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Government of Maharashtra

**Study of the
Benefits Accrued by the Tribal
People from Dinanadi Irrigation
Project of Chandrapur District**



By
TRIBAL RESEARCH AND TRAINING INSTITUTE,
28 QUEENS GARDEN, PUNE 411 001.

1982

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GOVERNMENT OF MAHARASHTRA

STUDY OF THE
BENEFITS ACCRUED BY THE TRIBAL
PEOPLE FROM DINANADI IRRIGATION PROJECT
OF CHANDRAPUR DISTRICT

By
Tribal Research & Training Institute,
Maharashtra State,
Pune.

1982

PREFACE

The study of benefits accrued by the Scheduled Tribes from the Deena River Medium Irrigation Project of Chandrapur District was undertaken by Dr.P.R.Sirsalkar, Chief Research Officer of the Institute. He was assisted in his field work and tabulation of data by Sarvashri R.G. Mandve, Investigator, S.G. Kamble, Investigator, V.V. Chavan, Research Assistant and D.S. Mawachi, Research Assistant of the Institute.

I am thankful to the officers of the Irrigation Department, Chandrapur for providing available information for this study. I am sure that this quick survey will be helpful to the authorities in charge of Tribal Sub Plan in understanding the benefits accrued by the tribal people from the Deena River Project in Chandrapur District. It will also be helpful to the Irrigation Department.

Sd/-
(G.M.Gare)
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I N T R O D U C T I O N

In the meeting with the Regional and District Heads of Departments, implementing Tribal Development schemes in the State, Commissioner, Tribal Development, had detailed discussions with the officers of the Irrigation Department on 1-9-1981 at Nashik. He was, however, disappointed to note that inspite of several Irrigation Projects being taken up in the tribal areas, financed to a considerable extent from Tribal Sub Plan Funds there is hardly any dependable data about benefits derived by the Adivasi cultivators through these Irrigation Projects. The Government is anxious to have a regular feed back as to whether and to what extent the Scheduled Tribes families have gained from these Projects and therefore it was considered essential to have this information.

The Commissioner, Tribal Development together with the Director, Tribal Research and Training Institute, Pune, visited Chandrapur on 24-8-1981 for a ready estimation of these benefits in respect of two medium Irrigation Projects in the district. The office of the Suprintending Engineer, Irrigation Department, Chandrapur, could not furnish information to the Commissioner, as per the proforma sent by the Additional Commissioner, Tribal Development, Nagpur vide his D.O. letter No. ATC/RA/321/81, dated 16th September, 1981. On 24-9-1981 in the meeting convened by the Commissioner, Tribal Development at Chandrapur, it was suggested that quick

survey of Dina Nadi Medium Irrigation Project in Chamorshi Tahsil of Chandrapur District, may be taken up by the Tribal Research and Training Institute, Pune, with a view to study the benefits accrued by the tribal people from the Dina Nadi Medium Irrigation Project.

Accordingly, the Tribal Research and Training Institute, Maharashtra State, Pune, took up a quick survey of the selected villages under Command Area of this Project. Necessary co-operation from the officers of the Irrigation Department, Chandrapur, Collector, Chandrapur and the Tahsildar, Chamorshi was sought to collect village wise information regarding tribal beneficiaries under Dina Nadi Project. The officers of the Irrigation Department made available villagewise and survey-number-wise information regarding total area and area under irrigable Command. The Departmental officers could not give information of Tribal Khatedars, villagewise.

The Collector, Chandrapur, asked the Tahsildar Chamorshi, to call the Talatis of these villages with the information of tribal khatedars under Dina Nadi Project to Chamorshi. The Tahsildar issued notices to the Talathis concerned. The Research team of the Institute visited Chamorshi to collect the information of tribal khatedars under the Command Area of Dina Nadi Project but it was noticed that the response of the Talathis was poor and as such the Research Team could not collect villagewise information of tribal Khatedars of (58) villages under Command area of Dina Nadi Project.

OBJECTIVES

The main objectives of this Quick Survey were as under :

1. To study the extent of benefits derived by the Scheduled Tribe Cultivators through the Dina Nadi Project,
2. To find out the impact of Irrigation in improving the economic conditions of the tribal agriculturists in the benefitted zone.

The area of study was Chamorshi Tahsil of Chandrapur district.

RESEARCH DESIGN

1. The data regarding villagewise and survey numberwise of the total area and area under Irrigable Command of (58) villages was to be collected from the records of the Suprintending Engineer, Irrigation Department, Chandrapur and other offices of Irrigation Department.

2. The structured family schedules have to be processed in ten tribal agriculturist families each of 10 villages under Dina Nadi Command Area.

According to these Research Methods, the available data of (58) villages was collected from the concerned offices of the Irrigation Department of Chandrapur district. Similarly family schedules of (10) families each of (10) villages ^{were} filled in by the Research Staff of this Institute through Interview method.

LOCATION OF IRRIGATION PROJECT

Dina Nadi Medium Irrigation Project is to the south of Chandrapur and it is at a distance of (120) Kms. from Chandrapur. This project is constructed near Regadi on Dina Nadi river in Chamorshi tahsil of Chandrapur District. After covering a distance of (70) Kms. on Chandrapur-Aheri Road, one has to take left turn near Mark-and-a village to reach the Project. It is approachable throughout the year. The map of Dina Nadi Project is given at Appendix I.

MEDIUM IRRIGATION PROJECT :

DINA NADI

The work of the Project started in the year 1969 with an administrative approval of Rs. 363.45 lakhs. The project has been completed in the year 1974. The length of the main bund is 10290 feet and the height of the main bund is 69.00 feet. The catchment area is 74.5 Sq. miles. The average monsoon rainfall in the area is 51.76 ~~lak~~ inches. The gross capacity of the Project is 2160 mc.ft. and net capacity is 1976 Mc.ft. The total area to be irrigated is 30500 Acres (11356 Hectares) as under :

i)	Kharif	-	6152	Hectares
ii)	Rabi	-	783	Hectares
iii)	Hot weather-	391	Hectares	- Two seasons
		-	3530	Hectares - fallow on
Total	...		<u>11356</u>	<u>Hectares</u>

The culturable command area is 27080 acres. The length of the Main canal is 17.42 miles and the distributories is 16 miles.

According to the Project report the crop pattern will be as under :

Sr. No.	Crop	Percentage
1.	Kharif - Paddy	55
2.	Second crop - wheat and lakh	20
3.	Rabi - Paddy	10
4.	Rabi - Wheat	5
5.	Rabi - Jawar	10

The Irrigation Administration is with the Branch Offices at Ghot, Chamorshi and Bhendala. The following (Table No. 1) reveals the yearwise potentiality of the Project as per the report and as per the actual beneficiaries: -

Table No. (1)

Year	Irrigation capacity as per the report.	Actual Irrigation potentiality	Actual benefit derived			
			Kharif	Rabi	Summer	Total
1974-75	11356 Hs.	-	-	100	-	100
1975-76	-	5290	-	25	525	550
1976-77	-	7050	2286	929	-	3215
1977-78	-	10336	2298	11	1264	3573
1978-79	-	11356	2602	17	792	4411
1979-80	-	11356	3629	-	624	4253
1980-81	-	11356	3744	-	860	4604

Table No. (1) indicates that out of 11,356 hectares which was the actual Irrigation potentiality of the Project only 4604 Hecatres. (40) per cent of land was deriving the benefit of the Project and (60) per cent of the Irrigation Potentiality was not utilised in the Project Area.

Tribal and Non-Tribal Population in the villages under command Area

The Dina Nadi Project benefits (58) villages from Chamorshi tahsil. The details of population of these villages as per 1971 census are given below :

Table No. (2)

Sr. No.	Name of village	Census Code No.	Population		Percentage of tribal population to total Population
			Total	Tribal	
1	2	3	4	5	6
<u>A) Villages in Tribal Sub Plan</u>					
1.	Manjigaon	861	290	0	-
2.	Haladwahi	843	514	184	36
3.	Walsara	791	1676	103	6
4.	Bhiwapur	248	318	167	53
5.	Bhadbhidi	788	378	90	24
6.	Nagpur Heti	388	168	110	65
7.	Nawegaon	540	27	27	100
Total		-	3371	681	20

1	2	3	4	5	6
<u>B) Villages in Additional Tribal Sub Plan</u>					
8.	Ghot	859	3812	721	19
9.	Warur	871	426	31	7
10.	Darpanguda	864	141	126	89
11.	Pethala	851	700	155	22
12.	Rekhegaon	802	543	180	24
13.	Amgaon	800	1239	56	4
14.	Rajur Khurd	834	129	97	75
15.	Amgaon Chak (1)	809	Unhabited		-
16.	Karkapalli	817	715	177	25
17.	Rajangatta	808	0	0	0
18.	Amgaon Chak (2)	801	84	0	0
19.	Sonapur	798	794	167	21
20.	Sagnapur	829	169	83	49
21.	Mohurli Mokasa	921	398	155	39
22.	Jalna Tukum	819	70	0	0
Total			9284	2048	22
Total (A) + (B)			12655	2729	21
<u>C) Villages outside TSP/ATSP</u>					
23.	Rampur	47	379	15	4
24.	Navegaon	763	1488	1	0
25.	Kurul	20	3660	140	4
26.	Chamorshi	767	8891	280	38
27.	Waghdara	785	350	138	39
28.	Murkhala Chak	776	664	33	5
29.	Ramsagar	784	327	0	0

1	2	3	4	5	6
30.	Lakhampur Bori	783	1642	63	4
31.	Kalamgaon	774	243	1	0
32.	Murkhala	775	1606	0	0
33.	Kanholi	761	728	15	2
34.	ERodi	766	227	15	7
35.	Bhixi Raitwari	790	Uninhabited		-
36.	Bhixi Malguzari	789	280	25	9
37.	Chakalpeth	762	600	97	16
38.	Shankarpur	16	148	1	0
39.	Fokurdi	755	697	57	8
40.	Bhendala	754	1207	57	5
41.	Welhur Tukum	757	516	59	11
42.	Welthur Rait	760	51	2	4
43.	Wagholi	753	1048	161	15
44.	Markhanda Deo	756	470	169	36
45.	Farada	750	944	137	15
46.	Ramala	752	917	0	0
47.	Ghargaon	749	918	0	0
48.	Dorkuli (Dorli)	125	458	308	67
49.	Sawarheti	683	294	285	97
50.	Kumbharwahi	Not reported in 1971 census			
Total (C)			28753	2059	7.16
Grand Total (A + B + C)			41408	4788	11.56

Sr. No.	Name of the village	Remarks
1	2	3
<u>(D) Rehabilitated Villages (Bengali Refugges campys)</u>		
51)	Camp no. 53	These camps, who are in the benefited zone of Dina Nadi Project, are the Rehabilitated villages of Bengali refugees and their population has not been reported in 1971 census.
52)	Camp no. 55	
53)	Camp no. 56	
54)	Camp no. 74	
55)	Camp no. 75	
56)	Camp no. 76	
57)	Camp no. 77 & 78	
58)	Camp no. 79	

SUMMARY :

The Dinanadi Medium Irrigation Project benefits (58) villages from Chamorshi tahsil in Chandrapur district. Out of these (58) villages, (7) villages fall in Tribal Sub Plan Area and (15) villages fall in Additional Tribal Sub Plan Area. Thus, in all (22) villages fall in Sub Plan Area of the State. The tribal population in Sub Plan Area villages is only 20 %. While it is 22 per cent in Additional Tribal Sub Plan Area. (36) villages are outside Tribal Sub Plan and Additional Tribal Sub Plan Area. The percentage of tribal population in these (36) villages is only 7 per cent. The total tribal population in all (58) villages under benefitted zone comes about 11.5 per cent. It clearly shows that only 11 per cent of the tribal population in (58) villages may likely to get benefits of the Dinanadi Medium Irrigation Project provided the

tribal people possesses the land of their own and that too under culturable command area of the project. On the basis of population, it is very clear that the benefits of the Dina Nadi Medium Irrigation Project is likely to accrue to less than 1% per cent of tribal population only.

CULTURABLE COMMAND AREA UNDER DINA NADI PROJECT

The following Table No. (3) indicates villagewise Culturable Command Area under the command of Dina Nadi Project in Chamorshi Tahsil of Chandrapur District :

Table No. (3)

Statement showing the villagewise culturable command area under the command of Dina Nadi Project in Chamorshi Tahsil of Chandrapur District.

Sr. No.	Name of the village	C.C.A. (in acres)
1	2	3
A) Villages in Tribal Sub Plan		H.A.
1.	Manjigaon	92.06 (36.82)
2.	Haladwahi	437.14 (174.86)
3.	Walsera	241.12 (96.45)
4.	Bhiwapur	186.95 (74.78)
5.	Bhadbhidi	447.88 (179.15)
6.	Nagpur Heti	250.00 (100.00)
7.	Nawegaon	813.56 (325.42)
Total		2468.71 (987.42)

1	2	3
<u>B) Villages in Additional Tribal Sub Plan</u>		
8.	Ghot	118.37 (47.35)
9.	Warur	105.51 (42.20)
10.	Darpanguda	119.13 (47.65)
11.	Pethala	114.31 (45.72)
12.	Rekhegaon	950.15 (380.06)
13.	Amgaon	454.37 (181.75)
14.	Rajur Khurd	21.95 (8.78)
15.	Amgaon Chak (1)	97.97 (39.19)
16.	Karkapalli	276.39 (110.56)
17.	Rajangatta	34.73 (13.89)
18.	Amgaon chak (2)	353.86 (141.54)
19.	Sonapur	256.99 (102.80)
20.	Sagnapur	444.84 (177.94)
21.	Mohurli Mokasa	772.98 (309.19)
22.	Jalna Tukum	43.51 (17.40)
Total		4165.06 (1666.02)
Total (A + B)		6633.77 (2653.50)
<u>C) Villages out-side TSP/ATSP</u>		
23.	Rampur	55.28 (22.11)
24.	Navegaon	813.56 (325.42)
25.	Kurul	751.62 (300.65)
26.	Chamorshi	2768.35 (1107.34)
27.	Waghdara	401.86 (160.74)
28.	Murkhala Chak	1395.77 (558.31)

1	2	3
29.	Ramsagar	174.48 (69.79)
30.	Lakhampur Bori	1968.82 (787.53)
31.	Kalamgaon	499.36 (199.74)
32.	Murkhala	840.80 (336.32)
33.	Kanholi	907.91 (363.16)
34.	Ekodi	643.19 (257.28)
35.	Bhixi Raitwari	104.53 (41.81)
36.	Bhixi Malguzari	76.30 (30.52)
37.	Chakalpeth	160.64 (64.26)
38.	Shankarpur	519.17 (207.67)
39.	Fokurdi	585.21 (234.08)
40.	Bhendala	291.03 (116.41)
41.	Welthur Tukum	343.76 (137.50)
42.	Welthur Rait	339.09 (135.64)
43.	Wagholi	1018.50 (407.40)
44.	Markhanda Deo	482.36 (192.94)
45.	Farada	680.51 (272.20)
46.	Ramla	418.62 (167.45)
47.	Ghargaon	923.28 (369.31)
48.	Dorkuli (Dorli)	1003.78 (401.51)
49.	Sawarteitiheti	339.00 (135.60)
50.	Kumbharwahi	60.00 (24.00)
Total (C)		18566-79 (7426-69)
Grand Total (A+B+C)		25200-56 (10080.19)

1	2	3
D) <u>Rehabilitated villages</u> <u>(Bengali Refugees Camps)</u>		
51.	Camp No. 53	24.93 (9.97)
52.	Camp No. 55	88.30 (35.32)
53.	Camp No. 56	173.51 (69.40)
54.	Camp No. 74	68.25 (27.30)
55.	Camp No. 75	171.00 (68.40)
56.	Camp No. 76	208.50 (83.40)
57.	Camp No. 77 and 78	473.30 (189.32)
58.	Camp No. 79	672.05 (268.82)
Total (D)		1879.84 (751.93)
Grand Total		27080.40 (10832.12)

It has been observed earlier that only 40 per cent of the Culturable Command area is actually deriving the benefits of the Project. Taking this fact into account it can be presumed that in 58 villages under Command Area, 4332 Hectares of land may get the benefit of the Dina Nadi Project. The table No. (3) indicates that in (22) villages of TSP/ATSP/ area, the total land under culturable command area is 2657 hectares. As we have stated above, 40 per cent of the Culturable Command Area is actually deriving the benefits and with this norm 1062 hectares of total land may get the benefit of the Project in Tribal Sub Plan Area.

The information regarding tribal beneficiary Khatedars of (58) villages was not made available to the Research Team during their field study in Chandrapur district, as such in absence of this information the actual anumber of tribal beneficiary khatedars and their total land to be benefitted under the Project cannot be ascertained.

Efforts have been made to collect the data regarding total land and tribal land villagewise from the Tribal Sub Plan Area/Additional Tribal Sub Plan Area under benefitted zone from the family and village schedules canvassed under the Universal Bench Mark Survey, carried out by Tribal Research and Training Institute, Maharashtra State, Pune. The details are given in the following statements : (Next page).

Table No. (4) Statement showing the village wise number of S.T. and Non-S.T. families and land owned by them in TSP/ATSP Area.

- 16 -

Sr. No.	Cen-Code	Name of the village	Total no. of fami- lies	Total no. of S.T. fami- lies	Total no. of S.T. fami- lies not hav- ing land	Total no. of S.T. fami- lies not hav- ing land	Total no. of non-S.T. fami- lies	Total no. of non-S.T. fami- lies having land	Total no. of non-S.T. fami- lies not having land	Total land in hect- ares	Total land in hect. of non S.T. fami- lies	Total land in the vill- age	Percentage of S.T. land to total land
1	2	3	4	5	6	7	8	9	10	11	12	13	14
A) VILLAGES IN TRIBAL SUB PLAN													
1.	861	Manjigaon	60	2	-	2	-	58	49	9	88	88	0
2.	843	Haladwahi	98	31	27	4	59.21	67	50	17	73.10	132	45
3.	794	Walsara	237	45	16	29	17	192	135	57	280	297	6
4.	248	Bhimpur	76	25	18	7	75	51	45	6	83	158	48
5.	788	Bhadbhidi	100	25	17	8	25.40	75	69	6	114	139	18
6.	388	Nagpur Heti	38	27	21	6	53	11	6	5	22	75	71
7.	540	Nawegaon	6	6	5	1	12	-	-	-	-	12	100
Total			615	151	104	57	241.61	454	354	100	660.10	901	27

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
B) - VILLAGES IN ADDITIONAL TRIBAL SUB PLAN														
8.	859	Ghot	709	146	77	69	185	563	290	273	551	736	25	
9.	871	Warur	79	5	2	3	2	74	48	26	97.10	99	2	
10.	864	Darpanguda	30	24	22	2	40.60	6	5	1	3.40	44	92.3	
11.	851	Pethala	150	25	19	6	192	125	100	25	547	739	26	
12.	802	Rehhegaon	43	26	18	8	42	17	10	7	28.40	70	60	
13.	-	Ambegaon	Deserted				Deserted			Deserted			Deserted	
14.	842	Rajur Kh.	37	2	2	-	16	35	29	6	41	43	4	
15.	800	Amgaon Chak (1)	339	55	30	25	59	284	202	82	372	431	14	
16.	817	Karkapalli	64	32	29	3	126.80	32	22	10	72.24	199	64	
17.	808	Rajangatta	21	-	-	-	-	21	14	7	15.50	16	0	
18.	801	Amegaon Chak (2)	29	4	1	3	1	25	25	-	35	36	3	
19.	798	Sonapur	210	54	23	31	39.26	156	110	46	217	256	15	
20.	829	Sagnapur	44	20	17	3	24.40	24	21	3	49.40	84	41	
21.	921	Moharli - Mokasa	83	31	20	11	24-90	52	35	17	38.90	64	39	
22.	819	Jalna Tukum	30	4	1	3	2	26	22	4	48.61	51	4	
Total			1868	428	261	167	764.96	1440	933	507	2116.55	2868	26	
Grand Total			2483	579	365	224	1006.57	1895	1287	607	2776.65	3769	27	

From table No. (4), it is observed that out of 2483 total families in TSP/ATSP area under the Command of the Dina Nadi Project, 365 tribal families (14%) possessed lands and 86 % tribal families did not possess land. Out of 3769 hectares of total land, 1006 hectares (27 %) belonged to the Scheduled Tribes and 73 % of the land belonged to non-tribal people. The average land with Scheduled Tribe Khatedars was 2.7 hectares.

From table No. (1) it has been noticed that only 40 per cent of the land under culturable command was deriving the benefit of the Dina Nadi Irrigation Project. Taking this fact into account it can be presumed that out of 1006 hectares of tribal land only 402 hectares of land might be getting the benefit of the Dina Nadi Project in TSP/ATSP area. Out of 3769 hectares of total land, 402 hectares i.e. 10 per cent of tribal land might be getting the benefit of the Dina Nadi Project in TSP/ATSP area.

In (58) villages, out of 11356 hectares of culturable command area, the area benefitted was 4604 hectares (40 %). Out of 4604 hectares, 1243 hectares (27 %) may be of tribal Khatedars. Thus it can be said that out of 11356 hectares of land only 1243 hectares of tribal land, i.e. (10 %) might be getting the benefit of the Dina Nadi Project.

To conform these findings, the Institute undertook case studies of the sample ten villages in the benefitted zone of the Dina Nadi Project in Chamorshi Tahsil. The findings of these case studies also collaborate with the above mentioned findings.

Case studies of the sample villages in the benefitted zone of Dina-Nadi Irrigation Project

The study of 10 sample villages in the benefitted zone has been done with a view to assess the benefits, accrued by the tribal khatedars from the Dina Nadi Project and the impact of Irrigation in improving their economic conditions.

(1) DARPANGUDA

The total population of this village was 141, out of which tribal population was 126, i.e. 89 %. The case study of 10 tribal agriculturists, receiving the benefit under Dina Nadi Project of this village revealed the following facts:

(i) Total land of ten tribal agriculturists under Irrigation of Dina Nadi Project and cultivation was 29 acres. Thus on an average three acres of land of each tribal khatedar surveyed was under Irrigation and cultivation.

(ii) All the ten families belonged to the Madia Gond tribe.

(iii) All the surveyed families cultivated their land.

(iv) No family used improved seeds, improved fertilizers and improved agricultural implements. They still use their seed, old agricultural implements and available cow dung as manure. They have no knowledge of improved agricultural practices.

(v) On an average each family possessed four bullocks and two cows.

(vi) Only one family has taken loan of Rs. 500/- from the society on 12 % interest.

(vii) When enquired about the past annual agricultural production, before Dina Nadi Project, it was estimated on an average as (13) quintals of paddy, worth Rs. 1300/- per year. After the use of Dina Nadi Project, it was estimated on an average as (21) quintals of paddy worth Rs. 2500/-. Thus on an average it has been observed that each tribal agriculturist family has reported increase of (8) quintals of paddy, i.e. Rs. 1200/- per year, as agricultural production due to Dina Nadi Project.

(viii) All the ten families have reported as one crop of kharif paddy cultivation. No-one has reported the second crop taken by them even after the Irrigation Project.

(ix) Out of (126) tribal persons in the village, only two persons have passed third and fourth standard and the remaining are illiterate. The literacy percentage among men and women is very low.

(x) Out of ten families surveyed, nine families have reported that the family members have to work as laborers besides agriculture because the annual agricultural produce was not enough for all the family members for the year and money is required to meet their daily needs.

(xi) All the families have reported that they utilise the increased agricultural production for religious and marriage ceremonies.

(xii) No family has reported improvement of land or use of electric pumps or oil engine for increase in agricultural production.

(xiii) Only three families (30 %) have improved their huts by using tiles for the roof of the huts instead of grass. 70 % of the families are still using grass for thatching of the roof of their huts.

(xiv) Thus it has been observed that there is no visible impact of Dina Nadi Project on these ten tribal agriculturists and it has not resulted in improving their social, educational and economic conditions.

(2)

BHADBHIDI

The total population of this village was (378) out of which tribal population was (90) i.e. 24 %. The case study of ten tribal agriculturists, receiving the benefits under Dina Nadi Project, of this village, revealed the following facts : -

(i) Total land of ten tribal agriculturists under Irrigation of Dina Nadi Project and cultivation was 84 acres. Thus on an average eight acres of land of each tribal khatedar surveyed was under Irrigation and Cultivation.

(ii) Out of (10) tribal agriculturists surveyed eight belonged to the Madia Gond tribe, one belonged to the Raj Gond sub-tribe and one to the Pardhan tribe.

(iii) Out of (10) families, (2) families i.e. 20 % tribal families were not cultivating their land for want of bullocks and agricultural implements and hence were given for cultivation to the rich people of Sao Tali and Komti castes on lease. These non-tribal agriculturists cultivate the land of poor tribal people and give fixed amount every year to the party concerned and get the maximum benefit out of this deal.

(iv) Only two families (20 %) reported use of improved seeds of Rs. 225/- a year, per family. They were using old agricultural implements. Six families reported use of fertilizers. They have no knowledge of improved agricultural implements.

(v) On an average each family possessed six bullocks and five cows and ~~2~~ buffaloes.

(vi) Four persons have reported taking of lands loans from the Bank or society, amounting to Rs. 4600/- and at the rate of 12 % as interest.

(vii) The past annual production was estimated on an average as (55) quintals of paddy, worth Rs. 5500/- and the present annual production was estimated as 6600/- On an average it has been observed that each tribal agriculturist family has reported increase of (10) quintals of paddy worth Rs. 1100/- a year because of Dina Nadi Project.

(viii) Out of (10) families only (2) families have reported as taking two crops, i.e. Kharif and Rabi, in a year. Eight families (80 %) were taking only one crop.

(ix) Out of (90) persons, (20) were literate persons. Out of (20) literate persons, (17) were males and (3) were females. No one passed above VIIIth standard. The female literacy was noticed very low.

(x) Eight families have ~~p~~ reported that they have to work as labourers besides agriculture because the annual agricultural produce was not enough for all the family members for a year and money is required to meet their daily wants.

(xi) All the families have reported improvement of land such as terracing, levelling bunding etc. No body used electric pump or oil engine.

(xii) All the families have reported that they utilised the increased agricultural production for religious and marriage ceremonies.

(xiii) Six families have reported improvement made in their houses as use of tiles for the roof of huts.

(xiv) Thus it has been observed that there is very little impact of Dina Nadi Project on the ten surveyed families of this village.

(3) WAGHDARA

The total population of this village was (350) out of which tribal population was (138), i.e. 39 %. The case study of tribal agriculturists of this village revealed the following facts : -

(i) Total land of ten tribal agriculturists under Irrigation of Dina Nadi Project and cultivation was 26 acres. Thus on an average 2.5 acres of land of each tribal khatedars surveyed, was under Irrigation and cultivation.

(ii) Out of ten tribal families surveyed, nine belonged to the Raj Gond sub-tribe and one belonged to the pardhan tribe.

(iii) All the tribal families were cultivating their land.

(iv) No family used improved seeds for want of money and want of knowledge. Nobody used fertilizers except

cowdung. Nobody used improved agricultural implements. They have reported that they have no knowledge of modern methods of agriculture.

(v) The average number of bullocks per family was three and average number of cows/buffaloes was two, per family.

(vi) Six persons have reported as taking loan from Bank and society, amounting to Rs. 1500/- at the rate of 12 per cent as interest.

(vii) The present annual agricultural production was reported as (16) quintals on an average per family worth Rs. 1900/- The past annual production was reported as (12) quintals of paddy on an average per family worth Rs. 1200/- Thus on an average annual agricultural increase in the yield was Rs. 700/- per family.

(viii) Two persons have reported that they were taking two crops, i.e. kharif and Rabi. 80 % of the surveyed families took one crop of Kharif only.

(ix) ~~21~~ Out of (138) persons only (15) persons have reported as literate, out of which ten were males and five were females. Their percentage of literacy is 10 %, and the percentage of female literacy is very low.

(x) All the families have to work as labourers besides agriculture for want of money.

(xi) All the tribal surveyed agriculturists reported that the nominal increase in production is used by them for marriage and religious ceremonies.

(xii) Seven families have made improvement in land such as bunding, levelling etc. No one reported use of electricity pump or oil engine.

(xiii) Seven families made improvement in the roofs of their houses by using tiles. 30 per cent of them have still grass thatched roofs.

(xiv) Thus it has been noticed that there is very little impact of dina Nadi Project on these surveyed tribal families.

(4) KARKAPALLI

The total population of this village was (715), out of which tribal population was (177), i.e. 25 per cent. The case ~~was~~ study of ten surveyed tribal khatedars revealed the following facts :

(i) Total land of ten tribal khatedars under Dina Nadi Irrigation Project and cultivation was 50 acres. Thus on an average five acres of land of each tribal khatedar surveyed was under irrigation and cultivation.

(ii) All the ten tribal khatedars belonged to the Madia Gond tribe.

(iii) All the families were cultivating their land.

(iv) Four families reported use of improved seeds and three families reported use of fertilizers. Nobody used improved agricultural implements as they have no knowledge of these implements.

(v) The number of bullocks and Cows owned on an average was five each per family.

(vi) Four families have reported loans from the society amounting to Rs. 1960/- with 12 per cent interest.

(vii) The present agricultural annual production per family was reported as (30) quintals worth Rs. 3600/- The past annual agricultural produce was (19) quintals, worth Rs. 1900/-. Thus the annual increased agricultural produce was (12) quintals, worth Rs. 1700/- per family.

(viii) Six families were taking two crops of paddy i.e. kharif and rabi.

(ix) Out of (177) persons only (5) persons i.e. 3 per cent literate female illiteracy was alarming.

(x) Nine families have to work as labourers besides agriculture as the yield was not sufficient for the whole family and money was required to meet their daily needs.

(xi) The increase in production was utilised for marriages and religious ceremonies.

(xii) Seven families reported improvement in land such as levelling and bunding. Nobody reported use of electricity pump or oil ~~gt~~ engine.

(xiii) Six families ~~x~~ improved their roofs of the huts by using tiles and four families could not make any improvement in their houses.

(xiv) Thus it has been noticed that there is very little impact of Dina Nadi Project on these surveyed families.

(5)

SONAPUR

The total population of these village was (794), out of which tribal population was (167), i.e. 21 per cent. The case study of the surveyed ten tribal khatedars of this village revealed the following facts;

(i) Total land of eleven tribal khatedars was 28 acres under the irrigation project and cultivation. Thus on an average 2.5 acres of land of each tribal khatedar surveyed was under irrigation and cultivation.

(ii) Out of (11) tribal khatedars surveyed, seven belonged to the Pardhan tribe and four belonged to the Gond tribe.

(iii) All the eleven families have reported that they cultivated their land.

(iv) No tribal agriculturist used improved seeds, fertilizers and improved agricultural implements. They have no knowledge of improved methods of agriculture.

(v) On an average each tribal khatedar owned two bullocks and one cow.

(vi) Three tribal khatedars have reported that they have taken loan from Bank amounting to Rs. 630/- and on an interest of 12 per-cent.

(vii) The past annual agricultural production has been reported as six quintals of paddy worth Rs. 600/- and the present annual agricultural production was twelve quintals worth Rs. 1400/-. Thus on an average the increase in production has been reported as six quintals of paddy worth Rs. 800/-.

(viii) Three families have reported two crops kharif and Rabi in a year and the remaining (8) agriculturists take only one crop in a year.

(ix) Out of (167) tribal persons (10) persons are literate, i.e. the percentage of literacy was six. The female literacy percentage is very low.

(x) Ten tribal khatedars have to work as agricultural labourers because the agricultural yield is not sufficient and the money is required to meet the needs of the family.

(xi) The increase in agricultural produce is spent on marriages and other religious ceremonies.

(xii) Five ~~feli~~ families have made improvement in the roofs of their huts by using tiles.

(xiii) Nine families have made improvement in land such as levelling and bunding. Nobody used electric pump or oil engine.

(xiv) Thus it has been noticed that there is very little impact of this project on these surveyed families.

(6) HALADWAHI

The population of this village was (514) out of which (184) i.e. 36 per cent belonged to the Scheduled Tribes. The case studies of eleven Madia Gond cultivators reveal the following facts : -

(i) The total land of (11) tribal khatedars under Irrigation and cultivation was (50) acres, i.e. 4.5 acres per khatedar.

(ii) All the tribal khatedars belonged to the Madia Gond tribe.

(iii) All of them reported that they cultivate their land.

(iv) Only one agriculturist (10 %) reported use of improved seeds worth Rs. 400/-. Three families (30 %) reported use of fertilizers and nobody reported use of improved agricultural implements.

(v) On an average each tribal khatedar owned three bullocks and two cows.

(vi) Four tribal khatedars reported loans from bank worth Rs. 800/- on an interest of 12 per cent.

(vii) The past annual agricultural production per tribal khatedar was (16) quintals worth Rs. 1600/- and the present annual production per tribal khatedar was (23) quintals worth Rs. 2760/- Thus on an average there is an average there is an increase of Rs. 1160/- per family per year.

(viii) Six families were taking two crops i.e. Kharif and Rabi of paddy.

(ix) Out of (184) tribal persons (10) persons were literate, i.e. the percentage of literacy was five.

(x) Eight tribal khatedars were working as labourers besides agriculture.

(xi) The increase in yield was used for marriage and other religious ceremonies.

(xii) Only three families have improved the roofs of their huts by using tiles.

(xiii) Two tribal khatedars made improvement in land. Nobody used electric pump or oil engine.

(xiv) Thus it is observed that there was no visible impact on these surveyed families due to the Irrigation Project.

(8)

REKHEGAON

The population of this village was (543) out of which tribal population was (180), i.e. 24 per cent.

The case ~~sat~~ study of ten tribal khatedars of this village revealed the following facts :

- (i) The total land of ten tribal khatedars surveyed under Irrigation and cultivation was 25 acres, i.e. 2.5 acres each tribal khatedar.
- (ii) Out of these ten tribal khatedars nine belonged to the Madia Gond tribe and one belonged to the Raj Gond Sub-tribe.
- (iii) All the ten families were cultivating their land.
- (iv) Four families used improved seeds and seven families used fertilizers. Nobody used improved agricultural implements.
- (v) On an average each tribal khatedars had three bullocks and two cows.
- (vi) Four families had taken loan amounting to Rs. 1560/- at the interest of 12 per cent from the Bank of the society.
- (vii) The past annual agricultural production per tribal khatedar was (19) quintals worth Rs. 1900/- and the present annual agricultural yield was (25) quintals worth Rs. 3000/- The average increase per tribal khatedar was Rs. 1100/- per year.
- (viii) Eight families were taking two crops of paddy, i.e. kharif and rabi.
- (ix) Out of (180) tribal persons, (22) persons were literate. The percentage of literacy was 12 in this village.
- (x) Nine families have to work as labourers as the yield was not enough for them.

(xi) The increase in production was utilised for marriage and other ceremonies.

(xii) Four tribal khatedars have used tiles for their roof and thus made some improvement in their huts.

(xiii) Seven families made improvement in land such as levelling and bunding. Nobody reported use of electric pumps or oil engine.

(xiv) Thus it has been observed that there was very little impact of Dina Nadi Project on these surveyed families.

(8) NAGPUR HETTI

The total population of this villave was (168), out of which tribal population was (110) i.e. 65%. The case study of seven tribal khatedars of this villave revealed the following facts :

(i) The total land under Irrigation and cultivation was (28) acres of the surveyed seven tribal khatedars. Thus on an average the land under Irrigation and Cultivation per family was ~~is~~ four acres.

**
(iii) All the seven families reported that they cultivate their land.

(ix) Only one family each used improved seeds and fertilizers respectively. Nobody used improved agricultural implements as they have no knowledge of modern agricultural practices.

(v) On an average each tribal khatedar owned three bullocks and two cows/buffaloes.

(vi) No person has taken loan either from the Bank or the society.

** (ii) Out of (7) tribal khatedars surveyed, (4) belonged to the Pardhan Tribe and (3) belonged to the Gond Tribe.

(vii) The past annual agricultural production per family has been reported as six quintals of paddy worth Rs. 600/- and the present annual agricultural yield was (12) quintals of paddy, worth Rs. 1440/-. Thus there was an annual increase of Rs. 840/- per family.

(viii) Only two families were taking two crops of kharif and rabi.

(ix) Out of (110) tribal persons, (6) persons were literate. Thus the percentage of literacy was five.

(x) All the families worked as labourers as the yield was not enough for all the members of the family.

(xi) The increased agricultural produce was used for the marriage and other religious ceremonies.

(xii) Six families improved the roof of their houses by using tiles.

(xiii) Two families made improvement in land such as levelling and bunding. Nobody used electric pump or oil engine.

(xiv) Thus it has been observed that there was little impact on the surveyed tribal khatedars of this village

(9) KURUL

The population of this village was (3660), out of which tribal population was (140) i.e. ^{4%}~~40%~~. The case study of 11 tribal khatedars of this village revealed the following facts : -

(i) The total land under the benefitted zone of Dina Nadi Project and cultivation of these khatedars was 27 acres. Thus on an average the land under Irrigation and cultivation of each surveyed tribal khatedar was 2.5 acres.

(ii) All the tribal agriculturists were cultivating their land.

(iii) Six families used the improved seeds and seven families used fertilizers. Nobody used improved agricultural implements.

(iv) On an average each tribal khatedar had one bullock and one cow.

(v) Seven families reported taking of loans from the Bank and the society, amounting to Rs. 9352/- at 12 per cent interest.

(vi) The past annual agricultural production of each tribal khatedar was (10) quintals worth Rs. 1000/- and the present annual agricultural yield was (12) quintals of paddy, worth Rs. 1440/- Thus on an average the increase of yield was Rs. 440/- per family per year.

(vii) Two families reported two crops of paddy, i.e. kharif and rabi and the remaining families were taking only one crop.

(viii) Out of (140) tribal persons, (15) persons were literate. Thus the percentage of literacy was (12).

(ix) All the families have to work as labourers as the yield was not enough for them.

(x) The increased amount was used on marriage and other religious ceremonies.

(xi) Out of (11) tribal khatedars, (9) belonged to Pardhi tribe and (2) to the Gond tribe.

(xii) Five tribal khatedars improved the roofs of their huts by using tiles.

(xiii) Three families made improvement in land such as levelling and bunding.

(xiv) Thus it has been observed that the impact of Dina Nadi Medium Irrigation Project was not visible in the surveyed tribal khatedar.

(10)

AMGAON

The total population of this village was (1239) out of which tribal population was (56), i.e. 4 per cent. The case study of (10) tribal khatedars revealed the following facts :

(i) The total land of ten tribal khatedars surveyed was (25) acres under Irrigation and cultivation. Thus on an average the land under irrigation and cultivation of each khatedar surveyed was 2.5 acres.

(ii) Out of ten tribal khatedars, four belonged to the Madia Gond tribe, three belonged to the Pardhan tribes and three belonged to the Gond tribe.

(iii) Nine families cultivated their land. One tribal khatedar has given his land on lease to the non-tribal as he has no agricultural implements. Bullocks and necessary money for cultivation of his land.

(iv) Four families reported use of improved seeds and six families were using fertilisers. No family used improved agricultural implements.

(v) On an average each tribal khatedar has two bullocks and one cow. Three tribal khatedars reported that they have no bullock for cultivation. They hire the bullocks of non-tribal persons on daily contract basis.

(vi) Three families have taken loan from Bank or society amounting to Rs. 2502/- on 12 per cent interest.

(vii) The past annual agricultural production per tribal khatedar was (8) quintals, worth Rs. 800/- and the presents annual agricultural yield per family was 12.5 quintals of paddy worth Rs. 1500/-. Thus on an average the annual increase in yield was Rs. 700/- per family.

(viii) Six families were taking two crops of paddy, i.e. kharif and rabi.

(ix) Out of (56) tribal persons, (10) persons were literate; the percentage of tribal literacy was 18 in this village.

(x) All the families were working as labourers because the annual agricultural yield was not enough for them.

(xi) The increase in yield was utilised for marriage and other religious ceremonies.

(xii) Two tribal khatedars have made improvement in their roof of the houses by using tiles.

(xiii) Three families have reported improvement in land such as levelling and bunding. Nobody used electric pump or oil engine.

(xiv) Thus it has been observed that the impact of Dina Nadi Project on these surveyed tribal khatedars was negligible.

Table No. (5)

Statement showing the consolidated information of the ten villages surveyed in the benefitted zone of the Dina Nadi Project

Sr. No.	Name of the village	Name of the tribe (no. of khatedars)		Average land under irrigation & cultivation	Land cultivated By	Use of improved agricultural practices (No. of families)	Seeds Fertiliser Insecticides				
		Madia Gond	Pardhan Pardi								
1	2	3	4	5	6	7	8	9	10	11	12
1.	Darpanguda	10	-	-	3 acres	10	0	0	0	0	0
2.	Bhadbhidi	8	1	1	8 acres	8	2	6	0	0	0
3.	Waghara	0	9	1	2.5 acres	10	0	0	0	0	0
4.	Karkapalli	10	0	0	5 acres	10	0	4	3	0	0
5.	Sonapur	0	4	7	2.5 acres	11	0	0	0	0	0
6.	Haladwahi	11	0	0	4.5 acres	11	0	1	3	0	0
7.	Rekhegaon	9	1	0	2.5 acres	10	0	4	7	0	0
8.	Nagpur Hetti	0	3	4	4 acres	7	0	1	1	0	0
9.	Kurul	0	2	0	2.5 acres	11	0	6	7	0	0
10.	Amgaon	4	0	0	2.5 acres	9	1	4	6	0	0
Total		52	23	16	37 acres	97	3	22	33	0	0

Bull- ocks	Milch cattle	Average no. of bullocks and milch cattle owned by each family		Loan taken		Average increase in production per family		Crops taken no. of families		Level of education		Improvements no. of families		
		14	15	16	17	18	19	20	21	22	23	24	25	26
4	2	500	12%	1300/-	2500/-	1200/-	10	-	2	124	126	0	3	
6	5	1150	"	5500/-	6600/-	1100/-	8	2	20	70	90	10	6	
3	2	250	"	1200/-	1900/-	700/-	8	2	15	123	138	7	7	
5	5	490	"	1900/-	3600/-	1700/-	4	6	5	172	177	7	6	
2	1	210	"	600/-	1400/-	800/-	8	3	10	157	167	9	5	
3	2	200	"	1600/-	2760/-	1160/-	5	6	10	174	184	2	3	
3	2	390	"	1900/-	300/-	1100/-	2	8	22	158	180	7	5	
3	2	0	0	600/-	1440/-	840/-	5	2	6	104	110	2	6	
1	1	1336	0	100/-	1440/-	440/-	9	2	15	125	140	3	5	
2	1	834	0	800/-	1500/-	700/-	4	6	10	46	56	3	2	
32	23	5360	--	16400/-	26140/-	9740/-	63	37	115	1253	1398	50	48	

The above table reveals the following facts :

1. Out of (100) surveyed tribal khatedars of the ten villages, under the benefitted zone of the Dina Nadi Project, (52) belonged to the Madia Gond Tribe, (23) belonged to the Gond tribe, (16) belonged to the Pardhan tribe and (9) belonged to the Pardhi tribe.

2. The average land of each tribal khatedar of the ten villages was 3.7 acres (1.48 hectares) under Irrigation and cultivation.

3. Out of (100) tribal khatedars only 3 (3 %) khatedars have given their land on annual lease for cultivation to the non-tribal people. 97 % of the surveyed tribal khatedars cultivate their own land.

4. Out of (100) tribal surveyed khatedars 22 % used improved seeds and 33 % used fertilizers. No family used modern agricultural implements. Thus it has been observed that though there is irrigation facility. Yet majority of the tribal khatedars still practice agriculture by old methods and thus could not get better results in the yield of paddy crop. Majority of them have no knowledge of improved agricultural practices.

5. The average number of bullocks per tribal khatedar was (3) and the average number of cows/buffaloes was (2). Thus it has been noticed that the tribal agriculturists, have no enough bullocks for cultivation of their land. Majority of them had to hire bullocks on daily basis from the local landlords and pay them in cash or kind in return of the hired bullocks. The number of milch cattle is also very poor.

6. The annual average increase in the agricultural produce was to the tune of Rs. 974/- which they utilised on marriages and other religious ceremonies. This increase was not enough for them to meet their daily needs of the year. As a result of it most of them have to work as labourers in the field, forest or elsewhere to meet the expenses of their families. The agriculture did not meet their needs, though it was wet/cultivation. They have to take loans from the Sahukars, societies and banks for the needs of the family as well as of agriculture. The sahukars and traders also exploited them. The practice of "Palenodi" was also noticed during the survey. Under this system the advanced paddy crop was pre-sold at lower price to the sahukars and traders. It was noticed that the tribal people of this area, especially, the Madia Gonds are addicted to drinking and take active part in cock fighting. It was informed during the survey that there are fixed places and fixed days in the Chamorshi tahsil for cock fighting. The tribals take active part in this illegal game. Excess drinking and cock fighting were also said to be causes of the poor conditions of the surveyed tribal people.

7. 37 per cent of them take two crops of paddy in a year and 63 per cent of them take only one crop due to poor economic conditions and non-availability of agricultural inputs.

8. The percentage of literacy of the male is very poor. The female percentage of literacy is alarming.

9. Most of them live in huts. (48) per cent of them have tiled roofs.

10. Fifty per-cent of them have made improvements in land such as levelling and bunding.

The study of (100) tribal khatedars of ten villages of the benefitted zone has revealed that the social, educational and economic ~~xxxxi~~ conditions of the tribal khatedars surveyed have not been improved due to the Dina Nadi Project. There is no visible impact of this Project over the tribal khatedars of the area.

Special efforts are therefore necessary to wean away the tribal khatedars to bring all the land under the Project. It is also necessary to give the tribal khatedars of this area a package programme of agricultural development such as supply of seeds, manure, improved agricultural implements etc. So that they can take the maximum use of Irrigation facilities, created under the Dina Nadi Project. Unless this is done, there is little hope of spectacular increase of Irrigated area under the Command of the Dina Nadi Project and socio-economic development of the tribal people residing in Chanorshi Tahsil of Chandrapur district.

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SUMMARY OF FINDINGS

1. It has been observed that out of (58) villages under the command area of the Dina Nadi Irrigation Project, (7) villages fall in Tribal Sub Plan Area and the percentage of tribal population to total population in these (7) villages is (20).
2. It has also been seen that out of (58) villages, (15) villages fall in Additional Tribal Sub Plan Area and the percentage of tribal population in these (15) villages is (22).
3. Thus there are (22) villages in TSP/ATSP area and their total percentage of tribal population is (21).
4. (36) villages are outside TSP/ATSP area and their percentage of tribal population to total population is (7).
5. The percentage of tribal population to the total population of (58) villages is only (11).
6. Thus, (11 %) of the tribal population in (58) villages, may likely to get benefits of the Dina Nadi Medium Irrigation Project, provided the tribal people possess the land of their own and that too under culturable command area of the Project. On the basis of population it is very clear that the benefits of the Dina Nadi Medium Irrigation Project is likely to accrue to less than (11 %) tribal population because there are about (40) per cent landless tribal families.

7. The total area to be irrigated is (11,356) hectares under the Project. In the year 1980-81, (4604) hectares of land (40 %) actually derived the benefits from the Project and (60 %) of the land was not brought under Irrigation.

8. It is observed that out of (2483) total families in Tribal Sub Plan / Additional Tribal Sub Plan Area, under the command of the Dina Nadi Project, there are only 589 i.e. 14 % tribal families, of which (365) tribal families, i.e. 60 % possessed lands and 224 i.e. 40 % tribal families did not possess land.

9. Out of (3729) Hectares of total land in Tribal Sub Plan/Additional Tribal Sub Plan Area (1006) hectares of land i.e. (27 %) belonged to the Scheduled Tribes and (2776) hectares i.e. (73 %) of the land belonged to the non-tribal people. The average land with the scheduled tribe khatedar in Tribal Sub Plan/Additional Tribal Sub Plan area comes 2.7 hectares.

10. It has been seen that only (40 %) of the land under Culturable Command Area was deriving the benefit of the Dina Nadi Project. Taking this fact into account it can be presumed that out of (1006) hectares of tribal land only (402) hectares of land may get the benefit of the project in Tribal Sub Plan/Additional Tribal Sub Plan Area. Thus, out of (3769) hectares of total land (402) hectares, i.e. (10 %) of the tribal land may get the benefit of the Dina Nadi in Tribal Sub Plan/Additional Sub Plan area.

11. In (58) villages, out of (11,356) hectares of Culturable Command Area, the area benefitted was (4604) hectares i.e. (40 %). Out of (4604) hectares, (498) hectares of land i.e. (10%) may be of tribal khatedars. Thus, it can be said that out of (11,356) hectares only (1243) hectares of tribal land (10%) may get the benefit of the Dina Nadi Project.

12. The impact of the Dina Nadi Project on the socio-economic and agricultural development of the tribal people of this area is found negligible.