHTRA	1459017	85006	1544023	74000	184458	76592	155563	280451	309082	2294948	
	% ages	(30.06)	(1.75)	(31.81)	(1.52)	(3.80)	(1.58)	(3.20)	(5.78)	(6.37)	(47.29)	
1.	Thane District	173749	2643	176392	12631	28359	14138	22399	67477	47459	308485	
	% ages	(25.56)	(0.38)	(25.94)	(1.86)	(4.17)	(2.08)	(3.29)	(9.92)	(6.98)	(45.38)	
(a)	ITDP Jawhar	105800	600	106400	10800	18900	9400	14500	16131	11000	144479	
	% ages	(31.55)	(0.18)	(31.75)	(3.22)	(5.65)	(2.80)	(4.32)	(4.81)	(3.28)	(43.09)	
(b)	ITDP Shahapur	67949	2043	69992	1831	9459	4738	7899	51346	36459	164006	
	% ages	(19.72)	(0.59)	(20.31)	(0.53)	(2.74)	(1.37)	(2.29)	(14.90)	(10.59)	(47.60)	
2.	Raigad/ITDP Karjat	7311	202	7513	186	553	6076	1065	9976	60	4684	
	% ages	(23.73)	(0.66)	(24.39)	(0.60)	(1.80)	(19.73)	(3.46)	(32.35)	(0.19)	(15.21)	
3.	Nasik District	260419	11423	278142	23976	16558	13096	13917	54050	16978	205966	
	% ages	(43.00)	(1.89)	(44.89)	(3.96)	(2.73)	(2.16)	(2.30)	(8.93)	(2.80)	(34.01)	
(a)	ITDP Kalwan	103690	6447	110137	5772	3942	3992	7533	22242	5446	109514	
	% ages	(39.53)	(2.46)	(41.99)	(2.20)	(1.50)	(1.52)	(2.87)	(8.45)	(2.08)	(41.77)	
(b)	ITDP Dindori	156729	4976	161705	18204	12616	9104	6384	31808	11532	96452	
	% ages	(45.65)	(1.45)	(47.10)	(5.30)	(3.67)	(2.65)	(1.86)	(9.26)	(3.36)	(28.10)	
4.	Dhule District	317844	16125	333969	7009	11616	5250	17283	23464	16172	393519	
	% ages	(40.09)	(2.03)	(42.12)	(0.85)	(1.47)	(0.66)	(2.18)	(2.96)	(2.04)	(49.64)	
(a)	ITDP Taloda	75053	1596	76659	2181	5055	1539	5260	5224	1869	279226	
	% ages	(19.96)	(0.43)	(20.39)	(0.58)	(1.35)	(0.41)	(1.40)	(1.36)	(0.50)	(74.42)	
(b)	ITDP Nandurbar	242781	14529	257310	4828	6561	3711	12023	18340	14303	114293	
	% ages	(58.17)	(3.48)	(61.65)	(1.16)	(1.57)	(0.89)	(2.88)	(4.39)	(3.43)	(27.39)	
5.	Jalgaon ITDP/Yaval	88756	556	9312	174	336	17	11	1389	1271	8390	
	% ages	(41.30)	(2.62)	(43.92)	(0.82)	(1.50)	(0.08)	(0.05)	(6.55)	(6.00)	(39.43)	
6.	A'Nagar Dist/ITDP Rajur	43091	729	43820	798	14670	6176	4874	4797	2403	34324	
	% ages	(38.72)	(0.65)	(39.37)	(0.72)	(13.18)	(5.55)	(4.38)	(4.31)	(2.16)	(30.81)	
7.	Pune District/ITDP Sal	46364	727	47091	3512	3946	2644	2384	8219	6584	28192	
	% ages	(45.05)	(0.71)	(45.76)	(3.41)	(3.83)	(2.57)	(2.32)	(8.96)	(6.40)	(27.42)	
A -	Sahyadri Region	857534	32405	889939	48286	76038	47397	61933	170372	90927	983560	
	% ages	(36.57)	(1.38)	(37.95)	(2.06)	(3.25)	(2.02)	(2.64)	(7.28)	(3.58)	(41.96)	

TABLE NO. 3.3 (contd)

1	2	3	4	5	6	7	8	9	10	11	12
8.	Nanded District ITDP	63935	486	64421	3394	3627	1121	6259	10257	5633	31724
	Kinwat % ages	(50.34)	(0.38)	(50.92)	(2.68)	(2.87)	(0.89)	(4.95)	(8.11)	(4.45)	(25.0
9.	Amravati District	43708	1437	45145	3839	7549	5021	17685	21547	25566	312100
	ITDP Dharni, % ages	(9.91)	(0.32)	(10.23)	(0.87)	(1.71)	(1.14)	(4.00)	(4.87)	(5.78)	(70.56
10.	Nagpur District	14704	216	14920	768	2909	978	1972	3903	5220	5232
	ITDP Ramtek, % ages	(40.96)	(0.60)	(41.56)	(2.14)	(8.10)	(2.72)	(5.49)	(10.57)	(14.54)	(14.58
11.	Bhandara District	35043	5968	41011	3156	9102	4187	9242	7158	53075	81139
	ITDP Deori, % ages	(17.26)	(2.94)	(20.20)	(1.55)	(4.48)	(2.06)	(4.55)	(3.53)	(26.15)	(39.97
12.	Yavatmal ITDP	173865	4817	178682	4295	13379	5299	10329	13488	20602	76594
	Pandharkawada, % ages	(54.47)	(1.51)	(55.98)	(1.35)	(4.19)	(1.66)	(3.24)	(4.23)	(6.45)	(24.00
13.	Gadchiroli Dist.	123018	12190	135208	66144	42923	8308	31967	34216	88812	743600
	% ages	(11.38)	(1.13)	(12.51)	(0.57)	(3.98)	(0.77)	(2.96)	(3.17)	(8.22)	(68.8
14.(a)	ITDP Ettapalli	51322	427	51749	2650	10451	3492	15651	10527	58381	637890
	% ages	(6.49)	(0.05)	(6.54)	(0.34)	(1.32)	(0.44)	(1.98)	(1.33)	(7.38)	(80.89
(b)	ITDP Dhanora	71696	11763	83459	3494	32472	4816	16316	23689	30431	105710
	% ages	(24.76)	(4.06)	(28.82)	(1.21)	(11.21)	(1.66)	(5.63)	(8.18)	(10.51)	(36.51
14.	Chandrapur Dist.	147210	7487	154697	4118	28931	4281	16176	19510	19247	60999
	% ages	(48.61)	(2.47)	(51.08)	(1.36)	(9.56)	(1.47)	(5.35)	(6.44)	(6.36)	(20.1
(a)	ITDP Devada	46733	-	46733	1746	15453	1695	4121	7483	3721	33713
	% ages	(40.24)	-	(40.29)	(1.51)	(13.34)	(1.46)	(3.55)	(6.45)	(3.21)	(29.06
(b)	ITDP Chimur	100477	7487	107964	2372	13478	2586	12055	12027	15526	27286
	% ages	(53.82)	(4.01)	(57.83)	(1.27)	(7.22)	(1.39)	(6.43)	(6.44)	(8.32)	(14.62
(B)	Gondwan Region	601483	32601	634084	25714	108420	29195	93630	110079	218155	1311388
	% ages	(23.97)	(1.30)	(25.27)	(1.02)	(4.32)	(1.16)	(3.73)	(4.38)	(8.69)	(58.25

Area coverage under Kharif/Rabi Crops

4.1 The drought prone tract adversely affect the total agricultural production in the State. Even in a assured rainfall areas, the crops suffer severely if the rains are inadequate, unevenly distributed and untimely. Out of the total cropped area in the State nearly 2/3 area is covered under Kharif crops and remaining 1/3 is under Rabi crops.

4.2 Factors influencing cropping pattern

The cropping pattern is generally dependent on the factors such as soil texture, irrigation facilities avail--able rainfall and climate in the areas. The general topography of the State is of varying nature. The State can be divided into 9 agro-climatic zones.

4.3 Pecularities of Agriculture in Tribal Sub Plan Areas

The agriculture in tribal areas differs from other parts of the State on account of the peculiar geoethnic and agro-climatic conditions in the areas. The mountain terrain and slopy lands have poor nutrition value and the agricultural practices are primitive. In view of low level of irrigation facilities available and the dependence on the vagaries of the nature makes the tribal agriculture unpredictable.

Added to the problem of hostile physical and forest environment is the pests and spoiling of crops by wild animals. The pests and wild animals very often damage the crops. Unless the production from agriculture is increased it is not possible to improve tribal economy as more than 90% tribals depend on agriculture for their livelihood.

4.4 Usual practice of single cropping

The tribal areas agriculture visualises the practice of single crop aimed at subsistance level production. The double or multiple cropping is a rare phenomenon in the most part of the tribal areas of the State.

4.5 Tribal Sub Plan crop statistics

The usual cropping pattern as is observed can be studied with the help of statistics. The data in Table No.4.1 will highlight the important major crops and the coverage of area together with its percentage to the total cropped area in the Sub-Plan area of the State. Further, the I.T.D.P. wise percentage of areas under different crops is also presented in the Table No.4.2.

Percentages of areas under different crops to total cropped area in Tribal Sub Plan Area of Maharashtra State (1979-80)

(Area in hect.)

Sr No.	Name of Crop	Area under the crop	Percentage to total cropped area	Remarks
1.	2	3	4	5
(1)	Cereals			
a)	Rice	3,35,565	22.02	
b)	Wheat	56,478	3.70	
c)	Bajara	64,766	4.25	
d)	Jawar	2,30,866	15.15	
e)	Maize	15,274	1.00	
f)	Rabi	74,386	4.88	
g)	Barley	22,070	1.45	
h)	Other cereals	96,284	6.32	
	Total cereals	8,95,689	58.77	
(2)	Pulses			
a)	Grain	30,567	2.01	
b)	Tur	35,639	2.34	
c)	Mug	30,375	2.00	
d)	Udid	53,528	3.50	
e)	Other pulses	49,237	3.23	
	Total pulses	1,99,346	13.08	
	Total food grains [(1) + (2)]	10,95,035	71.85	

1	2	3	4	5
(3)	Fibres			
a)	Cotton	1,46,173	9.59	
b)	Sunseed	2,102	0.14	
c)	Other fibres	4,077	0.27	
	Total fibres	1,52,352	10.00	
(4)	Oil seeds			
a)	Groundnut	71,569	4.70	
b)	Casterseed	1,484	0.10	
c)	Til	28,647	1.88	
d)	Linseed	18,495	1.21	
e)	Musterseed	1,974	0.13	
f)	Other Oil Seeds	28,808	1.89	
	Total Oil seeds	1;50,977	9.91	
(5)	Misc. crops			
a)	Sugarcane	8,153	0.53	
b)	Tobacco	1,199	0.08	
c)	Other non food crops	66,119	4.34	
d)	Vegetables	13,612	0.89	
e)	Other fruits	2,999	0.20	
f)	Total food crops	33,577	2.20	
	Total Misc. Crops	1,25,659	8.24	
	Total Crops	15,24,023	100.00	

Source : Universal Bench Mark Survey (M.S.) 1980

TABLE NO. 4.2

I.T.D.P.wise percentage of area under different crops to total cropped area (1979-80)

Sr No.	State/Region District/I.T.D.P.	Percentage of area under													
		RICE	WHEAT	BAJARI	JAWAR	MAIZE	RAGI	BARLI	OTHER CEREALS	GRAM	TUR	MUG	UDID	OTHER PULSES	COTTON
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	MAHARASHTRA	22.02	3.70	4.25	15.15	1.00	4.88	1.15	6.32	2.01	2.34	2.00	3.51	3.23	9.59
	SAHYADRI REGION	19.29	3.82	6.41	8.76	1.28	8.23	2.43	9.39	2.08	1.74	2.05	0.46	3.39	3.00
	GONDWAN REGION	25.84	3.55	1.21	24.20	0.61	0.17	0.06	2.01	1.90	3.18	1.91	1.65	3.01	18.84
1.	THANE DISTRICT	54.01	0.67	0.36	1.05	0.36	10.84	3.84	0.67	0.78	2.02	0.61	1.82	1.58	0.04
	a) I.T.D.P.JAWHAR	42.15	0.89	0.48	1.74	0.32	13.90	6.25	0.53	0.30	2.63	0.57	2.11	1.73	0.00
	b) I.T.D.P.SHAHAPUR	72.04	0.26	0.23	0.14	0.44	6.21	0.18	0.89	1.65	1.09	0.68	1.38	1.35	0.10
2.	RAIGAD/I.T.D.P.KARJAT	51.00	-	0.15	0.84	-	-	0.32	4.61	0.37	0.18	0.01	0.41	0.45	-
3.	NASIK DISTRICT	13.68	5.77	10.18	6.96	0.56	12.59	3.12	8.97	3.52	1.12	1.01	4.04	5.84	0.14
	a) I.T.D.P. KALWAN	4.60	2.89	20.94	8.19	1.18	9.85	3.53	7.06	2.69	0.94	1.59	3.90	8.45	0.32
	b) I.T.D.P. DINDORI	19.87	7.73	2.84	6.12	0.14	14.85	2.84	10.27	4.09	1.24	0.61	4.14	4.06	0.02
4.	DHULE DISTRICT	2.36	4.17	6.00	14.21	2.70	3.08	1.39	16.03	1.72	2.21	3.96	7.79	2.84	7.32
	a) I.T.D.P.TALODA	7.59	3.15	1.44	26.13	5.45	0.66	1.37	16.04	0.23	3.64	1.61	8.98	4.30	5.12
	b) I.T.D.P.NANDURBAR	4.88	4.47	7.36	10.65	1.87	3.80	1.39	16.02	1.81	1.78	4.65	7.48	2.40	7.98
5.	JALGAON/I.T.D.P.YAWAL	2.39	2.05	4.67	35.41	0.71	0.04	-	0.55	0.36	1.94	2.29	14.76	0.77	18.87
6.	A'NAGAR/I.T.D.P.RAJUR	13.78	2.70	15.13	2.94	0.15	12.48	1.97	3.22	1.72	1.51	1.29	1.53	1.26	-
7.	PUNE/I.T.D.P.SAL	23.92	3.96	3.46	9.70	0.20	8.86	1.87	5.56	2.27	1.39	0.44	1.70	2.83	-
8.	NANDED/I.T.D.P.KINWAT	3.21	1.05	1.86	26.35	0.16	0.03	0.05	0.36	0.72	3.79	3.03	3.09	1.78	41.32
9.	AMRAVATI/I.T.D.P.DHARNI	17.17	6.68	1.44	28.04	0.75	0.20	0.27	8.43	6.88	3.37	1.31	3.31	4.75	13.11
10.	NAGPUR/I.T.D.P.RAMTEK	25.99	9.38	2.20	38.74	1.09	0.02	0.05	1.22	0.98	8.30	0.39	0.19	1.66	0.66
11.	BHANDARA/I.T.D.P.DEORI	75.47	4.26	-	0.02	0.38	0.19	0.08	2.76	2.63	1.04	0.19	1.84	2.58	-
12.	YAVATMAL/I.T.D.P. PANDARKAWADA	2.10	2.14	2.01	31.55	0.07	0.11	0.01	0.68	0.00	6.04	2.87	1.76	0.85	4.01

TABLE NO.4.2 (Contd)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
13.	GADCHIROLI DISTRICT	60.87	1.29	0.50	12.38	1.79	0.51	0.12	3.69	1.69	0.19	0.84	1.14	4.36	0.
	a) I.T.D.P. ETTAPALLI	54.39	0.26	1.24	22.75	3.64	0.06	0.00	0.73	0.55	0.11	0.85	0.83	2.92	0.
	b) I.T.D.P. DHANORA	64.87	0.73	0.03	5.96	0.70	0.74	0.20	5.51	2.39	0.24	0.82	1.32	5.24	0.
14.	CHANDRAPUR DISTRICT	21.46	6.93	0.81	29.03	0.37	0.02	0.01	0.78	2.03	2.25	2.04	0.92	4.59	9.
	a) I.T.D.P.DEVADA	3.34	2.40	2.06	31.99	1.07	0.06	0.03	0.98	1.67	4.47	4.83	2.14	3.58	22.
	b) I.T.D.P. CHIMUR	29.29	8.69	0.26	27.76	0.06	0.00	0.00	0.69	2.19	1.31	0.83	0.40	5.02	4.

TABLE NO. 4.2

Sr No.	STATE/REGION DISTRICT/I.T.D.P.	Percentage of area under													
		GROUND -NUT	CASTER SEED	TIL	LINSEED	MUSTER SEED	OTHER OIL SEED	SUGAR -CANE	TOBACCO	OTHER NON-FOOD CROPS	VEGETA -BLES	FRUITS	OTHER FOOD CROPS	MISC.	TO
1	2	19	20	21	22	23	24	25	26	27	28	29	30	31	32
	MAHARASHTRA	4.70	0.10	1.88	1.21	0.13	1.89	0.53	0.08	4.34	0.89	0.20	2.20	0.16	10
	SAHYADRI REGION	6.45	0.08	0.69	0.29	0.17	2.94	0.84	0.06	7.19	1.24	0.27	2.68	4.35	10
	GONDWAN REGION	2.25	0.12	3.55	2.51	0.07	0.41	0.09	0.10	0.33	0.40	0.11	1.53	0.01	10
1.	THANE DISTRICT	0.13	0.04	0.17	0.05	0.14	0.20	0.08	0.00	15.80	3.26	0.38	0.98	-	10
	a)I.T.D.P. JAWHAR	0.13	0.01	0.51	0.28	0.18	0.16	0.10	0.00	22.39	1.00	0.25	1.30	-	10
	b)I.T.D.P.SHAHAPUR	0.97	0.08	0.77	-	0.09	0.27	0.05	-	5.22	4.19	0.41	0.36	-	10
2.	RAIGAD/I.T.D.P.KARJAT	0.11	0.09	0.58	0.01	-	0.37	-	-	38.10	0.52	0.05	1.65	-	10
3.	NASIK DISTRICT	6.52	0.01	0.13	0.28	0.32	6.76	0.66	0.15	3.50	1.73	0.51	1.24	-	10
	a)I.T.D.P.KALWAN	10.72	0.02	0.16	0.51	0.19	6.05	1.27	0.00	1.97	1.43	0.08	0.91	-	10
	b)I.T.D.P.DINDORI	3.66	0.12	0.10	0.12	0.41	7.24	0.25	0.26	4.55	1.94	0.81	1.07	-	10
4.	DHULE DISTRICT	9.96	0.09	0.73	0.06	0.11	1.87	1.60	0.04	1.72	0.43	0.07	4.16	3.02	10
	a) I.T.D.P.TALODA	4.05	0.20	0.22	0.13	0.27	4.93	1.13	0.00	0.31	0.24	0.06	1.49	0.52	10
	b)I.T.D.P.NANDURBAR	11.78	0.06	0.88	0.04	0.06	0.96	1.74	0.05	2.15	0.48	0.07	4.95	-	10
5.	JALGAON/I.T.D.P.YAWAL	12.54	-	1.24	-	-	0.00	0.00	-	1.12	0.00	0.00	0.23	-	10
6.	A'NAGAR/I.T.D.P.RAJUR	2.87	0.07	0.03	2.95	0.05	0.55	0.51	-	32.00	1.05	0.04	0.04	-	10
7.	PUNE/I.T.D.P.SAL	6.40	0.19	4.53	0.35	0.06	1.99	0.01	-	8.04	0.84	0.29	9.89	0.38	10
8.	NANDED/I.T.D.P.KINWAT	6.96	0.24	1.04	0.16	0.13	1.05	0.38	-	0.06	0.17	0.05	1.77	-	10
9.	AMRAVATI/I.T.D.P.DHARNI	0.34	0.24	1.67	0.18	0.15	0.24	0.29	0.00	0.12	0.52	0.08	0.32	-	10
10.	NAGPUR/I.T.D.P.RAMTEK	0.06	0.01	2.21	3.34	0.09	0.31	0.02	0.66	0.06	1.44	0.83	0.56	-	10
11.	BHANDARA/I.T.D.P.DEORI	-	0.01	0.49	4.28	0.14	0.19	0.08	0.57	0.68	0.52	0.18	1.18	-	10
12.	YAVATMAL/I.T.D.P. P.KAWADA	5.36	0.07	1.26	0.12	0.12	3.20	0.61	0.00	1.00	2.61	0.76	13.59	15.70	10

TABLE NO. 4.2 (contd)

1	2	19	20	21	22	23	24	25	26	27	28	29	30	31
13	GADCHIROLI DISTRICT	0.00	0.07	4.36	2.86	0.07	0.47	0.00	0.22	0.28	0.46	0.88	0.78	-
	a) I.T.D.P.ETTAPALLI	-	0.02	8.50	0.38	0.06	0.08	0.01	0.53	0.29	0.33	0.06	1.13	-
	b) I.T.D.P.DHANORA	0.02	0.99	1.79	4.40	0.08	0.70	0.01	0.03	0.29	0.54	0.10	2.20	-
14.	CHANDRAPUR DISTRICT	0.03	0.18	8.00	6.06	0.05	0.33	0.05	0.01	0.74	0.44	0.10	2.48	-
	a) I.T.D.P.DEVADA	0.08	0.36	10.81	4.56	0.06	0.30	0.08	0.01	0.20	0.23	0.06	1.16	--
	b) I.T.D.P.CHIMUR	0.01	0.10	6.79	0.72	0.05	0.34	0.03	0.00	0.98	0.53	0.18	2.96	-

4.6 After the harvesting of Kharif crops in the rain-fed areas, the tribal community owning cattle population find an opportunity to graze the cattles on the paddy fields. The large No. of draught and stray animals becomes a headache to the tribal cultivators who desire to avail the irrigation facility for his double cropping. The safeguarding of crops from such stray animals becomes common annoyance for want of proper fencing to the fields or some other solution for controlling such animals. The tribal cultivator due to his poor economic conditions cannot afford to put fencing across the fields.

4.7 Soil Conservation imperative for improvement

Soil Conservation is must for improving agricultural production. It is most imperative. Similarly, the improve--ment in the fertility of the land over the years becomes essential. The soil conservation brings about improvement in the valuable land resources.

4.8 Soil Conservation Programme on watershed basis

Nearly 87% of the State area is practising rain-fed farming and the rest 13% of the area is irrigated through major, medium and minor irrigation projects and other resources. The soil conservation takes care of rainfed practising areas by way of different soil erosion, measures and moisture conservation and water harvesting programmes. It has been decided that soil conservation programme should hereafter be taken up on water shed basis in a comprehensive manner. It consists of carrying out different measures according to the texture of the land.

Apart from engineering practices, land development, afforestation, and grass land cultivation will also form a measure under comprehensive planning of development. The programme under the caption of economic upliftment of small and marginal farmers has already been initiated in 1982-83.

4.9 Maintenance of Soil fertility in the Tribal Sub Plan Area

The general soil conditions in the areas outside the tribal sub plan speaks of the fertile land as compared to the tribal land which are characterised as less fertile and slopy land in most of the parts. The soil erosion due to sweeping of rains in the forest areas is observed to be clossal. The fertility goes on degrading as the years pass by. This naturally affects the productivity of crops in the tribal areas. The problem of low productivity hence be tackled by application of soil testing, advanced Agricultural production techniques in hilly and slopy areas and water management extension of irrigation facilities and awareness of tribal farmers to adopt these new modern agricultural practices.

4.10 Traditional choice of local varieties to avoid risk

The general cultivators in tribal areas go in for the local varieties of crops as against the high yielding varieties of crops. The general attitude of the tribal

The control of which cannot be singularly handled by the tribal communities or the target groups who are accustomed to the subsistence level production. The crops selected by the tribals are, therefore, traditional. This attitude of the farmers need to be entirely changed by orientation training for crop husbandry.

4.11 Strengthening of T. and V. Programme in Tribal Areas

In some part of the areas the high yielding variety of the crops such as paddy, jowar and pulses with the application of fertilisers will certainly enhance the production and leave more surplus to the cultivators after satisfying his bare needs. The programme of training and visit in the tribal areas needs be strengthened.

4.12 Special importance to minor irrigation programme

The introduction of high yielding varieties in a larger measure in the tribal areas are to be linked up with the irrigation development programme. As we see that the irrigation potential is very meagre in the tribal areas due to the natural topography, the developmental programme of minor irrigation in the tribal areas assume a greater importance. The areas outside the tribal sub plan are generally put to the advantageous position because of the major and medium irrigation projects which is a rare phenomenon in the tribal areas.

4.13 Pragmatic assessment of existing facilities for new cropping pattern

The execution of minor irrigation works in the tribal areas have not got any momentum. The cropping pattern usually suggested by the Agriculture Department on the basis of the irrigation potential likely to be created under the project is of the most part ideal. The pragmatic assessment of the facilities is the need of the time before prescribing the cropping pattern. The peoples' attitude towards the use of improved seeds, application of chemical fertilisers and pesticides unless changed through constant training the obsolete practices of harvesting the local varieties of crops with low product-ivity cannot be shattered for the better results.

4.14 Choice of principal crops in T.S.P./O.T.S.P. areas

The principal crops in tribal areas can be mentioned as paddy, jowar, wheat, Barley and Ragi and mini millets. pulses such as Gram, Moog, and Tur. The small size of holdings in the tribal areas also influence the choice of crops to be grown. But in the areas outside Tribal Sub-Plan, the land holdings are of comparatively larger, bigger size and it certainly works coherently for the choice of crops coupled with the right attitude of the cultivators who are always in search of new techniques of production. Here the economic consideration weighs more. But in the tribal areas, such economic considerations do not find

The cash crops are not preferred by the majority of the tribals in the Tribal Sub Plan Areas of the State. On the contrary the cultivators outside the sub plan areas accord highest preference to cash crops. Thus the choice of crops rests on the theory of more expenditure to reap more gains or profits. The crop calender of the cultivators outside the sub plan areas generally fixed or prepared with some law of elasticity of demand and supply. But the cultivators in the Tribal Sub Plan areas with their conservative outlook towards the farming activities work without any systematic planning of cropping pattern years together.

4.16 Appreciable change in outlook with Government Schemes

There has, however, been an appreciable change in the outlook of tribal cultivators with the certain schemes propagated by the State Government. Some of the schemes for example can be cited as under :-

1) Supply of input kits to tribals in T.S.P.
2) Supply of oil engines
3) Supply of electric pumpsets.
4) Supply of vegetable kits.
5) Supply of mini-kits to the tribal communities outside T.S.P. Area.

4.17 Need of Special stress on agriculture area in Tribal Sub Plan

The rate of change as is evinced in the tribal economy is to be kept groving with the introduction of innovative schemes in the agricultural sectors. The

agricultural developmental programmes are required to be formulated with a view to maximising the national output of foodgrains irrespective of the areas but special stress on the tribal areas of the State is a must in the national interest.

4.18 Structural difference in T.S.P./O.T.S.P. Agriculture

In general, the cropping pattern of tribal and non-tribal farms show a structural difference. Moreover, the factors such as availability of irrigation resources, fertility of the soil and economic ability of the farm families to purchase different agricultural inputs have enabled, the non tribal cultivators to take up cultivation of commercially important crops, such as cotton and sugarcane. On the other hand, because of less fertile soils and non availability of irrigation resources tribal farmers relied more on food-grains and other miscellaneous crops required for the subsistence.

5.1 The water is the important resource for increasing the production through irrigation. It exercises more influence on the change in the cropping pattern in the area.

Soil and water are therefore the basic needs for the agricultural production. Hence the careful use of available water, therefore assumes great importance. The State Government have taken a number of steps for maximis--ing the irrigation potential through the major and medium irrigation projects. The important steps in this direction is the Area Development programme for the development of command areas of all major and medium irrigation projects which are completed during the plan periods are in progress.

Chances of irrigation potential in T.S.P. Area

5.2 The land development in Non-command Area development Authority areas is carried out by the Agricultural Department. The evaluation study of the irrigation facilities confirms that the chances of development of irrigation by surface water in the tribal sub plan areas stand very meagre because of the small size of holdings of the tribals and the natural soil texture. It is generally remarked that the general level of development of irrigation in the state is very low. About 12.5% of the net area is under irrigation as compared to 30% of the country as a whole. On comparative study of the development of irrigation in the Tribal Sub Plan Areas and the other areas, it is observed that the potential of irrigation in the Tribal Sub Plan Area is very meagre, because of the natural.

topography of the areas. The natural situation puts the heavy barriers for the extension of irrigation facilities to these areas. The development of minor irrigation project in both the sectors - Local as well as State remains the only alternative for the development of tribal areas in the State.

Sources of Irrigation in T.S.P.Area

5.3 The assessment of the present sources of irrigation in the Tribal Sub Plan areas of the State as revealed through the Universal Bench Mark Survey can be studied from Table No.5.1.

Wells, Babdheras, tanks and common sources

5.4 It is observed that in the tribal areas the limited sources of irrigation are in existence. Predominently the resources such as wells, bandharas, tanks are common. Number of wells are observed more in Sahyadri region than in Gondwan region. Similarly the number of bandharas are found to be more in Gondwan region.

Area irrigated by different sources

5.5 Further it is necessary to analyse data regarding the area irrigated by the different sources. The table No.5.1 prepared on the basis of the data collected under the Universal Bench Mark Survey 1980 present sourcewise area irrigated in the Tribal Sub Plan Area of the State.

TABLE NO.5.1

Different Sources of Irrigation and net area irrigated by them in Tribal Sub Plan Areas of Maharashtra State in the year 1980

(Area in hectares)

Sr No.	State/Region	Well			Bandharas			Other Sources			Tanks			Lift Irri	
		No.	Net area irrigated	Average area irri-gated	No.	Net area Irrigated	Agerage area Irrigated	No.	Net area Irrigated	Average area Irrigated	No.	Net area Irrigated	Average area Irrigated	No.	Net area Irrigat
1	2	3	4	5	6	7	8	9	10	11	12	13	14	13	16
	MAHARASHTRA	28649	39997	1.40	757	4963	6.56	116	4370	37.67	1978	37835	18.94	155	12
	Sahyadri Region	2374	35567	1.50	664	4445	6.69	61	1625	26.64	107	388	3.63	145	8
	Gondwan Region	4888	4430	0.91	93	518	5.57	55	2745	49.91	1891	37445	19.80	10	4
1.	Thane District	2186	3312	1.52	80	688	8.60	24	1059	44.13	79	129	1.63	17	3
a)	I.T.D.P.Jawhar	1445	2320	1.61	32	74	2.31	19	1001	52.65	44	79	1.80	10	2
b)	I.T.D.P.Shahapur	741	992	1.34	48	614	12.79	5	58	11.60	35	50	1.43	7	1
2.	Raigad/I.T.D.P. Karjat	2	8	4.00	-	-	-	-	-	-	-	-	-	-	
3.	Nasik District	10431	12304	1.18	479	1543	3.22	5	9	11.80	-	-	-	115	1
a)	I.T.D.P.Kalwan	6017	6242	1.04	233	437	1.88	5	9	1.80	-	-	-	106	1
b)	I.T.D.P.Dindori	4414	6062	1.37	246	1106	4.50	-	-	-	-	-	-	9	
4.	Dhule District	9396	18584	1.98	73	1968	26.96	20	412	20.60	18	232	12.89	12	
a)	I.T.D.P. Taloda	1398	2662	1.90	11	106	9.64	-	20	-	3	72	24.00	-	
b)	I.T.D.P. Nandurbar	7998	15922	1.99	62	1862	30.03	20	392	19.60	15	160	10.67	12	3

TABLE NO. 5.1 (contd.)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
5.	Jalgaon/I.T.D.P.Yaval	308	134	0.44	-	-	-	-	-	-	-	-	-	-
6.	A'Nagar/I.T.D.P.Rajur	725	481	0.66	30	220	7.33	12	67	5.58	8	7	0.88	1
7.	Pune/I.T.D.P. Sal	713	724	1.02	2	26	13.00	-	78	-	2	20	10.00	-
8.	Nanded/I.T.D.P.Kinwat	618	618	1.00	21	21	1.00	55	55	1.00	5	5	1.00	-
9.	Amravati/I.T.D.P.Dharni	237	318	1.34	2	3	1.50	-	33	-	4	37	9.25	4
10.	Nagpur/I.T.D.P.Ramtek	386	349	0.90	4	12	3.00	-	20	-	62	556	8.97	2
11.	Bhandara/I.T.D.P.Deori	455	413	0.91	12	26	2.17	-	135	-	490	8032	16.39	-
12.	Yavatmal/I.T.D.P. Pandharkawada	1192	1572	1.32	10	117	11.70	-	113	-	25	290	11.60	-
13.	Gadchiroli District.	1259	706	0.56	22	247	11.23	-	9977	-	692	12181	17.60	1
	a) I.T.D.P.Ettapalli	136	178	1.31	3	204	68.00	-	292	-	33	1407	42.64	-
	b) I.T.D.P.Dhanora	1123	528	0.47	19	43	2.26	-	695	-	659	10774	16.35	1
14.	Chandrapur District	741	454	0.61	22	92	4.18	-	1411	-	613	16344	26.66	3
	a) I.T.D.P.Devada	129	57	0.44	-	-	-	-	31	-	14	112	8.00	-
	b) I.T.D.P.Chimur	612	397	0.65	22	92	4.18	-	1380	-	599	16232	27.10	3

in Tribal Sub Plan Area of the State

6.1 Varied Tribal Situation in the State

Since the natural situation in the Tribal Sub Plan Area not uniform through out the State and because of the backwardness of some of the tribes which live in hilly and forest area; the tribals which are economically and socially backward need a special efforts for their development. Such tribes are described as Primitive Tribes. In the Sub Plan Area of the State, Madia Gond, the Kolams and the Katkaris have been identified as Primitive Tribes. The terminology of the 'Primitive' is used to indicate the tribal group which is most poor and backward. Generally three criteria are applied while deciding the primitiveness of the tribes - They are i) pre-agril. level of technology ii) low level of literacy iii) a stagnant or diminishing population.

6.2 Special project for primitive tribes

The Government of Maharashtra has been receiving special central assistance from the Government of India for their development. A special project for the Madia Gond has been started with its Head Quarter at Bhamragad in Gadchiroli dist. of the State.

6.3 Broad classifications of Schemes

The evaluation studies in regard to the schemes implemented for the tribes indicate that the schemes can be broadly classified as (1) individual beneficiary schemes, and (2) community beneficiary schemes.

Further broad classification of these schemes can be attempted as :

(1) Income generating schemes,

(2) Welfare schemes and

(3) Training or Human Resources development schemes

6.4 Income generating schemes

The schemes under the agriculture and animal husbandry and fisheries can be enumerated under this need head.

1. Supply of bullock pairs and carts,
2. Supply of milch animals,
3. Supply of seeds and fertilizers,
4. Supply of goats and poultry birds,
5. Supply of pigs,
6. Supply of fishing nets.

6.5 Welfare Schemes

Welfare or Non-income generating individual benefit schemes were implemented as under :-

(1) Supply of shelter-cum-residence,

(2) Supply of utensils

(3) Supply of uniforms to Adiwasi Students etc.

Amongst the welfare or non-income generating community benefit schemes the following schemes can be mentioned as :

(1)

The community benefit income generating schemes such as the lift irrigation schemes and formation of co-operative society for handling the sale and purchase of the commodities need to be encouraged.

6.7 Schemes under Nucleus Budget

The income generating individual benefit schemes are also formulated and implemented under the "Nucleus Budget" operated through the Project officers of the ITDP and the Sub Plan area of the State. The schemes of local importance and of innovative nature find wide scope under the Nucleus funds. The broad classification of the schemes under the Nucleus Budget can be presented as under :-

(1) Human Resource Development Schemes or Schemes aimed at Training, employment and self employment.

(2) The welfare schemes rendering financial assistance to the backward classes especially the Scheduled Tribes.

(3) Schemes related to agricultural/animal husbandry and horticulture development.

(4) Schemes of publicity and information.

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6.8 Supply of input kits to the tribal farmers

This scheme is a part and parcel of 20 Point Programme sponsored by the Prime Minister of India. Under the crop husbandry the schemes devised are mainly individual benefit subsidy oriented scheme to the exception of the scheme of soil conservation and Ayacut Development which are implemented on an area basis.

6.9 Scope of the Scheme

At present the benefit of the scheme is extended to the selected beneficiaries from 14 tribal districts of the State. Under the scheme, a kit of improved seeds, fertilizers alongwith the pesticides is given to each beneficiary. The contents of inputs as required for an area of 40 R (one acre) are supplied.

6.10 Contents of the scheme

The table below describes the contents and the proposed cost of each of the input kit supplied to the tribal beneficiary.

TABLE NO. 6.1

Contents and Proposed cost of input kits

Sr.No.	Kind of Kit	Cost of the kit (in Rs.)
1.	A kit of Kharif cereals and pulses for (40 R area)	400/-
2.	A kit of wheat (for 40 R area)	250/-
3.	A kit of cotton (for 40R area)	150/-
4.	A kit of gram or Rabbi Pulses (for 20 R area)	150/-
5.	A kit of groundnut (for 20 R area)	300/-
6.	A kit of 10% B.H.C., a common pesticides 20 kgs if required	40/-

6.11 Under the scheme each tribal cultivator receives any of the kits according to the local conditions and

Zilla Parishad and Panchayat Samiti who is the implementing authority in this behalf.

6.12 Financial provision under the scheme

The total provision under the scheme during the period 1983-84 and 1984-85 is presented in the table No. 6.2. The districtwise position of distribution of input kits to the tribal cultivating families is depicted in the table.

6.13 Coverage of beneficiary under the Scheme Distribution of input kits to the tribal Cultivators in the Tribal Sub Plan Area

Districtwise allocation of funds and number of beneficiaries covered under the scheme during the period 1983-84 and 1984-85 is given in the table below :-

TABLE NO.6.2

Districtwise coverage of beneficiaries and allocation of funds under the scheme of supply of agricultural input kits to the tribal cultivators.

(Rs.in lakhs)

Sr No.	District	Budget allocation under input kits during		Beneficiaries covered (Actuals)	
		1983-84	1984-85	1983-84	1984-85
1	2	3	4	5	6
1.	Thane	16.60	18.00	2555	6312
2.	Raigad	1.49	1.60	230	N.A.
3.	Nasik	6.62	N.A.	1019	2040
4.	Dhule	12.29	12.00	1890	3314
5.	Jalgaon	1.55	1.00	238	N.A.
6.	Ahmednagar	1.78	2.00	273	N.A.
7.	Pune	4.81	4.81	740	N.A.
8.	Nanded	2.09	2.50	322	N.A.
9.	Amravati	3.03	3.00	466	N.A.
10.	Yavatmal	1.86	1.50	286	393
11.	Nagpur	2.46	3.00	378	N.A.
12.	Bhandara	5.72	5.50	880	1076
13.	Chandrapur	1.50	5.10	230	N.A.
14.	Gadchiroli	3.20	5.20	493	930
	Total	65.00	65.21	10000	

Source : Record of Agri. department.

Vis-a-Vis Tribal Sub Plan Area

Introduction

7.1 The first world Agricultural Census under the auspices of the Food and Agricultural Organisation of the United Nations was carried out in 1950. It was followed by the second and third decinial censuses in 1960 and 1970 respectively. India participated in these censuses and is also participated in the 4th decinial census 1981-82 with 1980-81 as the reference year.

7.2 Maharashtra participated for the first time in the world Agricultural census programme in 1970 and has since continued, its participation in the subsequent censuses of 1976-77 a sample census and 1980-81 a complete numeration census. The State level detail results of 1976-77 census have been published. The over view of the State level results can be summarised as follows :-

a) The data in respect of only two items viz. no. of operational holdings and are operated were collected from all the villages.

Their results revealed that :

i) In 1976-77 there were 57.64 lakh operational holdings in the State with a total operated area of 211.05 lakh hectares giving an a everage size of 3.66 ha. per holding. Of these 97.7% holdings were individually operated and 2.3% holdings were jointly operated.

ii) In regard to tenancy status, 96% holdings were owner operated, 3% holdings were partly owner and

partly tenant operated. Only 1% holdings were entirely tenant operated. The average holding size under these 3 categories was 3.60, 5.57 and 3.13 hectares respectively.

iii) The small holders having holding size below 2.00 hectares accounted 46% of the total number of holdings and 11% of the total operated area. The relative proposition of small holdings was much larger in paddy growing districts (63% to 75%). The smaller proportion was observed in predominently millet growing districts. These are less than 40 percent.

7.3 Gravers of Principal and important Crops

The data on land utilisation cropping pattern were collected on a sample basis. It showed that out of 210 lakh ha. covered under the Agricultural Censuses, 81.4% area accounted by net sown area and 13.3% area by land not put to cultivation in the operated area.

The estimated number of growers of principal crops and economically important crops is presented below :-

Crop	No. of farmers growing crops (in lakhs)
1	2
1) Paddy (Kharif)	22.23
2) Paddy (Summer)	0.35
3) Bajri	11.56
4) Kharif Jawar	22.21
5) Rabi Jawar	14.70

The size class distribution of the holdings showed that 50% of the paddy growers had small holdings upto 2.00 hectares while in case of the remaining crops about 50% of the growers had holding size between 1 to 5 hectares.

7.5 Universal Bench Mark Survey Results in T.S.P.Area

The analysis of the data collected under the Universal Bench Mark Survey (1980) (household phase) conducted in the Sub Plan Area of the State revealed that about 49% of the tribal households possessed the land upto 6.00 hectares. About 24% of the households possessed the holdings upto 2 hectares. The table No.7.1 will highlight the position clearly for the tribal sub plan area of the State.

Ta TABLE NO.7.1

State Abstract

Percentage distribution of households according to landholding range in the Sub Plan Area of the State

Sr No.	Landholding range (in hect.)	Percentage of households in Maharashtra (TSP)	Tribal Regions Sahyadri	Gondwan
1	2	3	4	5
1.	Below 1.00	10.84	11.73	8.70
2.	1.01 to 2.00	13.47	13.54	12.16
3.	2.01 to 5.00	21.88	19.95	24.47
4.	Upto 6.00	48.49	47.38	47.11
5.	6.01 and above	7.69	7.10	6.76
6.	Landless labourers	43.82	45.52	46.13
	Total	100.00	100.00	100.00
	Total No.of Scheduled Tribes Households in T.S.P.Area	4,35,258	3,08,389	1,26,869

Source : Universal Bench Mark Survey (Household phase)(1980)

7.6 Analysis of landless labour families

The analytical study of the above table indicates that the percentage of landless labourers formed about 44 percent of the total scheduled tribe households. Similarly, the households having the landholdings upto 6.00 hectares accounted 49%. Out of which 24 percent households possessed land upto 2.00 hectares. This leads to the conclusion that the majority of the households belongs to landless labour category. Their dependence on the Agriculture for subsistance does not suffice and it calls for some subsidiary occupations such as dairy, poultry and certain schemes under tertiary sectors for the incremental income to the needy families in the Sub Plan Area of the State.

7.7 I.T.D.P.wise position of S.T.households possessing land by size-class

The I.T.D.P.wise details of households possessing land by size class in the Tribal Sub Plan Area is presented in the following table No.7.2 .

(continued on next page)

TABLE NO. 7.2

No. of Scheduled Tribes Households and Land possessed by them by size classes

H.H. = Households, L.P. = Land Possessed (Land possessed in he

Sr No.	District/ I.T.D.P.	Land in Hectares						Classification of households and land according to size class										
		Below 1.00			1.01 to 2.00			2.01 to 5.00			5.01 to 6.00			6.01 ha and above			Landless	
		H.H.	L.P.	% of the Hhs.	H.H.	L.P.	% of the Hhs.	H.H.	L.P.	% of the Hhs.	H.H.	L.P.	% of the Hhs.	H.H.	L.P.	% of the Hhs.	H.H.	% of the Hhs.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
	MAHARASHTRA STATE	47202	27055	10.84	58624	76988	13.47	95232	280577	21.88	211055	437151	48.49	33491	417763	7.69	190712	43.82
1.	Thane District																	
a)	Jawhar I.T.D.P.	13999	8052	20.27	10960	14454	15.87	9669	27884	14.00	35379	54333	51.22	3413	63746	4.94	30286	43.84
b)	Shahapur I.T.D.P.	7321	3977	21.73	3653	4706	10.84	2365	6291	7.02	13496	15799	40.05	488	9298	1.45	19714	58.50
2.	Raigad District																	
a)	Karjat I.T.D.P.	1244	615	25.79	604	771	12.52	412	1205	8.54	2301	2810	47.70	138	1420	2.86	2385	49.44
3.	Nasik District																	
a)	Kalwan I.T.D.P.	1601	905	5.25	4368	5576	14.32	8790	25458	28.82	15802	37398	51.81	2276	24024	7.46	12422	40.73
b)	Dindori I.T.D.P.	3658	1909	9.10	5059	6678	12.59	9102	27308	22.64	19325	43878	48.01	4474	50678	11.13	16399	40.80
4.	Dhule District																	
a)	Taloda I.T.D.P.	2138	1424	6.79	4664	6363	14.81	7285	21449	23.13	14575	31841	46.28	1789	22833	5.68	15129	48.04
b)	Nandurbar I.T.D.P.	2035	1298	2.77	7518	9518	10.23	16598	48812	22.58	28142	69681	38.28	6647	96693	9.04	38732	52.68
5.	Jalgaon District																	
	(Yaval) I.T.D.P.	206	121	6.24	224	295	6.78	549	1878	16.63	1007	2441	30.50	100	991	3.03	2195	66.47
6.	A'Nagar District																	
	(Rajur) I.T.D.P.	1779	995	15.24	2273	3110	19.47	3561	10786	30.51	8048	17214	68.95	1691	18155	14.49	1933	16.56
7.	Pune District																	
	(Sal) I.T.D.P.	2133	1223	21.11	2427	3291	24.02	3181	9330	31.49	8043	15443	79.61	882	9503	8.73	1178	11.66
	SAHYADRI REGION	36164	20519	11.73	41750	54762	13.54	61512	180401	19.95	146118	290818	47.38	21898	297333	7.10	140373	45.52

TABLE NO. 7.2 (contd)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
8.	Nanded Dist. (Kinwat) I.T.D.P.	90	62	1.28	493	672	7.03	2117	6247	30.19	2913	8103	41.54	885	8510	12.62	3214	45.84
9.	Amravati Dist. (Dharni) I.T.D.P.	454	243	2.98	1180	1604	7.71	4996	15444	32.64	7349	21110	48.01	2472	22695	16.15	5485	35.84
10.	Nagpur Dist. (Ramtek) I.T.D.P.	253	143	4.40	812	1010	54.13	1707	4930	29.71	2917	6823	50.77	352	3860	6.13	2476	43.10
11.	Bhandara Dist. (Deori) I.T.D.P.	3062	1778	20.81	3256	4312	22.13	3697	10625	25.13	10235	17875	69.56	742	8535	5.04	3736	25.40
12.	Yevatmal Dist. (P.Kawada) I.T.D.P.	442	259	1.52	2081	2763	7.16	5129	16512	17.64	8371	23357	28.79	3334	36326	11.47	17372	59.74
13.	Chandrapur Dist.																	
	a) Chimur I.T.D.P.	2488	1356	21.73	1996	2628	17.43	2323	6741	20.69	6998	11724	61.11	521	5628	4.55	3932	34.34
	b) Rajura I.T.D.P.	106	79	1.78	297	415	4.99	2165	6655	36.36	2770	8204	46.52	762	7333	12.80	2422	40.68
14.	Gadchiroli Dist.																	
	a) Etapalli I.T.D.P.	1351	827	9.05	2367	3001	15.86	4785	13557	32.06	88868	19273	59.42	970	23158	6.50	5086	34.08
	b) Dhanora I.T.D.P.	2692	1716	12.60	4232	5601	19.60	6479	18470	30.32	13896	28874	65.02	1466	15292	6.86	6009	28.12
15.	Wardha Dist. (Arvi)	100	73	7.60	160	220	12.16	322	495	24.47	620	1490	47.11	89	926	6.76	607	46.13
GONDWAN REGION		11038	6536	8.70	16874	22226	13.30	33720	100176	26.58	64737	146333	51.18	11593	120430	9.14	50339	39.68

H.H. = Households; L.P. = Land Possessed

Source : Bench Mark Survey of Tribal Sub Plan Areas of Maharashtra State (1980)(Household Phase)

landless families in general and the percentage of the scheduled Tribes landless families in particular in the Tribal Sub Plan Area of the State. The Statistical information regarding the landless families as revealed from the Universal Bench Mark Survey 1980 is presented in the table No.7.3.

TABLE NO.7.3

I.T.D.P.wise total No.of S.T.families, landless S.T. families and its percentage in T.S.P.Area of the State

Sr No.	State/Region Dist./ITDP	Total S.T. families (B.M.S.)	Landless families		
			Total Scheduled Tribe families	Tribal families	Percentage of S.T. families to total families (Col.5 to Col.4) x 100
1	2	3	4	5	6
	Maharashtra State (T.S.P. Area)	4,35,258	3,08,281	1,93,212	70.83
	Regions				
	Sahyadri	3,08,389	1,97,506	1,42,873	72.34
	Gondwan	1,26,869	1,10,775	50,339	45.44

1 2	3	4	5	6
1. Thane District	1,02,776	74,320	50,000	67.28
(a) I.T.D.P.Jawhar	69,078	38,020	30,286	79.66
(b) Shahapur	33,698	36,300	19,714	54.31
(2) Raigad District				
I.T.D.P.Karjat	4,824	3,190	2,385	74.76
3. Nasik District	70,698	39,568	28,821	72.84
(a) I.T.D.P.Kalwan	30,500	18,440	12,422	67.36
(b) I.T.D.P.Dindori	40,198	21,128	16,349	77.62
4. Dhule District	1,05,104	71,469	56,361	78.86
(a) I.T.D.P.Taloda	32,643	18,668	16,379	87.74
(b) Nandurbar	72,371	52,801	39,982	76.72
5. Jalgaon District				
I.T.D.P.Yawal	3,302	3,202	2,195	68.55
6. Ahmednagar				
I.T.D.P.Rajur	11,672	3,610	1,933	53.55
7. Pune District				
I.T.D.P.Sal	10,103	2,147	1,178	54.87
8. Nanded District				
I.T.D.P.Kinwat	7,012	6,269	3,214	51.27
9. Amravati District				
I.T.D.P.Dharni	15,306	8,535	5,485	64.26
10. Nagpur District				
I.T.D.P.Ramtek	5,745	5,204	2,476	47.58
11. Bhandara District				
I.T.D.P. Deori	14,713	9,799	3,736	38.13
12. Yavatmal District				
I.T.D.P.Pandharkawada	29,077	32,463	17,372	53.51
13. Gadchiroli District	36,295	26,057	11,095	42.58
(a) I.T.D.P.Etapalli	14,918	13,172	5,086	38.61
(b) Dhanora	21,377	12,885	6,009	46.63

of landless scheduled Tribe families is found to be more in the districts of Thane (67.28%), Nasik (72.84%), Dhule (78.86%), Yavatmal (53.51%) and Gadchiroli (42.58%) as compared to the remaining districts of the Sub Plan Area.

7.10 Inter region comparision

The Inter-region comparision of the Scheduled Tribe landless households brings out that the majority of the landless families (72.34%) are located in Sahyadri Region while 45% of the Scheduled Tribe families among the total families in Gondwan Region belonged to the landless category. This is a pointer to the need that special programmes for their upliftment stands imperative.

CHAPTER VIII

Observations and Conclusions

Introduction

Need for emphasis on agriculture Animal Husbandry and forestry

8.1 Predominently rural population in the tribal areas calls for emphasis on the agriculture, animal husbandry, forestry and village industries. The programmes for development should, therefore, contemplate on the follow--ing items on priority.

1. The establishment of forest based industries by increasing the forest resources.

2. A programme of development of animal husbandry and fishery.

3. Generation of employment opportunities having regard to the labour population and its present skill endorsement.

4. Diversification of employment through training and human resource development.

5. Development of complementary measures including.

(a) Providing better transport facilities.

(b) Extension of credit facilities

(c) Providing nutrition and health cover to the target groups.

8.2 Strategy of scientific farming for human natural resources

In short, the development strategy should be based on the utilisation of vast human resources, good soil and

tribal sub plan area needs to be suitably blended for the development of the tribal community in general and the tribal economy in particular.

Integrated approach imperative

Integrated approach to tackle major constraints

8.3 The main constraint with the farming tribals is the lack of technical knowledge. Establishment of training centres to impart knowledge on farming tecnniques and technical skills to augment the income to the target groups would achieve the objectives of integrated development of tribal population. An integrated approach to the various components of production are required to be provided for tackling major constraints in the agricultural development programmes.

Measures under the approach

8.4 The integrated approach will constitute the follow--ing measures.

1. Positioning of quality inputs for agricultural improved seeds, manures, insecticides at reasonable rates and at right times and that too in sufficient quantities.

2. Ensuring the optimum use of fertilisers.

3. Strengthening agricultural extension service system.

4. Complementing extension system with strengthen--ing communication system.

5. Intensive plant protection compaigns.

6. Popula of improved seeds.

7. Integrated watershed development.

Soil testing and Bunding phased programme

The Soil Conservation Department of the State need to proceed with the phased programme for soil testing bunding of small paddy fields and terracing of uneven lands growing mini-millets etc. For conserving the rainy water, the construction of irrigation tanks, Nala Bunding and bandharas, percolation tank in the tribal areas will resolve the problem of single cropping and encourage the tribal cultivators to go in for double or multiple cropping. This will certainly provide him additional work and incre--mental income to his family throughout the year.

Development of mini watershed

8.6 The dry land farming techniques with development of mini-water sheds in the tribal areas will contribute to change the face of the tribal economy to the maximum extent possible. This is proposed because of the fact that the tribal areas receive a fairly good rainfall. The remedial measures in the form of check bunds will allow the minimal use of rain water by avoiding the wastages.

Introduction of "Bhinar" type Nala Bunding in T.S.P.Area

8.7 Having regard to the slopy lands of the tribal areas the efforts towards levelling and bunding of the

larger scale wherever possible.

8.8 It is rather a strange thing that despite heavy precipitation there is always a scarcity of water during the major parts of the year and therefore the water harvesting programmes is neglected.

Evaluation of improved varieties of oil seeds, pulses and millets

8.9 It is further quite essential to evolve the improved varieties of millets, pulses and oil seeds which would suit the tribal areas. So the target of maximum agricultural production can be achieved. As a part the development of varieties of crops of short duration stands imperative need of the hour. The distribution of input kits and mini kits to the tribal families can be viewed as a right step for their upliftment.

Exploitation of irrigation resources

8.10 Major sources of irrigation in the Tribal Sub-Plan Area are wells and percolation tanks. A successful imple--mentation of agricultural programmes depends much on the exploitation of irrigation resources. Irrigation develop--ment through minor irrigation works, exploitation of ground water potential and scientific water management need more emphasis. The evaluation studies of the irrigation facilities available in the tribal areas have confirmed that the chances of development of irrigation by surface water in the tribal areas stand very meagre,

because of the small size of land holdings of the tribals and the natural soil texture and other components. The extension of irrigation facilities through the wells, nala and bundings and Bench terracings can be achieved with hard efforts.

Replacement of local breeds by improved one

8.11 The replacement of local breeds with high yielding varieties and accelrating the present level of adoption of new technology supported by adequate credit through the efficient extension agencies working in the tribal areas can achieve the goal of successful implementation of the agricultural programmes.

Mass and group contacts methods for new technology

8.12 The present potential indicates that extension agencies can very well increase the proportion of participants in the tribal areas through mass and group contact methods. The tribal farmers are adopting partial level of important inputs like fertilisers due to economic and administrative constraints. They are also needed to be encouraged to develop their own investible funds out of additional income generated through the adoption of new technology and also shifting from non remunerative crops to more remunerative crops.

Need of large coverage families

8.13 The extension methods utilised by the extension worker are demonstrative in character and involves field

Stress on functional relationship and Co-ordination between field agencies

8.14 (a) The programmes and schemes of similar nature are formulated and implemented in the same areas of operation by the various departments of Government. This naturally calls for co-ordination and co-operation amongst field agencies, from both the points of view.

(1) Duplication of works (2) Wastage of funds, e.g. supply of bullock carts/pairs of bullocks by forest department/I.R.D.P./Revenue Department etc.

(b) There should be functional relationship through integrated approach amongst various schemes that are being operated in the tribal areas. This will contribute to achieve positive results and avoid unnecessary duplication of work and wastage of funds.

Introduction of new schemes to maximise agril. Production

8.15 The following new schemes need to be introduced for maximisation of agricultural production.

Popularisation of improved farm machinery implements wherever feasible.

The small and marginal farmers may be supplied with the improved agricultural implements. The subsidy on the purchase of improved implements may be provided at the rate of 35% to small farmers and 50% to the marginal farmers. More items of improved implements may be included in the scheme. The schemes may be operated through the Zilla Parishad concerned.

Estt. of "Krishi Seva Kendra"(Agricultural Service Centres (AS'C)

8.16 Secondly, the establishment of "Krishi Seva Kendra" for making available agricultural implements on hire-basis need be established. The special advantage may be reaped by the small and marginal farmers. These Krishi Seva Kendra will be operated under the auspices of Agricultural Industrial Development Corporation and the Rural Co-operative Societies having outstanding and high repute and sound financial position. The machinaries such as tractors, threshers, weeders and sprayers should be made available to the small/marginal farmers on group custom service basis.

Demonstration of improved agricultural machinery

8.17 In order to imbibe the importance of these improved agricultural implements the demonstration as to the practical use of the implements is essential. The Tour and Visit Staff should arrange such demonstrations to make known the efficient working of the implements alongwith the power saving methods. The intensification of Tour and Visit Programmes in the tribal areas is a need of the hour.

Establishment of creation of Agricultural Tribal Research Cell

8.18 With a view to devising a complete land use plan for tribal block initially Agricultural Tribal Research Cell may be created. The land use plan for each of the tribal block in the sub plan area can be prepared for execution by the cell. The Agricultural Divisional

... In order to reach credit facilities to the poor, the differential policy for the supply of agricultural inputs, in favour of medium marginal, and small farmers may be formulated.

Separate farming Co-operation for small/ Marginal/farmers only

8.20 (a) It is proposed that the co-operatives should be the main lending agencies for the poor artisons and land less labourers. Similarly separate farming co-operatives for marginal and small farmers should be constituted for the members of that class only. This may help to safeguard the interests of the poor and needy section of the society consisting of agricultural labourers, small and marginal farmers.

(b) The Agricultural "Model" Demonstration farm should be developed on the farms of Ashram School Complexes. The demonstration on crops either commercial or otherwise may be organised on these farms for the tribal farmers. Similarly the training programmes may be organised for them in the Ashram Schools.

Allied occupation to farm families

8.21 Since the present need of the rural population is to ensure regular incremental income, the milch cattle development and dairying can provide a stimulating opportunity.

(a) The provision for cross-breeding programme on massive scale and adequate veterinary facilities would help in realising higher productivity from the existing

animal wealth in the tribal areas of the State. The The poultry, goat keeping and piggery can provide useful avenues for giving gainful employment to the minerable sections of the people. So we can reduce the existing high pressure on land.

(b) Besides, vocational training for the rural youth for self employment should receive serious consider--ation. All programmes of development must invariably cover the children, youth and women folk in the areas.

Development of Inland fisheries

8.22 There is good scope for the development of inland fisheries when minor irrigation works will be completed in the tribal areas.

Soil forestry programmes

8.23 Vast scope for popularising forestry in the area exists. The stress may be given on the social forestry programmes to generate additional employment and income to the tribals.

(a) At present the use of fertilisers, plant protection practices and farm machineries has been observed to be very low. The increased supply of these crucial inputs would accelerate the rate of growth of tribal agriculture. The plantation of medicinal plants may be included in the policy of Soil Conservation Department which is at present confined to fruit threes of certain

towards setting up of industries based on the resources of men and material of the areas. Industrial and business houses. Integrated Rural Development authorities, Banks and Agricultural Universities need be associated in planning to start and effectively run the rural industries.

Setting up of Agril. Development Corporation (Ltd.) for T.S.P. Mah. A.D.C. M.

8.24 On the corollary of the Forest Development Corporation of Maharashtra (F.D.C.M.) a another financial institute namely Agricultural Development Corporation of Maharashtra (Tribals) may be established to deal with the credit problems of the tribals and tribal areas only. The services should preferably be channelized through a single agency. The singular financial agency for dealing with the problems of all the tribal communities would prove very helpful for accelerating the rate of development in the tribal areas.

Construction of all weather serviceable roads

8.25 The construction of all weather serviceable roads in the rural area are rather imperative not only for inter-village connections but also to bring the marketing centres within the easy reach of the farmers in the rural tribal areas. Simultenously the extension of storage facilities for farm produce may be thought of seriously.

Crop insurance cover

8.26 It is quite essential to devise a proper system of providing insurance cover to the small and marginal farmers in view of the highly expensive and risky modern

technology. The adequate cover of insurance may provide necessary motivation to achieve higher level of productivity.

S.T.comprehensive plan (STCP)

8.27 On the parallel line of the Special Component Plan designed for the S.Cs./N.B., farm families in the State, a separate Scheduled Tribes Comprehensive Plan (STCP) for the scheduled tribes' farm families living below the poverty line may be introduced with a view to increase agricultural production level and thereby enhance the economic status of the S.T. farm families. The beneficiary under the scheme may be eligible to receive financial assistance on the following items.

1. Land development	Rs. 4,000/-
2. 50% financial assistance for improved agricultural implements and bullock pairs.	Rs. 3,000/-
3. Supply of input kits (50% subsidy)	Rs. 2,000/-
4. Supply of milch animals poultry and piggeries to deserving S.T. families	Rs. 3,000/-
5. Minor irrigation upto (50% subsidy)	Rs. 6,000/-
	Rs.18,000/-

Target per block 75 to 100 farm families

8.28 For giving benefits under the scheme, 75 to 100 farm families from each panchayat Samiti

tribal cultivating families may be chalked out in detail for the Tribal Sub Plan area of the State.

Central Assistance 100%

8.29 100% Central assistance may be sought for the scheme.

Conduct of periodical case studies

8.30 The small and marginal farmers in the tribal areas do have the necessary motivation for achieving maximum food production. The case studies may be undertaken as to what more needs to be done to raise the level of productivity on small farms with the tribal community at large in the Tribal Sub Plan Area. The periodical assessment of achievement under each scheme may prove fruitful for future planning and scheme formulation in the respective areas.

Need periodical Summative Evaluation Studies

8.31 Summative evaluation (impact evaluation) studies on the agricultural development programmes in the selected pockets of tribal areas may be undertaken for assessing the performance and achievement over the period of time say 2/3 years after sponsoring the particular scheme or programme.

Posting of vigilence squads to avoid misutilisation

Establishment of vigilence squad to watch over the distribution of agricultural inputs to the target groups in the tribal area may be appointed for its proper utilisation and avoiding misutilisation or misappropriation.