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HEALTH PROBLEMS OF TRIBAL WORKERS IN DAMANJODI NALCO MINES IN KORAPUT DISTRICT : "A SOCIO-CULTURAL ANALYSIS"

Dissertation submitted to the Jawaharlal Nehru University
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MASTER OF PHILOSOPHY

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C E R T I F I C A T E

Certified that the dissertation entitled "HEALTH PROBLEMS OF TRIBAL WORKERS IN DAMANJODI NALCO MINES IN KORAPUT DISTRICT : A SOCIO-CULTUAL ANALYSIS" by Jayadev Panda in partial fulfilment for award of the Degree of Master of Philosophy has not been previously submitted for any other degree of this or any other University. To the best of our knowledge, this is a bonafide work.

We recommend that this dissertation may be placed before the examiner for evaluation.

21.7.92

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T O M Y P A R E N T S

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C O N T E N T S

INTRODUCTION

Considerable literature regarding tribes and their cultures has emerged. Tribes have been also studied from a number of angles. The categorising of tribes as criminals, the massive conversion of a number of them by missionaries, the impact of administrative and economic policies of British Government on the tribes and the numerous studies of tribes from the point of view of elaborating the history of the complexity and diversity of Indian culture - all these have stimulated controversies regarding the fate of tribals in India.

After Independence, the tribal people are subjected to conscious and elaborate influence by various agencies. The tribes are in transition and are being absorbed into the matrix of a social order which is being created by political, economic and cultural forces actively inaugurated by the Government of Independent India. How do the tribes react to the various forces which are impinging upon their lives ? What is their present status and condition ? How do they differ from the non tribal population? All these and a number of other questions have cropped up with acute poignancy during the post independent period.

The problems of the tribal population should not be treated in a super ficial symptomatic way. These problems

have to be viewed in the context of the present capitalist socio - economic system prevailing in India. The very pressure of the exploitative, competitive, profit oriented forces of this society has reduced the tribals into objects of capitalist exploitation. The problems of the masses including the intensely oppressed tribal population arise from the very character of the social order that is existing and further developing in our country. In fact their problems are only be aggravated within the existing and functioning capitalist social system. Their solutions can be found only when a non exploitative social order is established.

The fundamental problems of the tribal population are economic-political. They are problems such as security job, decent standard of living, easy accessibility to resources of civilized life, acquisition of education which can enable them to decide what customs, what rituals and what aesthetic cultural elements they should retain, eliminate or absorb from their and other cultures, The starvation, exploitation, clothlessness, disease of the tribals may be prevented on the grounds of social order founded on equality of opportunities and elimination of exploitation.

The vast bulk of tribals who are trans-formed into

agricultural labourers, agrestic serfs and cultivators and/or further into labourers in mines, factories, railways, plantations and other enterprises are faced with problems which are qualitatively different from their more primitive groups. In fact their problems are identical with those of of the non tribal groups belonging to the same occupational pattern. The solution of their problems demand the reconstruction of the existing social order into a new one which is not merely protection from exploitation.

Development programmes undertaken in tribal areas after Independence may be grouped under four heads (1) Development of Tribal economy (2) Education and culture (3) Health, Housing and water supply and (4) Communication. The broad policies to be followed for the development of tribal population and tribal areas were reviewed from plan to plan by the Scheduled Caste and Scheduled Tribe Commission set up by the Government of India in April, 1960. There is a broader consensus of opinion that while the rest of the population of the country goes forward and India and the world change so rapidly, the tribal area can scarcely remain in isolation. In its report the commission has drawn attention to the following important aspect:

1. In most states the special protective machinery for safe guarding the interests of the tribal people and protecting them from exploitation by outsiders has not worked satisfactorily. There have been large scale transfers of tribal land consequent upon the undesirable activities of money lenders, forest contractors and other exploiters. There is need, therefore, for strengthening and in some cases for reorganising the administrative set up for scheduled areas.

2. The requirements of personnel for working in tribal areas, specially tribal welfare officers, technical specialists and field level workers, have not been adequately assessed. There is need for a larger effort through special institutions and otherwise for giving orientation training to personnel at various levels working in tribal areas.

3. Non-official voluntary organizations have a significant role in the development of tribal areas. They should be adequately assisted and their programmes co-ordinated.

4. There are a large number of problems emerging in tribal areas which call for scientific study and evaluation, for instance, the impact of industrialization in tribal areas, the rate of dispossession of land,

social and economic effects of specific development schemes and of institutions like schools, clubs, co operatives and more so market etc.

Social change amongst tribal communities has warranted considerable attention in recent years. There are studies of specific programmes relating to health, housing, rehabilitation and establishment of co operative societies. Considerable stress has been laid in transfer of modern technology alongwith the impact of industrialization on the tribal life processes in various states. The present study aims at studying the health problems and practices of tribals affected by the NALCO mines (National Aluminium Limited Company) established at Damanjodi, Koraput district in Orissa. The life process of tribal people of this district has been affected by the establishment of this industry as well as vigorous industrial activities. Their way of life i.e. culture has been affected greatly. In order to study these changes and their effect on the life process as well as on health of tribal people at Damonjodi this present study has been designed.

Cultural perception and cultural meaning of health problems, the various cultural devices that are available and accessible to members of a community for dealing with health problems, and the consequent behaviour of the community

in response to these health problems which is generated as a result of interaction of cultural perception and cultural meanings of health problems.

The cultural devices for dealing with them has been defined by Banerji as health culture. Health culture, therefore, becomes an integral component of the overall culture of a community. "The culture of a tribal community also directly influences it health cultural because certain cultural practices such as child rearing, food and drinking habits, pregnancy and child birth practices are directly related to the generations of tribal community's health problems".(Sahu)

This holistic concept of health culture provides a valuable frame work for analysing the present health problems and practices of the tribals affected by the NALCO mines.

CHAPTER I

DESIGN OF THE STUDY

BRIEF HISTORY OF NALCO MINES

The discovery of over one billion tonnes of bauxite deposits in the East Coast of India in mid - seventies has placed India on the world Bauxite map. As a major step towards exploiting these vast deposits,the Government of India,in January 1981,established National Aluminium Company (NALCO) with its registered office at Bhubaneswar. The foundation stone of the project was laid down by Prime Minister late Smt. Indira Gandhi, on 29th March, 1981 at Damanjodi, District Koraput, Orissa State.

Orissa Aluminium Complex is one of the world's biggest integrated projects starting from baxuite mining, alumina refinery to the production of aluminium metal and down-stream facilities. The major portion of the investment on the project was met from external sources. This consists of US $680 million Euro -dollar loan for which NALCO had signed an agreement with 48 international banks in February 1981 and US $ 300 million Euro - dollar loan for which mandate was issued by NALCO on 4th October, 1984 to a consortium of 9 International Banks. The balance investment is being met from the Government of India Plan Funds.

The Features

The integrated project has five segments:

1) A fully mechanised bauxite mine at Panchapatmali Hill top in Koraput district with an annual capacity of 2,40,000 tonnes.

2) An Alumina Refinery at Damanjodi in Koraput district 14 Kms. from mines to extract 8 lakhs tonnes of Alumina annually.

3) Most modern Aluminium smelter with high efficiency level of Energy at Angul in Dhenkanal district to produce 2,18,000 tonnes of Aluminium per year.

4) A 600 MW cap-tive power plant at Angul to supply firm power to the Aluminium smelter.

5) Port facilities at Visakhapatnam for export of 3,75,000 tonnes of Alumina per year.

Out of these five broad activities (1) (3) and (5) relate to the project area at Damanjodi and other (2) (4) are carried at Angul in Dhenkanal district.

The project area at Damanjodi in Koraput district where the bauxite mine and alumina plant are located is relatively backward area which is inhabited mainly by Tribals. The same at Angul in Dhenkanal district where the aluminium smelter plant and cap-tive power plant

are located is fairly advanced area being close to Angul and Talcher urban centres. The problems in setting up the plants at Angul and Damanjodi and the socio-economic impacts of NALCO activities on the people of these areas have been considerably different due to economic and socio-cultural differentials prevailing in these areas prior to setting up of the plants. It is assumed that tribal in Damanjodi area are much more influenced with regard to their socio- economic and health aspect than the people of Angul area. With these assumption the field study was undertaken.

Location of the Project Area

Damanjodi project area lies on the lap of Eastern Ghat mountain range in Koraput district of Orissa. With undulating surface interspersed with hills and narrow valleys the area is thickly wooded with sal jungles. The opencast bauxite mine is on Panchpatmali Hills which is located in north-eastern part of project area. The area has a deposit of 16 sq. kms. with total proven deposit of about 112.8 million tonnes. The alumina plant of 8 lakhs tons per year capacity is located at foot hills near Damanjodi,11 Km away from N.H.No.43. The nearest main line railway station is at Koraput about 35 kms away from the plant,port facilities exist at Visakhapatnam 215 Kms away

from Koraput.

The total area which has been influenced by mining and plant activities at Damanjodi has been 40,760 acres falling in 26 villages around Damanjodi. The blocks under which villages come under are as follows:

i)	Koraput block	= 12 villages
ii)	Sembliguda block	= 4 villages
iii)	Laximpur block	= 2 villages
iv)	Dasmanthpur block	= 5 villages
v)	Sunabeda	= 3 villages

Out of the total area of 40,760 acres, cultivated area constitutes only 21,813 acres i.e. 53.5 per cent. The area acquired by NALCO is only 6853 acres i.e. 16.8 per cent. The land acquisition was made from these three sources.

Total land acquired by NALCO	= 6853 acres
Govt. land acquired	= 3976 acres(58.1%)
Tribal land acquired	= 2093 acres(30.5%)
Non-Tribal land acquired	= 784 acres(11.5%)

Thus,bulk of land (58.1%) was acquired from government land mainly constituting waste lands and hilly areas,11.5% from

non-tribals and 30.5% from the tribals. Since the area is predominantly inhabited by tribals, they had to lose more land than non-tribals.

According to 1981 census,the total population of Koraput district was 2,484,005 out of which scheduled caste population was 349,307 i.e. 14.6 per cent of the total. The scheduled tribe population was 1,371,550 i.e. 55.21 per cent of the total population of the Koraput district. The total population of 26 villages in the project area was 17678 according to 1981 census, of which tribal constituted 52.44 per cent, scheduled caste 10.84 per cent and non-tribal 36.72 per cent. Such a high non-tribal population was noticed as a result of acquisition of part of land of Sunabeda urban area. According to 1981 census,literacy rate for Koraput district was 19.35 per cent,where as for the project area it was 22.63 per cent. This was the situation before the NALCO project was set up in Damanjodi, Koraput district.

The 26 villages in the project area where land acquisition was made are contiguous villages making one compact area surrounding the plant site at Damanjodi. Land displaced families which is a outcome of land acquisition by NALCO

have been rehabilitated in the resettlement colonies constructed by NALCO authorities in the Anlabadi village located near the project area. It is around 7 km away from the Damanjodi. Private land,measuring 43.75 acres were acquired by NALCO under Land Acquisition Act by paying compensation of Rs.1.20 lakhs in the village Analabadi where 498 pucca dwelling houseshave been constructed at a cost of Rs.68 lakhs. So far 440 displaced families have been resettled,of whom 199 belongs to Scheduled Tribes and 37 to Scheduled Castes.

There are 3 broad categories of villages that have been displaced.

A) Villages which all households including Scheduled Tribes have been fully displaced and rehabilitated in Analabadi resettlement colonies.

B) Villages where households have been identified for displacement and compensation for land and houses have been paid but displacements have not been made due to several reasons.

C) Villages which are closely situated from which some land has been acquired but no displacement of households has taken place.

From the table number one it is gathered that the total number of households that have been displaced and

TABLE NO : 1 SHOWING ACTUALLY DISPLACED HOUSEHOLDS VILLAGE-WISE

GROUP - A

Name of the Village	No. of House-holds	% of the total house holds (i.e 440)	S.C.	% S.C.	S.T.	%S.T.
Damanjodi	154	35	16	10.39	127	82.47
Goudaguda	20	4.5	Nil	Nil	Nil	Nil
Malidumari	83	18.87	02	2.40	28	33.74
Sugkriguda	28	6.37	Nil	Nil	28	100
Barangput	20	4.55	01	05	01	5
Kantaguda	60	13.64	16	26.67	01	1.67
Ambagan	5	1.14	Nil	Nil	Nil	Nil
Potiasil	18	4.09	Nil	Nil	14	77.8
Gadipabili	52	11.82	02	3.85	Nil	Nil

Source: NALCO Administrative Office, Damanjodi.

TABLE NO. 2 SHOWING HOUSEHOLDS NOT DISPLACED VILLAGE-WISE

GROUP – B

Name of the Village	No. of House-holds	%of the total households (i.e. 156)	S.C.	% S.C.	S.T.	% S.T.
Sindhipar	60	38.47	09	15	43	71.67
Saniguda	06	3.85	Nil	Nil	01	16.67
Chanipapadar	59	37.83	10	16.95	Nil	Nil
Kharguda	16	10.26	Nil	Nil	Nil	Nil
Chadiguda	15	9.62	Nil	Nil	11	73.34

Source: NALCO Administrative Office, Damanjodi.

TABLE NO : 3 VILLAGES FROM WHICH PARTIALLY LAND HAS BEEN ACQUIRED BUT NO DISPLACEMENT OF HOUSEHOLDS HAS BEEN TAKEN PLACE

GROUP – C

1. Amabgaon
2. Analbadi.
3. Khantaputraghati.
4. Ariputraghati.
5. Charanguli
6. Seven neighbouring villages.

Source: NALCO Administrative Office, Damanjodi.

rehabilitated in the Analabadi colony from the nine villages are 440. Of which 199 belongs to scheduled tribe and 37 belongs to scheduled caste. As these households have lost land and houses, a full compensation has been paid to them. Besides, 162 tribals one from each family and 37 scheduled caste have been provided with employment opportunities in the NALCO's establishment at Damanjodi. From the table two,it is gathered that though these households identified for shifting, have not yet shifted even though their land have been acquired and compensation paid. So displacement poses a great problem in these group of villages. The member of these villages demand employment opportunities in NALCO's establishment. But NALCO authorities say that it is not possible to give job in NALCO establishment as job opportunities in NALCO is limited. So there is much agitation and frustration among these people, as they have lost their cultivable land which gave a severe jolt to their livelihood. The total number of households in these five villages are 156. Of which 55 belongs to scheduled tribe and 19 belongs to scheduled caste.

Thus,591 families were identified for displacement. Of these 254 are tribal families and 56 are scheduled caste families. So far,199 Scheduled Tribes and 37 Scheduled

caste families have already been displaced and rehabilitated. Of these 254 tribal families 192, (76 per cent) were Parajas, 35 (13.85 per cent) were Kandhas, 22 (8.23 per cent) Gadabas, and 5 (2.17 per cent) of other tribes.

Description of Tribal Workers

The National Aluminium Company Ltd. was set up at Damanjodi in Koraput district in the heart of an intensive tribal area. This constitutes 52.44 per cent of tribal population to the totalpopulation of the project area which is a backward district of Orissa. This industry in the public sector has been set up at Damanjodi in the national interest to produce an industrial commodity, while exploiting the mineral resources. But its establishment in the intensive tribal area of Koraput district led many tribals to sacrifice their lands, the only means of their livelihood. They were not only uprooted from their traditional villages but also their major source of earning from the nearby forests used for shifting cultivation and collection and sale of forest produce was lost. All these gave a severe jolt in their living style to the tribals of the project area. Their occupational activity which was primarily agriculture was lost. Of the total workers among the tribals of the project area,

60 per cent of the workers were farmers, 22 per cent agricultural labourers and 18 per cent were miscellaneous workers. (Source: 1981 Population Census). Secondary and tertiary activities were absent due to very low level of skill available with the workers. Thus 82 per cent of workers remained occupied in primary sector activities. About 18 per cent had other services including non-agricultural labour as their means of livelihood. This was the situation before the establishment of the project.

After the establishment of the project the situation got changed. There was change in the occupational activity of the tribals of the project area, from primary activity to secondary and tertiary activity. This can be shown with regard to three categories of affected village households i.e. A, B, and C groups of villages. 'A' group of village households consist of losing all the lands and houses, B group of village households losing all lands and 'C' group of village households losing land partially.

The table no.4 gives the distribution of tribal workers according to principal occupation in preproject and post project period of Group A village households.

TABLE NO: 4 GROUP – A

S.l.No.	Principal Occupation	PERCENTAGE OF WORKERS ENGAGED					
		Preproject Period			Post project period		
		Male	Female	Total	Male	Female	Total
1.	Cultivation	97	94	95.8	Nil	Nil	Nil
2.	Allied Activities	Nil	Nil	Nil	1.4	7.1	2.4
3.	Petty Business	Nil	Nil	Nil	1.4	Nil	1.2
4.	Organised Service	Nil	Nil	Nil	76.8	14.3	66.3
5.	Agricultural Labour	2.1	3.8	2.7	Nil	Nil	Nil
6.	Non-Agricultural Labour	1.0	2.0	1.5	20.3	71.4	28.9
7.	Others	Nil	Nil	Nil	Nil	7.1	1.2
	TOTAL	100	100	100	100	100	100
		67	57	124	69	14	83

As mentioned earlier, Group A village households are those who have lost their land, trees and houses and have been rehabilitated in the resettlement colony Analabadi. Most of these households have atleast one member employed in NALCO. 95.8 per cent of the workers in such households were having cultivation as their principal occupation and 2.7 per cent were agricultural labourers. Only 1.5 per cent, mainly landless were depending on non-agricultural labour as principal occupation. This was the situation before the establishment of the project. After the establishment of the project, there has been a distinct change in their principal occupation. Not a single worker is now having cultivation or agricultural labour as principal occupation. Their displacement, loss of land and employment in NALCO has forced 66.3 per cent of workers to have organised service as their principal occupation. 28.9 per cent depend principally on non-agricultural labour. Only 2.4 per cent, 1.2 per cent and 1.2 per cent of workers respectively depend on allied activities to agriculture (mostly animal husbandry, dairy and forest produce collection) petty trade and business and other miscellaneous activities as their principal occupation.

There has been another change in occupation pattern. In pre-project period all the members of a tribal household

were equal partner in a subsistence type of economy. The males, females and the children of age group of 9 – 14 years or even smaller supported the family income. This was so because agriculture was the main occupation. But after the establishment of the project, as there was change from farm activity to tertiary activity, 71.4 per cent of female workers are having non-agricultural labour as principal occupation. The female workers are being diverted towards tertiary activities due to the reason that very few females have been employed by NALCO. Moreover,the house wifes of employed tribal workers in the NALCO project do not do any type of work. They think that it is against their prestige to make the women work outside the household and as such there is no economic compulsion for them. The children of these group of household are going to school now.

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The Group.B village households are those who have lost lands but they have not yet displaced. Besides,they have not been employed in NALCO. After the acquisition of land by NALCO,there has alsobeen a spectacular change in their principal occupation.

The table no.5 gives the distribution of tribal workers according to principal occupation in preproject and post project period of Group B village households.

TABLE NO:5

GROUP B

S.L.No.	Principal Occupation	PERCENTAGE OF WORKERS ENGAGED					
		Preproject period			Post project period		
		Male	Female	Total	Male	Female	Total
1.	Cultivation	97.3	96.9	97.2	8.7	NIl	4.8
2.	Allied Activities	NIL	NIL	NIL	4.3	10.5	7.1
3.	Petty Business	NIL	NIL	NIL	4.3	NIL	2.4
4.	Organised Service	NIL	NIL	NIL	4.3	NIL	2.4
5.	Agricultural Labour	2.7.	3.1	2.8	10.2	15.4	12.1
6.	Non 'Agricultural Labour	NIL	NIL	NIL	68.1	74.1	71.3
7.	Others	NIL	NIL	NIL	NIL	NIL	NIL
	TOTAL	100 19	100 18	100 37	100 23	100 19	100 42

From the table no.5 it is gathered that while in pre project period 97.2 per cent of their workers had cultivat-ion and 2.8 per cent had agricultural labour as their principal occupation, in the post project period due to loss of land. 71.3 per cent depend on non agricultural labour and 12.1 per cent resort to agri-cultural labour as their principal occuption. Besides, some shift has been noticed in favour of allied activities (cattle reaving and forestry) and petty business etc. Due to construction of NALCO plant and development of large growth centres, some economic and commercial acti-vities have been created for these tribal workers. But all these economic activities are of adhoc nature. They are not based on regular basis. So the households of this category have been great suffers in both the fronts i.e. by losing their cultivable land and by not being employed in NALCO. These people are frustrated and urge NALCO authorities to provide employment in NALCO establishment.

From Table no.6 it is gathered that Group C village households in general have not sustained much of material loss either of houses and lands. Only few households lost some lands for which necessary compensation has been paid. No significant change has taken place in their principal

TABLE NO. 6

GROUP C

S.L.No.	Principal Occupation	PERCENTAGE OF TRIBAL WORKERS ENGAGED					
		Preproject period			Post project period		
		Male	Female	Total	Male	Female	Total
1.	Cultivation	96.8	96.2	96.5	80	85.7	82.6
2.	Allied Activities	NIL	NIL	NIL	NIL	NIL	NIL
3.	Petty Business	NIL	NIL	NIL	NIL	NIL	NIL
4.	Organised sector	NIL	NIL	NIL	NIL	NIL	NIL
5.	Agricultural labour	3.2	3.8	3.5	3.2	3.8	3.5
6.	Non-agricultural labour	NIL	NIL	NIL	16.8	10.5	13.9
7.	Others	NIL	NIL	NIL	NIL	NIL	NIL
	Total	100 22	100 19	100 41	100 25	100 21	100 46

occupation after the establishment of NALCO project, except that about 13.9 per cent have shifted their principal occupation to non agricultural labour in the growth centre from farm cultivation.

Description of Tribal workers employed in NALCO Project:

Due to acquisition of lands, houses and trees by NALCO, the tribals in the project area faced a set back in their traditional way of earning livilihood. Moreover, the farm sector and the forest which was providing self employment and wage employment to these unskilled tribal workers was lost. So to eke out their living, the NALCO authorities besides providing compensation money promised for regular salaried employment to Land displaced persons at the rate of one from each household . And accordingly,as many as 162 tribals were provided with a salaried employment in NALCO establishment. Tribals of A Group of village households, who were displaced and rehabilitated in the rehabilitation colony of Analabadi got the maximum number of employment. Around 161 tribals from this Group of households were employed in the NALCO establishment. Only one tribal from Sindhipur village of Group B of village households was employed in NALCO establishment. So there is much agitation among the tribals of this group of village households, demanding employment in NALCO. The

NALCO authorities gave justification by saying that as NALCO industrial and mining unit runs with the most advanced technology with highly mechanised and sophisticated machineries and equipments, it is not possible on their part to induct these unskilled and illiterate tribal people in NALCO establishment. Inspite of it, after facing much difficulties in imparting training and educating the tribals, they have inducted 162 tribals in NALCO establishment.

Table No.7 shows employment provided by NALCO to local displaced persons. From table no.7, it is gathered that the 162 tribals belonging to the households constituting 81.4 per cent of the total have been appointed directly under NALCO both in mining and manufacturing establishment. Among 38 tribal households, no body could be provided employment so far mainly due to (i) non availability of jobs and (ii) scarcity of suitable jobs in NALCO. However, after training and education, 11 out of 37 were found employable, where as 26 are not at all fit for any job even in grade IV. (NALCO Administrative Office, Damanjodi, Koraput).

Types of job held by Tribals in NALCO

As NALCO runs with most advanced technology with

TABLE NO: 7

S.L.No.	Name of Villages (GROUP A)	Families actually displaced			Numbers of persons employed			%of S.T. families have a member of NALCO employment
		Total	S.C.	S.T.	Total	S.C.	S.T	% of S.T.
1.	Damanjodi	154	16	127	123	16	100	78.7
2.	Goudaguda	20	NIL	NIL	18	NIL	NIL	NIL
3.	Malidumuniguda	83	02	28	66	2	25	89.3
4.	Sugriguda	28	NIL	28	25	NIL	25	89.3
5.	Barangput	20	01	01	18	1	NIL	NIL
6.	Kantaguda	60	16	01	46	16	01	100
7.	Goudgua	5	NIL	NIL	4	NIL	NIL	NIL
8.	Potiasil	18	NIL	14	14	NIL	10	71.4
9.	Gadiapabili	52	2	NIL	36	2	NIL	NIL
10.	Sindhipur	NIL	NIL	NIL	2	NIL	1	NIL
11.	Champapadar	NIL	NIL	NIL	1	NIL	NIL	NIL
	TOTAL	440	37	199	353	37	162	81.4

SOURCE: NALCO Administrative Office, Damanjodi.

highly mechanised and sophisticated mechineries and equipments, the scope of employment for the tribals is very restricted. The tribals who are equipped with skill, training and education mostly hold specific type of lower jobs. Mostly tribal employees are either Mazdoors or helpers. Table No. 8 shows the distribution of jobs held by 166 tribals in NALCO.

Table No: 8 DISTRIBUTION OF TRIBAL EMPLOYEES ACCORDING TO THE JOB HELD BY THEM.

SlNo.	Job	Percentage of total tribal employees holding the job
1.	MAZDOOR	45.6
2.	HELPER	17.45
3.	MECHANIC	6.62
4.	WATER SUPPLIER	4.41
5.	FITTER	3.68
6.	ELECTRICIAN	2.94
7.	SWEEPER	3.68
8.	GARDENER	3.68
9.	DRIVER	2.94
10.	PEON/BEARER	4.41
11.	OTHERS	5.13
	TOTAL	100

SOURCE: NALCO Administrative Office, Damanjodi.

From Table No.8, it is found that most of the tribal employees are in the lowest rank (corresponding to grade IV rank of State Government) and the rest are little above that rank. This is probably due to the very low level of skill and education and they were not able to hold very high ranks in NALCO. According to grading of NALCO,74,28 per cent of the tribal employees are in W 1 Grade(lowest). The types of jobs are Mazdoor, Helper, Sweeper, Gardener and Water supplier. 16.16 per cent are in W_2 Grade. The types of jobs are Peon/Bearer, Driver, Fitter and Others. 9.56 per cent are in W_3 Grade. The types of jobs held by the tribal employees in this category are Electrician and Mechanic. However this distribution may change after sometime with higher qualification, skill and promotions.

In addition to the provision of regular salaried job in NALCO, good opportunities on daily wage jobs have been created for the land displaced persons including tribals in construction activities of roads, buildings, plantations, fuel and caustic loading and unloading works. However, as these works are not regular, salaried and that to, they had to work under the contractors, they face many difficulties in earning their wages. The contractors do not pay them the actual amount as stipulated by the Government of Orissa. They are often created by the

contractors. The minimum amount of salary that the NALCO tribal employees get is around Rs.1800 per month. Besides these they get wages for the over time works. So monthly a regular salaried tribal employee gets around Rs.2200 to Rs.2400 per month. The daily wage workers get Rs.20 per day. However sometimes the contractors make a payment of Rs.15 per day to these tribal daily wage workers. As these people are innocent, simple, illiterate and have lost their lands, houses and trees due to acquisition by NALCO, they have no alternative rather than to work under these contractors even if they are not paid the actual amount as mentioned by the State Government.

A Case Study

Smt. Padma Lanta, a widow of Paraja tribe had been displaced from her village Goudaguda. NALCO took her households and agricultural land, with a promise to employ her. She has been settled in Analabadi rehabilitated colony. However till now, she has not been provided with a job. As a result of which she has to earn her livlihood and for her child by doing daily wages which is not permanent in nature. More so, the contractors do not pay her the actual amount of Rs.20, as stipulated by the Government of Orissa. She is actually being paid Rs.15 with thumb impression, on the paper mentioning Rs.20. When asked why she is not raising her voice for this

injustice, she said that by raising her voice, she would lose the job from the contractor and would face difficulties in earning her livilihood.

Thus it was seen that tribal people who are employed in the NALCO project on regular salaried job were better-off than the tribals who are not employed. These tribals are employed under the contractors who pay them according to their wishes by taking the advantages of their simplicity, illiteracy and compulsion. The NALCO authorities should look into these matters and make a provision for the fair payment of daily wages by the contractors to the tribal daily wage workers. The corrupt contractors should be punished and their license should be ceased.

Training provided by NALCO

Detailed knowledge about the training facilities was available from Mr. U.C. Sahu, Deputy Manager, Training, at Damanjodi. He gave an elaborate idea about the quality of tribals available in the area, their training needs and the problems associated in developing technical manpower (of lower categories) from among tribals. Since, the recruited tribals are almost illiterate and are not conversant with job requirements, the training starts from teaching them 3 R's. The trainers to impart training

in various courses are centrally trained at Cuttack in the Training Centre of Government of India and the programme contents of workers's education are determined as per the guidelines of Government of India.

A fulfledged Training Division has been functioning under NALCO for training the Land displaced persons, who were employed. Five training courses are being run by the training division. These are as follows:

i) Training on Elementary Education under Adult-Education Programme:

The course covers teaching on 3 R's. (reading, writing and fundamental arithmatic) and some things on general knowledge. Since the tribals are neither educated nor conscious, this training helps them in giving rudimentary knowledge on reading and writing which is essential for their jobs. Duration: 3 days in a week with one hour duration every day. Out turn: So far 60 trainees have been covered out of whom 48 are tribals and 8 belong to scheduled castes.

ii) General Awareness Training:

This covers several topics relating to NALCO, its objectives, functions, divisions, activities of different sections along with matters relating to current development

programmes, general knowledge etc. Besides, the trainees are made familiar with official conduct and behaviour, adverse effect of alcoholism, official rules and regulations, safety measures, sense of responsibility etc.

Duration : 7 days

Outturn : 60 out of which 49 belong to Scheduled Tribes and 6 to Scheduled Castes.

iii) General Induction Training:

Duration : 7 days

Out turn : 15 out of which 10 belong to Scheduled Tribes.

iv) General Development and Skill Training:

Duration : 12 months

Out turn : 65 out of which 51 are Scheduled Tribes and 7 Scheduled Castes.

v) Functional Training

Duration : 10 days

Out turn : 5 out of whom 2 are Scheduled Tribes.

Source: NALCO Administrative Office, (Training Department) Damanjodi, Koraput.

Thus as a result of education, training in technical skills and other basic knowledge about NALCO's objectives, official rules and regulations, official conduct and behaviour, safety measures and sense of responsibility, 166 tribals have been appointed by NALCO both in Mining and Manufacturing establishments in different types of jobs. Out of the total regular and salaried tribal employees in NALCO project, 74.28 per cent of tribal employees are in W_1 Grade, 16.16 per cent are in W_2 Grade and 9.56 per cent in W_3 Grade. With the education and training, the tribal workers in NALCO may get more and more employment in various Grades of specific jobs.

Design of the Study

With the establishment of NALCO industrial and mining centre in Damanjodi area of Koraput district, the dominated tribal belt of Orissa constituting 76 per cent Parajas of total population, Kandhas 14 per cent, Gadabas 8 per cent and minor tribes 2 per cent – a new industrial growth centre has been created causing an ever lasting influence on socio-economic and cultural life of the tribal people. There has been major shift in the normal activity of the tribals from primary sector to secondary and tertiary sectors. Not only there has been improvement in the

economic life of tribals but also in social outlook and life style.

Prior to the establishment of NALCO industrial project, the tribals of the area lived in a natural environment upon which they were dependent for their livlihood. They had their own cultural means to satisfy their needs. They had their own health culture to cure their health problems.

With the establishment of NALCO project, there was large scale forest depletion, encroachment of their traditional agricultural activity, air pollution, water pollution etc. All these created an insecurity in their living style. They suffered from hitherto unknown diseases such as venereal disease, Asthama, tuberculosis, lungs problems, dysentery and malaria which were rampant.

No doubt NALCO project provided a hospital to cure the patients suffering from these diseases but howfar they have been successful in their effort to bring these tribal people who had their own health culture as a means to cure the disease is to be seen in this study.

In order to assess the magnitude and direction of the

impact of NALCO on the socio-cultural, economic and health aspects of the tribals the following study was taken up.

Objectives of the Study

The principal objectives of the study are:

i) Studying the occupational structure, livlihood patterns and principal economic activities of the tribals before and after setting up of NALCO.

ii) Examining the employment pattern and magnitude of unemployment in the tribal households before hand and after NALCO activities.

iii) Studying changes in social and cultural practices.

iv) Receptivity and responsiveness of tribal to modern ways of life, their attitude towards traditional tribal cultures and way of life.

v) Identifying the problems faced by tribals to retain their culture while adjusting with modernity.

vi) Identifying the health problems of the tribal workers working in the mining and industrial area and to what extent they differ from the tribal population that are not working in mining and industrial area.

vii) How far they have consulted the modern medical facilities provided by NALCO authorities.

viii) How far NALCO hospital has catered to the felt needs of the tribal population staying in the project area.

ix) How far they have become health conscious about family planning and sanitation.

Methodological Framework

Design of field study:

A stratified design has been adopted to study the impact of the NALCO project on tribal people. The project area villages have been grouped under 3 strata on the basis of displacement and rehabilitation problems. These are:

i) Villages fully affected from which total displacement has taken place and all displaced households have been rehabilitated in permanent settlement colonies at Analabadi.

ii) Villages where land has been fully acquired and compensation has been paid, but displacement of households and rehabilitation have not been done yet.

iii) Villages where land has been acquired partly but displacement of households has not been done.

From village 1, 60 tribal households were selected and from each of the other two starta, 20 tribal households were selected by simple random sampling procedure. The total number of households contacted for collection of data has been 100.

To supplement and substantiate the households data, information from 2 knowledgeable persons were collected from each sample village and analysed.

Besides this, information from secondary sources were collected from office of Collector,Tahisldars, Land Acquisition Officer, NALCO Offices, NALCO Hospital.

For the collection of data intensive field study was taken. Both participant and non participant observation, interviewing, putting questionnaire, case histories were undertaken.

Difficulties faced while conducting field study

While conducting the field study, much amount of difficulties were faced both from tribal inhabitants of the villages where rehabilitation has not taken place and from NALCO officials who did not give the exact data of their activity with regard to tribal population. The

doctors of NALCO hospital did not cooperate in giving the type of patient and number of patients they used to see daily. They gave all types of superfluous data so as to maintain their integrity. They did not allow to see the daily register of the visiting patients. Inspite of it, much care was taken to collect empirical data so as to make the study fruitful.

CHAPTER II

SOCIO-CULTURAL AND ECONOMIC LIFE PROCESSES OF THE TRIBALS: BEFORE AND AFTER NALCO PROJECT

According to 1981 census, the tribal population of Koraput district is 1,371,550, which constitutes 55.21 per cent of the total population. This district is having the second highest concentration of tribal population after the district of Mayurbhanj of Orissa. The total population of 26 villages in the project area of Damanjodi was 17678 according to the 1981 census of which tribals constituted 52.44 per cent, Scheduled Castes 10.84 per cent, and non tribals 37.72 per cent. The total number of tribal households sustaining loss of property (land and houses or land only) was 254. Out of this 254 tribals households, 76 per cent were Parajas, 13.85 per cent Khandhas, 8.23 per cent were Gadabas and 2.17 per cent were of other tribes.

The different tribal groups in the project area were having diverse traditional values and social ethos, which dominated their life style and influenced the socio-cultural aspects of each individual in the society. During the British period, the "exclusion" or "partial exclusion" of tribal area kept these ethnic groups away from the main stream of population. Even though the christian missionaries brought about some social changes in other areas through conversion, this area did not attract their attention.

After Independence, with the introduction of tribal

sub plan for systematic economic planning, development in education, health, drinking water, roads and communication and movements of non tribals to this area, some dilution in their traditional values and social ethos was brought over. There was some change also in socio-economic aspect of the tribals staying in the Damanjodi project area. All these changes were in a limited scale The tribals of Damanjodi were mainly farmers depending on their own land, shifting cultivation, animal husbandry and collection and sale of minor forest produces. Land was only tangible assest and right to forest was an alternate source of livelihood.

With the establishment of NALCO project at Damanjodi, in the heart of an intensive tribal area, inhabited by Parajas, Gabadas & Kandhas there was a great change not only in their socio economic aspects of life but also in their traditional values and social ethos of life. Due to acquisition of land, houses, and trees by the NALCO, a large number of tribals in the project area were uprooted from their traditional villages and their principal resource base earning from land through wet cultivation and shifting cultivation was lost. Besides this, the major source of earning from the nearby forest through collection and sale of forest produce was lost. As a result, the tribals experienced

a severe jolt in their living style. A major shift in the normal activity of tribals from primary to secondary and tertiary sectors was seen with the establishment of the project. Changes were also noticed in the socio-cultural life of the tribals of the project area. In order to observe these changes, informations were collected from the concerned tribal households, on their social organization, social beliefs and rituals, housing, clothing, food habits and drinking, sanitation and health.

GENERAL DESCRIPTION OF DIFFERENT TRIBES IN THE PROJECT AREA:

As mentioned earlier, out of different tribal groups staying in the project area, Kandhas constitute 13 per cent, Godabas 8 per cent, Parajas 76 per cent and other minor tribes 2.7 per cent.

Kandhas are hill tribes, resorting mainly to shifting cultivation. Besides this, they are engaged in hunting, gathering and forest produce collection to earn their livilihood. A Kandha village is located near a hill stream or at the back of girl's dormitory of the village where unmarried girls of the village retire at night. With small houses, sparse clothing, good drinking habits, belief in Gods (Dharamimita) and sorcery, they have a distnict cultural life. The life of Kandhas is full of festivities.

The most important ritual which is observed in each village in an interval of 5 to 10 years is called Kedu. On this occasion, a buffalo is sacrificed and villagers, guests and relatives gather at the place of worship and spend time in feasting, singing and dancing. The Kandhas are very much addicted to liquor. They drink juice from Sago palm and Khejor trees. At many places, they also distil liquor from Mahua flavour, ragi, and rice for their consumption and also depend upon local liquor vendors. On account of considerable depletion of vegetational cover of hill slopes, the produce from shifting cultivation has been reduced to great extent and the people show symptoms of acute malnutrition. Malaria and leprosy are prevalent among this group of tribals. The presence of sickle cell anemina and G -6-PD deficiency are common among the Kandhas of the project area.

The Gadabas are one of the most primitive but colourful tribes. They are engaged in agriculture, rearing of cattle and horticulture. They practise both shifting cultivation and wet cultivation. Those who live in plains practise both the types of cultivation, where as those who live in hills depend solely on shifting cultivation. Their chief agricultural produces include paddy, ragi, suan, maize, and gram. Ragi is their staple

food. Hunting and gathering are their supplementary sources of income. They also work as agricultural labourers. The Gadabas women are skilled in weaving their clothes . They use Ketanga fibre and coloured yarns and weave their clothes in their own loom. The Gadabas are fond of dance and music. One of their important dances is known as Dhemsa which is performed during communal festivals like pusa punia and chait parab. They decorate their bodies with traditional ornaments. Each village of the Gadabas has a dormitory organization, which is monosexual in structure. The unmarried boys and girls sleep in their respective dormitories at night. But gradually this institution is losing its importance.

Parajas have a distinct socio cultural life which is different from other tribal groups like Kandhas and Gadabas staying in the project area. They have a distinct settlement pattern, dressing habits, ornaments, and religious beliefs. The settlement pattern of the Paraja villages donot follow any particular trend. In some villages, houses run in parallel rows facing each other along the common village road and in others,the houses are scattered.Parajas resort to both shifting cultivation and wet cultivation. They are also goat herders. But as the forest area is considerably denuded and the yield

of shifting cultivation has reduced, the Parajas have undertaken to wage earning and agricultural labour in nearby villages and under local contractors. It is interestihg to note that they worship Dantenswari, the tutilary Goddess of Baster.

MARRIAGE PRACTICES, YOUTH DORMITORY AND COMMUNITY ENTERTAINMENTS AMONG THE TRIBALS OF THE PROJECT AREA: BEFORE AND AFTER THE PROJECT:

Marriage Practices Before the Project:

Marriage is an important event in a tribal's life with elaborate colourful function starting from acquisition of bride, payment of bride price and celebrations with feast and dancing and singing. In Parajas, Gadabas and Kandha society, when boy reaches adulthood and girl attains puberty, they became eligible for marriage. The unmarried boys and girls stay in the youth dormitory known as Dhangda Basaghar or Dhangdi Basaghar. The youth dormitories were mono sexual in nature, where unmarried boys and girls go and sleep in the night. Through intermixing, singing, dancing in community function and merrymaking, these unmarried boys and girls meet each other and come to know each other's temperament and choose a suitable mate. Later on, both the parents of either side meet and settle up the marriage and payment of bride-price. The

date of marriage is fixed by the village astrologer and wedding takes place in boy's house. The payment of bride price is done more in kind than in cash. The ceremoney is celebrated with feasts, drinks, songs and dance. After the marriage, the son sets up a separate house.

In all the tribes in the village, exogamy is normally adhered to. Besides, child marriage is not found among any of the groups. Among Parajas, cross-cousin marriage is preferred and role of clan and village exogamy is rigidly followed. Among Kandhas, marriage is either done by consent or by capture of the bride. In Gadabas, arranged marriage is commonly prevalent.

YOUTH DORMITORY BEFORE THE PROJECT:

Each of the tribal groups had a youth dormitory in their villages before the project. It was an important institution for all the tribal groups. It was not only a common sleeping room for the young people but also a training institution to learn tribal mythology, dance, music and many other qualities, such as identifying medicinal plants and traditional healing methods, which would make them useful members of the community. The dormitory with its elaborate system, strict discipline

and duties was meeting the needs of the villagers for labour in agricultural operations, in constructing a house at a nominal payment. This was the situation before the construction of the NALCO project.

MARRIAGE PRACTICES AFTER THE PROJECT:

After the construction of the NALCO project, the influence of growth centre, non tribals and the exposure to urban and semi urban conditions have changed their traditional ways of marriage and have affected their social institution, i.e. youth dominitory. Though the marriage system has almost remained unchanged, the village exogamy is not being rigidly followed. In regard to payment of bride price, payment in kind is gradually disappearing. This change is clearly marked in A group of village households which has been totally displaced and rehabilitated in the Analabadi colony, which is near the growth centre. Even in this group of village households, the payment of bride price is not that rigid unlike Group B and Group C village households. Further, some of the tribal families of Group A village households rehabilited in Analabadi colony, who have been employed in NALCO project, have adopted some Hindu customs in their traditional pattern of marriage. Unlike Group A village households, in Group B and Group C of village households, still traditional pattern of tribal marriage is followed.

Festivity connected with the marriage has not changed much. There is much drinking, music and dancing on the occasion of marriages in Group B and Group C village households.

YOUTH DORMITORY AFTER THE PROJECT:

With regard to youth dormitories, it was seen that Group A of village households which has been totally displaced and rehabilitated in the Analabadi colony, have no youth dormitory. But Group B and Group C village households have youth dormitories in their villages. However these youth dormitories are in dilapidated condition but still they are functioning.

Though the unmarried boys and girls go to these youth dormitories to learn their cultural mores, norms, ethos of the society but their attendance in youth dormitory has decreased. This is due to spread of education and consciousness among boys and girls. When question was asked to the Group A village households whether they want youth dormitories to be constructed in the Analabadi colony, a large number of inhabitants opposed the idea because (a) individual tribal identity has been lost in the colony and separate dormitories are needed not only for households coming from different villages but also

for different tribes from the same village, (b) Having so many dormitories will be confusing and may lead to mixing of youths of different sexes of different tribes providing scope for inter-tribe marriage which is considered sacrilege, (c) There is no need of construction of dormitories, as their children are going to school and getting modern education, it would not suit to their temperament to visit youth dormitories. Moreover through mutual learning from other friends of same sex, they learn dance music and song.

COMMUNITY ENTERTAINMENT BEFORE THE PROJECT:

Prior to the establishment of the project, community dancing,singing and music were the principal sources of entertainment in the villages. The adult youths of all the village households used to take part in village festivals, singing and dancing. Dancing style and songs were distinctly different among different tribes. Among Kandhas and Gadabas, dances are not only common but quite popular.

COMMUNITY ENTERTAINMENT AFTER THE PROJECT:

However after the establishment of NALCO project, the community singing and dancing in Group A village households have declined to a larger extent. This has

been due to growing consciousness among the educated and employed tribals in NALCO project. The educated girls and boys feel shy to participate in singing and dancing in open grounds of the Analabadi colony. Instead they go to see cinema. However in the Group B and Group C villages, the community singing and dancing still persist. The adult boys and girls take part in singing and dancing in village festivals. Thus it was seen that in Group A village households, due to education and exposure to the modernity, there has been declination in community singing and dancing activities.

ROLE OF THE TRIBAL WOMEN IN PROJECT AREA, BEFORE AND AFTER THE PROJECT

In a tribal society, women are economic asserts and all the activities either economic, social or cultural centre around her. She is not only industrious, active and tolerant but also the principal agent in preserving socio-cultural traits. Therefore Lowie has emphasized that " although the economic nature of this bride price payment cannot be minimized, it nevertheless would be wrong to regard the payment of a bride price as indicating sale and purchase. It may be only symbolic of the utility of a woman and by way of compensation to her parent's family".

Before the establishment of the project, the tribal women of Parajas, Kandhas and Gadabas helped their respective households in economic persuits. She assisted her husband in cultivation, allied activities, collection and sale of minor forest produce, marketing and other transactions, and earning wages as an agricultural labourer. In social sector, she does all the household work and maintains social relationship with other families. In cultural field, she helps in observing all the social rites and festivals and participate in community dancing, singing and merry making. In Paraja and Kandha communities, the pivotal role of women in socio-economic and cultural fields is well recognized. In Gadabas, women are skilled in weaving their clothes. They use Keranga fibre and coloured yarn to weave clothes.

ROLE OF TRIBAL WOMEN AFTER THE PROJECT:

After the establishment of the project, the role of tribal women, particularly of Group A village households, has changed. The change is more pronounced among the females of the tribal workers employed in NALCO project. Their traditional roles in economic sphere, and cultural sphere have undergone a change. In cultural sphere, the females of these tribal employees do not participate in

community dancing, singing and village festivals. Their observance to social rites has declined. In economic sphere, they do not work as equal partners with their husbands in earning wages for livilihood. They do mainly households chores. This is because (i) Employed tribals feel that, they donot have any economic compulsions for which their females have to go outside for doing work, (ii) The males of these households donot like their females to work as casual labour, as they have attained higher status in the society, (iii) The elderly boys and girls being sent to school, the female members remain confined to homes to look after the young siblings.

The role of the majority of women of Group A and Group B households whose males have not been employed in NALCO, have changed their economic activities from primary to secondary and tertiary activities. Before the project, 94.2 per cent of tribal women from Group A village households and 96.9 per cent of women from Group B village households, were engaged in primary activities. But after the project, non of the tribal women from both the Groups of village households were engaged in primary activities. This was because of acquisition of all lands by NALCO, fromboth the Groups of village households. However, 71.4 per cent of tribal women of Group A village households

and 74.1 per cent of tribal women of Group B village households, were engaged in non agricultural labour. This is because, very few of the tribal women have been employed in NALCO. Most of the tribal women are either enaged in construction works like roads, buildings and loading and unloading of materials or in household works of non tribal officers working in NALCO project.

In Group C village households, there has been no significant change, in the role of tribal women before and after the project, both in economic and cultural activities. The women of this group of villages still follow the traditional mores, norms, social rites of the society. They take active part in dancing, singing and in village festivals. In economic sphere, they work as equal partners with their males, in earning their livilihood. Before the project, 96.2 per cent of the tribal women were engaged in primary activities and after the project, 85.7 per cent were engaged in primary activities. 10.5 per cent were engaged in non agricultural labour after the project. Thus there has been no significant change in primary activities.

It was gathered that with the establishment of NALCO, the influence of growth centre and modernity have changed the role of women, particularly of employed tribal workers of Group A village households. For others,

who are not employed in NALCO, the role of women has changed from primary activities to secondary and tertiary activities. In Group C villages,which is far away from the growth centre, the role of the women has not changed significantly, both in economic and cultural spheres.

SOCIAL FAITH AND BELIEFS, SOCIAL CEREMONIES AND SOCIO - POLITICAL SYSTEM OF TRIBALS IN THE PROJECT AREA, BEFORE AND AFTER THE PROJECT

The tribal groups in the project area believed in super natural power and worship several forms to satisfy such beings. They also believed in evil spirits who are responsible for causing diseases and their cure through sorcery or witchcraft. Among Parajas,devotion to deities and worship of different gods and goddesses are common but superstitions about evil spirits have been found to be relatively less when compared to other tribal groups. Gurumain, the priest-cum-witch doctor, plays an important role in curing the diseases and illness. Bhattnayak purifies socially polluted persons. In ceremonial occasions, Dirari, the village Astrologer is consulted. Among Kandhas "Dhavansimata" was worshipped as super goddess, and in all ceremonies,she gets the highest honour. They also worship ancestors or Dumbas whose spirits appear before them in dreams. Kandhas strongly believe in black magic. They believe that through black magic, sorcery and by

satisfying evil spirits through pooja and sacrifices, diseases can be cured. In Kandhas, Kalisi cures the diseases by witchcraft and Dirari acts as an astrologer-cum-medicineman. Lamba presides over the Meriah festivals while worshipping Earth Goddess. Jani is a religious head priest of the village and he also acts as a secular head and the post is hereditary.

Among the Gadabas, faith in gods is quite sincere but their belief in evil spirits and witchcraft is relatively poorer. Disari functions as the religious head, medicine man and astrologer.

SOCIAL CEREMONIES BEFORE THE PROJECT

The tribal groups staying in the Damanjodi project area celebrated and observed festivals and rites with great fervour The rites referring to different crop seasons starting from sowing to harvesting of crops have been observed. The most important festival for almost all the tribal groups residing in the area is Pusaparba, held in the month of January which corresponds to harvesting season of paddy. This Parba was celebrated with singing, dancing drinking, feasting and merry making. The other festivals are chaita parba, Asada Parba and Bada Parba. Besides, observing these festivals, different tribal groups in the

project area worshipped a number of gods and deities. Among Parajas, Dantenswari is the tutelary goddess. It is interesting to know that Dantenswari is also the tutelary goddess of the tribals of Bastar area. The other gods and goddesses of Parajas were Landi (the goddess of social life), Jhakar Devata (earth goddess), Mahapuru (the supreme god) and Mishan (village deity). Among Kandhas, Dharanimata (earth goddess) was the supreme goddess. Many rituals are connected with this Goddess. The other deities are village deity, Sita Penu (deity of wealth), Bina Penu (deity of rain) and Dumbas (ancestors). The most important ritual observed by the Kandhas is Kedu. It falls at an interval of 5 to 10 years. On this occasion, a buffalo is sacrificed and villagers, guests and relatives gather at the place of worship and spend time in feasting, singing and dancing. Among Gadabas, Thakurani is the chief goddess. In festivals like Pusa Punia and Chaita Paraba, they perform an important dance called Dhemsa. On this occasion, drinking, singing and feasting are common. The ladies decorate their bodies with traditional ornaments and visit their neighbouring villages while performing singing and dancing.

SOCIO-POLITICAL SYSTEM BEFORE THE PROJECT

The social institution in a tribal village is mainly

linked with the religious priests. Among Parajas, the socio political system consists of Jani (head priest), Muduli (secular head) and challan who assists Muduli in his work. Jani functions as head priest, and his words are honoured by all. Muduli functions as the village chief deciding all village matters, conflicts and civil and criminal cases. He also organises communal functions and receives and entertains outsiders or Government officials acting as principal spokesman. These functionaries hold a high social prestige in the socio-political system of Paraja tribe. Among Kandhas, Jani who is a religious head of the village, also acts as secular head and the post is hereditary. He is assisted by Bismajhi. The village messanger, Barika mainly belongs to Domb or Pano community who is paid for his services. The venue of the village panchayat is the seat of Earth Goddess. The panchayat body consists of village leaders, religious functionaries, heads of the households and some members of the Domb or Pano community. The jurisdiction of panchayat is confined only to offences of social nature such as sorcery or witchcraft, adultery, divorce etc. The Gadabas have their own way of managing village social matters through the traditional socio-political organisation called panchayat which is headed by Naik, the secular headman. The other functionaries are "challan" and "Barik"

(messenger), The Barik generally belongs to Domb caste. All the tribals of different groups believe in their own laws and seldom go to court. This was the situation in social faith and belief, social-ceremonies and socio-political system before the establishment of the project.

SOCIAL FAITH AND BELIEFS AFTER THE PROJECT

After the establishment of the project, this well knit traditional social system is gradually changing, due to exposure to modernity, growth centre and education. In social faith and belief, there has been a great change among the tribals living in project area. The belief in witchcraft, sorcery and worshipping evil spirits, for curing the diseases and illness have declined. Likewise, faith on Disari, Gurumani, and Kalisi has also decreased. This is all due to availability of medical and health facilities, education and conciousness, influence of growth centre and exposure to modernity.

According to village households survey, before the project, 78 per cent of Group A village households believed in traditional method of curing of the diseases. In Group B and Group C village households, 90 per cent and 75 per cent of the village households believed in traditional method of curing the diseases. After the establishment of the project, 5 per cent of Group A village households, 25 per cent of the Group B village households and 30 per cent

of the Group C village households believed in traditional methods of curing the diseases. There was a prounounced decrease in the use of traditional methods of curing the diseases in Group A village households. This is due to i) Group A village households have been rehabilitated in Analabadi colony which is near the growth centre and it is nearer to NALCO Hospital i.e. 1 Km away from the NALCO Hospital which caters the need of the people in health and medical aspects, (ii) most of the tribals have been employed in NALCO, by which, they are exposed to modernity, which has resulted in the growth of their consciousness. In Group B and Group C households, there has been a decline in the beliefs of traditional method of curing the diseases, but it is not that prounounced. This is because of the availability of health and medical facilities far away from their village. From Group B villages, the primary health centre is around 6 Km and in Group C village it is around 10 km away. Secondly the influence of the growth centre on Group C village households is very less. So some people still believe in witchcraft, sorcery, evil spirits and go to their traditional healers like Disavi, Kalsi and Gurumain to heal up their diseases and illness.

SOCIAL CEREMONIES AFTER THE PROJECT

In observing social ceremonies it was found that, observance of different festivals by tribals in the project

area has not changed much, after the establishment of project. The festivals are being held with great fervour. However, with regard to participation of tribals in these festivals, there is much change in Group A village households. As this group of village households have been rehabilitated in Analabadi colony and its members are employed in NALCO, very few members of this group of village households participate in these festivals. Moreover, as the festivals are connected mostly to the crops and Group A village households are without any land, they donot feel like going to their original village and participate in these festivals. But in Group B and Group C of village households, the members participate in the festivals fully. On this occasion, they dance, sing and drink a lot of liquor made out of ragi and rice. With regard to worship of their traditional deities, much changes have been seen in Group A households. Very few members of this Group of village households worship their traditional and village deities. Instead, the worship of Hindu gods such as Lord Jagannath, Laxmi Puja and Durga puja is performed with much devotion. This may be due to the influence of Hinduism on the members of this group of village households. In Group B and Group C village households, the worship of their village deity (Mishan Devata of Parajas, Sita Penu of Kandhas and Thakurani of Gadaba), Earth Goddess

(Jhakar Devata of Paraja and Dharani mata of Kandha), and other deities like Landi, Dantenswari, Mahapuru, Bina Penu is done with great fervour.

SOCIO-POLITICAL SYSTEM AFTER THE PROJECT

In socio-political system of tribals, much change has been seen in the project area. In Group A village households which has been rehabilitated in the Andalabadi colony, no traditional type of panchayat system is seen. Disavi, Mudoli and other members of the panchayat have no role to play in this Group of village households. In setting the cases, and other litigations the tribals now go to the court. In Group B and Group C village households, though the traditional type of socio-political system is found, its allegiance from the educated youth tribals has been declined. Due to influence of growth centre, education, and growth of consciousness, the traditional type of socio political system has undergone a change. Now tribal people take the help of modern legal laws in solving their litigations.

DRESSING HABITS, TATOOING AND ORNAMENTS OF TRIBALS BEFORE AND AFTER THE PROJECT

DRESSING HABITS BEFORE THE PROJECT

In the pre project period, the tribals had very simple clothing habits. In the traditional tribal villages,

the tribal dress consisted of limited items of cloth . Men used loin cloth or lenguthis and women used two pieces of cloth covering their breasts while keeping the back bare . Gradually with the exposure of area through roads and communications, there was gradual change in dress habits. The loin cloths or lenguthis were replaced by dhotis and sarees which were of traditional types.

DRESSING HABITS AFTER THE PROJECT

In the post project period, there was a sudden change in the dressing habits of Group A village households. This may be due to nearness of Analabadi to the growth centre. The tribals of this group of village households got the maximum exposure to modernity. The tribal males and females of this group of village households now prefer to wear pants, shirts, chappals, shoes, and the females prefer sarees, salwar and blouses. The children are also wearing modern dresses. The employed tribals of Group A village households now use teri-cot shirts,teri-cot pants, woollen clothes and the females silk sarees and woollen shawls. In Group B and Group C households, larger section of tribals use traditional type of lungis, dhotis and sarees. But the school going children now prefer to wear pants and shirts. As a whole, dressing habit of tribals of all the group of village households has changed to a large extent.

TATOOING BEFORE THE PROJECT

With regard to the tatooing before the project, the females of different tribal groups like Parajas, Kandhas, and Gadabas got different parts of their bodies tattoed by the Gaurias who visit their villages. They get tattoed on on the forehead, temples, chicks, the left wall of the nose and chin. Flowers, plants and other such patterns are tattooed on the arms, foot joints and on neck.

TATOOING AFTER THE PROJECT

In the pre project period, the tatooing was gradually being abandoned. But after the project and with the development of growth centres the tatooing got totally disappeared in Group A village households. In Group B and Group C village households, tatooing was noticed to some extent. But it was not common as found earlier.

ORNAMENTS BEFORE THE PROJECT

Before the project, mainly traditional type of ornaments, made of brass aluminium and silver were used by the females of different tribal groups. Use of gold ornaments was very much restricted. The ornaments were heavy and gorgeous. The common ornaments used by the tribal women were necklaces, either metallic chains or beads of different colours, bangles made of silver,

aluminium, brass or glass, armlets (Khadu)made of silver, aluminium or brass), bracelets (aluminium, brass or silver)and ear-rings, rings and hair pins, etc.

ORNAMENTS AFTER THE PROJECT

After the project, with the influence of growth centre and exposure to modernity, these traditional type of ornaments are being replaced by modern ornaments. In fact, in the Group A village households, except very aged and old women, the younger women and girls are no longer using heavy Khagla and Khadu but thinner gold/silver chains and bangles. They now use gold imitated chains, earrings and rings. The use of gold ornaments in Group A village households has increased, due to better economic conditions of the employed tribals. In Group B and Group C village households, the traditional type of ornaments are still in use, though to some extent modern ornaments have infiltrated into Group B and Group C village households.

HOUSING AND SANITARY CONDITIONS OF TRIBALS BEFORE AND AFTER THE PROJECT.

HOUSING CONDITION BEFORE THE PROJECT

The settlement pattern of tribal villages in the project area does not follow any particular trend. In

some villages, the houses are scattered, and in others, houses are found arranged parallel to each other with common road. The houses are generally made of wood, bamboo, straw, mud plaster and cow dung etc. The walls are well maintained by mud and cow dung plastering and sometimes with coloured soils. The size of the houses and number of rooms depend upon the economic status of the households. Very few houses in the project area had three rooms and most houses were having two rooms of unequal size. The larger room serves as the bed-cum-dining room, and also the kitchen. The smaller one serves as the store house or shed for domestic animals and polutry. A small verandah is often attached to the bigger hut which is used as the sitting and sleeping place for old men in the family.

HOUSING CONDITION AFTER THE PROJECT

In the post-project period, the Group A households which have been displaced and rehabilitated in the Analabadi colony are staying in pucca houses having electricity and drinking water facilities. Now households living in three roomed houses have been more than before the displacement. The houses are having windows for ventitation purposes and big verandah for sitting purposes. The tribals of different groups like Parajas, Kandhas and Gadabas are staying in the same colony with the non tribals. But the non tribals stay in separate vows. Tribals in

Group B and Group C village households, where rehabilitation has not taken place, continue to stay in Jhumpudi houses without any windows. There is no electricity and for drinking water purposes, they have to go upto a distance of four or five kilometers. So there is not much change in the housing conditions in Group B and Group C village households after the establishment of the project.

SANITARY CONDITION BEFORE THE PROJECT

The sanitary condition of tribals in the pre-project period was not good. As most of the tribals were staying in two room houses without having any ventilation and that to, one room being used for domestication of animals and poultry or storing purposes, the rooms became congested and suffocated. As very often the sheds for domesticated animals, poultry and piggery were attached to the main houses, it gave out a repulsive odour of putrified refuses of the animals. The tribals used the open fields as latrines and the children near the habitation which made the situation still worse. Washing of clothes, utensils and cleanliness among these tribal groups were lacking. For drinking water purposes, they used to go either to the Kolab river or stream which is four to five kilometers away from the village. The water collected from these sources was used without being boiled, by which the tribals very often suffer from

dysentery and malaria. This was the sanitary situation before the establishment of the project.

SANITARY CONDITION AFTER THE PROJECT

In the post-project period, the overall sanitary condition has not been improved substantially. In the rehabilitation colony, sanitary condition is not that well. This may be due to high congestion and higher population density in the resettlement colony. The houses are built in a congested manner without any good drainage system. As the water taps and tubewells donot have good drainage facilities, water gets accumulated giving a pungent smell and provides breeding ground for Malaria. This coupled with openfield defecation and especially by children near the habitation makes the situation still worse. With regard to cleanliness, washing of cloths and utensils, it is mainly confined to tribal people of higher economic status, i.e., tribals those who have been employed in NALCO. This sense of cleanliness must have developed by coming in contact with the non-tribals staying in the same colony. In Group B and Group C households, the situation remains the same as before.

FOOD AND DRINKING HABITS OF TRIBALS BEFORE AND AFTER THE PROJECT

FOOD HABITS OF TRIBALS BEFORE THE PROJECT

In the pre-project period, the traditional food

of the tribals was rice gruel or ragigruel. Ragi and rice were normally taken in breakfast time and during lunch hour. The night meal was considered to be the best with rice, vegetables and country liquor. Since the tribal households in the project area were mainly agriculturists, rice and ragi were the principal food. The poor households having paltry food were also depending on different fruits and roots collected from nearby forests for a couple of months during the year. Almost all households were using country liquor or home made liquor (by fermentation of ragi or rice). Even though the tribals are non vegetarian in habit, very few families were taking fish, meat, crabs or eggs regularly. But dried fish, though consumed occasionally was being relished by all households. Use of spices for preparation of curry was almost unknown except in very few tribal families who were rich. Chillies and turmeric were normally used for food preparation and oil was being used only in rich tribal families.

FOOD HABITS AFTER THE PROJECT

In the post-project period, there has been a change in the food habits of the tribal people, especially in Group A village households. Consumption of rice and wheat as staple cereal has increased and ragi, maize and suan

has decreased substantially. This is due to the loss of their lands where these cereals were grown earlier. In these Groups of village households, wheat has become more popular. This may be due to cheaper rate of wheat than rice and influence of the growth centre activities. This indicates a radical change in the food habits of Group A village households. In Group B and Group C village households, rice, ragi, maize and suan are consumed as staple cereal, even after the project. In some households of these groups of villages, wheat is consumed but it is not that popular unlike Group A village households.

The consumption of non vegetarian food has not improved in all the group of village households. Earlier, triabls of all the households happened to consume non vegetarian food atleast occasionally. In Group A village households, the consumption of non vegetarian food has decreased, to a larger extent. This is mainly because, previously before shifting to the new site, these households were rearing goats, sheep and poultry, but now they are not able to maintain such animals in the new site. And secondly, the price of non vegetarian food in the project area is too high. In Group B and C village households, the consumption of non vegetarian food has also decreased. This is mainly because the growth centre fetch them a good price for the non vegetarian food items. And secondly, due to restriction

imposed by the Forest Department on poaching the animals in the forests. The consumption of oil and spices has somewhat increased among these tribals. Thus on the whole, there has been a change in the diet pattern of the tribal living in the project area.

DRINKING HABITS BEFORE THE PROJECT

Drinking was quite common among the tribals of different groups. Normally fermented liquor was prepared in the households out of ragi, rice, mohul and from sago palm juice or date palm juice. Drinks were offered to deities during worships, and was taken heavily in festive occasions, and ceremonies. Almost every day, tribal male and female use to take fermented liquor. Most of them admitted that their economic conditions had been shattered due to drinking habits.

DRINKING HABITS AFTER THE PROJECT

Immediately after the project, drinking among all the groups of village households became more severe and intense. This is because of the land acquisition and and displacement from their traditional villages by NALCO. Tribals of Group A village households having displaced from their traditional villages to the new site of rehabilitation colony of Analabadi felt themselves strangers in this new atmosphere which was different from their

socio-cultural and economic life. But after they got employment in NALCO and adjusted themselves to the new environment, the drinking has become less severe and intense. Now the employed tribals donot take drinks regularly. They have given up drinking during workihg hours . The females of these employed tribals have almost given up drinkings. Only on festive occasions, they take drinks. In Group B and Group C village households, drinking is common even after the project. In Group B village households, drinking is very severe and intense. This is due to mental agony, depression and frustration among the tribals of this group of villages. They think that they are the losers in both the fronts. On one hand they lost their land and on the other hand they lost the opportunities of being employed in NALCO. Their economic life is not secured. The above factors lead them to drink severely.

Another change that has occured in this project area, especially in rehabilitation colony is that of taking of foreign liquor very often. Employed tribals now take foreign liquor instead of fermented liquor. Those who are not employed in NALCO take foreign liquor occasionally. This change in drinking habit is due to:

i) Better economic conditions of employed tribals in NALCO.

ii) Availability of foreign liquor has increased due to development of growth centre.

iii) Preparation of fermented liquor has been restricted by the government officials.

ECONOMIC ACTIVITIES BEFORE AND AFTER THE PROJECT

ECONOMIC ACTIVITY

Before the establishment of the project, 82 per cent of the tribal workers were engaged in agricultural activities and 18 per cent in non agricultural activities. As such, all the members of the tribal households including children were wage earners. But after the establishment of the project, there was a great change in occupational activity of the tribals i.e., from primary to secondary and tertiary activities. The three type of village households which were affected by the NALCO project, i.e. A, B, and C witnessed a change in occupational activity among the tribals workers. The most drastic change was seen in Group A and Group B village households. And in Group C village households, there was no significant change. This was due to partial land acquisition by NALCO and it was faraway from the influence of growth centre of NALCO project. In Group A households, before the establishment of the project, 95.8 per cent of workers were engaged in

cultivation and rest 4.2 per cent in agriculture and non agricultural labour. On the otherhand, after the establishment of the project, 66.3 per cent of them were engaged in organised service and 28.9 per cent were engaged in non agricultural labour as their principal occupation. In Group B village households, a similar change in the principal occupation has been noticed. While in pre project period, 97.3 per cent of workers were engaged in principal occupation and 2.7 per cent in agricultural labour as their principal occupation, in the post project period, 71.3 per cent depend upon non agricultural labour, 12.1 per cent on agricultural labour and 7.1 per cent on activities allied to agriculture. In group C households, the change has been insignificant, 82.6 per cent of workers depending on cultivation as against 96.5per cent in pre-project period. There has been a sharp rise among workers depending upon non agricultural labour, i.e. 13.9 per cent.

The Group B of village households were the greatest sufferers in the course of acquisition of land by NALCO authorities for the establishment of NALCO mines and industry. The members of these villages neither got employment in the NALCO establishment nor could they retain their rights

on land for cultivation. Though compensation was paid for the acquired land after consultation with the Tahsildar of Semiliguda block, this compensation money was of little use for them. They did not have the knowledge of investment in commercial purposes. They spent it all on festival occasions and merry making. The members of these villages are frustrated and they are demanding for employment in NALCO. Most of the benefits with the establishment of NALCO and development of growth centre in Damanjodi went to Group A of village households, as they were employed in NALCO. Out of 199 scheduled tribes, 162 tribals one from each family were provided with employment in NALCO. Thus their economic condition is better off than that of others in the village households affected by NALCO. The house wives of these employed persons donot go for any other type of job that they were doing earlier.

Thus as a result of establishment of NALCO in Damanjodi, a tribal dominated area, the tribal had to sacrifice their principal assets which were being owned and enjoyed by them for generations together. Their isolated activity in the lap of nature for livilihood was disturbed by the establishment of NALCO. The use of forest for shifting cultivation and collection and sale of forest produce was lost. All these gave a severe jolt to their living style.

The occupational activity of tribals changed from primary to secondary and tertiary activities. This change was mostly marked in both A and B groups of village households. In Group C of village households, there was no significant change in the occupational activity of the tribal people. This was due to partial land acquisition by the NALCO and it is far away from the influence of growth centre of NALCO project. Most of the benefit of the growth centre activities went to Group A village households. Group B village households are the most sufferer, on both the fronts. They lost their land and lost the opportunities to be employed by NALCO. After the project,their main activity became non agricultural labour, which are not of regular basis, unlike employment in organised sector.

The NALCO authorities and the Koraput district Tribal Development Officers should formulate some self employment schemes and give training to these tribal people so as to make them equal participants in the developmental activities of NALCO project and growth centre.

INFRASTRUCTURE DEVELOPMENT, BEFORE AND AFTER THE PROJECT

The tribal villages in the project area were remotely situated inside the forests not connected with roads.

Tribals led a lonely and simple life, mainly depending on agriculture and forest resources. They did not have any ambition and aspiration for higher things. Their wants were limited and being met from the surroundings. During the British period, they were almost completely neglected and left to their own surroundings. After independence, the National Government took various tribal welfare measures in a phased way during different plan periods. For negotiating various area specific and tribe specific programmes, the greatest hurdle was the absence of necessary infrastructural facilities. Therefore, development of infrastructure facilities got priority positions. Even before the construction of NALCO, some infrastructural facilities did develop in the area by government agencies under tribal sub plan programmes. But, with the setting up of NALCO, a regular spatial planning was made to locate necessary facilities within reasonable distance from the human settlements.

ROADS AND COMMUNICATION

In pre-project period, all the project facilities were connected by Kotcha roads. But after the construction of NALCO, a network of good black topped pucca roads was developed not only inside the NALCO area but also connecting surrounding villages. Bus communication is now available

to most of the villages within 0 km to 3 km. For Group B and Group C village households, bus communication is available to the town within 3kms. It is also found that a road constructed by NALCO from sector III to Chaugan water intake point at the cost of 17 lakhs, has benefited five peripheral tribal villages as it passes through Sindhipar, Maehiliguda, Cherengagada, Bandhaguda and Chougan (Source: NALCO Administrative Office, Damanjodi, Koraput). Almost all the project villages are now connected by all weather pucca roads or are within 2 kms. distance from such pucca roads. The Bus stand at Mathalput which was 7 to 8 kms from all vilages is now 1 km from the rehabilitation colony, 4 kms from Group B village households and 6 kms from Group C village households. Thus within the development of growth centre and various economic activities, the road and communication facilities have been better off after the project.

EDUCATIONAL FACILITIES

Under the State's elementary education programme, primary schools were already set up in the area even earlier than the project was constructed at Damanjodi. Facilities for primary education were available within 2 kms from human habitations. But the conditions of schools were not satisfactory. After the construction of the project, the distance of educational institutions

from different groups of villages has been reduced. The Table No.9 gives the location of different educational facilities before and after the construction of the project.

TABLE : 9 DISTANCE IN KMS.

Institutions	GROUP A		GROUP B		GROUP C	
	Before	After	Before	After	Before	After
Primary School	2	1	2	2	2	2
M.E. School	5	1	3	2	6	3
High School	10	1	12	3	13	5
Adult Education Centre	–	0	–	2	–	2

Thus from Table No.9, it is gathered that the distance from different group of villages to the school has decreased by more than half a km than what was existing before the construction of the project. And secondly, the distance of secondary school from the villages in post project period has been reduced.

The Government High School at Mathalput has been supported by NALCO through the construction of additional rooms at the cost of Rs.2.5 lakhs to develop the school

complex. The facilities of upper primary school and medium education of Mathalput are also improved after the project was set up.

Two Adult Education Centres have been setup in the Rehabilitation Colony and a teacher has been appointed (whole time). 211 adults have already been taught and 51 are being educated in the centres. (Source: Adult Education Centre, Damanjodi, Koraput). Necessary teaching aids, reading and writing materials have been provided to the centre. Besides, 217 adult education kits have been supplied by the Director, Adult Education, Orissa to be distributed among the students.

The children of the displaced tribals are encouraged to study in the Delhi Public School and in Saraswati Vidya Mandir run by NALCO authorities in NALCO township. For this, necessary financial and transport facilities are provided by NALCO to these tribal students. The overall position in regard to education has improved significantly for tribal students and it is found that enrollment has improved and dropouts have decreased, with increased consciousness among these tribals due to growth centre effect.

HEALTH AND MEDICAL FACILITIES

A primary health centre, family planning centre and maternity centre were there at Mathalput even before the project was setup. NALCO has constructed a hospital for its employees and other land displaced persons. Table No.10 shows the average distance of medical facilities from different groups of villages in pre and post project period.

TABLE NO 10: AVERAGE DISTANCES OF MEDICAL FACILITIES FROM DIFFERENT GROUPS OF VILLAGES IN PRE AND POST PROJECT PERIOD

(in Kms)

Medical facilities	GROUP A		GROUP B		GROUP C	
	Before	After	Before	After	Before	After
Primary Health Centre	8	1	9	5	10	6
Health Sub Centre	2	1	3	2	8	5
NALCO Hospital	–	1	–	5	–	6

From Table No 10, it is gathered that the medical facilities, primary health facilities and NALCO HOSPITAL facilities

have been quite nearer to Group A village households after the rehabilitation. The distance of Group B and Group C village households from health institutions was comparatively more before the establishment of project. But after the project, the distances have been reduced to some extent. This is due to development in roads and communications to these Groups of village households. Besides getting facilities in primary health centre and sub centre of the state government, the displaced tribals are also extended free medical facilities in NALCO Hospital. For emergency purposes, OPD facilities are provided in NALCO hospital. Ambulance service is also available for the displaced tribals residing in rehabilitation colony. For emergency call to NALCO hospital, a public telephone has been installed in the rehabilitation colony. Family welfare and immunization camps are being organised regularly by NALCO hospital staff and government doctors jointly. In Health problems chapter , more will be dealt with regarding this aspect.

DRINKING WATER AND ELECTRICITY FACILITIES

Before the project, the Groups of different village households used to face difficulty in procuring drinking water. Water was collected from the tube wells installed by the government, which went out of order very often

and from the river Kolab. The water was not fit for drinking purposes.

After the project, NALCO has dugged 8 tube wells and 2 dug wells in Group A village households of Analabadi colony at a cost of Rs.25,000. Besides, a cemented water storage tank has also been constructed by NALCO at a cost of Rs.25,000. In addition to such facilities, a permanent water supply system has been extended to the colony at a cost of Rs.8 lakhs for providing treated water through 28 taps for the use of displaced tribals. In Group B and C village households, no permanent arrangement has been done for removing the scarcity of drinking water. However the NALCO authorities have a peripheral development plan at the cost of Rs.25 lakhs spread over 3 years, 1991-92 to 1993-94. This also aims at removing essential gaps in some villages including acute water problems. Among other programmes the following action plan with regard to water supply has been proposed.

i)	Improvement of existing wells and construction of new wells in village Champapadar (Group C) (Group B)	cost 30,000
ii)	Construction of 2 "Kundis" for drinking water in village Karediguda Group B)	cost 10,000

iii)	Construction of "2 Kundis" for drinking water in village Ambagaon (Group C)	cost 10,000
iv)	Improvement of tank in Village Chhagan (Group C)	cost 60,000
v)	Construction of "Kundis" in village Khalpadi (Group C)	cost 10,000
vi)	Construction of well/tube well in village Changuli (Group C)	cost 30,000
vii)	Excavation of tank	cost 2,00,000
	TOTAL =	Rs. 3,50,000

Electricity facilities have been provided to the Group A village households, in the rehabilitation colony of Analabadi. Though the rehabilitation colony has been electrified by NALCO at a cost of Rs.2.76 lakhs and 60 street lights have been provided, only a few tribal households have so far taken electrical connections. To solve this problem, NALCO has decided to provide electric connection atleast to its employees houses and recover the cost in easy instalments. Such facilities to non-employees may be extended by the Block Development Officer under Tribal Sub Plan programmes by linking it to institutional finance.

OTHER SOCIAL INFRASTRUCTURE IN THE PROJECT AREA

The other facilities which have came up due to development of growth centre activities and catering the minimum social needs of the area which is gradually moving

towards modernity are post office, banks, telegraph office, daily and weekly market. Before the project, telegraph office, daily market and P.C.O. were not available for the project villages. The distance of the Post Office, Bank and weekly market were more from different Groups of village households. However, earlier tribals had limited wants and economic activities. So these facilities were not used by them. But after the project, in view of the development of the growth centre, and economic activities, such facilities have been useful to them.

COMMUNITY CENTRE

A community centre is proposed to be constructed by NALCO in the rehabilitation colony of Analabadi, for their recreation purposes. For this, Television, Radio, Carom, and other games materials are to be provided along with foot ball and volley ball. A "Yubak Sangha" has been organised in the rehabilitation colony, to organise various functions.

Besides this, NALCO has undertaken plantation activities near the Analabadi colony, and on road sides. This provides employment opportunities to the unemployed tribals of the project area. 300 Fruit bearing trees and other trees have been planted. These would

improve the ecology and environment of the area which had been degraded due to large scale deferestation. A hurticulture nursery has been developed for supplying flower, fruit and vegetable seedlings. NALCO authorities have decided to take active interest in perepheral development of the area and extending infrastructural support in a planned manner.

CHAPTER - III

HEALTH PROBLEMS AND PRACTICES OF THE TRIBALS : BEFORE AND AFTER NALCO PROJECT.

The tribes constitute an important element in India's population. These descendants of earliest inhabitants of this subcontinent have contributed to the variety and richness of cultural form in the country. An idyllic view of the tribal societies living in the deep recesses of nature, far away from the turbulent currents of human history in the last millennia, full of whirls of change and development, in which man seems to have been caught, perhaps unwittingly, perhaps irretrievably. These whirls have grown in strength and are gradually involving the entire human society, spreading at an incredible rate to all nooks and corners of the world. This simple tribal world is giving way to a formal and organised system for development and modernization, which is seen among the tribals of the Damanjodi project area. There has been a change in their socio-cultural and economic life of these tribals in the project area. In this chapter it will be seen, how their health, behaviour, health institution, perception and meaning of health and health problems have changed gradually. And secondly, in response to various health problems encountered by them, how actively they seek health services outside their culturally determined health institutions, to get relief. And thirdly, how the felt needs of a very large number of tribals for such health services remains unfulfilled, because of many barriers in the path of their access to these health

institutions. Apart from this, how social, economic and political factors determine the access of tribals to health institutions has also been studied.

'Health for All' by 2000 A.D. through Primary Health Care became a popular slogan of WHO and its member states. Being a signatory to this global strategy, India has already launched an intersectoral Primary Health Care Policy for its people especially for the under privileged and un-reached masses, out of which tribal population forms a major chunk. Besides planners and policy makers, the social scientists helped in diagnosing the factors which determine the health and ill health of tribals who are found in different culture and sub culture zones.

Despite great efforts by governments and international organisations, the basic health needs of vast numbers of Indian population remain unsatisfied. In many areas, less than 15 per cent of rural population and other under privileged groups have access to health services. More serious still, these people are both particularly, exposed and prone to diseases. A hostile environment, poverty, ignorance of the causes of disease and of protective measures, lack of health services, of inability to seek and use them, all may be combined to produce this deplorable situation.

To meet the main health needs of the underprevilaged who make up about 80 per cent of the population of the country, health services should seek out these people, find what they need and want, and protect, treat and provide them basic services at the time of their needs. The strategy adopted for this purpose so far by India has been modelled on that of industrialised countries, but as a strategy, it has been a failure. The tendency has been to create relatively sophisticated health services staffed by highly qualified personnel, in the hope of expanding them progressively as resources increased until the entire population was covered. The services have became centred largely on the cities and towns; are progressively curative in nature, and are accessible mainly to a small and priviledged section of population. The relative emphasis on programmes to control specific diseases may also have hindered the development of basic health services over the past 40 years. As early as 1951, when efforts of many developing countries were centred on specialised and vertical mass campaign for the eradication of disease, the Director General of WHO pointed out in his annual report (WHO Official Records, No.38, 1952, p. 2) that these efforts would have only temporary results if they were not followed by the establishment of permanent health services in rural areas to deal with the day to day work in the control

and prevention of disease and promotion of health.

History and experience show that conventional health services organised along western or other centralised lines, are unlikely to expand to meet the basic health needs of all the people. The human, physical and financial resources required would be too great and the necessary approach to special problems of rural and neglected tribal communities would rarely be attained because of lack of integrated and multidimensional understanding of the social scientists working in the health sector.

Health services, promotive, preventive, curative and rehabilitative form one of the of means of improving the health status of a society. Economic status, nutritions, water supply and other environmental conditions, education, social and political relations, are some of the other factors which influence the health status of a community (Banerji, 1986). Infact, there is a synergestic relationship between these factors and health services reciprocally, effective health services often make significant contributions to the advancements in socio economic status. Like health services, developments in other fields effecting health also determined by the intrinsic dynamic forces within the society. The intrinsic dynamicsof a society, which

are so important in determining the status of health and health services, have their roots in the ecological and historical background of the society.

Human groups interact with their surroundings to develop their own ways of life-their culture, which includes modes of production and social relations. The history of these groups is a record of this interaction over time and space. Consideration of the social ecological setting is also important in analysing the generation of health problems, the formation of various health institutions and practices and health behaviour of individuals are manifestations of a people's cultural response to problems of health and disease (Banerji, 1985).

A historical interpretation of the socio cultural processes emanating from interactions between a human group and social ecology, this forms the foundations of social science studies of health and Health Service development. Obviously, because of specific historical and ecological considerations, different modes of production and production relations, societies differ in their socio-cultural status. Correspondingly, the status of health and health services also vary. Therefore, this dynamic process is to be understood only through the conceptual frame of social sciences.

While attempting to relate themselves to their communities, neither public health physicians, nor social scientists or health educators have taken a hard look at the technology they are offering to the People. Why a given technology is offered and why not other ? How relevant is the given technology to the community in terms of their health problems and social and cultural conditions? Who control the technology ? What is the cost ? How accessible is that technology to different sections of the community ? Such questions have not received adequate attention, thus causing major distortations in the community health programme. The very issue is whether a community is to be subordinated to a technology determined health service system or the other way round (Banerji, 1985) The answers of these questions lie in two concepts that seem to be of considerable significance to social sciences in the context of health field: The concept of "Felt need" and the concept of "health culture".

The concept of "felt need" is evolved in the course of developing social dimensions of epidemiology of a health problem. Epidemiology is concerned with the size, distribution, determinants and time trend of health problem. The social dimensions of epidemiology were concerned with social and cultural perceptions of health problems, with social and

cultural meaning of health problems. It ends to translate the cold, technically defined epidemiological parameters into a problem of human suffering, as perceived and felt by people in a given social, cultural and economic millieu. This concept of felt need is of far reaching importance in formalizing a community health programme. And "Health Culture" refers to the culture of a community and its relations to ecological, biological and overall cultural conditions that are dynamic in character; any purposive intervention in health culture through health programme should take into account the changes that are likely to occur over a time dimension. Thus health problem has to be seen in terms of the dynamics of the biological interactions between the causative agents and a human group against a back ground of human ecology, which includes cultural, social, economic and political conditions, which influence the natural history of the health problems in that group or community.

HEALTH CULTURE OF THE TRIBALS BEFORE THE PROJECT

People encounter with certain health problems as a result of their way of life and of their interaction with the environment they live in. The way of life also determines the cultural meaning of these health problems.

It also determines the formation of various health institutions and attitude of the people to the health problems encountered by them. With the development of growth centre activities, exposure of the area to outer world by roads and communication, modernity, education and economic development, the traditional health institution and preventive, curative aspects of health problems undergo a change. Such a situation has been developed in the project area after the establishment of NALCO.

Before the project and other developmental activities, the tribal had their own customs, beliefs and practices for various health aspects like pregnancy, child birth, child rearing and health problems.

Pregnancy

When the mensus stops and some minor signs indicate conception, the expectant tribal mother has to take care about certain things. She must not be present at a cremation, not even touch a dead body. She must not remain outside her hut when lightning flashes and the sound of thunder is heard. She should protect herself from evil eye of the bad women - witches and barren women. There are certain rituals to keep the pregnant women and the baby in the womb healthy.

These days, pregnant woman is not subjected to such restrictions nor does she get any special treatment until she delivers the child. Mostly she gives child birth at the place of their work. Tribal women believe that plenty of work during the nine months will produce an industrious and strong child.

Child birth

When labour pain starts, men leave the hut and generally a few elderly women remain in attendance on the expectant mother Word is sent to the traditional mid wife of the village who comes at once. She conducts a normal delivery easily, but for obstructed labour cases, she applies her herbal medicines. Gurumain (of Paraja tribe) or Kalisi (of Kandha tribe) and Disari (of Gadaba tribe) are also contacted to ward off the evil in cases of obstructed labour to have safe delivery. As soon as child appears, the Dai cuts the umbilical cord with a knife and ties it near the naval and applies turmeric paste to the cut end to heal it up. The placenta and umbilical cord are buried underground in the courtyard inside the hut where the birth has taken place. The child is cleaned with cold water.

Health Problems and the traditional Healers

Most of the tribals of different groups of villages thought that major health problems are caused by the anger

of the village deity, the supreme god, or goddess, like (Dantenswari of Paraja or Dharnimata of Kandha or Thakurani of Gadaba), ancestral spirits called Dumba. The evil eye of witches and bad women – barren women, widows and old ladies, could be another cause of disease and misfortune. Violation of taboos and customs are believed to cause the various diseases.

The traditional village healer like Gurumain, Disari, Kalisi, Bhattanayak were respected in the villages. They had important roles to play in socio-political and cultural life of the tribals in the villages. They fulfilled the health problem needs of the villages, before any developmental activity and construction of the project took place.

HEALTH INSTITUTIONS THAT EXISTED BEFORE THE PROJECT

The health institutions that existed in the affected villages of Group A, Group B and Group C village households of the project area constituted a primary health institution , a health sub centre .

All were situated at Mathalput, near the Damanjodi NALCO project. The average distances of different Groups of village households before the project from these health institutions were larger varying from 2 kms to 10 kms.

Only Group A village households were nearer to the Health subcentre, i.e., around 2 kms and Group B village households were 3 kms away from the Health subcentre. The Group C village households, were far off from all these institutions varying from 8 to 10 kms.(refer Table No.10). So,overall impact of modern medical facilities and health services to these Groups of village households was not that effective. Tribal people mostly consulted their traditional healers of their respective villages. In major and complicated cases, they referred to the hospital. Moreover, there was a major constraint in transport and communication, to avail medical facilities from these institutions especially to the Group C village households. Thus, very large proportbnof their felt needs for such services remained unfulfilled, because of many barriers in the path of their access to these health institutions.

After the establishment of NALCO in Damanjodi, the NALCO authority constructed a hospital for their employees. The tribals who are employed in NALCO get medical facilities from this hospital. Besides, the land displaced tribals of peripheral villages who have not been employed by NALCO also get medical facilities from this hospital.

Brief History of NALCO Hospital

NALCO project established its Hospital for its employees in Damanjodi in December, 1982. It started with one pharmacist giving medical help to NALCO Employees. Now it has been increased to 42 staff, out of which there are fourteen doctors. It has two Ambulances . The Chief Medical Superintendent is Dr. A.K. Sahoo MsFRC and Deputy Medical Superintendent is Dr. S. Soren, MS in Surgery. He is a Santhal tribal. There are two health units, one in the plants and other one in mines. Both these health units primarily provide "First Aid Care' to accident cases and then send it to NALCO hospital. These two health units are manned by one doctor, one male nurse and two Dressers. Their is an old ambulance at their disposal and a phone for their communication. The health unit staff do their duty shift wise. In the mines, the doctor of the health unit has resigned and no new appointment of doctor has been done yet.

In the NALCO hospital in Damanjodi, minor operations like Hernia, Hydrocele, Catract and accidents are generally performed. For major operations, patients are referred to Sunabeda hospital and Koraput district hospital, which are 30 km and 45 km away from the Damanjodi NALCO hospital.

Family Planning and immunization camps are held jointly by NALCO medical doctors and government medical doctors. Tuberculosis cases, after pre - examination of the patients, are sent to District hospital, Koraput. Similarly, serious child patients are sent to Sunabeda hospital and Koraput district hospital as it lacks a paediatric specialist. Recently NALCO hospital has advertised for the post of Paediatric Specialists. According to the Chief Medical Superintendent, the incidence of Asthma is more among the tribal workers of Damanjodi. This is because 62.5 per cent of tribal workers are employed in NALCO mines and plant as mazdoor and helper. The following Table No.11 gives the average number of tribal workers visiting the NALCO hospital for various diseases in the month of February, 1992.

TABLE NO.: 11 AVERAGE NO. OF TRIBAL WORKERS VISITING THE NALCO HOSPITAL IN FEBRUARY, 1992

S.l.No.	Diseases	Average number of patients
1.	Tuberculosis	4
2.	Asthma	60
3.	Malaria	120
4.	Typhoid	5
5.	Accidents	150
6.	S.T.D.	5

SOURCE : NALCO HOSPITAL, Damanjodi, Koraput.

From Table No.11, it is gathered that the incidence of Accident, Malaria, Asthma is more in the project area. Sexually transmitted disease which is a new disease for the tribals in the project area is seen now. This is mainly due to the fact that the tribals came in contact with outsiders as a result of development of growth centre activities. Within a month, NALCO hospital has taken up 200 cases of emergency and 80 cases of ailments of minor nature.

HEALTH PROBLEMS AFTER THE PROJECT

After the project, with the development of growth centre, exposure to modernity and education, road and communication, interaction with the urban people and change of their socio-cultural and economic activities, there has been change in the traditional health institutions, the customs, beliefs and faith relating to different health problems and the preventive and curative aspects of health of tribals of the project area. This change can be seen with regard to maternal and child health , major ailments, minor ailments, environmental sanitation, preventive measures and family planning in Group A, Group B and Group C village households.

The Group A village households which have been totally

displaced and rehabilitated in the Analabadi colony, is nearer to the activities of growth centre. After their rehabilitation in the Analabadi colony, the distances between various health institutions and this group of village households have been reduced to a large extent. The distance to Primary Health Centre, Health Subcentre, and NALCO Hospital is 0 to 1 kms. This coupled with influences of growth centre has changed their faith on traditional healers. The customs, and beliefs relating to different health problems and their preventive and curative aspect has been changed to a large extent. Earlier 78 per cent of Group A village households believed in traditional methods of curing diseases, but now 5 per cent of Group A village households believe in traditional methods of curing the disease (According to household survey). The educated youth and employed tribals donot believe in the traditional healer. They rarely go to their original villages for this purpose. But a few households of unemployed tribals whose economic condition is very poor go to the traditional healer for the purpose of curing diseases, as the cost of getting medical benefit from modern institutions is very high for them and secondly they cannot afford to lose a day's labour, as they solely depend on the daily wages for their livilihood. However, most of the households of this group of villages go to modern health service institutions, when they face any

health problem.

Maternal and Child Health

As the health institutions are nearer to the Group A village households, most of the tribal mothers get in touch with it when they become pregnant. The cases are registered; they are provided with pre-natal services and are asked to come to hospital when the child is about to born. Mostly employed tribals go to the NALCO hospital, and unemployed tribals go to the Primary Health Centre and Health Subcentre as they do not get adequate attention by NALCO doctors. The complicated cases are admitted to the NALCO hospital well before the child birth takes place and necessary care from the specialists are given. The ANMs are required to pay routine domicillary visits to pregnant mothers. But as ANM's are happened to be non tribals, they mainly visit the non tribal houses and well-off tribal houses, where they get some amount of rupees for the services they deliver. Further the unemployed tribals do not get proper attention from NALCO hospital doctors, when they visit them. Very often, the complicated cases of pregnancy of these households are not admitted in NALCO hospital. This has created a cultural rift between employed tribals and unemployed tribals in the Analabadi colony.

Many respondants from the unemployed tribal households stated that abortion and still births were more frequent among the women of this group. This is due to the heavy construction work done by pregnant women. In this group, some of the women feel that it is because of their violation of earlier taboos and customs which cannot be practised in such a social milieu.

The ante natal care is sought by employed tribals from the NALCO hospital. Besides giving importance to food and rest and ante natal services, most of them go in for extra nutritious diets and vitamins. But antenatal services are not sought by most of the pregnant women of unemployed group. During child birth, the tribal employees of NALCO seek the services of NALCO hospital and most often they take women in advanced stage of pregnancy to the hospital. They shift the patient to NALCO hospital in a hired vehicle when the ambulance is not available. But the tribals who are not employees prefer to have domicillary child births which are mainly conducted by old ladies of the neighbourhood or relatives. Some of the old tribal ladies are recognised as experienced hands in conducting deliveries. But they neither administer herbal medicines nor do they assist in any complicated childbirths. These old ladies are not professionals but

they render services to the needy and more so to relatives, voluntarily. In complicated cases, either they refer to NALCO hospital or Primary health centre. If they donot get adequate help, then they approach traditional Dai Gurumain, Disari, and Kalisi of their original villages.

A Case Study

The case of Dulari,wife of a daily wage unemployed worker Haria of Paraja tribe provides an instance of a complicated child birth case. Even after one full day's labour pain even with the help of old ladies of the neighbourhood houses, Dulari could not give birth to the child. Next day Haria after losing his daily wage labour of a day went to the NALCO hospital. The doctor concerned after examining the patient asked him to admit the patient in hospital. But as there was no bed for the patient, she had to remain in the corridor of the hospital for some time. After much delay, they got a bed for the patient. But she died after delivering a still born child.

Another Case Study of Employed Tribal Worker of NALCO:

Mali, wife of Dasrathi of Paraja tribe who is employed as a peon in NALCO Administrative Block provides a case of complicated delivery. After the labour pain, when she was not able to give birth the child, Dasrathi took her wife Mali to NALCO hospital by hired taxi. After consultation with the doctor, she was quickly admitted to the hospital

She was undergone a successful operation by concerned doctor and gave birth to a healthy child. They were kept there till they recovered fully and were asked to come for check up regularly.

Child rearing:

The child rearing practice among employed tribals of Group A village households in the project area is different from that of unemployed tribals. The employed tribal households take much more attention in bringing up their children. Old taboos and practices are ignored by them. The advice of the ANM's of the hospital is taken seriously by them and they seek post natal services from the hospital. Their ideas on the hygenic conditions of children have improved. They also adopt a definite feeding route for the infants. The practice of prolonged breast feeding is being given up by them. Instead they feed tinned milk and cow's milk to their infants. Among them bottle feeding is also seen. After seven to eight months, they start giving rice, bread, vegetables to their children.

The child - rearing practices among the unemployed tribal is to some extent similar to the other Groups of village households of B and C. They use amulets to ward off the evil eye. They do breast feeding to their infants. When the child is five to six months old, they give them boiled rice, bread, and ragi, besides breast feeding. The sense of hygeine has improved to some extent in

comparision.

The children of Group A village households of all strata suffer from common diseases, like cold and cough, dysentery, malaria and so on. This is due to bad sanitary conditions. For this, they seek the help of these institutions. The NALCO hospital refers complicated cases to Sunabeda hospital or to Koraput district hospital due to the absence of a Paediatric specialist.

A case study providing a pneumonia case:

Gangu and her wife of Kandha tribe, who is not an employee in NALCO came to the NALCO hospital with their child suffering from severe case of Pneumonia. The doctor after scolding them for the late coming examined the child patient and referred them to Sunabeda hospital, as they did not have a Paediatric specialist. Both the parents of the child patient had to wait for 8 hours to go by amubalance to Sunabeda hospital. After two days the child died.

Major Ailments:

In all major communicable and other chronic diseases, the members of all households of Group A villages seek the help of these health institutions. On rare occasions,they

go to their traditional healers only when they donot get any adequate attention from these institutions. Few of the unemployed tribal households who are poor, go to their original villages seeking the help of traditional healer. A case report of tuberculosis depicts how an unemployed tribal responds to the tuberculosis.

A Case Study:

Makara of Paraja tribe, who is a daily wage labourer at the construction site suffered from severe cough and chest pain. He approached to the NALCO hospital on the advice of an employed tribal. In NALCO hospital after preliminary examination, he was referred to the District Hospital, Koraput which is 45 KM away from Damanjodi project area. As he is a daily wage worker and lived on meagre wages, he could not afford to go to the Koraput District hospital, by losing wages of a day. And as such, he did not have the money to go to the Koraput District hospital. When he suffered from severe chest pain and cough, he went to the primary health centre at Mathalput. There he was given some mixtures and was asked to go the District hospital, Koraput. After being treated in the primary Health Centre when he did not get the relief he went to his original village to show it to Gurumain. Gurumain gave him some herbal medicine which gave relief to him for somedays. But it started again. Thus running

here and there he finally died in the Ist week of February.

To check malaria fever in Group A village households, the NALCO hospital is providing Anti-malaria tablets in Analabadi colony through community centre. As community centre is managed by the non tribal and tribal employees of NALCO, the unemployed tribals of Analabadi donot get any medicine from the community centre. They often go to Primary Health Centre and Health Subcentre to get the medicine. But as these health institutions run short of the Anti-malaria tablets for most of the time, the tribals donot get it.

Preventive Measures

In Analabadi colony, the overall sanitation is not that well. This is due to high congestion and higher population density in the resettlement colony. The drainage system is very poor. Water often logs and creates a breeding grand for Malaria mosquito. This coupled with open field defaecation makes the condition still worse. However, there has been some improvement in drinking water facilities. Tubewell, dug wells and tanks have been constructed by the NALCO. Treated water is being

provided for drinking purposes. NALCO hospital provides other preventive services such as immunization of children, antenatal and post-natal nutritional and anti-malaria services. However these services are mainly sought by non tribal and tribal employees of NALCO.

Family Planning Practices:

Mostly the tribal employee couples go for sterilization. This may be due to influence of growth centre, modernity, education and contact with non tribals. Most of the unemployed tribal workers are lured to family planning due to a special incentive of Rs.150/- and a promise of permanent job in NALCO as motivated by doctors. The NALCO hospital staff also motivate these land displaced tribals, who are not employed in NALCO, by saying that they will communicate with NALCO authorities for a regular salaried job, if they undergo sterilization.

Minor Ailments:

For minor ailments,most of the menbers of Group A village households have given up the home remedies, based on flora and fauna available in the villages or in the forests. They continue to practice those home remedies which could still be used without the help of herbs. They

have started using the medicines. However, the unemployed tribals who are economically poor still use some herbal medicines for minor ailment, as they cannot afford to buy modern medicines in medical shops, when these medicines are not available in the various health institutions.

Mines accident:

Mazdoors and helpers constitute 62.51 per cent of total tribal employees in NALCO. So, most of the work in mines is being done by tribals of the project area. There are two Health Units, one in mines and other one in the plant. This is managed by a doctor, male nurses and a dresser. Primarily, First Aid care is given to the accident patients. Then they are sent to the NALCO hospital for further references. Two old ambulances are stationed at the Health Units of mines and plants, and telephones have been installed for emergency communication. As the doctor of the Health Unit at the mines has resigned, the male nurse does the work.

A Case Study of Accident in NALCO mines[3]

Munia of Goudaguda village after displacement got rehabilitated in the Analabadi colony. He got a service of mazdoor in the mines. While doing his job of crushing the stone he met with the accident. His right hand got

totally mutilated. He was immediately brought to the Health Unit at mines. As the doctor has resigned and no doctor has been appointed till now, he was given First Aid Care by the male nurse. And then he was sent to NALCO hospital by the ambulance. The ambulance broke down in the middle of way, by which he was detained till another ambulance came to fetch him up. When he was brought to the hospital, his condition became serious. Doctor had to operate his hand to save his life. Now he is an invalid person. NALCO authorities have given him Rs.50,000 as compensation and employment to his son. Now his son takes the job of his fater, i.e., Mazdoor.

In Group B and Group C village households, the change in the customs, belief, faith regarding different health problems, and belief in traditional health institution has not changed to a large extent, like in case of Group A village households. The least change has been seen in Group C village households. In pre project days, 90 per cent of Group B village households believed in traditional health institutions. After the project, 25 per cent of the households believed in traditional health institutions. This is due to the influence of growth centre and the change of economic activities. In this group of village households after the project, 71.3 per cent of tribal households have

become agricultural labourers and they come to the growth centre for daily wage labour in the construction of roads, buildings, loading and unloading works and in plantation. After coming to the growth centre, they came in contact with modernity leading to a change in their belief pattern towards traditional health institution. And secondly after the project, due to development of roads and communication, the distances to various health institutions like primary health centre, health subcentre and NALCO hospital from Group B villages has been reduced. Now the distances from this group of villages to various health institutions vary from 2 kms (to Health Subcentre) to 5 kms (to Primary health centre and NALCO hospital) (Source: refer to Table No.10).

In comparison to Group A and Group C (which will be discussed later on) villages, Group B villages are in a stage of cultural transition in every sphere, i.e. socio cultural, economic and Health practices. In socio cultural and economic sphere it has already been discussed in previous chapters. Here discussion will be held in relating to different health practices and health problems of the tribals, after the development of growth centre. This change can be seen in relation to the maternal and child health, major ailments, minor ailments,

environmental sanitation, preventive measures and family planning.

Maternity and child health.

The pregnant women of the Group B village households, who are economically well off, take rest and food and are not allowed to do heavy work in the advanced stage of pregnancy. But they do household work like sweeping, cleaning the house and cooking the food. According to them these works facilitates easy child birth. They are not allowed to go out of their houses in the advanced stage of pregnancy as they believe in the evil influence of witches or the evil eye. Among the tribal households who are economically poor, pregnant women are forced to go out work till the day of delivery. A case study showing the pregnancy of tribal women who is not economically well off.

A case study

Chagali of Paraja tribe who had gone to collect water to a distance of 6 kms. during summer gave birth to a child. She was given assistances by other women who accompanied her.

During pregnancy tribal women face several health

problems like fever, severe anaemia, weakness, bleeding, abortions etc. Women with these symptoms seek the services of various health institutions, especially of Health Subcentre and primary health centre. The ANM does not provide, with the different preventive measures which are supposed to be given to pregnant women. Instead, she supplies these medicines to the well-off section of the tribal people of the Group B village households. During the child birth though women face several problems as Health Subcentre and primary Health Centre is around 2 kms and 3 kms from this village,both ANM and a Dai are available at the Subcentre. The old women of the family believe that deliveries must be conducted by the village Dai and if conducted by outsiders in the delivery room angers the ancestral spirits, Dumba. But gradually this belief is disappearing. Most of the deliveries are conducted by family members and in the event of complicated labour they seek the help of others starting with ANM.

Child rearing

THe child rearing practices is different between the economically poor and welloff tribal families. The economically poor families beside doing breast feeding gives the infants boiled rice, ragi, turani. But the economically welloff families besides giving breast feeding

feed cow's milk, boiled rice, ragi, vegetables and bread. The main child diseases are neo natal tetanus, fever, diarrhoea, cough, cold, measles and problems due to worm infestations. The availability of Health Subcentre makes it easier for the tribals of the group irrespective of types of section they belong to seek the assistance of ANM. But in most cases the ANM is not able to provide effective treatment to the ailments infants and children. So they seek the PHC. When the PHC does not provide them with adequate relief they use herbal medicine and go to the traditional healer.

Major Ailment

The major ailments encountered by the Group B villages are in the form of acute communicable diseases, like, typhoid, tuberculosis, malaria tetanus

All the section of tribals of this Group of village are aware of the severity and prolonged nature of typhoid. They attribute it to supernatural forces. However, they believe that remed traditional healing practices are mostly in effective for this, and so they seek the treatment of health institutions.

A case study

Kanu of Champapada village was a daily wage labourer.

He suffered from acute typhoid. After repeatedly approaching the ANM, he was finally advised to seek the treatment of PHC. But when he went to the PHC, most of the time doctor was absent as the doctor was from Sunabeda. So mostly he stays in Sunabeda and rarely visit the PHC. By going to PHC he lost his daily wage labour a number of times. Thus afterwards he got fed up and went to the traditional healer of the village. After one month of struggle against all odds, at last he died.

After malaria programme, the villagers said that they have never seen any body asking about such diseases. Only sometimes they find sign on their doors. When they suffer from malaria they approach ANM at the subcentre but subcentre turns them back and asking them to contact the malaria man when he comes. Most of tribals of this group of village seek anti-malaria tab-lets for malaria fever. They use smoke as the repellants against mosquitoes and take herbal medicine for curative purposes when they do not get anti-malaria tab-lets. For chronic diseases like skin diseases, various under nutrition, aneamia, rheumatoid arthritis etc. they are not much worried.

Minor ailments

Minor ailments are mostly treated in home, by herbal medicines. If these donot bring relief they approach the

subcentre. For fever and headache, there are herbal medicines which are frequently taken and found in all households.

Environmental Sanitation

The overall environmental sanitation of the Group B village is very poor. There is no proper drainage system. There are shallow ditches where water accumulate, emitting a foul smell and there by providing a breeding ground for mosquitoes.

There is no provision of safe drinking water. There are tubewells which go out of order in summer. So to fetch water, they go to the nearby stream and river Kolab. The Kolab river water has been polluted after the project, as the NALCO leaves its industrial pollutant to the river. By drinking this water, most of the member of this group of village households suffer from the diseases like dysentery, cholera, stomach pain and skin diseases.

Preventive measures

The limited supply of Vitamin A, iron and folic acid tablets and tetanus toxoid injections which are kept aside by ANM for the privileged section of tribal. The nutrition programme which is a supplementary food programme for children and pregnant mothers is run by panchyat on the behalf of Integrated Tribal Development Project, Damanjodi. However most of days they do not get and most tribal mothers have not heard of this programme as they go for work outside the village.

Family Planning practices

The family planning programme does not get a favourable receptions among Group B villages. The small family norm is considered to be an anti-economic proposition. The ANM tries to tempt the tribals into accepting sterlization by offering monetary incentives. All those who underwent the operation had more than four children. Family planning is accepted mostly for the money. Long standing loans are repaid with the help of the incentive money. Not a single genuinely motivated case is found in this village. After being sterilized, they, sometimes encounter serious problems and complication for which they get inadequate follow up services.

A case study

Rani, the wife of Chagâla of Kandha who belongs to Kandha tribe faced serious complications after the operation, but no body in the subcentre, or PHC gave her adequate treatment. Finally, after spending a lot of money, she was forced to go to NALCO hospital where she got the treatment. This case has made rest of the tribal women frightened.

Thus in Group B villages there is a tendency to seek assistance from the dispensaries and hospitals. As the tribal inhabitants of this group of villages mostly are

non-agricultural labour and few are in organised sector, the influence of growth centre has made some impact in their believe in traditional health institutions, But, when they do not get adequate attention from these health institutions they seek traditional healers of their villages. In Group C village households, the influence of growth centre has been the least in comparision to Group A and Group B village households. This is mainly because the influence of the growth centre activities has been the least and secondly,the economic activities of the tribal people has not changed much. In pre-project period 96.5 per cent were engaged in primary sector and after the project 82.6 per cent have been engaged in primary sector. So most of tribals stay in their villages and earn their livelihood. They donot come to growth centre for any economic activities, for which exposure to the modernity and other facilities is negligible. As such the distances of various health institutions after the project to this group of village households has not been reduced much. Before the project the distances from the Group C village households to the primary health centre, health subcentre was varying from 8 kms (to subcentre)to 10 kms (to primary health centre), After the project the distances from the Group C village households to these health institutions were varying from 5 kms (to health subcentre) to 6 kms.(to NALCO

Hospital and Primary Health Centre); (Source refer Table No.: 10). Thus the members of this Group of village households mostly believe in their traditional health institutions in comparison to other groups of village households. The Group A village households have already responded to the modernity and health facilities provided by the various health institutions. The Group B village households are in the stages of transition. The Group C village households are in the last stages of responding to the health services provided by the different health institutions. The change can be (in C villages) seen in relation with regard to maternal and child health, major ailments, minor ailments environmental sanitation, preventive measures and family planning practices.

Maternal and child health

The phenomenon of delivery of a child at the working places of the mothers is not infrequent among the tribal women of Group C village. As far as pre-natal services are concerned, these services are rarely provided by ANMs. ANMs or other personnel visited the villages occasionally and that, to do only family planning programme. Even if the tribals go to subcentre or to PHC, after losing their daily wages, they donot get proper care and are turned back either with useless medicines (mixtures) or with prescriptions for

costly medicines. Because of these experiences, they take the help of traditional healer, and Dai to get some cheap herbal medicines. Most of tribals of Group C village wanted to have strong and healthy child, through safe deliveries, but due to non-availability of the above services, they resort to old supertitous practices like offering sacrifices to propitiate different spirits at the suggestion of Dai and traditional healer.

Most of the child births are generally conducted by women in the family or in the clan with or without the assistances of the local Dai. In complicated cases the services of the ANM is sought. She is considered as a lady doctor and hence more competent than local Dai. But she rarely comes to the village to attend the complicated cases, on the pretext of i) distance is more or it being an odd hour (ii) she is often reluctant to take care of major complicated cases which may lead to further complications (iii) her services are too expensive as she demands payment in cash not in kind. On the other hand, they like local Dai, because, she knows their socio-economic constraints, way of life and family problems and she accepts the payment in kind or on deferred basis and her services are readily available. In extreme cases, the patient is carried on a cot to PHC or to Subcentre, against all odds. So all

this forces them to seek the help of Disari, Gurumain, Kalisi and local Dai to have safe delivery of the child.

Child rearing

When tribal women of Group C villages go to work, the infant is look after by grown up children or by old parents. Breast feeding is common among tribal women of this group of villages. They believe that rice water and pulses will promote their location. The weakened child is encouraged to take solid food, like rice gruel and ragi gruel. They give wild roots, mahua flowers during the slack season which causes indigestion and diarrhoea. Tribal women believe that infants are susceptible to evil eye. When a baby constantly cries, vomits and refuses to mother's milk, they attribute such ailments to the evil eye or evil spirits. The problem is dealt with Gurumain.

The serious childhood common diseases are neonatal tetanus, high fever, diarrhoea, whooping cough etc. For all this diseases, they first try their own system of herbal medicine, when it does not cures, they go to subcentre and PHC.

A case study

The four year old son of Samara died of acute diarrhoea.

When his son first suffered from it, he started the treatment with herbal medicine, thinking it to be minor form of diarrhoea. In second week, when it became very severe, he went to PHC. But PHC doctor could not save his child.

Major Ailment

The urge to seek medical facilities and use of western medicine is much stronger in case of major communicable diseases like tuberculosis, typhoid and malaria.

A case study

Baguli, a Kandha tribe of Ambagoan village illustrates a case of tuberculosis. When he started suffering from cold, cough, and fever, he took some herbal medicine, their usual home remedy. When illness persisted, he approached the Disari, suspecting it to be the influence of witches. But this treatment also was of no avail. His condition worsened and he started coughing blood. Thinking that this was due to wrath of some ancestral spirits Dumba, he approached to Kalisi to offer her as a sacrifice to the village diety Dantenswari and other ancestral spirits for their propitiation. This too brought no relief. Finally one day, taking the advice of one of his relatives, his wife foregoing her daily wage took him to PHC to make one last attempt. There he was given some medicines which could not give him relief and was adviced to go to District hospital,

Koraput. But as he and his wife had spent a lot of money on various heads and had foregone their daily wage labour for a good number of days they could not afford to go to Koraput district hospital which was 60 km from the Ambagoan village. Finally, Baguli died.

In case of malaria, most of tribals believe that fever is caused by the anger of ancestral spirits. The symptoms of this disease are high fever, which makes the patient weak and he finds it difficult to do his normal work. When afflicted by this disease the tribal first opt for Disari, who gives them same herbal medicine. When this does not work, he approaches the modern health institutions. The villagers told that the malaria doctor comes to the village occasionally, asks casually if any body is suffering from this disease, and very less often takes the blood test from the patient and gives the medicines. The tribal people know that medicines which give relief from this disease are available with "malaria doctor".

The other chronic diseases observed are asthma, heart diseases and rheumatism. They have different cultural belief regarding the cause of these health problems. They treat such illness with home remedies or get the help of the Disari, and Kalisi. No doubt, these measures give them temporary relief from the severity of the

illness, but they are never fully cured.

A case study showing a Asthma case.

Guria of Ambagoan village who is a Kandha, is working as a Mazdoor in the NALCO mines. Presently he stays in the Analabadi colony with his uncle. When he suffered from a severe cough for a long time, he went to the NALCO hospital. The doctor gave him some anti-allergic medicine and told him to take precaution while doing work. But his nature of work was such that he cannot take adequate precaution, while doing the work. As such he cannot go without work as he has to support a large family of seven brothers and sisters staying in Ambagoan village. When the medicine did not give him relief, he came to his original village and consulted Disari. Disari gave him some herbal medicine which gave him some relief. Presently he is taking the herbal medicine given by his village Disari.

The environmental sanitation and preventive measures of Group C villages are same as the Group B villages. The tribal household in Group C villages believes in large families. They cherish to have children, as they considered to be economic asset. The barren women are looked down upon. Marriages are broken down, when wife fails to bear a child. The tribal considers sterility as a sin against the supernatural powers and spirits of

of the village. These basic things are not understood by the family planning staffs. When they visit the village, the tribals donot appreciate them. However, some cases of sterlization are found.

Thus, with the development of growth centre activity tribals of the project area have exposed to modernity and education and other economic development. This has resulted in the change of belief,customs,usage and faith on various traditional health institutions, that were catering health services like curative, and preventive, to various health problems of the tribals, in the project area.

This change is more marked in Group A village than in Group B and Group C villages. Group B villages are in the phase of transaction of health culture and Group C villages are in the stages of least affected by the development of growth centre. This is due to fact that the Group C villages are situated far away from the project area.

Quite apart from this change, it is seen that different group of village households in the project area are aware of the more effacacious health services, that are available from the various institutions, within the project area. They

make special effort to have access to these institutions, particularly when they face serious health problems and find that their own traditional health practices are not effacacious. This attitude have been marked also in Group C villages of the project area which is situated far away from the project area. Therefore, for health administrators working in among the tribals,the problem is not so much of bringing about changes in the culture of tribals to make health services acceptable to them, but the problem is to increase the access of the tribals to an appropriate package of medical technology which is oriented to the social and cultural background of the tribals and which fulfills their long felt needs of health services.

CHAPTER IV

DISCUSSION

For exploiting thousand million tons of bauxite deposits and to produce alumina and aluminium, the mining activities at Panchpatmali hills and alumina plant at Damanjodi was introduced by NALCO. The area where the mines and alumina plant have been located is predominantly a tribal area where agriculture and forestry were principal occupations.

So as to establish the plant and mining activities, 591 families were identified for displacement. Of these, 254 are tribal families and 56 are S.C. families. So far 199 S.T. and 37 S.C. families have already been displaced and rehabilitated and 2093 hectres of land have been acquired. Compensation was paid for the loss of land, houses and trees etc. Besides around 166 tribal families, one from each family and 37 S.C's. have been provided with employment opportunities in the NALCO establishment at Damanjodi.

From the displacement point of view there are 3 categories of villages. First category consists of those who have lost land and houses, received compensation and shifted to rehabilitation colony, Analabadi. The second category of villagesare those who though identified for shifting have not yet shifted even though their land have

been acquired and compensation paid. The third category have only lost some lands and received compensation. These villages are at the periphery of the project area. However, all the villages in some way or other either favourably or adversely have been influenced after the construction of the project at Damanjodi.

Establishment of NALCO project brought a great problem to these tribal people as their land, houses, trees were acquired by the NALCO authority and made to rehabilitate in a colony. Their socio-cultural and economic life which was blended with tradition and simplicity with a closed and solitary living was disturbed. Their primary activities of farming, animal rearing and collection of forest produce was lost through the displacement. Their primary asset i.e. land which was their primary source of livilihood was taken away; so all these made the tribal people residing in the Damanjodi frustrated. But gradually tribal people have accepted the change and what has been reactions to the new environment is an important aspect which is required to be analysed.

Project area and tribals

The affected tribals (252 households) were Parajas (76 per cent), Kandhas (14 per cent), Gadabas (8 per cent),

and other(2 per cent). Before construction of the project, 60 per cent of workers were farmers,22 per cent agricultural labourers and 18 per cent were miscellaneous workers. During the course of land acquisition and displacement,68.65 per cent of the affected tribals lost land and houses, 18.66 per cent lost only land but not houses and 12.67 per cent lost only houses but no land. Therefore,81.35 per cent of these households were rehabilitated in the Analabadi colony which was constructed by the NALCO authority.

So far 435 households have been resettled in the Analabadi colony out of which 199 are tribals. Of these 162 tribal families, one member from each family has been given employment in the NALCO. The rest felt dissatisfied mainly because of lack of regular employment opportunities in NALCO establishment.

Impact on social and cultural life of tribals

Before the construction of project the tribals like Parajas,Kandhas and Gadabas had a community culture and gave much value to traditional norms, ethos, usuage of the society. Women was the economic asset of tribal family. She was not only industrious active and tolerant, constructive, a strong labour force but also the principal agent in preserving socio-cultural traits. Family ties were based on kinship. Each tribal community had a distinct socio-cultural pattern, settlement pattern,dressing habit, ornament and religious belief. Parajas were good farmers, Kandhas were hill tribes practising shifting cultivation.

The Gadabas engaged in shifting cultivation and horticulture. They were fond of dancing, singing, decorating their bodies with traditional ornaments.

Every village had a traditional panchyat and youth dormitory. In traditional panchyat petty cases and major social religious function was decided by village priest, Village headmen and other clan members. The youth dormitory prepared the boys and are given to take the responsibility of traditional ethos, norms and customs of the society in future.

After the establishment of the project, Group A of household were displaced and rehabilitated in the Analabadi colony. This settlement in a new environment, gave them a severe jolt to their traditional system. The traditional panchyat and youth dormitory got waning. Traditional dances, music suffered a set back. Earlier they believed in super-natural power and worshipped, several forms to satisfy such being. They also believed in evil spirit who are responsible to cause diseases and their cure through sorcery or witchcraft, herbal medicine. Gurumani, the priest cum witch doctor played an important role in curing the illness. Bhattnayak purifies socially polluted persons. But after the establishment of project in Group A household,

only 5 per cent of them believed in traditional health institution things. New non tribal gods were worshipped . They celebrated non tribal festivals. For all major and minor diseases,the tribals went to NALCO hospital for curing it. In Group B of households,25 per cent of them believed in traditional healer and Group C of households, 30 per cent. This was due to distance of Group C of household from the growth centre where the influence was less, and the nature of economic activity. Likewise in some of these villages,the panchayat and youth dormitory was seen.

Community entertainment has been reduced after the project. The tribals before the project enjoyed themselves through dancing, singing and music. They attend various social festivals and ceremonies. On this occasion, they drink. But after the project, community recreation has been reduced mainly in Group A village households. The educated girls and boys feel shy to dance in open grounds. Now they go to the community centre which has been constructed by NALCO in Analabadi colony. They go to see cinema. However, in Group B and Group C of villages ,still dancing, singing and music persist .

The observances to different social ceremonies have not changed much in the project area. The festivals are being held at great fervour. However, with regard to

Group A villages, there has been much change among the employed tribals to observe these social ceremonies. Very few tribals go to their original villages to observe such festivals. Moreover, non tribal gods and goddesses have entered in their cultural life. God and Goddess like Lord Jaganath, Durga, Kali are being worshipped. In Group B and Group C villages, tribals still worship their traditional god and goddess, village deity, ancestral spirits and so on.

Before the establishment of project, the tribals were regular drinkers. Drinks are even offered to deities, they used to take fermented rice, ragi liquor. But after the construction of the project, the foreign liquor has entered the tribal settlement. The members of Group A of households mainly take foreign liquor as they can afford to it. So most of the income is spent on this consumption of liquor. In B and C group of households, tribals still take traditional type of fermented liquor. They are heavy drinkers. This was due to mainly out of frustration, as they were cheated in both the fronts, i.e., loss of land and loss of employment opportunities in NALCO.

Condition in Analabadi colony

The houses in Analabadi colony have been built of pacca houses with supply of electricity and water supply.

Both the non tribal and tribals live together in the colony. Before the establishment of project, the different tribal groups were living in a separate settlement in their traditional village where they used to maintain their own ethos, norms, customs of the society. But in rehabilitation colony, they have to stay together with non tribals, by which they were not able to maintain their tribal identity. The non tribals see these tribal people in a very low eye. They say that, these people can not become humanbeings, and they squander money in drinkings. So there is a feeling of superiority among the non tribals staying in the Ahalabadi colony. Moreover a cultural rift has been developed between the employed tribals and non employed tribals in the colony. Though they live in a same colony, their is no good interaction between them. All maintain a isolated social life in the colony.

The sanitation condition in the colony has not been, better than villages. This is attributed to high congestion and higher density of population in the resettlement colony. As there is no sanitary latrine, the residents of the colony use open field for toilet purposes, which creates an unhealthy codition and foul atmosphere. The children of the residents use near the habitation for toilet purposes. This makes the condition more worse. There is also no good drainage system

near the taps and tubewells. As a result earthen drain infront of all houses where water gets accumulated creates a unhealthy condition.

Impact of NALCO on infrastructure development:

After construction of the project, there has been significant improvement in socio-economic infrastructure in the project villages. Road facilities have improved in all villages. Facilities for primary education and adult education are available in almost all villages after construction of the project. Besides, distance of M.E. and H.E. Schools has been substantially reduced so as to help the children to prosecute studies. Facilities for education in English medium School (Delhi Public School) have also been extended to such tribals with financial and transport assistance.

After the project, the distances to various health institution to the different Groups of villages have been reduced. The influence of growth centre, exposure to modernity and education, roads and communication and interaction with urban people has changed their traditional health institution, customs, belief, faith relating to different health problems and preventive and curative aspect of health of the tribals in the project area.

After the project, drinking water facilities have been improved in the Group A villages in Analabadi colony. Piped water supply has been made to Analbadi rehabilitation colony by NALCO authorities. Besides, NALCO has also a proposal to construct some more wells and "Kundis" in the peripheral villages within 1 to 2 years. Though facility of electricity is available in the colony, the tribal households have not taken connections to make use of it.

Other infrastructure facilities such as post office, Telegraph office, P.C.O., Bank, daily and weekly markets etc. are now available within few distance for most of the villages. NALCO Authorities have taken active interest in peripheral development of the area and extending infra-structural support in a planned manner. But for a planned development of the growth centre at Mathalput, it is recommended to set up an urban local body so that it will not only avoid haphazard and sporadic growth but will also protect the interest of tribals in the growth process.

Economic activities

Before the establishment of project, in Group A households village, 95.8 per cent of workers were having cultivation as their principal occupation and 2.7 per cent were agricultural labourers, only 1.5 per cent mainly landless were depending on non agricultural labour as principal occupation. On

the post-project period, 66.3 per cent of them are engaged in organised service and 28.9 per cent in non agricultural labour as their principal occupation. In Group B households in the pre-project period, 97.3 per cent were engaged in cultivation and 2.7 per cent in agricultural labour as principal occupation. In post project period, 71.3 per cent depend on non agricultural labour, 12.1 per cent on agricultural labour and 7.1 per cent on activities allied to agriculture. In Group C household, the change has been marginal, 82.6 per cent of workers depending on cultivation as against 96.5 per cent in pre project period. There has been a sharp rise among the workers depending on non agricultural labour from 0 per cent to 13.9 per cent. Agricultural sector which was providing self employment and unskilled labour to the tribal workers was lost due to establishment of NALCO. The NALCO authority promised to give employment to all the land displaced persons and affected persons coming under NALCO's establishment area. But NALCO provided 162 tribals at the rate of one from each household, employment in the NALCO. These people were mainly from the Group A of household. In B group and C Group of household village, no tribal got the employment. The NALCO administration side faced also difficulties in providing large employment to these unskilled, illiterate people. Moreover almost all the work in NALCO was based on mechanised labour . Inspite

of it, in Group A Villages, out of 37 tribal household, no body could be employed. Now 11 are employed from 37 tribal households. Of these who have been employed, 74.28 per cent were engaged in lowest rank, 16.16 per cent in a little higher rank and only 9.5 per cent in skilled labour. This was possible after adequate training was given to these tribal people starting from 3 R's to technical training. In addition to regular employment in NALCO most of the land displaced persons including tribals have been provided wage employment in construction activities, plantation, fuel and caustic loading and unloading work through a dozen of local contractors, who are also from land displaced household mainly constitute schedule caste and general caste.

Thus it was seen that there has been no gainful opportunities and substantial development for the tribal workers and tribal staying in Damanjodi area. A substantial loss of original occupation in all the Group of villages in primary sector i.e. cultivation and agricultural labour, animal husbandry, livestock activities, forest collection and forest produce which were helpful for a self sustained economy. This has caused a serious dislocation in tribal society. The marketized economy though introduced in such household and development of growth centre has not yet developed a permanent root as the quality of human resource has not been developed yet.

The Group B of household have lost on both fronts, i.e., in agricultural sector and in employment sector. They feel more frustrated at present. Their subsidiary occupation has also been affected which has created a serious problem of unemployment. It is immediately necessary to rehabilitate them economically on a permanent basis since they have sacrificed their principal amount (cultivated land) for this national cause. These households are tobe trained and motivated for inclusion under government sponsered self employment programme and in NALCO. NALCO should assist them financial and technical support to have a permanent income generation assert.

From Group C of households, the NALCO and government should create self employment scheme and undertake other development works so as to increase their economic status and be a part of growth centre.

In short, following steps can be taken to improve the employment opportunities and economic condition of the tribals staying in the project area.

i) A complete listing of all unemployed may be done by NALCO authority in cooperation with Gram panchyat.

ii) Their aptitude and choice for work of each of these

workers has to be recorded. Accordingly necessary training programmes are to be organised through NALCO and TRYSEM so as to increase their employability.

iii) A liasion may be maintained with NALCO and different organisations for salaried employment of these tribals.

iv) The landless households may be provided with land in the adjoining villages by leasing cultivable wastelands acquired by Revenue Department after reclaimation.

Health problems and practices

Before the project and the developmental activities, tribal people encounter certain health problems as a result of their way of life and their interaction with environment they live in. The way of life determines the cultural meaning of these health problems. It also determines the formation of various health institution and attitude of the people to the health problems encountered by them. With the developmental activities, exposure of the area to outer world through roads and communications, the traditional health institution and preventive, the curative aspect of health problem had undergone a change in the project area.

The tribal people of the project area had their own cultural means for maternal and child health, major ailments,

minor ailments, family planning practices. After the project, all these have undergone a change. This change is shown in respect to Group A villages which has been rehabilitated in Analabadi colony. Group B villages where land has been acquired but displacement has not taken place and Group C, where land has been acquired partially. The health practices and problems in these group of villages are described (in chapter IV). And it is observed that tribals of Group A village who live near the growth centre seek more the services of modern health institution than the Group B and Group C villages. The Group B villages are in the stage of transitional health culture. The Group C villages are the least responsive to the modern health service system.

Health status of a community not only depends on the health services system, but on socio-economic-political aspect of the society. It is observed that, all the sections of different Group of villages seek health service from modern health institution, but only the economically well-off tribals who are employed in NALCO or who are engaged in other organised service, petty business and allied activities get more facilities from the health institution than the economically poor tribals who are daily wage labourers. No doubt, these poor tribals know that by seeking the

modern health services their health problems will be solved but the staff of various health institutions take these patients casually, as, they cannot pay any amount for the service they rendered.

The various health problems that the project tribal villages suffer are tuberculosis, typhoid, asthma, malaria, whooping cough, dysentery, STD and many other minor ailments. NALCO hospital mostly entertains the NALCO employees and they see casually to other land displaced tribals who are not employed in NALCO.

S U M M A R Y

The culture of tribals in and around NALCO mines area at Damanjodi is in transition. Even the interior most villages not fully rehabilitated, the way of life of tribals is different in many ways what has been described by many scholars in earlier years. In fact, considerable effort has been made in this study to depict the life process of the tribal groups in three groups of villages in pre and post project period.

This process of transition of the way of life of the tribals has been very greatly accentuated because of (a) establishment of the NALCO in the very heart of tribal land, (b) the opening up of quarries and mines for exploitation of minerals by various agencies and (c) the purposive intervention by the government to bring about changes in the culture of tribals through various tribal development programmes, including changes in the health culture through the agency of Primary Health Centres. There is a steep gradient in the change of culture among tribals, as menifested in the way of life of an abjectly poor tribal household in the Group 'C' village at one extreme and the tribal employees working in NALCO at other.

Quite apart from the health practices that are

ingrained in the traditional tribal culture, this study has shown that tribals of NALCO mining area at Damanjodi are aware of the more efficacious health services that are available from various institutions. Within their own village and outside and that they make special efforts to have access to these institutions, particularly when they face serious health problems and they find that their own traditional health practices are not efficacious. The tribals living in interior villages have considerable felt needs for services other than what is available within their own culture. Despite very strenuous efforts made by them, they are unable to have access to such services, thus often leaving many of these needs unfulfilled. Therefore, for health administrator of NALCO and State Government working among tribals, the problem is not so much of bring about changes in the cultures of tribals to make health services acceptable to them, but the problem is to increase the access of the tribals to an appropriate package of medical technology which is oriented to the social and cultural background of the tribals and which fulfills their long felt needs of the health services.

This study corroborate the findings of Sahu's study in Rouruela. This study further suggests that the strategy

of tribal development through industrialization also requires defining in clear terms, the contents of development for the tribals in order to curve the multifaceted exploitative social structure coming up around them through project like NALCO.

BIBLIOGRAPHY

BIBLIOGRAPHY

Ahluwalia, A., Sociology of Medicine in India, Economic and Political Weekly, 1 (42), pp. 1007 – 1012, (1967).

Alderson, M.R., "Social Class and Health Service", The Medical Officer, 124, pp. 50-52, (1970).

Anderson James G., "Effects of Social and Cultural Process on Health", Socio – Economic Planning Services, 8(1), pp. 9-22, (1974).

Austin, Vincent., Rural Industrial Development, Cassel, London, (1981).

Banerji, D., "Medical Practice in India, Its Sociological Implications", Antiseptic, (1966).

_____., Social Sciences and Health Service Development in India: Sociology of Formation An alternative Paradigm, New Delhi, Lok Prakash, (1986).

Beharpta, P.C., " Concepts of Disease and Therapeutic Practices Among the Hill Soaras of Orissa", Vanyajati, 7, no.2, pp. 44-48, (1959).

Bell, Robart., "The Medicine Man or Indian and Eskimo Notions of Medicine", Canadian Medical and Surgical Journal, 14, pp. 45-62, (1886).

Benedict, R., Pattern of Culture, Boston: Houghton – Miffin, (1934).

Beteille, Andre., "Ideas and Interests: Some Conceptual Problems in the Study of Social Stratification in Rural India", International Social Sciences Journal, 21(2), pp. 219-234, (1969).

Bhowmick, P.K., "Lodha Spirit - doctors and Their Spells", Proceedings of the Indian Science Congress, vol. 47, no.3, (1960).

Biswas, P.C., "Concepts of Disease Among the Primitive People of India", J. Dept. of Letters, vol. 25, Calcutta University Press, Calcutta (1934).

Brown W., Chapman, "Diseases Among the Aborigines of America and Their Knowledge of Treatment", Canadian Journal of Medicine and Surgery, 51, pp. 155-88, (1922).

Carstairs, G.M., "Customs and Beliefs in Relation to Infant and Maternal Welfare", Pacific Forum, pp. 37-43, (1959).

Cassel, John., "Social and Cultural Implications of Food and Food Habits", in E.G. Jaco (ed.), Patients, Physicians and Illness, New York, The Free Press of Glencoe Inc., (1958).

Clyde, Klockhon., "Mirror of Man: A Survey of Human Behaviour and Social, Attitudes, A Premier Book, Fawcett Publication, Inc. Greenwich, Conn, (1964).

Deogaonkar, S.G.(ed.)., Tribal Exploitation, Inter-India Publications, New Delhi, (1990).

Dhillon, H.S., and Yadav, Y.R., "Dietary Habits and Beliefs in Pregnancy: A Bengal Study", Swath Hind, pp. 3-37, (1966).

Dutt, P.R., Rural Health Services in India; Primary Health Centre, Central Health Education Bureau, D.G.H.S., Ministry of Health, Government of India, New Delhi, (1962).

Elwin, V., "The Attitude of Indian Aborigi-nal Towards Importance", Man in India, 23(1), (1943).

Epstein, Scartell., "A Sociological Analysis of Witch Beliefs in a Mysore Village", Eastern Anthropologist, 12(4), pp. 234-251, (1959).

Filliozat, J., The Classical Doctrine of Indian Medicine, Its Origins and Its Green Paralles, Munshiram Manoharlal, Delhi, (1964).

Gnanambal, K., "The Magic Rites of the Urali Agriculture, Puberty, Pregnancy and Curing of Diseases", Bulletin of the Department of Anthropology, 3(2), pp. 8-33 (1954).

Goodenough, W.H., "Community Response and Development", in Lathem, W. Newbery, A. (eds), Community Medicine : Teaching, Research and Health Care, New York, Appleton-Century-Crofts, (1970).

Government of Orissa: The Kondh, Tribal and Harijan Research-cum-Training Institute, Bhubaneswar (Research Monograph).

_____., Tribals of Orissa, Harijan and Tribal Welfare Deptt., Bhubaneswar.

_____., Primary Census Abstract - Koraput Dist., Census of India, series 16, Orissa, Part-XIII-B (1981).

_____., District Statistical Handbooks, Directorate of Economics and Statistics, Bhubaneswar, (1981-87).

_____., Tribal Sub Plan Report, Harijan and Tribal Welfare Deptt., Bhubaneswar (1988-89).

_____., Economic Survey, Planning and Coordination Dept., Bhubaneswar, (1989-90).

Graham, Saxon., "Socio-Economic Status, Illness and the Use of Medical Services", in E.G. Jaco (ed.), Patients, Physician and Illness, New York, the Free Press of Glencoe, Inc. (1958).

Hallowell, A. Irving., "Primitive Concepts of Disease", American Anthropologist, 37, pp. 365-68, (1935).

Hasan, K.A., "Drinks, Drugs and Disease in a North Indian Village", Eastern Anthropologist, 17(1), pp. 1-9, (1964).

Hasan, K.A., and Prasad, B.G., "A Note on the Contribution of Anthropology to Medical Science", Journal of Indian Medical Association, 35(5), (1959).

Hitchcock, J.T., and Mintum, Leigh , The Rajputs of Kolhapur, Indian, in B.B. Whiting (ed.), Six Cultures : Studies of Child Rearing, John Wikey, New York, (1963).

India, Govt of., Report of the Commissioner for Scheduled Castes and Scheduled Tribes, Part I and II (1975-76) and (1976-77), Twenty Fourth Report, New Delhi, (1977).

Jaggi, O.P. Folk Medicine - History of Science and Technology in India, vol.iii, Atma Ram and Sons, Delhi, (1973).

Jones, Delmos J., "Applied Anthropology and the Application of Anthropological Knowledge", Human Organisation, vol. 35 (1976).

Junghave, Y.N. and Roy, P., "The Relation of Health Practice Innovations to Social Background, Characteristics and Attitudes, Rural Sociology 28(4), pp. 394-400, (1963).

Kabra, G.D., "Tribal Workers in an Industrial Setting, Vohra Publishers, Allahabad, (1987).

Karna, M.N., Health, Culture and Community in a North Bihar Village, Patna University, Ph.D. Thesis, (1971).

Kerketta, Kaushal., "Rice Beer and the Ora-on Culture : Preliminary Observation", Journal of Social Research, vol.3,no.1,(1960).

Kosa, John., Poverty and Health : A Sociological Analysis, Harvard University Press,(1969).

Leslie, C., "Professionalization of Ayurvedic and Unani Medicine", Transaction of the New-York Academy of Sciences, Service II, 30(4), pp. 559-572, (1968).

Lieban, R.W., "Tribal Medical Beliefs and the Choice of Practitioners in a Philippine City", Social Science and Medicine (Oxford), 10, pp. 289-295 (1976).

London, J.B., "Social Structure and Health Concepts Among the Zulu", Health Education Journal, 15, (1957).

Madan, T.N., "Who Chooses Modern Medicine and Why ?", Economic and Political Weekly, 4(34), pp. 1475-84,(1969).

Majumdar D.N.,and Madan T.N., An Introduction to Social Anthropolggy, Asia Publishing House (P) Ltd, Bombay, Calcutta, New Delhi, Madras, Lucknow, New York,pp. 149 — 189,(1980).

Mann, K., Tribal Women in a Changing Society, Mittal Publications, Delhi, (1987).

Mathur, Santa S.,and Mathur, Sahi Indra., "Attitude Towards Child Rearing Practices in Two Cultures", Journal of Family Welfare, 10(3), p. 64, (1963).

Mazumdar, D.N., "Disease, Death and Divination in Certain Primitive Societies in India", Man in India, 13, pp. 115-149.

Mohanty, U.C., "The India Festival in Sundergarh, Orissa: A Case Study of Tribal Dysphoria and Its Alcoholic Twist", Economic Weekly, 14 (4), pp. 595-597, (1962).

Mukherjee, Bhabanand.," A Magico-religious Ceremony in Connection with the Disease of Garo", Bulletin of the Department of Anthropology, 5(1), (1956).

Mathews, C.M.E., Health and Culture in a South Indian Village, New Delhi: Sterling, (1979).

Nandi, Santibusan., "Cultural Changes in an Oraon Village", Vanyajati, vol.8, no.1, pp. 19-20, (1960)

National Council of Applied Economic Research., Socio-Economic Conditions of Primitive Tribes of Madhya Pradesh, Delhi, (1963).

Operations Research Group., Problems of Rehabilitation of Tribals in Damanjodi (NALCO) Area, ORG, Bhubaneswar, (1989).

Pandey, A.K., Kinship and Tribal Polity, Rawat Publishers, Jaipur, (1989).

Park, J.B.,and Prasad, B.G., "Health Surgery of Native Village in Madhya Pradesh", Indian Journal of Medical Sciences, 17, pp. 300-320, (1963).

Parson, T., Social Structure and Dynamic Process: The Case of Modern Medical Practice in Social System , Free Press, New York, (1951).

Patnaik,N., FPF- IDRC Project On Infant Mortality in Relation to Fertility. Report On Tribal Area of Orissa Institute of Tribal Health and Social Sciences,Bhubaneswar,(1987).

Qadeer, I., "Social Dynamics of Health Care:CHW Scheme in Shahdol District", Socialist Health Review, vol.2, no.2, pp. 74-83, (1985).

Raha, M.K., Tribal India-Problem, Development,Prospect, vol I, Gian Publishing House, New Delhi,(1989).

Ramalingaswami, V., "Organization and Management of Research by Autonomous Bodies", in I.J.P.A., vol. xv, no.3, pp. 459-63, (1969).

Radli, O., "Who are the Witch Doctors ?" Afya : A Journal for Medical and Health Workers, (Nairobi), 7, pp. 87-89, (1973)

Rao, P.S.,and Richard, J., "Measuring Community Responses to Health Care Programme", Indian Journal of Medical Research, New Delhi, 58, 7, pp. 938-946, (1978).

Ray, Gautam Shankar, Chattopadhyay, Gauranga.,and Biswas, S.A., Magic-religious Ceremony in Connection with the Disease of a HO Boy", Main in India, 34, pp. 194-204, (1954).

Ray, G.,Chowdhury, N.,and Sarkar, A., "The Birth and Pregnancy Rites Among the Oraons", Proceedings of the Indian Science Congress, 42(3), p. 326, (1955).

Reader, George C., and Mary, E.W. Goss., "The Sociology of Medicine", in R.K. Merton et al. (eds.), Sociology Today, New York, Basic Books, Inc., (1959).

Research and Evaluation Division: Selected Bibliography of Behavioural Research in Health and Extension Education in India ,Central Bureau of Health Education, New Delhi (Mimeographed), (1969).

Roy, J.K.,and Rao, R.K., "Diet Surveys Amongst the Tribes of Madhya Pradesh-Part I ", "Baigas and Gonds of Madhya Pradesh", Bulletin of the Department of Anthropology, 5(2), (1956).

Roney, James C., "An Anthropologist Looks at Medicine", The Pensylvania Medical Journal, 63, pp. 1000-1004, (1960).

Roy, S.C., "Magic and Witchcraft Among the Chotanagpur Plateau – Oraon and Munda", Journal of Asiatic Society of Bengal, vol. 10, pp. 344-353, (1914).

Roy Burman, B.K., "Critique of Maurice Freedman's Report on Social and Cultural Anthropology", Man in India, vol. 54, no.2, pp. 130-144, (1973).

Roy, Prodipto and Kelvin, Joseph., Health Education and Family Planning : A Study of Eight Indian Villages, National Institute of Communist Development, Hyderabad, (1968).

Sachidananda, "Political Consciousness in Tribal Bihar", Man in India, 39, pp. 301-308,(1959).

Sahu, S.K., Health Culture in Transition, A Case Study of Oraon Tribe in Rural and Industrial News , Khanna Publishers, New Delhi,(1991).

Satyanarayana., Industrial Development in Backward Regions: Resources and Planning, Chugh Publishers, Allahabad, (1989).

Sengupta, P.N., "The Investigation into the Dietary Habit of the Aboriginal Tribes of Abor Hills", Bulletin of Anthropological Survey of India, 3(2), (1954).

Sharma, B.D., Planning for Tribal Development, Prachi Prakashan, New Delhi, (1984).

Singh, J.P., Tribal Women and Development, Rawat Publication, Jaipur, (1989).

Singh, S.N., Planning and Development of an Industrial Town, Mittal Publications, Delhi, (1990).

Singhania, B., "Birth, Childhood and Puberty Rites Among the Tribes of Dudhi, Mirzapur, U.P.", Eastern Anthropologist, 51, 4(1), (1950).

Sharma, T.R., "Paid Labour in Bihar Tribal Society (Kol, Santal, Oraon)", Bulletin of the Bihar Tribal Research Institute, Ranchi, vol.2, no.2, (1960).

Singh, Yogendra., "The Role of Social Sciences in India, A Sociological Bulletin, vol.22, pp. 14-28, (1973).

Sinha, Surjit., "Is There an Indian Tradition in Socio-Cultural Anthropology : Retrospect and Prospect," Journal of Indian Anthropological Society, vol.6, (1972).

Suchman, E.A., Sociology and the Field of Public Health, Russel Sage Foundation, New York, (1963).

Verma, S.C., "Problem of Drinking in the Primitive Tribes", Eastern Anthropologist, 12, pp. 252-256, (1959).

Verderese, M. Del., "Consultation on the Role of the Traditional Birth Attendant in Maternal and Child Health and Family Planning", Report of the Review and Analysis of Information and Data on Traditional Birth Attendants, Geneva, WHO, 73,3, (1973).

Vidyarthi, L.P.,(ed.)., Indian Anthropology in Action, Bihar Council of Social and Cultural Research,(1961).

_____., "Tribal Indebtedness in the Two Oraon Villages : Brambay and Benari", Journal of Ranchi University, 23, pp. 153-182. (1964).

_____., Study of Tribal Labourers of Both Industrial and Agricultural Areas in and Around Ranchi, National Commission on Labour, Manager of Publication, Delhi, (1968).

_____., "Cultural Change in Tribes of Modern India", Journal of Social Research, 11(1), pp. 1-36, (1968).

_____., Socio-Economic Implications of Industrialisation in a Tribal Belt of India,(1970).

Vir, Dharam.,and Manral. Manju., Tribal Women, Classical Publishers, New Delhi, (1990).