

CHAPTER THREE  
PROBLEMS IN ISOLATED VILLAGES

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### PROBLEMS IN ISOLATED VILLAGES

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## CHAPTER THREE

### PROBLEMS IN ISOLATED VILLAGES

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#### (i) ECONOMIC AND SOCIAL FABRICS:

##### Introduction:

The mighty Warna river is gradually being tamed up with the coming up of the Warna Irrigation Project. The construction of this large earthen dam in Maharashtra was started in 1976 and the storage of water started step by step since June 1986. The people who lived on the banks of the river for centuries were uprooted obviously before June 1986. The resettlement of the directly submerging 27 villages was completed in 1986 in the benefit area. The 18 villages (4,752 total population) of Sangli district and 9 villages (total population 2,274)<sup>1</sup> of Kolhapur district are resettled in downstream command area of Warna Irrigation Project. But the villages situated away from the submerging area even though most of them have lost their fertile land under the reservoir of Vasant Sagar, have escaped from submergence their Gaothans because they are situated slightly away from the reservoir, as on the top of the hills, along the slopes and spurs of the villages. These villages are totally neglected and ignored in the process of resettlement even though they are project-affected villages.

The villages remaining in the catchment area of Warna Dam have become isolated from the rest of the world, socially, economically, politically, due to the huge 'Vasant Sagar' on the one hand, while rugged terrain and dense forest on the other. They have become islanders since June 1986 as the Vasant Sagar reservoir started intake of water step by step. Those who are uprooted are at least being settle in the down-stream command area of the Warna Dam. But those who are partially uprooted have lost the rhythm of their life. They are uncovered in the process of rehabilitation and, thus, have become the forgotten victims of the development.

The villages have lost their traditional market places, link roads, schools, Primary Health Centres and even they have lost social links (relatives, friends etc.), political organizations, religious places (temples and gods). We identified 25 villages so isolated in the catchment area of Warna dam. The statistical profile of the villages in the catchment area of Warna Dam has been shown in Table No. 3.

(ii) Locational Characteristics:

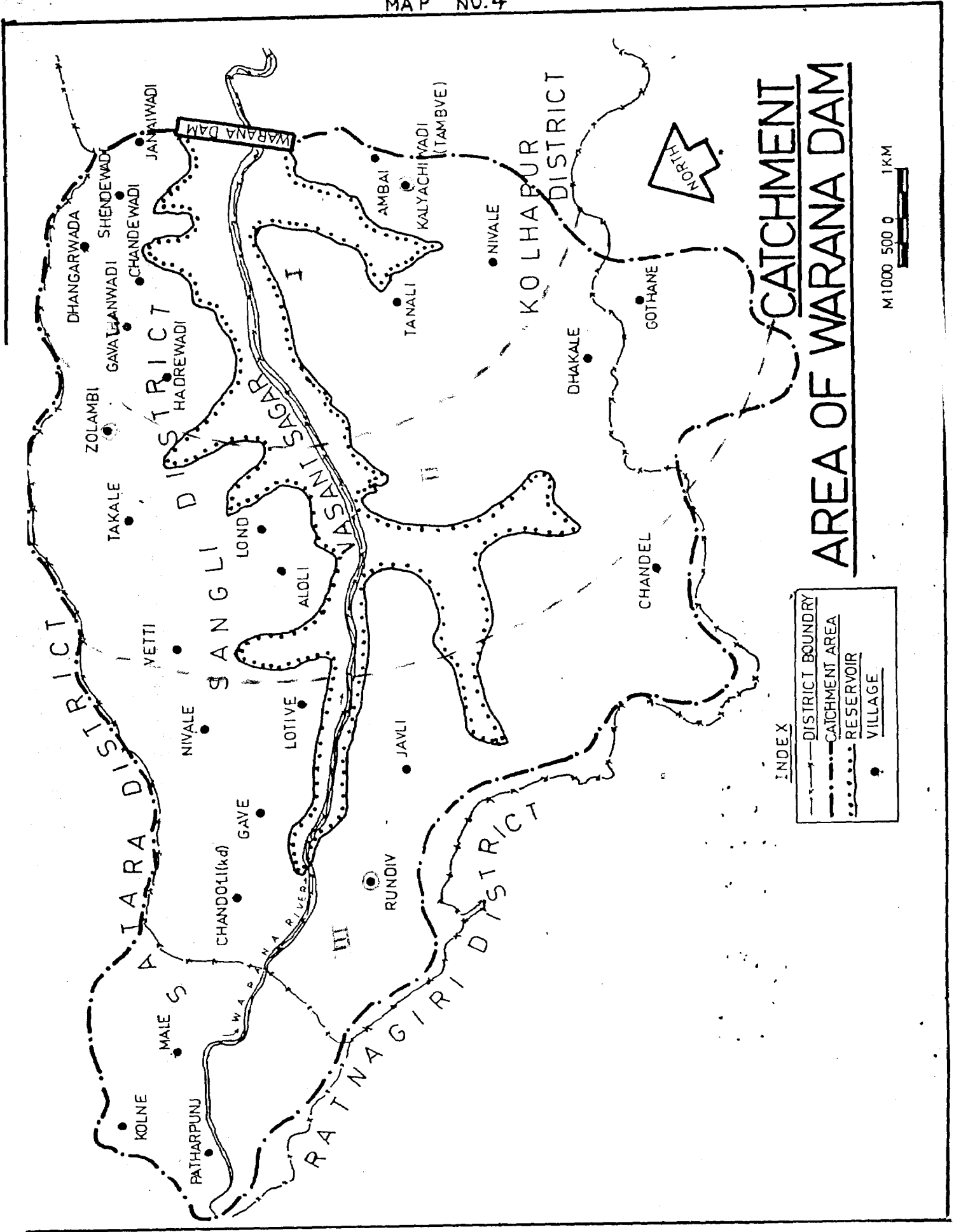
Out of 25 villages in the catchment area of Warna dam, Gothane (Ratnagiri district), Patharpunj, Kolne and Male (Satara) are the four villages having different situation administratively and politically.

Also these villages are far away from the river bed and dam-site. Also their traditional economic links are quite different from those of the other 21 villages located in the Sangli (14) and Kolhapur (7) districts. Taking into account these factors we have focussed our attention on 20 villages - 14 of Sangli and 7 of Kolhapur - for the present study, which are actually socially, politically, economically in connection with the Warna basin.

(iii) Site and Situation:

Most of the villages in the catchment area of Warna dam are directly as well as indirectly Warna Irrigation Project-affected villages. The seven villages of Sangli district (Jawali, Rundiv, Gave, Chandoli (Khurd), Solambi, Takale, Lotiv and two villages of Kolhapur district, namely Tandali and Durgewadi, have been affected due to land submerging under Vasant Sagar. Most of these villages are located at the altitude ranging from 810 mtrs to 970 mtrs above MSL on the top of the hills, along the spurs of the villages. The villages are located just 5 to 10 Kms away from the Warna river bed except Dhakale (15 Kms), Chandel (15 Kms) and Gothane (20 Kms) away from the river bed.

The distance between the villages and the dam has been shown in Map No. 4 with the help of circles



# CATCHMENT AREA OF WARANA DAM

INDEX

- DISTRICT BOUNDARY
- CATCHMENT AREA
- RESERVOIR
- VILLAGE

M 1000 500 0 1KM



but the actual ground (walking road) distance from dam to every village is shown in Table No. 3.

TABLE-3

Geographical setting of the villages located in catchment area of Warna Dam

Sr. No.	Name of the village	District	Altitude (Mtrs.)	Distance from river bed (Km)	Distance from dam site (Km)	Total Geog. Area		Total Population in 1991	
						Hect.	%	Popu.	%
1	2	3	4	5	6	7	8	9	10
1	Khundalapur (Shendewadi) ,, (Dhangarwada)	Sangli ,,	758 850	5 5	5 10	684	2.8	136 287	2.3 5.0
2	Chandoli (Bk) Janaiwadi	,,	830	4	5	384	1.6	51	0.9
3	Nandoli (Gavlanwadi) ,, (Hadrewadi) ,, (Chendgewadi)	,, ,, ,,	835 750 830	6 5 5	12 10 12	987	4.0	151 105 55	3.3 1.8 1.0
4	Aloli	,,	955	4	35	324	1.3	21	0.4
5	Lond (Pethlond)	,,	910	5	30	947	3.8	175	3.0
6	Gave	,,	920	3	35	548	2.2	75	1.3
7	Rundiv	,,	950	4	50	1,812	7.4	139	2.4
8	Chandoli (Kd.)	,,	905	0	45	1,161	4.7	85	1.5
9	Jawali	,,	940	4	55	609	2.5	156	2.7
10	Lotiv	,,	900	3	35	647	2.6	186	3.2
11	Vetti	,,	940	5	31	898	3.6	155	2.7
12	Nivale	,,	970	6	36	945	3.8	156	2.7

contd.



TABLE-3 contd.

1	2	3	4	5	6	7	8	9	10
13	Takale	Sangli	910	6	25	899	3.7	301	5.2
14	Zolambi	"	930	6	20	1,800	7.3	275	4.7
15	Dhakale	Kolhapur	915	15	20	1,505	6.2	435	7.5
16	Tanali	"	925	6	20	820	3.3	254	4.4
17	Chandel	"	810	15	35	2,322	9.4	323	5.5
18	Sonarli(Dhangarwada)	"	850	10	20	996	4.0	233	4.0
19	Kulyachiwadi(Tambve)	"	830	5	7	694	2.8	206	3.5
20	Nivale	"	850	10	15	1,410	5.7	395	6.8
21	Amboli	"	833	5	5	282	1.1	170	2.9
22	Gothane	Ratnagiri	910	20	25	856	3.5	535	9.2
23	Patharpunj	Satara	930	0	55	963	3.9	215	3.7
24	Kolne	"	970	5	55	474	1.9	175	3.0
25	Mala	"	895	0	50	1,690	6.9	321	5.5
	<u>TOTAL:</u>	-	-	-	-	<u>24,657</u>	<u>100</u>	<u>5,811</u>	<u>100</u>

Source: Tahsildar office, Shirala, Shahuwadi.

(iv) Geographical Area:<sup>1</sup>

The area covered by the villages in the catchment area of Warna dam ranges from 282 hectares of Ambaiwadi to 2,322 hectares of Chandel. A majority of the villages (13) have the geographical area between 500 and 1,000 hectares. Only 7 villages have area above 1,000 hectares. The following table gives us the classification of the villages according to their total geographical area.

TABLE-4

Areawise classification of the villages in  
catchment area of Warna dam

Sr. No.	Total area of the village in hect.	No. of villages	Name of the village	Total area in hectares	%
1	Upto 500	4	Amboli, Aloli, Chandoli(Bk) Kolne	1,464	6.0
2	501 to 1000	14	Gave, Jawali, Lotiv, Khundalapur, Kulyachiwadi, Tanali, Vetti, Takale, Lond, Nivale (San.) Nandoli (Wadi), Gothane, Patharpunj, Sonarli	11,493	
3	1001-1500	2	Chandoli(Kd), Nivale (Kol.)	2,571	10.0
4	Above 1,501	5	Dhakale, Zolambi, Rundiv, Chandel, Mala	9,129	37.0
	<u>TOTAL:</u>	<u>25</u>		<u>24,657</u>	<u>100.0</u>

Source: Compiled by the author

( V ) Population Structure:

The villages situated in the catchment area of Warna dam have various population sizes. Among the 24 villages the population size ranges from 21 (Aloli village) and 535 (Gothane village). The following table gives us the classification of villages according to their population sizes. The population analysis based on as existed in the year 1991 is shown in Table-5.

TABLE-5 Part-I

## Villagewise occupational structure in catchment area of Warna dam

M = Male, F = Female, T = Total

Village No.	Agri. cultivators			Agri. labourers			Dam/Forest workers			Household Industry			Marginal workers		
	M	F	T %	M	F	T %	M	F	T %	M	F	T %	M	F	T %
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	68	9	77 69.4	-	-	-	10	1	11 9.9	-	-	-	2	10	12 10.8
2	5	7	12 63.2	-	-	-	5	2	7	-	-	-	-	-	-
3	76	65	141 89.8	-	-	-	5	1	6	-	-	-	1	9	10 40
4	4	5	9 100	-	-	-	-	-	-	-	-	-	-	-	-
5	35	10	45 63.4	-	-	-	-	-	-	4	-	4 5.6	2	20	22 31.0
6	12	25	37 100	-	-	-	-	-	-	-	-	-	-	-	-
7	30	41	71 87.7	-	-	-	-	-	-	-	-	-	-	6	6 7.4
8	19	24	43 100	-	-	-	-	-	-	-	-	-	-	-	-
9	50	5	55 66.3	-	-	-	-	-	-	-	-	-	1	27	28 33.7



contd.

TABLE-5 - Part-I contd.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
10	40	29	69 92.0	2	2	4 5.3	-	-	-	-	-	-	-	-	-
11	39	21	60 98.4	-	-	-	-	-	-	-	-	-	-	-	-
12	50	21	71 97.3	-	-	-	-	-	-	-	-	-	-	-	-
13	91	15	106 96.4	-	-	-	-	-	-	-	-	-	-	-	-
14	52	31	83 96.5	1	-	1 1.2	-	-	-	-	-	-	-	-	-
15	105	133	238 94.0	-	-	-	-	-	-	-	-	-	-	-	-
16	66	95	161 97.6	-	-	-	-	-	-	-	-	-	-	-	-
17	105	102	207 100	-	-	-	-	-	-	-	-	-	-	-	-
18	32	49	81 88.0	-	-	-	8	3	11 12.0	-	-	-	-	-	-
19	100	108	208 88.0	-	-	-	-	-	-	-	-	-	-	-	-
20	30	33	63 81.0	-	-	-	10	5	15 19.0	-	-	-	-	-	-

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contd.

TABLE-5 - Part-I contd.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
21	75	62	137 100	-	-	-	-	-	-	-	-	-	-	-	-
22	108	10	118 90.8	-	-	-	-	-	-	12	-	12 9.2	-	-	-
23	45	40	85 72.6	2	-	2 1.7	-	-	-	-	23	23 19.7	-	-	-
24	40	50	90 94.7	-	-	-	-	-	-	-	-	-	-	-	-
25	72	95	167 97.1	-	-	-	-	-	-	-	-	-	-	-	42

TOTA:

1349 1085 2434 5 2 7 38 12 50 16 23 39 6 72 78

PERCENTAGE :

50.0 40.0 90.2 0.2 0.1 0.3 1.4 0.4 1.8 0.6 0.9 1.5 0.2 2.7 2.9

TABLE-5 Part-II

Village	Others			Total Working Population			Non-working Population			Total Population		
	M	F	T %	M	F	T %	M	F	T %	M	F	T %
1	2	3	4	5	6	7	8	9	10	11	12	13
1	10	1	11 9.9	90	21	111 26.2	108	204	312 73.8	198	225	423
2	-	-	-	10	9	19 37.3	13	19	32 62.7	23	28	51
3	-	-	-	82	75	157 44.7	64	130	194 55.3	146	205	351
4	-	-	-	4	5	9 42.9	6	6	12 57.1	10	11	21
5	-	-	-	41	30	71 40.6	43	61	104 59.4	84	91	175
6	-	-	-	12	25	37 49.3	20	18	38 50.7	32	43	75
7	4	-	4 4.9	34	47	81 58.3	32	26	58 41.7	66	73	139
8	-	-	-	19	24	43 50.6	20	22	42 49.4	39	46	85
9	-	-	-	51	32	83 53.2	28	45	73 46.8	79	77	156
10	2	-	2 2.7	44	31	75 40.3	36	75	111 59.7	80	106	186

contd.



TABLE-5 Part-II contd.

1	2	3	4	5	6	7	8	9	10	11	12	13
12	2	-	2	52	21	73 46.8	18	65	83 53.2	70	86	156
13	4	-	4	95	15	110 36.5	36	155	191 63.5	13	170	301
14	2	-	2	55	31	86 31.3	58	131	189 68.7	113	162	275
15	15	-	15	120	133	253 58.0	65	117	182 42.0	185	250	435
16	4	-	4	70	95	165 65.0	39	50	89 35.0	109	145	254
17	-	-	-	105	102	207 64.0	38	78	116 36.0	143	180	323
18	-	-	-	40	52	92 45.0	58	56	114 55.0	98	108	206
19	12	17	29	112	125	237 60.0	69	89	158 40.0	181	214	395
20	-	-	-	40	38	78 46.0	37	55	92 54.0	77	93	170
21	-	-	-	75	62	137 60.0	46	50	96 40.0	121	112	233
22	-	-	-	120	10	130 24.3	105	300	405 75.7	225	310	535

TABLE-5 Part-II contd.

1	2	3	4	5	6	7	8	9	10	11	12	13
23	5	2	7	52	65	117 54.4	53	45	98 45.6	105	110	215
24	5	-	5	45	50	95 54.3	35	45	80 45.7	80	95	175
25	5	-	5	77	95	172 53.6	64	85	149 46.4	141	180	321
TOTAL:	71	20	91	1485	1214	2699	1121	1991	3112	2606	3205	5811
PERCENTAGE:	2.6	0.7	3.3	55.0	45.0	46.0	36.0	64.0	54.0	45.0	55.0	100.0

(Vi) Households to Houses:

The ratio of the households to houses is calculated to know the existing conditions of housing facilities. Out of 24 villages only 14 villages have adequate number of houses to accommodate their households. The remaining villages show inadequacy. We found that in most of the villages the villagers prefer to live in their traditional houses (Wada) separately with a nominal partition known as 'Karvi Kud' made of grass or Karvi, to economise on the expenditure on construction of Pucca houses. Also they could share in the farming work of each other. We observed that the close relatives in the villages live separately under one roof but share their farming work.

(vii) Literacy:

There is a very low level of literacy value in the villages located in the catchment area (Table No. 6). Even the male population has very small percentage of literacy. The remote villages like Rundiv, Jawali, Chandoli (Khurd), Lotire, Vetti, Nivale, Takale, Zolambi, have projected very poor level of literacy. The following table shows the literacy level in the villages of the catchment area of Warna dam.

TABLE-6

Populationwise classification of the villages  
in catchment area of Warna dam

Sr. No.	Population size	No. of villages	Name of the village	Total population	%
1	Upto 100	4	Aloli, Janaiwadi, Chandoli (Kd), Gave	232	4.0
2	101 to 200	8	Lond, Rundiv, Jawali, Lotiv, Vetti, Nivale (San.) Amboli, Kolne	1,312	23.0
3	201 to 300	5	Zolambi, Tanali, Kulyachiwadi, Patharpunj, Sonarli	1,183	20.0
4	301 to 400	5	Nandoli (Cavalanwadi, Hadrewadi, Chendgewadi), Takale, Chandel, Nivale (Kop.), Mala	1,691	29.0
5	401 to 500	2	Khundalapur (Shendewadi, Dhangarwada), Dhakale	858	15.0
6	Above 500	1	Gothane	535	9.0
	<u>TOTAL:</u>	<u>25</u>		<u>5,811</u>	<u>100.0</u>

Source: Population census, 1991

TABLE-7

Classification of villages in the catchment area  
of Warna dam according to literacy

Sr. No.	Literacy Percentage	No. of villages	Name of the village & percentage of literacy	Average percentage of literacy
1	Upto 10	2	Aloli(5.0), Amboli(9.0)	7.0
2	11 to 20	14	Takale(12.0), Chandoli(Kd)(12.0), Sonarli(13.0), Kolne(14.0), Nivale (San.)(14.0), Kundalapur (15.0), Nandoli(15.0), Jawali(15.0), Mala(15.0), Dhakale(16.0), Patharpunj(16.0), Gothane(18.0), Gave(19.0), Rundiv(20.0)	15.0
3	21 to 30	7	Zolambi(21.0), Chandoli(Bk.) (24.0), Tanali(24.0), Nivale (Kol.)(24.0), Lond(26.0), Vetti(26.0), Kulyachiwadi(29.0)	25.0
4	Above 30	2	Litiv(32.0), Chandel(53.0)	43.0

	<u>Total population</u>	<u>Literate population</u>	<u>Percentage</u>
M -	2,606	820	32.0
F -	3,205	351	11.0
<b>Total:</b>	<b>5,811</b>	<b>1,171</b>	<b>20.0</b>

M = Male, F = Female

Source: Population Census 1991

This table indicates that the people living in the catchment area of Warna dam are either totally illiterate or less educated. It is because of the physical ruggedness of the area, dense forest far away from the local towns, lack of communication means. All these factors have badly affected the entire educational system in the catchment area. The remoteness and wildness of the region have further intensified since June 1986 with the coming into being of the Warna dam reservoir. The Zilla Parishad primary schools upto 4th standard closed down in the villages like Rundiv, Jawali, Chandoli (Khurd), Gare, Lotire, Vetti, because of the reservoir barrier. The education system is almost paralysed due to the Vasant Sagar reservoir.s The only Ashram Shala (Z.P.) at Pethlond upto 7th standard which was started 50 years ago, also closed down because of the submergence of the area. Today, only a few villages (Table No.8) have one-teacher conducted primary school upto 4th standard. Since 1986 the villagers are far away from the secondary schools and college level education. Vasant Sagar has become a physical barrier in the process of diffusion of education in the catchment area of the Warna Dam.

TABLE-8

Occupational structure of the catchment area of Warna dam

Sr. No.	Occupation	Male Population	Female Population	Total %
1	Agril. cultivators	1,349 50.0	1,085 42.0	2,434 90.2
2	Agril. labourers	5 0.2	2 0.1	7 0.3
3	Dam/forest workers	38 1.4	12 0.4	50 1.8
4	Household industry	16 0.6	23 0.9	39 1.5
5	Marginal workers (Cattle grazers)	6 0.2	72 2.7	78 2.9
6	Others	71 2.6	20 0.7	91 3.3
7	Total workers	1,485 55.0	1,214 45.0	2,699 46.0
8	No. of workers	1,121 36.0	1,991 64.0	3,112 54.0
	<u>TOTAL:</u>	<u>2,606</u> 45.0	<u>3,202</u> 55.0	<u>5,811</u> 100.0

Source: District Census Handbook, 1991.

(viii) Occupational Structure:

The villages located in the catchment area of Warna dam have given rise to a typical occupational pattern like other hilly regions in the western ghats. In most of the villages more than 90 per cent of the total working population is engaged in agriculture sector. It clearly suggests how agriculture is dominating the economic activities in the catchment area. A majority of the villages depend on agriculture for their survival except a few villagers who have migrated to Bombay to work in textile mills or as Mathadi workers.

The predominance of female workers is observed (Table No. 5) in almost all the villages due to the outmigration of male population to Bombay in search of job and also due to the engagement of some male persons as dam workers. This has, naturally reflected in the higher percentage of female agriculture workers. The female population has to look after the subsistence agriculture activities.

The percentage of agricultural labourers is very low, which is because most of the families are holding some land even though they get poor return from the land. Most of the villagers manage to share the agricultural activities to reduce the labour cost. Therefore, they function mostly as owner-cultivators-cum-agricultural labourers.<sup>2</sup>



The following table gives clear picture of the occupational structure of the whole area. The analysis in Table-9 is based on Table-5, statistical information.

TABLE-9

Population structure (1991) of the villages located in catchment area of Warna dam

Sr. No.	Name of the village	No. of occupied houses	No. of house-holds	Total population	M	F	S	C		S		T		Literate		Total
								M	F	M	F	M	F	M	F	
1	2			5	6	7	8	9	10	11	12	13	14			
1	Khundalapur (Shendewadi Dhangarwada)	60	96	623	198	225	-	-	-	-	52	10	62	84.0	16.0	15.0
2	Chandoli(Bk) (Janaiwadi)	3	12	51	23	28	-	-	-	-	10	2	12	83.0	17.0	24.0
3	Nandoli (Gavlanwadi, Hadrewadi, Chengewadi)	45	95	351	146	205	-	-	-	-	42	10	52	81.0	19.0	15.0
4	Aloli	1	4	21	10	11	-	-	-	-	2	-	2	100.0	-	5.0
5	Lond(Petlond)	33	34	175	84	91	13	18	-	-	12	33	45	27.0	73.0	26.0
6	Gave	18	15	75	32	43	-	-	-	-	2	12	14	14.0	86.0	19.0
7	Rundiv	32	32	139	66	73	-	-	-	-	6	22	28	21.0	79.0	20.0
8	Chandoli(Kd)	23	23	85	39	46	-	-	-	-	4	6	10	40.0	60.0	12.0
9	Jawali	39	39	156	79	77	-	-	-	-	14	10	24	58.0	42.0	15.0

contd.

TABLE 9 contd.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
10	Lotiv	45	45	186	80 43.0	106 57.0	-	-	-	-	35 59.0	24 41.0	59 32.0
11	Vetti	42	42	155	70 45.0	85 55.0	-	-	-	-	32 80.0	8 20.0	40 26.0
12	Nivale(Sangli)	45	45	156	70 45.0	86 55.0	-	-	-	-	15 68.0	7 32.0	22 14.0
13	Takale	65	65	301	131 44.0	170 56.0	21	32	-	-	20 54.0	17 46.0	37 12.0
14	Zolambi	73	73	275	113 41.0	162 59.0	-	-	-	-	32 56.0	25 44.0	57 21.0
15	Dhakale	96	96	435	185 43.0	250 57.0	30	41	-	-	55 77.0	16 23.0	71 16.0
16	Tanali	80	105	254	109 43.0	145 57.0	-	-	-	-	45 75.0	15 25.0	60 24.0
17	Chandel	92	110	323	143 44.0	180 56.0	-	-	-	-	130 76.0	41 24.0	171 53.0
18	Kulyachiwadi (Tambve)	45	60	206	98 47.0	108 53.0	-	-	-	-	50 83.0	10 17.0	60 29.0
19	Nivale (Kolhapur)	95	95	395	181 46.0	214 54.0	-	-	-	-	81 84.0	15 16.0	96 24.0
20	Amboli	15	20	170	77 45.0	93 55.0	-	-	-	-	10 67.0	5 33.0	15 9.0

contd.

TABLE 9 contd.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
21	Sonarli (Dhangarwada)	70	90	233	121 52.0	112 48.0	-	-	-	-	20 65.0	11 35.0	31 13.0
22	Gothane	80	110	535	225 42.0	310 58.0	-	-	-	-	70 74.0	25 26.0	95 18.0
23	Patharpunj	45	45	215	105 49.0	110 51.0	-	-	-	-	25 71.0	10 29.0	35 16.0
24	Kolne	35	35	175	80 46.0	95 54.0	-	-	-	-	20 80.0	5 20.0	25 14.0
25	Male	61	65	321	141 44.0	180 56.0	-	-	-	-	36 75.0	12 25.0	48 15.0
	<u>TOTAL:</u>	1238	1451	5811	2606	3205	64	91	-	-	820	351	1171
	<u>PERCENTAGE:</u>				45.0	55.0	3.0				70.0	30.0	20.0

Source: Tahasildar office, Shirala, Shahuwadi.

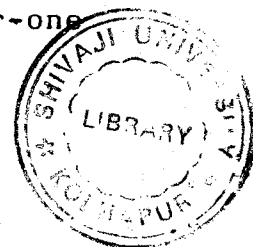
(ix) Social Amenities:

Water Supply:

The villages in the catchment area of Warna dam are situated away from the Warna river bank mostly on the top of the hills, along the spurs of the valleys at an altitude ranging from 800 mtrs to 1,000 mtrs above MSL. Also they are located away from the submerging line of reservoir Vasant Sagar. That is why almost all villages depend on either the stream, well or spring (Paat) for supply of water for drinking, irrigation and other domestic purposes. They can see the pleasant distant view of the mighty 'Vasant Sagar' from their own door step but they cannot get this large storage of water for their domestic use, irrigation etc.

Education:

Out of 25 villages 16 villages have Zilla Parishad Primary schools upto 4th standard. A majority of the villages have one-classroom-one-teacher schools. Only Zolambi, Takale (Sangli district) have one-room-two-teacher schools. the remaining eight villages have no educational facility even within a radius of 5 Kms from their villages, such as Rundiv, Javli, Chandoli(Kd.), Gave, Lond, Nivale, Vetti (7 villages). Before submergence (June 1986) they had at least one-teacher-one



class-room schools, but since then these schools are closed down by the Zilla Parishad. These villages located in the catchment area were dependent on the Zilla Parishad Ashram Shala (Z.P. Residential Schools) located at Pethlond before submergence (1986), which was closed down due to the resettlement of Pethlond itself on its submergence.

Post Office:

For the Post Office facility almost all villages have to depend on Warnavati (Mandur) Post Office. The Post Office has provided runners once in a week for the villages located on the right bank and left bank of the Vasant Sagar reservoir upto Takale on left bank and Nivale on right bank. The remaining villages, namely, Rundiv, Jawali, Chandoli (Kd.), Nivale, Gave, Lotiv, Vetti, Lond on left bank and Chandel, Dhakale on right bank cannot enjoy even this restricted facility.

Transportation:

A majority of the villages are linked with Kachha road which is motorable upto Nivale on the right bank during summer season only. On the left bank a road exists upto Zolambi on which Jeeps can ply barring rainy season. Other 75 per cent of the villages have no means of transportation and communication with the rest of the world, except foot-paths. No ferry boat

service is available for the villagers in the catchment area. The nearest bus-stop available for the villagers is miles away at Warnavati (Chandoli Budruk, Malkapur, Jinti (Patan taluka), Nayari (Sangameshwar taluka) according to their convenience (It has been discussed in details in Chapter Five). These villagers have to walk at least 3 hours to 12 hours to reach their nearest bus service.

No electrical power supply has reached in any village in the catchment area except Dhangarwada (Khundalapur) on left bank and Nivale on the right bank of the reservoir.

Market:

Most of these villages located in the catchment area of Warna dam were directly dependent on Pethlond for their marketing functions before 1986 as it was the prime market place in the upper Warna basin before its displacement due to submergence. The villages surrounding Pethlond depended on Pethlond market for their daily Kirana goods and also sale of their poultry, dairy products and collected material from forest (honey, gum, firewood, mango, Jambhool, Karvand, herbal medicines etc.). Today the villagers have to depend on the distant market places such as Mandur, Arale (Sangli district), Jinti, Dhebewadi, Morgiri (Patan taluka), Malkapur

(Shahuwadi taluka), Nayari (Sangameshwar taluka).

No medical facility is available in any village in the catchment area. For medical treatment the villagers either depend on their traditional herbal medicines or they have to walk miles through at least 3 to 12 hours to reach Warnavati cottage hospital.

(X) Economic and Social Fabrics:

Economic and Isolated Villates:

The rural life in catchment area of Warna Dam is primarily based on economically under-developed agriculture. The occupational structure itself suggests that (Table-5) in the entire catchment area more than 95 per cent of the total working population has been engaged in agriculture. However, their land-holdings are marginal. It is also clear that of the total geographical area, only 2,661 hectares, i.e., 10 per cent of the land is cultivated, of which only 92 hectares of land, i.e., 3.5 per cent is irrigated by means of natural Paats (canals). The entire population living in the catchment area has to depend on this acute source of their livelihood.

The land is not suitable for cultivation because of the rugged hilly terrain. Though on the top of the spurs, along the gentle slopes of the interlocking spurs, at the bottom of the valley, on the banks of



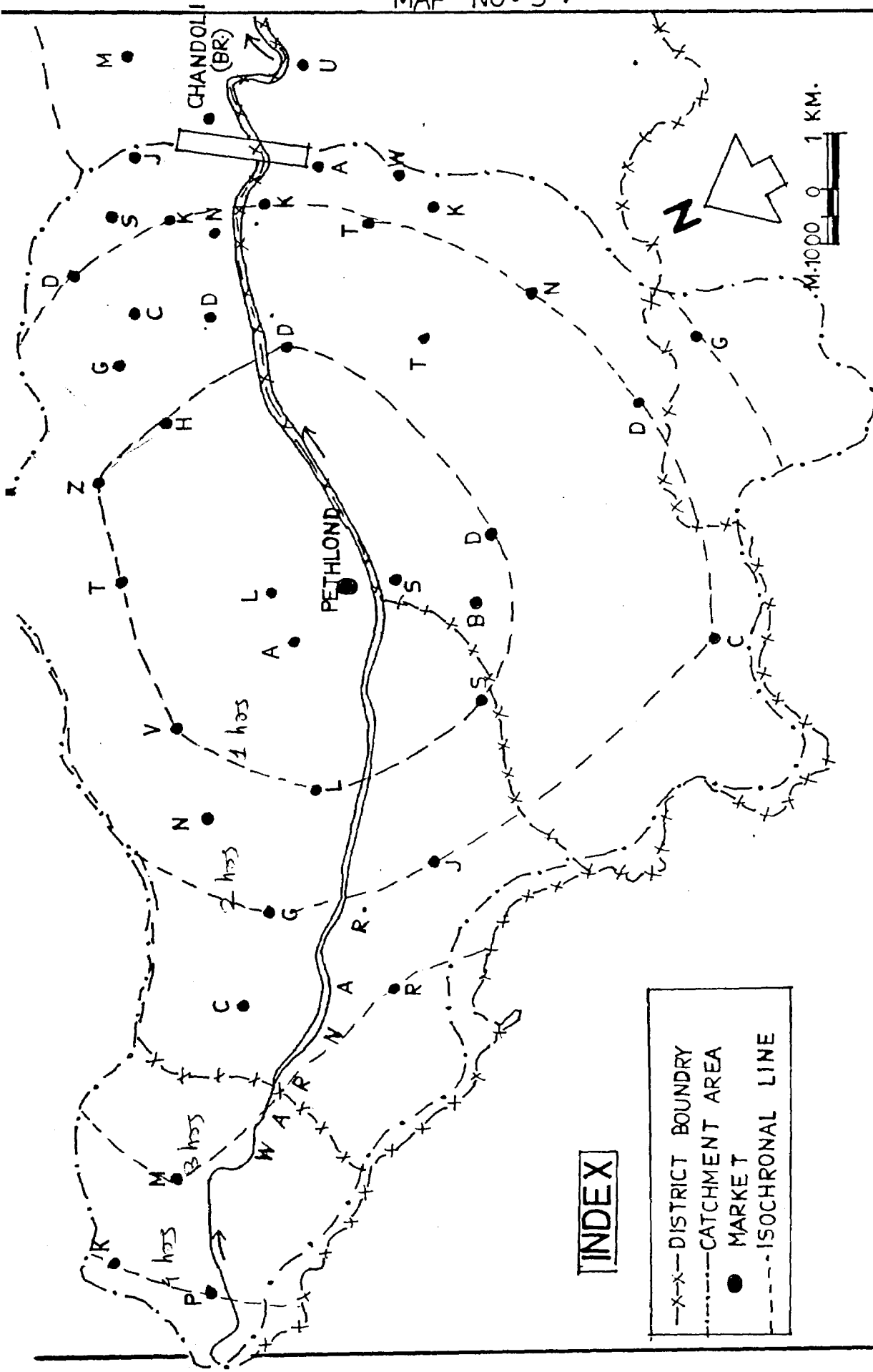
streams, in the form of structural terraces, in the hilly terrain like catchment area of Warna dam several factors adversely affect the rural economy, such as ruggedness, steep slopes, torrential run-off, rainfed agriculture system, deforestation, soil erosion, remoteness due to poor accessibility, lack of market facilities, lack of education and training facilities etc.. Under such adverse conditions the rural economy has remained under-developed.

Spatial Change in Economic Links:

During our field studies we observe changes in the economic links, before submergence and after submergence through time and space. Before submergence the entire upper catchment area of Warna dam was united in its economic activities. The best suited agro-economic set up has been evolved after a long experience and practice. But in the submergence (in 1986) 7,026 inhabitants in 27 villages shifted and resettled in the downstream command area of Warna irrigation project. Almost half of the population (and half of the village Gaothans) have been directly affected by the project. But the remaining 25 villages covering 5,811 habitants are forced in extreme isolation since 1986. Most of the remaining villages are indirectly project-affected; especially in the lower zone of the catchment area

most of the Wadis are still situated. The original Gaothans are uprooted because they are coming under direct submergence. And most of their Wadis are situated slightly away from the actual line of submergence. These partially uprooted villages are not considered in the process of resettlement and rehabilitation. They got compensation for their fertile submerged land according to government rates. Today they have to depend on low quality, rainfed upper terrace fields on the top of the spurs. Thus, the entire catchment area of the Warna dam has lost its natural rhythm of life, especially since 1986 as the mighty Warna Project came up gradually step by step.

Before submergence, the villagers were depending on Pethlond for their market needs, as mentioned elsewhere earlier. The Pethlond market place was most convenient and located at the centre of the area. During our field studies we collected data regarding market links of the villages in the area by using personal interviewing technique. On the basis of this information we prepared a Map No. 5. The isochronal lines<sup>3</sup> express equal amount of time involved in walking to reach Pethlond, a market place before submergence. And the Map No. 6 clearly indicates how the people living in the catchment area have found new market links as their traditional market place has gone under submergence. The upper catchment

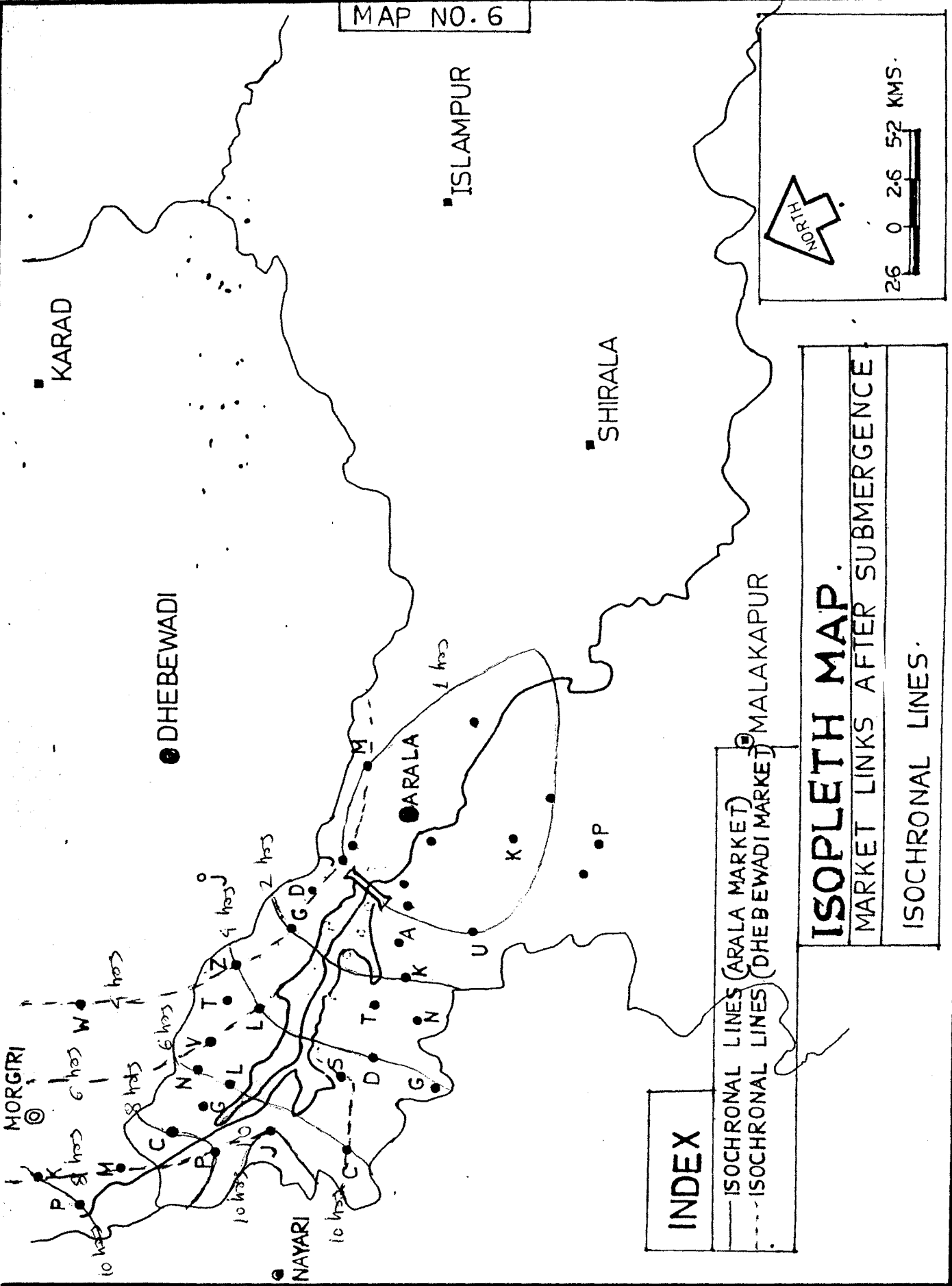


**INDEX**

- x-x- DISTRICT BOUNDARY
- ...- CATCHMENT AREA
- MARKET
- - - ISOCHRONAL LINE

**UPPER CATCHMENT AREA OF WARANA RIVER  
MARKET LINKS BEFORE SUBMERGENCE**

MAP NO. 6



INDEX

- ISOCHRONAL LINES (ARALA MARKET)
- - - ISOCHRONAL LINES (DHEBEWADI MARKET)

**ISOPLETH MAP.**  
 MARKET LINKS AFTER SUBMERGENCE  
 ISOCHRONAL LINES.

NORTH

2.6 0 2.6 5.2 KMS.

area had a unique economic personality before submergence but today it has split into pieces. No doubt, the creation of mighty Vasant Sagar has brought spectacular socio-economic change in the downstream command area but it has equally disturbed the whole economic set-up of the upper catchment area of the Warna dam.

We observed that at present villagers have to walk at least 10 Kms from lower zone, 20 Kms from middle zone and 30 to 50 Kms for those who are living in the interior zone to reach their nearest market place to sell their agricultural products, honey, animal products, poultry products and forest products and to purchase their daily essential materials. The situation becomes worst during the rainy season when the area becomes an island surrounded by water and mud.

#### Social Fabrics:

The villagers living in the entire catchment area are facing unique economic problems. Also they are facing some social problems. All the twentyfive villages situated in the catchment area of Warna dam are mainly inhabited by non-tribals; very few S.C. and S.T. population is inhabited in this area. No village has tribal population. We observed during our field studies that the villagers have developed composite social groups.

Social groups do not develop overnight. They are the product of historical process through which people pass.<sup>4</sup> The people living in the upper part of the catchment area have a very close social link with the people living in the villages in the Warna valley, which are shifted due to submergence. These social links are vitally important especially during the marriage settlements. We observed that a strong network of marriage relations was developed between villagers living in the upper elevations and lower elevations in the Warna valley before submergence. It is necessary to examine whether there is any disorder or break in pattern in this process of social group formation. In this connection we carried out a house to house survey to collect the information regarding the marriage lines of villagers in selected villages. We have selected three villages, Kulyachiwadi (Tambve) on the right bank of the Warna reservoir and Zolambi-Takale on the left bank of the reservoir. On the basis of this field survey we prepared maps. the locations of villages where men from these villages have married and the locations of villages where women from these villages have married are given. This men/women marriage links are given in Tables No. 10 and 11.

TABLE-10

## MARRIAGE TIES

Locations of the villages where men and women from  
Kulyachiwadi have married

Sr. No.	Name of the village	No.of men (K'wadi) married	No.of women (K'wadi) married	Total	Resettled
1	2	3	4	5	6
1	Wadihudumb	3	3	6	Kodoli
2	Sonarli	4	3	7	Wadgaon
3	Chandel	2	-	2	-
4	Ambaiwadi	4	2	6	-
5	Dhakale	4	2	6	-
6	Kandvan	5	5	10	-
7	Kulyachiwadi	5	5	10	-
8	Mandurwadi	1	-	1	-
9	Durgwadi	2	1	3	Satve, Kumbhoj
10	Chandoli	2	-	2	Bhadurwadi, Ashta
11	Berdewadi(Arala)	1	-	1	-
12	Karde	2	4	6	Chavare, Kakhe
13	Khundalapur	3	1	4	Chikurde
14	Golivane	1	2	3	-
15	Satar( Jinti)	1	2	3	-
16	Kachani (Jinti)	1	1	2	-
17	Tambve	1	1	2	Vadgaon
18	Ukhlu	1	-	1	-
19	Gavalanwadi	2	2	4	-

contd.

TABLE-10 contd.

1	2	3	4	5	6
20	Lond	1	1	2	-
21	Amboli	-	1	1	-
22	Meni(Pachgani)	1	-	1	-
23	Yevati(Pachgani)	1	-	1	-
24	Parali (Ninai)	1	-	1	-
25	Kinrewadi (Panumre)	2	-	2	-
26	Palaswade (Kandwan)	1	2	3	-
27	Sittur (Arle)	2	-	2	-
28	Kalagaon (Dhebewadi)	2	1	3	-
29	Dharuhi (Dhebewadi)	1	-	1	-
30	Arale	-	2	2	-
31	Pethlond	-	1	1	Ashtea
32	Takale	-	1	1	-
	<u>TOTL:</u>	<u>57</u>	<u>43</u>	<u>100</u>	

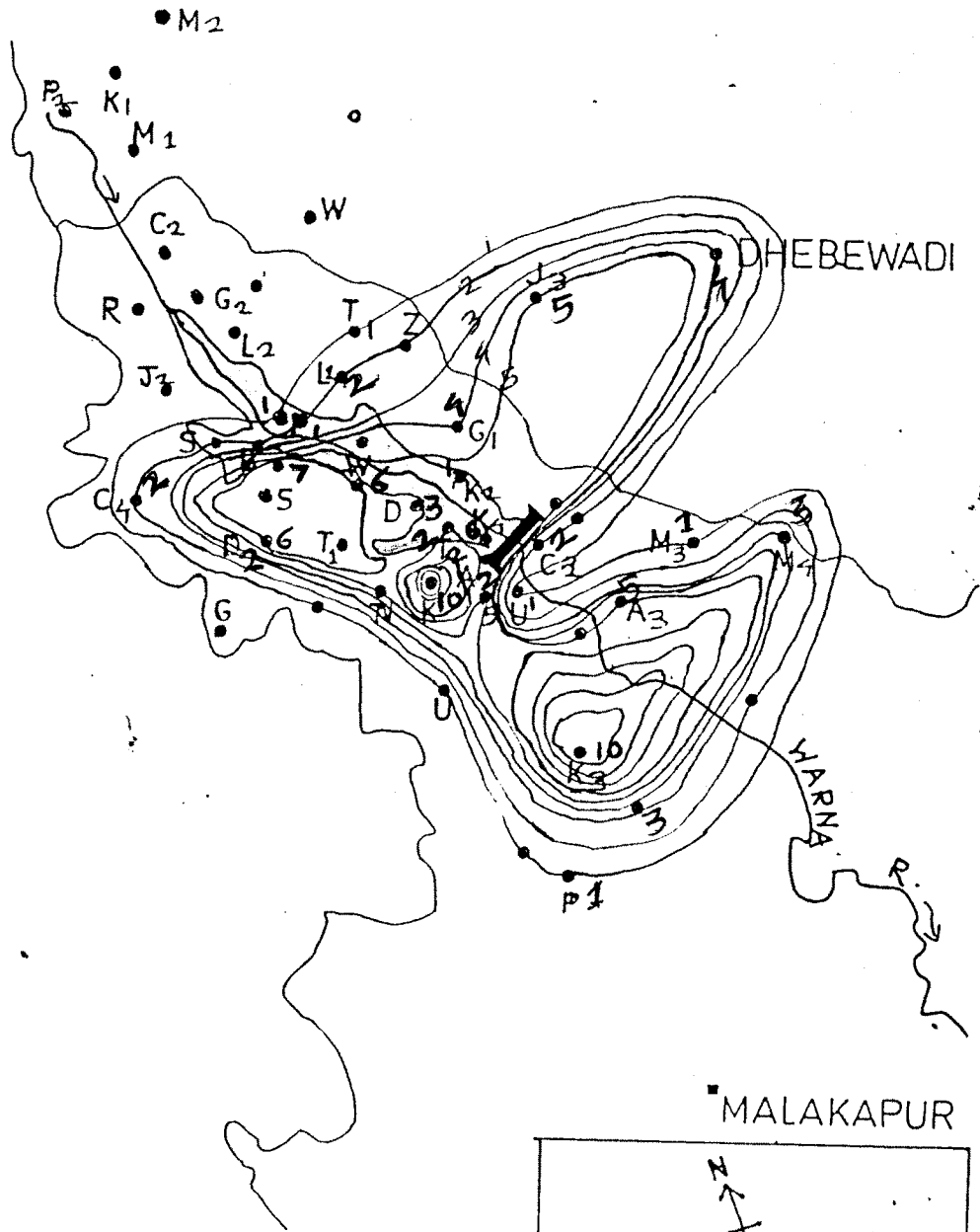


# ISOPLETH MAP

## KULYACHIWADI ISOMARRIAGE MATE LINES.

### INDEX

C <sub>3</sub>	VILLAGE CODE
—	ISOMARRIAGE MATE LINE
10	NO. OF MARRIAGE MATE



## 65.8

## VILLAGES AND THEIR CODE WORDS IN UPPER WARNA BASIN

C.N	Code word	Name of the village	C.N.	Code word	Name of the village
1	S1	Shendewadi	27	N1	Nivale (Kolhapur)
2	D1	Dhangarwada	28	A2	Amboli
3	J1	Janaiwadi	29	G3	Gothane
4	G1	Gavlanwadi	30	P2	Patharpunj
5	H	Hadrewadi	31	K1	Kolne
6	C1	Chendgewadi	32	M1	Mala
7	A1	Aloli	33	M2	Morgiri
8	L1	Lond (Pethlond)	34	W	Walmiki
9	P1	Pethlond	35	J3	Jinti
10	G2	Gave	36	D3	Dhebewadi
11	R	Rundiv	37	A3	Arale
12	C2	Chandoli (Kd.)	38	N2	Nandoli
13	C3	Chandoli (Br.)	39	M3	Mandur
14	J2	Jawali	40	U	Ukhalu
15	L2	Lotiv	41	D4	Daadoli (Patan)
16	V	Vetti	42	B	Bhogiv
17	N	Nivale (Sangli)	43	S4	Shedhashwar
18	T	Takale	44	D5	Durgwadi
19	Z	Zolambi	45	K2	Khundalapur
20	D2	Dhakale	46	D6	Devare
21	T1	Tanali	47	P3	Parali (Ninai)
22	C4	Chandel	48	K3	Kandvan
23	S2	Sonarli	49	G4	Gudhe (Pachagani)
24	S3	Sonarli (Dhangarwada)	50	K4	Karale
25	K	Kulyachiwadi	51	W	Wadihudumb
26	T2	Tambve	52	M4	Meni (Pachagani)
			53	U	Udagiri

TABLE-11

Marriage Ties

Locations of the villages where men/women from Zolambi and Takale have married

Sr. No.	Name of the village	Men (Zolambi) married	Women (Zolambi) married	Men (Takale) married	Women (Takale) married	Total	Resettled at
1	2	3	4	5	6	7	8
1	Panire (Walmiki)	10	9	4	1	24	-
2	Tamhine ,,	8	9	1	3	21	-
3	Kahir ,,	11	4	1	1	17	-
4	Udhavne ,,	-	1	-	-	1	-
5	Takale	18	15	15	18	33	-
6	Zolambi	11	11	-	-	22	-
7	Khale (Jinti)	2	-	-	-	2	-
8	Jitkarwadi ,,	1	-	-	-	1	-
9	Satar ,,	5	8	3	1	17	-
10	Modakwadi ,,	1	1	-	-	2	-
11	Karale ,,	11	6	-	1	18	-
12	Nigade ,,	-	2	-	-	2	-
13	Manigdwadi ,,	-	2	-	-	2	-

TABLE-11 contd.

1	2	3	4	5	6	7	8
14	Dhanavadewadi (Jinti)	1	-	-	-	1	-
15	Gotil ,,	-	1	-	-	1	-
16	Vetti	7	3	3	2	15	-
17	Gavalanwadi	1	-	-	-	1	-
18	Patlewadi(Gavlanwadi)	2	2	-	-	4	Yelur
19	Bhatewadi ,,	3	-	-	-	3	Digraj
20	Khonholiwadi ,,	1	-	-	-	1	Yelur
21	Malpewadi ,,	1	-	1	2	4	Bagani
22	Amboli	4	2	2	1	9	Dudhgaon
23	Dhakale	4	-	2	-	6	-
24	Lotiv	2	1	5	1	9	-
25	Jawali	3	1	1	1	6	-
26	Chandel	2	-	-	-	2	-
27	Nivale	2	3	-	1	6	-
28	Dargwadi	2	1	2	3	8	Kumbhoj
29	Aloli	2	-	-	-	2	Ashta
30	Karnewadi (Dhebewadi)	1	-	-	-	1	-

contd.

TABLE-11 contd.

1	2	3	4	5	6	7	8
31	Kalgaon (Dhebewadi)	-	-	1	-	1	-
32	Siddheshwar	1	-	2	-	3	Kavathepiran
33	Arle	1	1	-	-	2	-
34	Nandoli	3	2	-	-	5	Bagani/Walwa
35	Morgiri	3	-	-	-	3	-
36	Pandhare Pani(Morgiri)	1	3	-	-	4	-
37	Adhure ( , , )	-	1	-	1	2	-
38	Pachgani , ,	-	2	-	-	2	-
39	Mala , ,	-	-	1	-	1	-
40	Khodal , ,	-	-	-	1	1	-
41	Lond	1	1	9	-	11	Ashta
42	Rundiv	1	-	-	-	1	-
43	Jadhavwadi(Mandur)	2	3	3	5	13	-
44	Devare	2	1	-	-	3	Samdoli
45	Chandoli (Ek)	1	1	-	-	2	Arala
46	Nigade (Umarkanchan)	1	-	-	-	1	-
47	Kasani , ,	-	2	-	-	2	-

contd.

TABLE-12 contd.

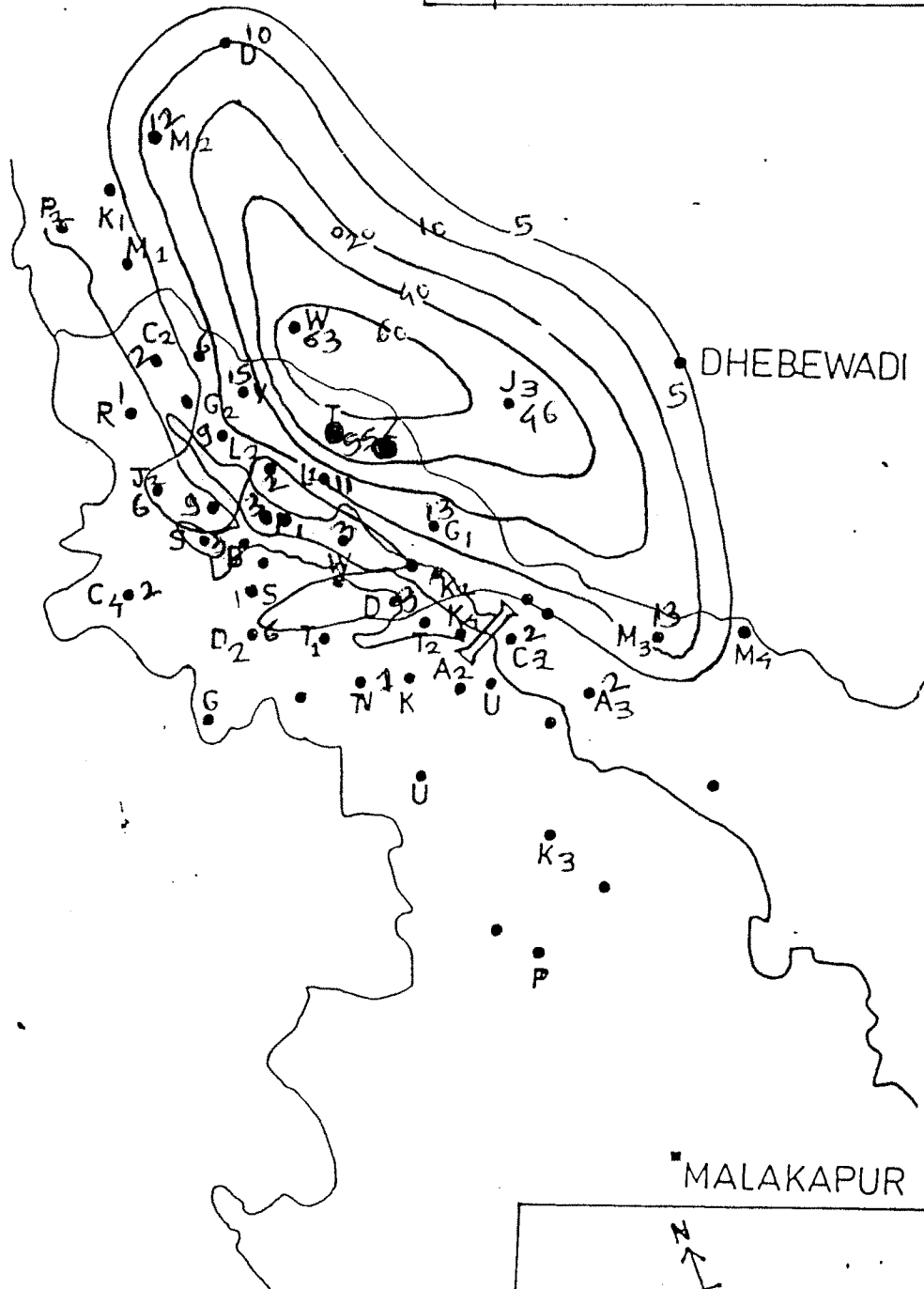
1	2	3	4	5	6	7	8
48	Dadoli (Patan)	1	-	5	-	6	-
49	Khale ,,	-	-	1	-	1	-
50	Atule ,,	-	-	1	-	1	-
51	Kalaki ,,	-	-	1	1	2	-
52	Pethlond	-	1	2	-	3	Bagani
53	Jeep	-	1	-	-	1	-
54	Bombay	-	1	-	-	1	-
55	Bhogiv	-	-	1	-	1	Tung
56	Gave	-	-	1	-	1	-
57	Malkapur	-	-	1	-	1	-
58	Pandharpur	-	-	1	-	1	-
59	Riswad (Koyana)	-	-	1	1	2	-
60	Chandoli (Kd)	-	-	2	-	2	-
61	Kulyachiwadi (Tambve)	-	-	1	-	1	-
62	Sonarli	-	-	-	1	1	-
<u>TOTAL:</u>		134	87	74	27	322	

# ISOPLETH MAP

## ZOLAMBI-TAKALE - ISOMARRIAGE MATE LINES

### INDEX

C3	VILLAGE CODE
	ISOMARRIAGE MATE LINE
10	NO. OF MARRIAGE MATE



On the basis of these tables we prepared isopleth maps for these villages. The isomarrriage mate lines (Maps No. 7 and 8) suggest that the villagers in these villages have their marriage relation in those villages which are within a radius of fifteen Kms, i.e., at a walking distance, because of the hilly terrain, lack of transportation facilities, unaccessibility. All these natural barriers have been affecting the marriage ties. Most of the marriage ties among the villagers in the catchment area are established within close range of their own village.

Social Isolation:

After the submergence, almost 50 per cent of the total villages are shifted from the catchment area; in the remaining villages, the people encountered some difficulties in establishing marriage links. After 1986 the upper valley area had been restricted due to mighty Vasant Sagar reservoir. Most of their relatives living in the upper Warna valley are shifted far away, beyond 30 to 50 Kms radius from their original places of residence, in the down-stream command area of Warna Irrigation Project. We observed that most of the resettled villagers do not want to establish marriage ties with the villagers living in the upper catchment area of Warna dam, even though they are their close relatives.



Especially for the male living in the catchment area, it is quite difficult to marry a bride living in the downstream area. Thus, socially they have become isolated. It is even difficult for a male or a female shifted far down in the command area, to visit parents and relatives who are living in the catchment area. The construction of Warna Irrigation Project has forced these villagers to live apart from their traditional social groups. The social links have been weakened in these isolated villages. We observed during individual interviews with villagers that they are ready for the shifting. But they strongly demand for their settlement and rehabilitation in the down-stream command area, where their relatives have resettled, where their whole Gaon has resettled, where their Kuladaivata (family deity) is established. These strong social bonds should be considered in the planning process of resettlement and rehabilitation of the remaining indirect project-affected villages situated in the catchment area of Warna dam.

(xi) Earthquake - An Unassailable

Unforeseen Problem:

Koyana-Warna: A New High Risk Zone:

In addition to social and economic problems, people living in the catchment area of Warna dam are

facing series of earthquakes since 8 December 1993. The powerful tremor of 30 September 1993 which was centred at Killari in Latur district, was also experienced in this area, though no casualties were reported. But since then Koyana-Warna upper catchment area has recorded thousands of lower intensity earthquakes. The whole area is now considered as a new high risk Seismic zone. On 8 December 1993 the whole area was struck by a tremor of 4.6 magnitude on the Richter scale. The epicentre has been located at Chandoli (Khurd) in the upper catchment area of Warna dam just 20 Km away from dam site in the north-west direction.<sup>5</sup> In the 8 December 1993 tremors though no casualties were reported, at least 90 per cent of the total houses were badly damaged by the powerful shock. Most of the houses were turned inhabitable after the shock (Photograph No. 9 ).

During our field studies we observed that villagers are living with the day-to-day earthquakes, but these constant tremors have raised troubling questions. The geologists today believe that the Deccan Plateau can no longer be considered a stable land mass, forcing geologists to identify a whole series of new high risk seismic zone.<sup>6</sup> The earthquake is not a new phenomenon in Koyana-Warna upper catchment area. The devastating earthquake of 6.5 magnitude on the Richter scale which struck Koyana-Warna region on 10 December 1967, is

remembered by the villagers in the area. Since then this whole region is being recognized as most active seismic zone of the Indian peninsula.

According to the geologists Koyana-Warna upper catchment area is a part of rift zone; Koyana river flows right through ancient rift which has extended towards south upto Chandoli (Khurd) just 20 Kms north-west of the Warna dam site. Unfortunately, with research on seismological potential of the Deccan Plateau having been neglected, a majority of the rifts have not been mapped. Geologists do know that when the subcontinent broke away and sped towards Asia, the plateau was a scene of spectacular volcanic activities that flooded the whole area with basalt. Much of it collected in an area called Deccan Trap, that encompasses more than half of Maharashtra and includes Bombay, Latur-Kurduwadi; Koyana-Warna rift zones seem to be becoming active. The Latur earthquake is a warning of the immense pressure that is building up in the Himalayas.<sup>7</sup>

Factors responsible for the series of earthquakes in the area are still unknown. Geologists believe that Koyana-Warna tremors are being caused by the re-activation of rift valley, deep geological faults beneath the Deccan trap.<sup>8</sup> It is yet to be discovered as to whether there is any association between the

water levels in the Koyana-Warna dam reservoirs and the occurrence of series of earthquakes in the area. But it has been observed that the frequency of earthquakes increases when there is peak water load in the reservoirs in the months of September to December every year. This is a great challenge to world geologists to find out the real cause of the earthquakes in this region, or at least to predict when and where the earthquake would occur. There is a need for well equipped series of stations in and around the Indian peninsula that could record even the minutest tremors to a great degree of occurrence. There is need for forming a national network of such stations.

We observed during our field studies that, there is an urgent need to build up quake-proof houses in the upper catchment area of Warna dam and adjoining areas. Almost all the houses in the area are badly damaged. There is an urgent need to provide the villagers at least earthquake-proof shelters before rainy season starts. After the rainy season steps must be taken to resettle the people living in the catchment area of Warna dam, because the people living in the catchment area are facing eries of earthquakes on the one hand, while on the other hand they have to face hilly terrain, dense forest, unaccessibility, lack of education, market and other social amenities.

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