

A D I V A S I

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Editorial

It is a matter of satisfaction that the Journal Adivasi Vol 51 is getting released. I am sure; this number combined volume released during Annual Adivasi Exhibition of this year would give pleasure to the academicians, development personnel, researchers and also to the concerned readers since it spreads over a wider spectrum on tribals and their resources. Studies on tribal communities who lived in harmony with nature, combining reverences for nature with sustainable management of resources reveal interesting transitions as a result of developmental interventions in health and economic frontiers.

The journal devoted for the study of scheduled caste and scheduled tribe based on fieldwork. The papers in this volume are based on empirical studies mostly among the tribal communities of Odisha. The nine papers, being approved for publication by the editorial board of the journal Adivasi, comprising various aspects of tribal life and living covering wider tangible and intangible areas of interactions. These have been organized with equitable weightage on biological and socio-cultural foundations. It initiates with a paper on fertility and runs through resource sharing to the analysis of intangibles, evaluation of tangible, challenges and choices of the development induced displacement.

- Prof N.C Dash's paper is based on study on fertility scenario among the food gathering and hunting nomad Mankidias of Mayurbhanj, Odisha which revealed that with low mean age at marriage, a prolonged breastfeeding and prevalence of traditional contraception methods has been the major cause of low fertility and resultant population size. Prof Dash suggested for an effective health intervention strategy.
- Dr. N. Mishra in his empiric paper has emphasized on social exclusion of marginal communities in sharing and caring for water resources for irrigation through a local *pani panchayat*. He has explained how the community based initiation is being hijacked and assumes functional status under the hegemony of dominant caste and class communities. The approach of collective action has failed in giving justice to the common man. Shortfall of policy and absence of scientific approaches has contributed to insecurity of livelihoods of poor tribal and women who remain at the receiving ends for the absence of ownership rights of the land possessed for cultivation.
- The tribal livelihood is largely conditioned by geo-physical structure. Dr Panigrahi's paper –the third one in this volume, analyses the data of Malkangiri, a tribal district recently notoriously known to have been Naxals infected. He appraises the availability of and accessibility to health infrastructure and services in the study area. As regards the quality of health services provided to the tribals, he suggests the needs of an aggressive improvement to overcome the inadequacies through decentralization of health service delivery system else the region will be away from human endowment.
- Under the royal patronage, the popular *Chhatar Jatra* of Kalahandi has been treated as a historic glory. Dr. Pasayat in his paper while giving a descriptive analysis of this elaborate festive occasion focused on the potency of local tourism that would be tapped as an expanded livelihood source for some. The cultural inheritance of *Chhatar Jatra* has in the meantime assumed the sacred responsibilities of the general people of Kalahandi at large. While analyzing the author has shown the process of syncretism where Manikeswari Devi a Hindu deity has been considered to be a unique blend of tribal and non-tribal culture. An iconographic comparison

between Stambeswari and Manikeswari Devi, he suggests, would start a trend of universalisation against the localized deity and the festivities woven around.

- Adivasis who lived in harmony with nature, combining reverences for nature with sustainable management of resources have their own worldviews quite different from non-tribal people. With this backdrop H. Samantaraya's descriptive analytic paper deals with man-nature spirit -complex among the Santals in the changing scenario. The paper infers that so long the worldview of the Santals assumes its integral position in relation to the greater society, the boundary maintenance of the community will be faster and the language as a tool would help for the retention of cultural identity expressing their cohesive force.
- There has been a close connection between the accessibility to health services and health status of the community. Based the NFHS-II and III data from secondary sources Sanjukta Das in her paper tries to make a comparative analysis to indicate the health deprivation among the tribes of Odisha.
- The seventh paper is on nutritional impact of food mix meant for tribal children undertaken by Chandrashree Lenka. It is about the food mix and nutritional value of the food and nutritional health of tribal children, quality of food mixes by organoleptic taste, acceptability taste and by observing their shelf life.
- In the growing era of global connectivity and transfer of technology across the nations we witness varieties of destabilization and tensions comprising ethnic violence, agitations and conflicts on development and displacement issues. The paper jointly contributed is based on secondary data highlighting a few theoretical propositions. However, discussing the tribal Odisha and their ethnic cohesion and conflict in transition Mr. H. Das and Y. Sahoo are of opinion that the society which is receptive to new ideas makes a steady progress and society which is impervious to external influence retaliates generating unsolved problem
- The joint paper on a cases study of TATA Steel at Kalinganagar, at Jajpur, Odisha contributed by Anand Ota and Anil Ota's while highlighting the discontentment among the displaced has made a cross cultural comparison and suggested a few remedial measures that would suit the corporate house and the people as they perceive.

I express my heart-felt gratitude to all the paper contributors for their sincere efforts in contributing the articles for this volume of Adivasi. I also express my deep gratitude to the members of the Editorial Board for their valuable cooperation for bringing out this publication.

My sincere thanks goes to our Associate Editor Shri S.C.Mohanty for taking all the pains to prepare this volume for publication. I invite the research scholars to enrich all our future volumes with their valuable suggestions and contribution of empirical research papers.

26th January 2012
Bhubaneswar

P. Panda
DIRECTOR

BIO-CULTURAL DETERMINANTS OF FERTILITY OF THE MANKIDIA: A SEMI-NOMADIC TRIBE OF ODISHA

Nirmal Chandra Dash**

ABSTRACT:

This is an empirical attempt to study the bio-cultural factors influencing human fertility among the Mankidias: a semi-nomadic primitive tribe. They are sparsely distributed mostly in Maurbhanj District of Odisha. Data have been collected from 156 ever-married women of the reproductive age group (15-49 years) during 2009. The present paper deals with the actual fertility scenario of the Mankidia women. Efforts are made to study the bio-cultural variables and societal factors affecting fertility. It is noticed that the Mankidias are extremely poor and have a food gathering and hunting economy. The observation of fertility gives an impression that though the mean age at marriage is low (15years), the average fertility of the women is not so high ie.3.2 (mean conception). This community is far away from the reach of the modern family and health services provided by the government. However, it is observed that the prolonged breastfeeding and prevalence of widespread traditional contraception methods are identified as the responsible factors for affecting such a low fertility of the present population. Hence, trends of fertility need to be monitored regularly and appropriate measures should be taken to raise the socio-economic status of the Mankidias and of the women in particular.

INTRODUCTION

The scheduled tribes constitute a significant proportion of the total population of Odisha. According to the 2011 Census, Odisha has more than 9 million tribals which constitute about 21 % of the total population of the state (Census of India, 2011). Tribes differ in various ways and degrees from the general population and also differ considerably in socio-cultural life among them. The tribes live in the forest ranges and naturally isolated regions and are known by specific names. The tribes are recognized as Aborigines, *Adivasis*, *Girijans*, etc. They are considered as the original inhabitants.

Most of these tribal communities are faced with similar health situations accentuated by widespread poverty, illiteracy, malnutrition, poor health and hygienic condition. The variation in the social and economic practices brings out a difference in the level of fertility between various populations. Thus for better understanding the causes of differential fertility, the present study is undertaken to contemplate on both the socio-economic and bio-cultural features of the tribe. The focus of this paper is on a specific tribal community, the Mankidia, who are socially retarded and economically backward.

The local people use to call the Mankidias in different names. In the district of Kalahandi and Sundargarh they are named "*Mankidi*" whereas in Mayurbhanj and Sambalpur districts they are named "*Mankidia*". Actually they belong to the Birhor community. The reason for calling the Birhors, as "*Mankidi*" or "*Mankidia*" is that they are

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skilled in catching monkey (locally termed as *mankad*). They use nets made of *siali* creepers for monkey catching. They eat the flesh of the monkeys and sell the skin to the local skin traders for cash. The Mankidias fall into the category of hunting and gathering groups having economic relations with local peasants. They pursue a semi-nomadic way of life.

Mankidia are found in large numbers in Bihar and are very few in numbers in Odisha, 1180 as per 2001 Census (2011 data for individual tribes are not published). The primary occupation of the *Mankirdias* is making ropes out of the bark of the *siali* creepers (Lama Bayer), which are used by the local peasantry for different agricultural and domestic purposes. The staple food of the Mankidias is rice. During their trip to forest for collection of barks, they dig out roots, fibers and also collect honey with supplement their diet. The Mankidia family is invariably of nuclear type. The Mankidias are polytheists, (Patnaik 2008). In this paper the bio-cultural variables influencing fertility among this primitive semi-nomadic tribe, the Mankidias of Odisha, are highlighted.

DATA COLLECTION

The data for the present paper are collected from seven villages under five blocks of Mayurbhanj District of Odisha. The total number of Mankidia households covered for data collection is 156 during 2009. The survey was designed to collect data on the socio-cultural background, reproductive history and family welfare, etc of the tribe. The ever married women were interviewed to collect data on reproductive health and when required their husbands were also interviewed. The respondents were also interviewed to collect data on their background characteristics. The ever married women of age-group (15-49 years) of the community were the respondents.

RESULTS AND DISCUSSIONS

Human fertility refers to the actual reproductive performance of the women which operates more or less within a biological framework. Though reproduction is a biological and universal phenomenon, several socio-cultural norms and practices and physical environmental conditions are influencing the fertility level of a population. There are factors, which manifest directly through the body physiology of human beings and some others do so through intermediate factors such as behavior, culture etc. The socio-cultural theories have focused on the attitude and motivational factors at community level for explaining the reproductive behavior (Davis, 1956; Carlson, 1966). Visaria and Visaria (1995) described how fertility behavior of women determined by number of social and biological factors.

Table-1 illustrates the socio-cultural background and the economic status of the respondents. Majority of the respondents were between 15-19 years (23.1%) of age followed by the age group 25-29 years (20.5%). This shows that demographically it is a young population. The table highlights the poor socio-economic status of the respondents. Only 31 percent of the respondents work as daily labour while the rest are unemployed or depends upon minor forest collection. Majority of the respondents do not possess any transport (73.1%) or electronic item (86.5%). About 80 percent of the families have their monthly income less than Rs 1000/-. Thus the average monthly family income is Rs 1099/-. It is also evident from the table that most of the respondents are illiterate (98%). The age at marriage, which is an important socio-cultural and demographic variable influences the child bearing period and also determines the fertility level. The mean age at marriage of the Mankidias is 15.04 years which is notably below than the legal age at marriage in India i.e. 18 years.

Table 1: Socio-Economic Characteristics of the Respondents

SI No.	Variable	Frequency	Percentage	
1	<i>Possession of Transport</i>	Yes	42	26.9
		No	114	73.1
2	<i>Possession of any electronic item</i>	Yes	21	13.5
		No	135	86.5
3	<i>Occupation</i>	Unemployed	59	37.8
		Daily Labour	48	30.8
		Rope making	23	14.7
		Minor forest collection	26	16.7
4	<i>Monthly income of the family</i>	< Rs1000/-	125	80.1
		Rs1000/-Rs2000/-	31	19.9
		Rs2001/- Rs3000/-	-	-
		> Rs3000/-	-	-
5	<i>Average monthly family income</i>	Rs1099/-		
6	<i>Educational Status</i>	Illiterate	153	98.1
		Lower primary	2	1.3
		Upper primary	-	-
		Middle Exam	-	-
		High School	1	0.6
7	<i>Age of Respondents (Age groups in years)</i>	15-19	36	23.1
		20-24	30	19.2
		25-29	32	20.5
		30-34	9	5.8
		35-39	24	15.4
		40-44	12	7.7
		45-49	13	8.3
8	<i>Mean age at marriage</i>	15.04 years		

BIO-CULTURAL VARIABLES

Beside the socio-cultural variables, various biological factors also influence human fertility. The plausible causal biological pathways influencing human fertility are being manifested in the present study.

Age at Menarche

Age at menarche, one of the important biological determinants of fertility shows a range varying between 10-18 years among the girls of 24 countries of the world (Shah, 1958).

It is observed from table - 2 that the maximum percentage of Mankidia women menstruated at the age of 13 years (54.5%) and 15 years (30.8%). The mean age at menarche is found to be 13.6 years. It may be attributed that low level of socio-economic

condition, malnutrition, environment, etc are the reasons for the marginally high menarcheal age of the Mankirdia women. Various studies indicate that menarcheal age is influenced by food habit, nutrition, occupation, education, environmental, genetical, socio-economic factors, etc (Tanner & Keeffe, 1967; Bhasin, 1990; Balgir, 1994; Biswas & Kapoor, 2003). The different bio-cultural variables which directly or indirectly influence the level of fertility are being highlighted.

Table 2: Age at Menarche

Age in years	Frequency	Percentage
10	-	-
11	12	7.7
12	2	1.3
13	85	54.5
14	2	1.3
15	48	30.8
16	6	3.8
17	1	0.6
Total	156	100
Mean age at menarche – 13.6 years		

Age at marriage

The relationship between age at marriage and fertility is well known (Nag, 1982; Pandey and Talwar, 1987). Table-3 represents the first age at marriage data of the community.

Table 3: Age at Marriage

Age group in years	Age at marriage	
	Frequency	%
< 13	7	4.5
13-15	97	62.2
16-18	48	30.8
19-21	2	1.3
> 21	2	1.3
Total	156	100
Mean	15.04 years	

Table-3 shows that maximum percentage of women get married between 13-15 years (62.2%) and 16-18 years (30.8%) which indicates that the practice of girls getting married soon after puberty is still existent in the Mankidia population. The mean age at marriage is 15.04 years which is also much below the legal age at marriage of the Indian girls (18 years).

Age at first conception

Though age at conception and age at first child birth are biological phenomenon, its socio-cultural dimensions are governed by personal, social and cultural setup. It is the age at which the female eventually enters into the actual fertility performance.

Table 4: Age at first conception

Age group in years	Age at first conception	
	Frequency	%
< 13	2	1.3
13-15	51	32.7
16-18	90	57.7
19-21	10	6.4
> 21	3	1.9
Total	156	100
Mean	16.2 years	

Table -4 shows that the mean age at first conception is 16.2 years. Thus the gap between the mean age at first conception and mean age at marriage is about one year which highlights that due to early marriage biologically their reproductive system are not fit for conception, Kallan and Udry (1986) have opined that the effect of age at marriage, most likely operated through biological and maturational factors. However some cases of fertility regulation (traditional & modern) is also prevalent in this tribal society as reported by some respondents.

Age at first childbirth

The age at first child birth is very important for any individual. This is in accordance with Dissanayaka (1997), who established the prevalence of using contraception at the beginning of child bearing which makes a difference in the age at first child birth

Table 5: Age at first childbirth

Age group in years	Age at first childbirth	
	Frequency	%
< 13	-	-
13-15	34	21.8
16-18	82	52.6
19-21	34	21.8
> 21	6	3.8
Total	156	100
Mean	17.2 years	

The mean age at first child birth of the Mankidia woman is 17.2 years, at which the women truly enters into motherhood (Table-5).

FERTILITY PERFORMANCE

Human fertility is responsible for the biological replacement and maintenance of the human species. Table -6 presents the fertility performance of the ever married women. The total number of conception, live-births, pregnancy wastage (abortions and stillbirths) is some of the major findings of the study.

Table7: Fertility Performance of the Ever Married Women (EMW)

Number	Conception		Abortion		Stillbirth		Live-birth	
	No of EMW	%	No of EMW	%	No of EMW	%	No of EMW	%
0	17	10.9	147	94.2	146	93.6	20	12.8
1	15	9.6	4	2.56	5	3.2	19	12.2
2	27	17.3	3	1.9	3	1.9	25	16.0
3	25	16.0	2	1.3	2	1.3	35	22.4
4	23	14.7	-	-	-	-	14	9.0
5	24	15.4	-	-	-	-	15	9.6
6+	25	16.0	-	-	-	-	28	17.9
Total	156	100	156	100	156	100	156	100
Total no of	Conception – 506		Abortion – 16		Stillbirth – 17		Livebirth – 473	
Mean (per woman)	3.24		0.10		0.11		3.03	

Number of Conception

The total number of conception of the 156 Mankidia women is **506** and the average number of conception per woman is 3.24. The frequency of women having two conceptions is the highest (Table-7).

Number of Live-births

The total number of live-births of the 156 Mankidia women is **473** while the average live-births per woman is 3.03. The frequency of women with three live-births is found to be the highest.

Pregnancy Wastage

Stillbirth and abortions are considered as pregnancy wastage in the present study. Out of the 156 women, 9 women have experienced pregnancy wastage. Thus 5.8% of the women have pregnancy wastage. The total number of pregnancy wastage is 33. Thus the average pregnancy wastage per woman is 0.21. However, out of 506 conceptions, the total number of pregnancy wastage is 33 which indicate that 6.5 % pregnancy wastage has actually occurred among the women of this community.

BREASTFEEDING AND FERTILITY

Breast feeding lay the foundation of healthy psycho-social development, besides providing perfect nutrition for infant.

Table -8: Breast Feeding

Initiation of breastfeeding	Frequency	Percentage	Duration of breastfeeding	Frequency	Percentage
1 st day	34	21.8	6 months	5	3.2
2 nd day	69	44.2	6 mth- 1 year	47	30.1
3 rd day	41	26.3	1-2 years	89	57.1
No response	12	7.7	> 2 years	15	9.6
Total	156	100	Total	156	100
Average duration of breastfeeding – 15.5 months					

In the present study, it is observed that the Mankidia women considered breastfeeding as readily available and easy to feed children but due to the existence of certain taboos and basically due to ignorance maximum mothers initiate breastfeeding on the second day. This finding is in concordance with the other primitive tribes of Odisha (Dash,2010). Vimala and Ratnaprabha (1987) have observed among the tribal communities of Andhra Pradesh that in spite of the existing taboos and ignorance about the beneficial affect of breastfeeding 95 percent of the women breastfed their babies. This is also in accordance with the present study. Table -8 highlights that maximum mothers breast their children for 2 years and more than two years primarily because breastfeeding is reliable and economical. The advantage of breastfeeding for the prevention of pregnancy is not perceived well. Lack of breast feeding is believed to cause compromised child growth.

Generally, the birth intervals and breastfeeding is closely related and shorter breastfeeding durations result in higher fertility levels (Goswami, 2009). Breastfeeding is the major determinant of prolonged postpartum amenorrhea, the birth interval and the resumption of next mensus in societies where it is universal, prolonged and of high intensity (Singh and Negi, 1985; Srinivasan et al, 1989; Babu, 1996). The present findings indicate that 30.1 percent had breast fed their children for a year or more while 3.2 percent discontinued within six months. The average duration of breastfeeding was found to be just more than 15 months (15.5 months). Thus prolonged breastfeeding and postpartum sexual abstinence are factors that account for fertility control. The effect of prolonged exclusive breastfeeding practice even without any supplementation is manifested in the present community.

FAMILY PLANNING AND FERTILITY

Whenever fertility is considered, the role of family planning measures becomes an important part to be analyzed.

Table – 9: Family planning (Permanent)

Family Planning method	Sterilization method		Traditional method	
	Frequency	%	Frequency	%
Availed	11	7.1	69	44.2
Not availed	145	92.9	87	55.8
Total	156	100	156	100

It has been observed (Table -9) that the prevalence of sterilization method of family planning is very poor. The data revealed that 92.9 % did not adopt the sterilization

method. Among the users of the family planning method maximum percentage of the women were noted to have used traditional method and only 7.1% preferred sterilization. The use of other modern method of contraception is not prevalent among this remotely located primitive tribal community. They widely practice traditional contraception methods to prevent pregnancy (Table-9).

Thus the main measures of fertility control include the traditional contraception method and the effect of prolonged breast feeding or the natural method of fertility regulation.

CONCLUSION

The present study focused mainly to examine the bio-cultural variables those determine the fertility. At the societal level, the factors such as possession of transport, electronic item, monthly & average family income which reflects the poor socio-economic and educational background of the present tribe are discussed. Menarche, a biological determinant of fertility, implies the beginning of the fecund life of a woman, but in actual practice, it starts from the time of marriage. The mean age at marriage of the women of the present study is only 15 years which is much below the Government norms for minimum age at marriage of the Indian girls i.e. 18 years. The early age at marriage, which is one of the cause for longer fertile life is due to lack of education. However, it is observed the fertility of the Mankidias is low.

The observation of fertility by different bio-cultural variables gives an impression that though the mean age at marriage is low, the gap between the mean age at first conception & the mean age at first child birth is 1-2 years which establishes the fact that biologically their reproductive system is not fit for conception and some cases of fertility regulation is also being observed among the women. The average fertility of the women in the present study is 3.24. Pregnancy wastage is an important biological factor to affect the fertility of a woman during her natural reproductive span. In the present study 5.8 % of the women have pregnancy wastage. In a bid to reduce fertility, studies relating to its social inter-related factors have been of major importance to natural planners. In the present study, the social factors such as education, occupation, income etc. were studied to analyze the effects on fertility and the bio-cultural factors were also identified which influence the fertility of the Mankidia Tribe.

Duration of breastfeeding has been found to be closely associated with fertility. The study showed that prolonged breastfeeding, playing as a natural factor of fertility regulation, had a significant effect in reducing fertility. Despite of the low age at marriage and poor prevalence of the permanent or modern method of fertility regulation, a restrained average fertility is manifested in the present study. Prolonged breastfeeding and prevalence of widespread traditional contraception methods are identified as responsible factors affecting the fertility of the present population. However, trends of fertility need to be monitored regularly and appropriate measures should be taken to raise the status of women.

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SOCIAL EXCLUSION AND MARGINAL COMMUNITIES: A CASE OF PANI PANCHAYAT IN SOUTHERN ORISSA

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ABSTRACT

Since independence the government of India has taken lots of initiation for the development of marginal communities particularly the tribal and women. However, these have not been converted into implementable solutions. The top-down approach proved disastrous in managing the natural resources, causing harm to the ecosystem and thus threatening the lives of the poor tribals dependent on the ecosystem. The community based initiation is being hijacked by the dominant caste and class communities. The approach of collective action has failed in giving justice to the common man. Taking certain anthropological techniques the present paper makes an attempt to understand to what extent the Pani Panchayat has given justice to the marginal communities like women and tribal communities. ? If the participation is the way of solution, can we really build the participation among tribal villagers in irrigation management? It is observed that the distributional aspects of benefits of development have not been equal among all communities. The non-tribal farmers have received better benefits of participatory Irrigation Management (PIM). Both the defective policy as well as the absence of scientific approaches has insecure the livelihoods of poor tribal. By confining the rights of membership only to the recorded land owners and their nominees the policy itself has ignored a larger section of people in the society who do not possess legal rights to the lands that they cultivate, especially the landless and women.

Keywords: livelihood, gender, social exclusion, participation, marginal community.

Despite the government's repeated efforts for the development of marginal communities, particularly the women and tribal people, these have not brought desired solutions. The policy of inclusive growth have failed to give the justice to the these poor communities. The marginal communities who were being marginalised historically are being marginalised in one or in other form. The top-down bureaucratic approach proved disastrous in managing the natural resources, causing harm to the ecosystem and thus threatening the lives of the poor people dependent on the ecosystem. Because of the current onslaught globalization and industrialization the power of money and market has begun to distort democracy and the natural resources from tribal areas are being exploited to meet the ever increasing requirements and aspirations of the affluent groups.

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In spite of innumerable developmental initiatives, the tribals within the country are still threatened by severe poverty. The planning process in India initiated since Independence has tried to narrow down the disparity between the tribal and non-tribal populations. Lots of irrigation projects are being implemented in tribal areas adopting the method of Participatory Irrigation Management (PIM) to encourage self governance and sustain livelihoods. Emphasising on the farmers' participation in irrigation management, Gulati et.al (2005) says that the devolution of power to user groups solves many of the problems of irrigation management. Users acquire more local information for monitoring the physical system and developing the system of rules governing its use. Chiranjeevullu's (1998) study on Water User Associations (WUAs) under tank irrigated areas of Srikakulam district of Andhra Pradesh shows that WUAs have been very useful in improving the physical structures of the tanks, in deepening the tanks, increasing the storage capacity of the tanks, improving the water distribution practices, reducing the water wastages in the fields and also in solving farmer's problems. Similar findings were also seen in the studies of Rao and Ramachandrudu (2004) and Jaya Raj (2002) in Andhra Pradesh. The research findings of Thakur and Pattnaik (2002) in Pune district of Maharashtra shows that the *Pani Panchayat* has facilitated the generation of increased incomes for the beneficiaries. Along with increased agricultural production, crop diversification has also been observed. Similar results were also evident from the studies of Deshpande and Reddy (1990) in Maharashtra. The transformation of rights of irrigation management to farmers in Gujarat led to an improvement in resolving irrigation related conflicts (Partha Sarathy, 2000). Participation of farmers, by paying a portion of the cost of water resource development in Asrang and Ersama blocks of Orissa, has provided them a kind of ownership right. It has also resulted in crop diversification and increase in the irrigated area five-fold, thus resulting in increased cropping intensity (Ghose, 2004).

Realising the importance of Participatory Irrigation Management (PIM) under operation in other states, the Government of Orissa passed the Orissa Pani Panchayat Act in 2002. In Orissa, Water Users' Association (WUA) is known as Pani Panchayat (PP) and is the primary level farmer organization.

Against this background, taking some qualitative and quantitative methods and anthropological techniques into account the present paper makes an attempt to critically examine to what extent PIM has given justice to the marginal communities like tribal and women in *Jaya Maa Durga Pani Panchayat* of Rayagada district, Orissa (Table:1). It has further tried to explore the following things. If the participation is the way of solution, can we really build the participation irrespective of gender and ethnicity among tribal villagers in irrigation management? Can this participatory irrigation management, which is formulated by the government, bring the sustainable development among the tribals? To what extent the tribal communities and women have felt secure and able to involve themselves in those developmental activities. The first half of this paper deals with community participation and the second half deals with livelihood aspects.

Table 1: Pani Panchayat members by community and village

Communities	Village wise <i>Pani Panchayat</i> Members			Total WUA Members
	Parupanga	Jaripanga	Singpur	
ST	53	58	53	164 (84.53)
SC	2	2	3	7 (3.60)
OBC	4	00	00	4 (2.06)
Brahmin (GC)	16	00	3	19 (9.79)
Total	75	60	59	194 (100)

Farmers Participation

This will focus to what extent PIM that is *Pani Panchayat* has given place to tribal and women members in various levels of participation in irrigation management.

Identification of membership

As per the *Pani Panchayat Act 2002*, every *Pani Panchayat* shall consist of all water users who are recorded landholders and tenants in the area of a *Pani Panchayat*. The Act specifies that a landholder may nominate any adult member or his or her family to be the member of the *Pani Panchayat*.

In the study area, the landless constitute more than half of the households. Most of the landless households belong to tribal and Scheduled Caste communities. Their main source of livelihood was agro-based wage labour and fishing. However, the introduction of *Pani Panchayat*, restricted their right over canal water, which deprived some of the poor landless from their traditional livelihood of fishing. Thus, restricted membership based on only landownership denied the landless their right to access water. Apart from the landless, women also do not figure in the *Pani Panchayat*. It is pertinent to note that while majority of the agriculture operations are performed by women, they are not involved in decision making pertaining to the management of agriculture, including *Pani Panchayat*. In the study area, only 11 women out of 194 are members of the *Pani Panchayat* based on their legal ownership of land. Thus, it is not surprising to find the Orissa *Pani Panchayat Act* excludes women from becoming members of *Pani Panchayat*, as they are not legal landowners. Interestingly, there are five more women who have legal rights over land but are not members of *Pani Panchayat*. Instead of them, their husbands are nominated to the *Pani Panchayat*. Thus, even if women are the owners, the membership is not automatically conferred to them, unlike in the case of men. Apart from the policy, the process of implementation of *Pani Panchayat* has also created a certain environment which is not conducive for women to take up the membership. Some women respondents complained that the irrigation department officials and the NGO working in the study villages initiated the process of *Pani Panchayat* formation by contacting the farmers whom they already knew. It shows that the biased attitude of the implementing agency of *Pani Panchayat* has not given proportionate place to all class, caste and gender.

It is relevant to note that till the end of 2010, 194 (82.55%) out of 235 farmers have taken the membership. The rests whoever have not taken the membership are tribal and Scheduled Caste farmers. They are being excluded because of their ignorance, illiteracy, poverty and lower status in community. It is observed that significant proportion (19.57%) of the members were not even aware about their membership. Lack of awareness regarding the *Pani Panchayat* was more prominent among the marginal farmers with less than one acre of land and also among tenants, than the other categories of farmers (Table.2).

Table 2: Respondents who are not aware of their membership in Pani Panchayat

Community of the respondent	Size of land holding of the respondent				Total
	marginal	small	medium	large	
ST	25	9	00	00	34
SC	4	00	00	00	4
Total	29	9	00	00	38

Election or nomination

In contrast to the Act, the data from the field informs that many of the tribal (30%) and Schedule Caste farmers (60%) are not at all aware of the election in *Pani Panchayat*. Even among those who have heard about the election in *Pani Panchayat*, majority of them (80%) are not aware of the procedure of election and significantly most of them are tribal farmers (Table.3).

Table. 3: Respondents according to the awareness about the election in Pani Panchayat

Aware about election of <i>Pani Panchayat</i>	Community of the respondent	Size of Landholding of Respondent				Total
		marginal	small	medium	large	
Yes	ST	43	38	22	12	115
	SC	3				3
	OBC			1	3	4
	GC	1		6	12	19
	Total	47	38	29	27	141
No	ST	44	5			49
	SC	3	1			4
	Total	47	6			53
Grand Total		94	44	29	27	194

Though the lower social and economic groups (Scheduled Tribes) have good representation in the *Pani Panchayat* executive, the upper caste village elite, big farmers and active party workers have taken the Presidentship of most of the committees. Though 85% of the members of this *Pani Panchayat* are tribals, the President of this *Pani Panchayat* belongs to OBC community. Even in this distributary, out of 21 *Pani Panchayats* in 16 *Pani Panchayats* the Brahmin and OBC members are holding the presidential posts. A majority of these *Pani Panchayat* leaders have political affiliation

and have held some political offices, such as Sarpanch, ZP members, etc. Some of the *Pani Panchayat* leaders reported that this gives them an opportunity to ‘serve farmers’ and they find *Pani Panchayat* as a new institution through which they could strengthen their political career. Majority of the leaders of the *Pani Panchayat* belong to the ruling Biju Janata Dal (BJD), followed by Congress, Bharatiya Janata Party (BJP) and Communist Party of India (Marxist). The analysis of present situation makes it clear that *Pani Panchayats* stand as a parallel institution to the Statutory Panchayat. It is also clear from the caste and class background of the leaders of the *Pani Panchayats* that the dominant caste persons who used to represent the Statutory Panchayats have now shifted from Statutory Panchayat to *Pani Panchayats* after the seats in the Statutory Panchayats were reserved for STs. Thus, it is clear that the hold of dominant caste and hierarchies still rule the society, be it in *Pani Panchayats* or Statutory Panchayats. The *Pani Panchayat* in the study area has become the Panchayat of contractors and landlords.

During the discussion with the government officials and farmers, it was observed that the indifferent attitude and manipulative machinations of government officials and *Pani Panchayat* office bearers discouraged the tribal and marginal farmers to participate in the process of election to *Pani Panchayat*. This indifferent attitude of irrigation officials towards marginal farmers and the vested interests of politically influential persons have ruined the spirit of participation in PIM.

Meetings

The records of various *Pani Panchayat* meetings shows that though this programme was implemented in this region especially for the development of tribal and marginal communities, their participation is very less. Even none of the Scheduled Caste farmers have ever attended the meetings. On the other hand the farmers who are attending the meetings are mostly from higher castes and large farmers (89%). All the farmers who are unaware of the meetings belong to the tribal communities. Though significant proportion of farmers (48%) in the study area come under the tail reach and badly need water, only a small proportion of them (19.56%) attend the *Pani Panchayat* meetings. It was also observed that the farmers who are mostly going for double crops (83%) are attending the meetings (Table.4). Even though most of the educated and youth have attended the meetings, their participation in the meetings was not that much significant as most of them were participating for the sake of attendance or respecting village head.

Table.4: Respondents attending meeting by location of land and cropping pattern

Cropping Pattern	Land Position of the Respondent			Total
	Head reach	Middle reach	Tail reach	
Single	5	-	7	12
Double	36	9	11	56
Total	41	9	18	68

It was observed that women’s participation in comparison to men is very less in the *Pani Panchayat* meetings. Out of 11 women members in the association, only 3

(27%) have attended the meetings, and that to only once (Table.5). The women beneficiaries have stated that lack of time and social restrictions are the major causes for their absence in the meetings. At the time of interview, some of the women questioned whether these meetings served. Timing and location of meeting also imposes a higher cost on women than on men. Women hesitate to attend meetings due to aggressive male behaviour. In most of the meetings men consume liquor and start abusing each other. This kind of behaviour of men discourages women from attending the meetings.

Table.5: Gender-wise attendance at the meetings

Community of the Respondent	Gender of the Respondent		Total
	Male	Female	
ST	49	2	51
OBC	3	-	3
GC	13	1	14
Total	65	3	68

Apart from all these factors the cognitive approach of a woman keeps her away from the irrigation meeting. During field work it was prevailed by some of the women that women are like mother earth and rain water falls from sky. Fertility used to be held while the rain falls on the earth. As rains stands for mail women have nothing to do with irrigation water.

Canal maintenance and water allocation

Since the inception of human society it is observed that dominant clan, caste or class have taken the fruits of development. However, it is true that when the question of service comes it is the marginal communities who used to take care it. The same thing held here too. It was observed that the tail reach farmers (44.26%) who are deprived from water allocations mostly are more involved in canal repairing than the head reach farmers (22%) (Table.6). It was also observed that the farmers who participated in the canal repairing are mostly marginal and small farmers and most of them are tribals (89%).

Table.6: Respondents attending the canal maintenance work

Background of the Respondent	Land Position			Total
	Head reach	Middle reach	Tail reach	
ST	12	15	27	54
OBC	1	1		2
GC	4	1		5
Total	17	17	27	61

II

Tribals, women, SC and other marginal communities are deprived from fruits of *Pani Panchayat*. Even though the implementation of *Pani Panchayat* has helped those marginal communities it has not given justice whatever the higher castes and classes have received.

AGRICULTURAL PRODUCTION

The introduction of Pani Panchayat has increased the per capita crop production. But the increase is not uniform across all the communities. It is important to know that prior to the introduction of *Pani Panchayat* only 20% of the tribal farmers were raising Rabi crops and while with the introduction of Pani Panchayat the proportion has gone up to 75%, which means a proportionate increase of 175%. It is important to note that in spite of increase in the proportion of tribal farmers in Rabi cultivation, the increase per acre of production has been only 30% while it is 120% in case of non-tribal farmers, excluding SC farmers. There are many reasons behind this difference in production between the tribal and non-tribal farmers. High level of motivation, possession of skills, crop selection, access to quality inputs, market, etc., are observed to be predominant among the non-tribal farmers. On the contrary, the tribal farmers are still at a subsistence level of living. Besides low levels of production, lack of participation in irrigation management has stood as a hurdle in the agricultural production for tribal farmers. Due to exploitation the tribal farmers are not able to get the required quantity of water on time.

Although the Act observes that water has to be given to the tail reach first, due to the dominance of head reach farmers and lack of *karanali* system (small canal inside the crop field), the water flows from head to tail reach farmers. So, in most of the cases, the tail reaches farmers get water at least five or six days after the head reach farmers. As most of the tribals and SC farmers have land in tail reach, they suffer the most due to the improper implementation of the Act. It, therefore, adds to the water woes of the poor tribal and SC farmers leading to conflict with head reach farmers. As the cropping pattern of the farmers differs, the need for water for the farmers for their crops also varies. Thus, it was observed that in some cases while a head reach farmer is ready with his crop, the middle and tail reach farmers struggle to get some water to save their crop. In such cases, sometimes, the influential head reach farmers do not allow water to middle and tail reach farmers. This process of not releasing water by the head reach farmers is in turn followed by the middle reach to the tail reach farmers. Thus, in both the cases the tail reach farmers suffer the most. It, thus, reflects the fact that availability of water in the canal alone cannot sustain the production and improve the condition of the tail reach farmers as long as cropping pattern and the proper implementation of Act is not taken care of.

YIELD COMPONENTS

The *Pani Panchayat* has failed to give justice to the socially excluded communities. The *Pani Panchayat*, which is supposed to take care of this mechanisation, is unable to do so. The machines owned by the *Pani Panchayat*, are being (mis)used by the Chairman, other officials and certain influential members of *Pani Panchayat*. Due to lack of participation in *Pani Panchayat* and improper coordination between tribals and irrigation officials, tribal farmers are not able to access information on the machines provided to their *Pani Panchayat*.

WATER AVAILABILITY AND AREA UNDER IRRIGATION

Better water delivery or distribution is assumed to be an important indicator of the efficient functioning of any *Pani Panchayat*. Data on the water availability and area under irrigation in both pre- and post-*Pani Panchayat* periods indicate that the area under irrigation by canal in the post-*Pani Panchayat* period has increased substantially by 57.87%.

No doubt the introduction of *Pani Panchayat* has helped the tribal, tail reach and marginal farmers in getting water. But the amount of water allocation is not same for tribal and non-tribal farmers. Whatever water the tail reach farmers are receiving it may not be due to mercy of head reach or large farmers but due to the hardship of tail reach farmers. In each and every case the head reach farmers have tried to take the advantage of all development works.

TENANTS AND THEIR LIVELIHOODS

Secure tenure rights for all farmers are an important condition for farmers' participation. When many farmers are tenants, it is unclear who should participate – the tenant, who benefits in the short run, or the landowners, whose land value may improve because of irrigation. Owing to fear of losing land, most of the landlords are changing their tenants frequently. It was observed that, in some cases, the landlords have changed their tenants at the last moment. So it became extremely difficult on the part of the office bearers of the *Pani Panchayat* to record the name of tenants. Thus, neither the landlord nor the tenant took the membership. This kind of situation actually creates problems in irrigation management. If the tenant suffers from irrigation problems, he cannot approach either the irrigation officials or the office bearers of the *Pani Panchayat*. Even it was observed that the other farmers do not support the tenants. Hence, in some cases, the tenants try to break the canal to get water by violating the rules of *Pani Panchayat*. Before the introduction of *Pani Panchayat* the tenants used to take the water for their cultivation with out any problem. However, the introduction of *Pani Panchayat* has brought a problem for them in getting water. This has lead to crop failure.

CONCLUSION

The foregoing discussion reveals that the Pani Panchayat, which was implemented in the study area for providing timely, assured and equitable irrigation, has not yet achieved the desired results. It has not given the equal justice to all communities.

By confining the rights of membership only to the recorded land owners and their nominees the policy itself has ignored a larger section of people in the society who do not possess land based on legal rights, and the landless tribal, Scheduled Caste and women. The customary right of male members over fathers' property has deprived women from land ownership, which ultimately deprived them from the membership of *Pani Panchayat*. Even though the policy has given the membership rights to the tenants, they are not able to avail, because the landlords are changing their tenants frequently in fear of losing their lands. It was found from the analysis that even though *Pani Panchayat* is introduced in the last three and half years some of the farmers whose names are listed in the *Pani Panchayat* records are not aware of their membership. Most of the tribal and marginal farmers, some of the lower level irrigation officials and NGO personnel are not aware of the objectives and rules of *Pani Panchayat*. It was found that most of those attending the meetings are those who are educated, head reach and farmers doing the double crops. The participation of illiterate, old and tail reach farmers is very rare.

Despite the fact that *Pani Panchayats* are promoted as non-political institutions, 'elite capture' and political involvement dominate their functioning. And the present trend appears to be towards further politicization of these institutions. It is also clear from the caste and class background of the leaders of the *Pani Panchayats* that the dominant caste or class persons who used to represent the Statutory Panchayats have switched over to *Pani Panchayats* after the reservation of seats for STs in the Statutory Panchayats. This process of holding power has deprived the marginal communities from getting justice of *Pani Panchayat*.

It was observed that many technical and physical and socio-economic and cultural factors have a significant role in influencing the farmers' participation in the *Pani Panchayat* activities. Moreover, some of the factors like social norms, domestic burden and social perceptions discount women's abilities and restrict women's participation in *Pani Panchayat*.

Though the *Pani Panchayat* has improved the livelihoods of both the tribal and non-tribal farmers, the programme has been unable to achieve the envisaged result. The quantum of agricultural production is not the same among all communities. The non-tribal farmers, other than SCs, have taken better advantage of *Pani Panchayat*. The lack of knowledge, training, modern technology, lack of marketing information, etc., among

the tribal beneficiaries are some of the reasons for their lower agricultural production. Due to lack of farmers' participation and manipulation by higher caste and class farmers most of the tribal farmers are unable to access information regarding types of crops to be raised, amount of water being released from the dam, etc. Along with lack of access to the use of modern technologies provided by the government for the *Pani Panchayat* beneficiaries due to absence of communication has aggravated their problems. In most of the cases, the non-tribal farmers, who are better exposed to the outside world, take advantage of the technologies provided by the government for the beneficiaries of *Pani Panchayat*. Thus, there is a need to take cognizance of these factors in revamping the working of *Pani Panchayats* and to make them really people-oriented system. The system should be so active that will give justice to all communities irrespective of clan, caste, religion and gender.

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HEALTH CARE SERVICES AMONG THE TRIBAL COMMUNITIES OF MALKANGIRI: AN EMPIRICAL STUDY

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ABSTRACT

The life and livelihood of tribal people in Odisha is substantially influenced by the geo-physical structure they live in. In other word the development of tribal people who almost share one fourth of the total state population very well determines the development of Odisha. The present empirical study was carried out in Malkangiri one of the geographically inaccessible, tribal dominated and naxal infected scheduled area districts of India. The paper critically appraises the availability of health infrastructure and services in the study region at higher level and study villages at lower level, accessibility of the tribal people to these health institutions and finds out the gaps in and barriers to health service provisions. The paper tries to justify the fact that Malkangiri a tribal dominated region suffer from inadequate health infrastructure and the provision of quality health services provided by the state. The paper argues that lack of appropriate infrastructure development in health, education and road communication and the non-involvement of the tribal communities in the decentralized health service delivery system are some of the major inadequacies. The paper justifies that the state in tribal dominated regions is yet to consider health services as the productive tool and the tribal people and their regions are yet to be considered as human endowments.

(The paper is based on the findings of a research project “**Reaching the Unreached: Access to Health Services for the Tribal Communities of Malkangiri District, Orissa**”, sponsored by Danish Assisted Revised National Tuberculosis Control Programme, Bhubaneswar, 2004-05).

INTRODUCTION

World Health Organisation defines human health as a ‘state of complete physical, mental and spiritual well-being and not merely the absence of disease and/or infirmity’. Good health is a condition of human body, mind and the absence of any disease. Human life is materially and socially productive and culturally meaningful if one is endowed with physical and mental well being. The coping processes adopted by human being with their environment are both biological and of health, disease, illness and sickness are inextricably intertwined with social, cultural and economic factors, which are influenced by the well being of family members and on their access to resources. The socio-cultural factors more or less determine beliefs and practices related to health, disease and treatment (Van Bolen and Van Dormael, 1999; Behura, 2003).

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Study Objective:

Firstly the paper describes the perspective to health care system, study objectives and design followed during the research study. A brief profile of the study universe, availability of health infrastructure and delivery of health services are presented in the second section. Thirdly, the folk perception of diseases and curative measures like belief system, traditional health institutions, personal hygienic practices and physical environment of the tribal people in the area are described. The health condition, coverage of health care services and their utilization in the study area are analytically explained. The last section deals with couple major study findings and suggestions to improve the quality of health services.

Health Care System:

State intervention in health care system is of recent origin. The medical model of health services of 1950s and 1960s treats illness as the result of physiological difficulties and organic deficiencies. The 'Human Capital School Approach' (Schultz, 1961) attempted to measure the economic value of human being and gave the rationalities for 'investment in men', seems to have treated human being as a 'productive tool', which needs the cost of repairing and maintenance of human capital. The health care service approach by Kenneth Arros (1978) emphasizes the supply and demands of health service providers. Since the inception of state intervention in health service sector, attempts are being made to establish a state controlled and/or center based health service delivery system (Padhi and Mishra, 2002). High infant, child and maternal mortality and morbidity due to communicable diseases (malaria and respiratory infections), water borne diseases (cholera, gastro-enteritis, malnutrition, measles) and pregnancy related conditions forced the State to look after Primary Health Care (PHC) approach emphasizing both on preventive and promotional health care in a more pragmatic and integrated manner (Green, 1992).

The social consequences of disease and illness though universal but are specific to the community in terms of their manifestations. The normative orientation of a community by and large determines the perceptions about the diseases, its symptoms and methods of treatment (Kroeger.1983). Disease perceptions on the one hand and treatment and healing choices on the other are interdependent. Thus, discourse on the native perceptions and emic understanding regarding disease is a necessity in understanding folk therapeutic behaviour. It observed that, systematic investigation into folk system of disease classification has gained imperative consideration in Medical & Anthropological studies from the late 1960s. Such studies not only help in better understanding of folk therapeutic behaviour, but also explore ethno-medical care in a systematic manner.

With this premise one finds that the life and livelihood of tribal people in Odisha is substantially influenced by the geo-physical structure they live in. In other word the development of tribal people who almost share one fourth of the total state population very well determines the development of Odisha. The present empirical study was carried out in Malkangiri, one of the geographically inaccessible, tribal dominated and

naxal infected scheduled area districts of India. The paper critically appraises the availability of health infrastructure and services in the study region at higher level and study villages at lower level, accessibility of the tribal people to these health institutions and finds out the gaps in and barriers to health service provisions. The paper tries to justify the fact that Malkangiri a tribal dominated region suffer from inadequate health infrastructure and the provision of quality health services provided by the State. The paper argues that lack of appropriate infrastructure development in health, education and road communication and the non-involvement of the tribal communities in the decentralized health service delivery system are some of the major inadequacies. The paper justifies that the State in tribal dominated regions is yet to consider health services as the productive tool and the tribal people and their regions are yet to be considered as human endowments.

Study Universe:

The study adopted a multi-stage stratified purposive sampling. Firstly, looking at the backwardness and inaccessible characteristics of different districts of the State, Malkangiri district one of the most unreached by nature was selected. Secondly, while comparing different Public Health Institutions (PHIs) of the district it was observed that Kudumuluguma PHC is the most inaccessible and unreached region of the district. Thus, the study selected Kudumuluguma PHC area. Thirdly, in cut off area* of Kudumuluguma PHC two health sectors of Jodambo and Janbai were selected. In these health sectors seven villages in three clusters consisting of neighboring villages were finally adopted. Two villages in cluster nearer to each health sector of Jodambo and Janbai were selected for study which have different dominant tribal communities. Similarly three villages in a cluster have also been selected at a distance of 7 kms from Janbai PHI. The objective behind was to assess the variations in the quality of health services provided by PHIs in surrounding villages and how different tribal communities perceive and have access to health services.

Study Tools and Techniques:

The study has adopted Ethnographic Field Work approach, followed by in-depth interviews, group interviews, life histories and analysis of illness stories and participant observation. The study has also used various tools to collect secondary data from District Medical Office, PHCs, Additional PHC, and related organisations. The study carried out household survey in selected villages. It also adopted in-depth interviews with *dhais* i.e. Traditional Birth Attendants (TBAs), *disharis* or traditional healers, members of Panchayati Raj Institutions, Multi-Purpose Health Workers (both male and female) *Anganwadi* workers of Integrated Child Development Service (ICDS), , Medical Officers etc. The secondary data were collected from local PHIs at various levels on various issues like planning and monitoring system followed, reporting and reviews adopted other infrastructures available, various problems encountered by the health functionaries and sought suggestions to overcome the problems.

A couple of guidelines and checklists were prepared and used during in-depth interviews. The household survey schedule collected data on village social demography, livelihood sources, infrastructure facilities, household disease pattern, treatment

sources, and sufferings by different members of the family. The second schedule used to document various information about the village resources, infrastructure etc. Interviews and field notes were analyzed together with other available data as they were generated. Two types of separate and comparative analysis have been made on ethnic group and geographical unreachability which represents two different health sectors of Kudumuluguma P.H.C.

II

Profile of Malkangiri district and the Study universe:

Malkangiri predominantly a tribal district is situated in south Orissa. Consequent upon the bifurcation of Koraput district (undivided) into four districts, Malkangiri came into existence with effect from October 2, 1992. The total geographical area of the district is divided into three Tahasils and seven Community Development Blocks. The district has 878 inhabited villages distributed over 108 numbers of Gram Panchayats. The rural population of the district accounts to the tune of 93.79 per cent. The sex ratio of the district is 996 per 1000 males, is above the state average of 972. The density of population per sq. km. is the second lowest (83), reflects that the population is very thinly distributed compared to other districts of the State. The geographical inaccessibility along with the thin distribution of population in the district many times creates physically unreach pockets and population (Census of India 2001).

The predominant tribal communities of the district are the *Bondos, Koyas, Bhumias, Parojas, Kondhs, Gadabas, Didayis, Natias, Dharuas*, and the *Holvass* who maintain their distinct socio-cultural boundaries, which are reflected in dialects, dresses, customs, taboos, food pattern etc. Their subsistence economy is largely contributed by forest, livestock and shifting cultivation. Many of these groups are in transitions, who have adopted other languages like Oriya and Telugu, their dress and ornaments.

Tribal people ordinarily ascribe diseases to evil influence of different deities or to witchcraft. They propitiate the deities and take the services of imposter-doctors (known differently among tribes as *disari, bejius, gurumai, siras*) who pretend to counter the effects of black art. The district cannot be strictly called as healthy, for the fact that malaria is endemic almost everywhere. The major diseases observed in the district include Malaria, Gastro-intestinal like diarrhoea, dysentery, pneumonia, yaws and respiratory diseases. Many times these diseases cause death. The tribal groups use many herbs as medicinal properties since olden days; therefore, faith in medicine among hill men is very feeble.

Impact of Mega-Power Projects in the study area:

The district has witnessed a good number of hydro power projects. River Machhkund falls from a mountain top of 540.19 feet. In 1949 the implementation of the Machhkund hydroelectric scheme started. It is a joint scheme of Odisha and A.P. Govt. on 50 per cent right over using generated powers. The project has displaced 2938 different tribal households belonging to *Paroja, Gadaba* and *Kondh* communities who later on migrated to the lower part of the river and got settled in the hill terrains in their own arrangements. Most of the displaced suffered a lot due to the loss of their livelihood

sources, kith and kin resources. Balimela the second joint enterprise of Government of Odisha and A.P. on Sileru river made on 4.9.1962. It has displaced around 2000 tribal families who later on rehabilitated themselves on their own arrangements.

The impacts of these development projects are seen in the socio-economic life of the villagers in general and tribal people in particular. These projects have affected the bio-physical and livelihood resources of the displaced. The impact of these projects on the village economy is enormous. The leafy vegetables, fruits and roots, forest games, which were supporting the livelihood sustenance of the tribals, have been devastated. Collection of fuel, fodder and ethno medicines has also affected. The village ceremonies and the festivities were the arena to minimize the tensions. The holistic characters of the village were reflected in their customs and traditions through communal rituals and group sharing of liquor, communal dance, village fare, and festivals. In present villages the inter-personal relationship, which was once based on kinship and lineage/clan, have been destroyed and became unimportant due to displacement members of lineage/clan dispersed in search of employment and livelihood. The resources at destination could not accommodate them as per their cultural needs and exposed them to an alien culture. The double displacement of the people belonging to *Kondh* and *Paroja* tribe (once due to Machhkund hydro power project and again due to Balimela hydro power project) resulted in large scale eviction, loss of their lands, destruction of their places of worship and burial grounds, weakened their solidarity and made them vulnerable to the blandishment of the government. Many of the newly created villages even after five decades do not have roads, electricity, regular school, anganwadi center, and required infrastructure facilities to supply basic life support systems on regular basis.

Kudumuluguma: The Study Block

Kudumulugumma is one of the seven C.D. Blocks of Malkangiri district. The geographical area of the block is almost equally divided by the reservoir of the Balimela dam project. Korkunda and Khairaput blocks of Malkangiri district and Andhra Pradesh (A.P.) the neighboring State surround the block. Kudumulugumma block is divided into 11 G.Ps. It is the third geographically largest block of the district which covers 569.56 sq. kms accommodates highest number of (252) inhabited villages and 9162 residential houses. The block is situated 52 kms away from district head quarter (Census of India, Ibid).

The major tribal communities living in the block are *Kondh*, *Paroja*, *Bonda*, *Didayi* and *Konda Dora*, who share a large portion of the total population. The establishment of residential colonies of Water Resource Development Department at Chitrakonda and Balimela has invited immigrants in subsequent periods, have substantially influenced the numerical strength of the tribals in the block. Balimela water reservoir physically separates the southern side of the block that covers six Gram Panchayats. Three Gram Panchayats named Jodambo, Panasput and Andarapalli are communicated only through reservoir by government launch based transport services, available from Chitrakonda and it takes 4 to 8 hours to reach different major places of the cut-off area. The entire reservoir catchments area is full of different hills, which very often creates physical barriers for the movement of the motor launch. This has not only affected the

communication networks within and to outside, but also creates physical communication problems for government departments to deliver their basic services in different gram panchayats of the block. The geographical inaccessibility along with poor transport system has made the block mostly unreached. The naturally made unreached characteristics of the block have negative bearing on the development of infrastructure and delivery of services by each and every department of the government.

Physiography of the Study Village:

The study covered seven revenue villages distributed in two different health sectors of Kudumulugumma P.H.C. The two villages viz: Tarabeda and Janturai i.e the first cluster was selected under Jodambo Additional PHC. From Chitrakonda (Spill way point) one has to take government launch service to cover around 40 Kms. (4 hours journey) to reach Palaspadar and from Palaspadar one has to cover a distance of 8 kms by walk which takes almost 4 hours to reach the villages. The hills stretched around these villages influence the ecology, economy, inflow and outflow of various livelihood and development inputs. Both the study villages are situated on an average distance of 2 kms from Jodambo, the gram-panchayat headquarters which takes 45 minutes by walk. Kudumulugumma the block head quarter is situated at a distance of around 100 kms. To reach Kudumulugumma one has to cover 4 hours journey by walk, four hours journey by motor launch (the only mode of transport in the water), and again one and half hour journey by road transport. The availability of launch service provided by Dam Project of the Water Resource Development Department is not regular due to frequent technical and non-technical problems.

The second cluster of two villages selected under Janbai Subsidiary Health Center (SHC) is Khajurigumma and Karlamal. These villages are covered under Badapada gram-panchayat. Both the villages are situated at a distance of 2.5kms and 4 kms from the Subsidiary Health Center at Janbai respectively which takes almost one hour to one and half hour by walk. Both the villages are equally covered with different hill systems. In other words, one can say that the hills and forests have been influencing the physiology, economy and socio-cultural life of the villagers. These natural divisions of the region determine the access of the villages to basic life saving services, local ecology, economy and living. Kudumulugumma the block headquarters is located at a distance of 70 to 75 kms from these villages (which takes 7 to 8 hours by walk, boat journey and public transport).

The third cluster of three villages is Lambasing, Banguru and Banguru Resettlement Colony-17. All these villages are linked by kutchra roads, which join the main road at a distance of 1 to 2 kms. The villages are covered under Janbai Subsidiary Health Center and are located at a distance of 12 kms physically separated by the water reservoir. In practice these villages are closer to Balimela Dam Project Hospital (BDPH) situated at Chitrakonda at a distance of 6 Kms. The Banguru Resettlement Colony-17 was started by the Revenue Department during the year 1962-63. Different hills, forests and streams also surround the villages of this cluster which physically separates during the rain.

Ethnic Composition of study villages:

The study in total covers 301(90.11%) tribal households belonging to different ST groups. The villages are largely mono-ethnic by nature dominated by the tribal households. The *Kondhs* (32.64%) and *Parajas* (43.71%) dominates in all the cut off villages of both the health sectors, whereas in third cluster the villages are multi-ethnic by nature. The Banguru resettlement colony-17 has more number of non-tribals. In Janbai health sector the share of tribals in village social composition tunes to 86.86 per cent, (215 HHs), In Jodambo health sector the percentage of tribal households in villages is 97.95 (96HH), whereas in Janbai health sector it include 99 *Paroja* HHs (41.94%), 69 *Kondh* (20.23%) HHs and 37 *Konda Dora* (15.67%) HHs. Jodambo health sector covers 47 *Paroja* (43.71%), and 40 *Kondh* (32.64%) households.

Adequacy of Health Infrastructure in study region:

Kudumulugumma is one of the PHCs of the district, which covers 320 villages. The PHC had a Medical Officer and one pre-P.G Doctor. The PHC under its jurisdiction has one Additional PHC at Jodambo, one Subsidiary Health Center (SHC) at Janbai and three Mobile Health Units. It covered a total population of 50,960 (2004). The average population covered under one health sub-center is 3640, which is above the norm adopted by the state (3000 population per Health Sub-Centre) for tribal areas. The average number of villages and habitations covered per health sub- center is 22.85, are much higher to cover in hilly terrains. These villages are situated at a mean radial distance of 21.67 kms. It is impossible for a Female Health Worker to cover such a distance by foot. In addition to the population criteria, the physical distance, number of villages/habitations, sex composition, road communication facilities, disease etc. of a region are the influencing factors for the delivery of outreach services. The natural barriers in the form of hills, forests and water reservoirs make the area inaccessible for easy movement. The low level of educational achievements and poor transport system within the region restricts the movement of the villagers (Tribal people). Even in case of serious ill health, many times they do not come to hospital. With the reformulation of new Gram Panchayats, new health sub-centers have not been established to match the changing health needs of the people. Out of 14 health sub centers of this PHC, 9 (64.28%) sub-centers have population strength beyond the norm fixed by the State.

In case of Kudumulugumma PHC, the short fall of staff in the position of Multipurpose Health Workers for male was 54.54 per cent (6 out of 11), and for female it was 21.42 per cent (3 out of 14). Similarly, all the three posts sanctioned for Multipurpose Health Supervisor were found vacant; while among Female Health Supervisors 50 per cent (one out of two) of posts were found vacant. The shortfall in staff strength has highly influenced the delivery of health services, monitoring and supervision of health activities.

Additional P.H.C.:

The Additional PHC at Jodambo was established in the year 1970s. It has the provision of one Doctor, one Pharmacist, one lady Multi-Purpose Health Worker, and one Medical Attendant. The hospital only provides out-door health services. The operational area of this PHI is divided into two Health Sub-Centers. The total operational

area of this PHI is divided by big water reservoir of Balimela Dam Project and is linked by a Government motor launch, which covers 40 kms from Spill Way of Chitrakonda to Palaspadar a village of Jodambo Gram Panchayat. From Palaspadar one has to take a walk of 8 kms through hill slopes so as to reach the PHI at Jodambo. The entire cut off area is not connected by power supply.

Two female health workers working in the area were belonging to ST communities. Almost all the multipurpose health workers more or less stay at Kudumulugumma P.H.C headquarters, which is around 80 kms from the PHI. On an average they visit their operational area for 10 to 15 days per month. None of the health sub-center has sub-center building for accommodation. The PHI had no Doctor, whereas most of the time the Pharmacist was out of the headquarters. This was also observed by the research team during the stay at Jodambo. Similar responses on the frequent absence of medical staff at Jodambo PHI were also reported from the local villagers. The local villagers told that the medical attendant many times manages the hospital and treat patients. One health sub-center on an average covers around 28 to 42 villages/clusters/habitations, which are spread over an area of 18 to 22 kms. The population covered under this health sub-center ranges from 2770 to 3160. The Jodambo PHI area has a total number of 14 ICDS centers and 7 sub-centers of which only 11 centers have ICDS workers and 7 sub-centers have organisers.

Subsidiary Health Center (SHC):

The Subsidiary Health Center (SHC) at Janbai was started in the year 1974. Balimela Dam Project Reservoir separates the whole operational area of this health sector. It has been provisioned with one Doctor, one Pharmacist, one Female Multi-Purpose Health Worker, and one Medical Attendant. It provides only out-door health services to the local. The motor launch links Janbai from Chitrakonda once in a week and covers a distance of 20 Kms. Apart from, Janbai is linked by boat journey over 2 kms in water reservoir. Power supply has not been made to this area. The total operational area of the SHC at Janbai is divided into four Health Sub-Centers. The Male Multipurpose Health Workers posted in all the sub-centers were reported vacant. Of the total four Female Multipurpose Health Workers, there were only two working in the area of which one was a local tribal woman. Shortfall of staffs in all the technical and paramedico categories have reduced the delivery of health services. None of the sub-centers have their own building for accommodation. The number of villages distributed over the sub-center ranges from 20 to 25, which are spread over a radius of 20 to 27 km. There are 550 to 780 households which covers 2300 to 3990 population covered under each sub center. The area had 11 ICDS centers and 9 ICDS sub-centers. During the interaction it was inferred that the Multipurpose Health Workers on an average stay for 10 to 15 days in their operational area and the rest of the period of the month they stay at Kudumulugumma. The SHC had one doctor, one Pharmacist who were also irregular in attending the hospital. The medical attendant was staying at Janbai who seems to be regular in his presence. The poor health infrastructure at PHI including the sub-centers affects the quality of health services. This makes the flow of health services irregular and many times uncertain. As a result, the ante-natal and post-natal checkups were not regular and risks involved in such cases were not known.

Functioning of Mobile Health Units (MHU):

Mobile Health Unit is an approach, started by Government of India to provide primary health services in the unreached pockets due to inaccessible operational area. The study has reviewed the progress of activities of the Mobile Health Units (MHUs) from August 2003 to July 2004 operating under Kudumulugumma PHC and Balimela Dam Project (BDP) hospital. The operational areas of these MHUs covered 4 GPs from Korkonda block, 2 GPs from Kalimela block and 12 GPs from Kudumulugumma block, which covered 342 villages. It was observed from the records that treatment of female cases is less compared to male and children patient by all the MHUs. The average number of patients treated per day was 46 and 36 persons in the case of MHU-6 and MHU-10 respectively, while it was 68 by MHU-9 of Jodambo and 64 by MHU-8 of Chitrakonda. It was commonly complained that the supply of medicines to MHUs was not regular. Many short expiry medicines were also supplied. For example chloroquine, a basic medicine required in the area was not supplied on regular interval and as per the requirement. The villagers many times demand more injectables and syrups. Close coordination among health workers, MHU team and ICDS workers for the treatment of ANC and PNC was to be strengthened at operational level. MHUs during their regular visit to the villages were rarely identifying special cases for treatment for TB and other diseases. Operational arrangements have not been made by PHI to look such referral cases. It was observed that during the visit of MHUs to the villages during daytime, the villagers were found absent due to their engagement in agriculture and other activities.

III

Perception of Tribal on disease and curative measures:

The Kondh Tribal Belief System:

The *Kondhs* are the numerically dominant community in the study villages of Khajurigumma and Karalamal of Janbai health sector and Tarabeda of Jodambo health sector. The *Kondhs* consider that the treatment of patients is specific to age, sex and nature of the ailment. Common diseases reported in the village are fever, upper respiratory tracts infection, skin diseases, dysentery, body injury, conjunctivitis, cataract, anemia, worm infection, etc. Belief system of the *Kondh* is an organized body of ideas, attitudes, and convictions centered on values, and are considered as organic part of life processes. They believe that it is a community product of group experiences and are so deep rooted that many times the society does not question their validity. The *Kondh* explain disease related beliefs as good and bad, right and wrong, links to natural and supernatural powers, which are both religious and magical by nature. All these beliefs guide their attitude and behavior. For example: they strongly believe that diseases like leprosy and TB are due to the curse of human being. The worldview of the *Kondhs*, consists of nature and natural objectives, determines their life processes and influences their behaviour pattern about life and death, health and sickness. The *Kondhs* say: why some germs attack few people and not others? This provides them with an internal logic and acceptable explanations to believe on witchcrafts, evil spirits, evil eyes, anti social action and taboos related to living.

The folk world of the *Kondhs* can also be classified on the basis of secular and non-secular belief pattern. The secular beliefs include physical and natural factors like effects of different seasons like hot, cold, rain, sunray, food pattern, addiction etc. while the non-secular beliefs can be classified as *karma*, sins, wrath of evil eyes, demons, evil spirits, religious events, etc. The *Kondh* belief pattern is strongly based on nature and natural objects. They consider health as a state of physical and mental fitness in which person can able to perform his/her natural responsibilities. The state of fitness of human health is interpreted as free of diseases. They view women as the bearer of double burden i.e. procreation, managing home and also contributing in forestry and agriculture operations. The functional responsibility of males relate to agricultural and forestry. They consider any form of weakness as preliminary stage of a disease, but the inability of a person to perform the natural responsibilities is only considered as disease.

Kondhs pointed out various physical, dietary, natural factors as causes of disease. This may be multi-causal or mono-causal explanations. However, they believe that specific disease occurs due to specific reasons. It was observed that poor and unhygienic sanitation and polluted environment received less priority among the *Kondhs* than the *Parojas* as proximate causes of disease. However, the villagers spontaneously linked illness to traditional and supernatural factors. The socialization processes of the younger generations through oral transmission bears greater impact to believe on these factors.

It is also important to know how the tribal belief is responsible for the spread of diseases. The *Kondhs* believe that the disease needs a medium to spread from one place to another. They consider their mediums as natural like water, air and mosquito, as well as man made like pollution of natural sources, animal contact, evil spirits, etc. Diseases, like TB, asthma and other organic deformities are hereditary in nature. Diseases like cholera, diarrhoea, cough and cold, are transmitted through contamination of air and water.

Disease like malaria is caused due to polluted water and flies. Change of weather also results in certain diseases, which is basically due to incompatibility of body with changing environment. In case of TB, the villagers know that it occurs due to curse and ill deeds of last life. More or less the religious beliefs of *Kondh* people influence their understanding and behavior pattern towards health and diseases. Very few are partly closer to the modern understanding that diseases are caused due to both natural and man made factors. Thus, the *Kondhs* have a holistic and integrated understanding on their life processes as a whole.

Physical Environment:

In submerged villages shifting cultivation with forest economies were the major sources of livelihood for the *Kondhs*. The villages at native were uni-clan and therefore, marriages were not allowed within the village. The ethnic compositions of the village were homogeneous and household size was much less than the present ones at newly settled villages or in resettlement colonies made by government. The new settlements gave scope for generating new coping mechanisms and adoption processes to these changing environment. Perennial streams and tube-wells are the sources of water used

for washing, cooking, drinking and other purposes. Defecations by adult *Kondhs* are common in open field where as the children do it inside the village. This has enough contribution in contaminating water sources and resulting water borne diseases like dysentery, diarrhoea and skin diseases. The animal sheds of *Kondhs* attached to the house breeds mosquitoes, flies, and insects and makes poor sanitary situations. Animal dung, free movement of pigs and poultry, urine of animals and human being largely pollutes the swamps. Creation of worms and other intestinal parasites of these livestock many times infest their poor immune system. Distribution of houses in a compact space results ill ventilation and inadequate light inside the room. Spitting and urination by children in front of their house pollutes the environmental sanitation of the village.

Personal Hygiene:

Kondh children below the age of 7 years rarely clean the teeth as the adult members do. All the children and adult members use to take hot water bath during winter and rainy seasons. *Kondh* male members use a piece of loin cloth and normally do not use any upper garment when they are in the village. The women use a piece of saree normally tied on the shoulder, which covers upto the knee. Because of their poor economic conditions the *Kondhs* normally have two pieces of clothes for each member of the family. The washing of all clothes (apart from the daily bath) is made during the occasion of pollution and purity due to birth and death ceremony. They use white powder of kitchen to clean their clothes and a few have started using soap. Smoking of locally made raw *pika* or cigars (*Dhungia*) are popular among both males and old females. Even a boy or girl of 9 years old was also observed smoking. The *Kondhs* consume various types of liquor made up of *ragi*, and *rice*, known as *pendum*, *landa*, and palm juice. Both men and women from their early age of 9 to 10 start drinking liquor. Excess consumption of liquor has resulted many diseases even among adult groups. The TB patients suffer more due to their high intake of liquor. The personal hygiene of the *Kondhs* is very much influenced by their traditional customs and practices. Above all the hygienic aspects of both the tribal communities are largely influenced by socio-cultural factors. The low level of education, poor awareness and lack of outward mobility makes their practices more traditional.

The Paroja Tribal Belief System:

The Paroja also consider that age, sex and nature of the ailment influences the treatment of patients. Common diseases reported in the village are fever, skin diseases, dysentery, conjunctivitis, and anemia and worm infection. The specific diseases observed among the children are spleen enlargement and malnutrition. The *Parojas* also have traditional institutions may be classified as religious, political and ethno-medical by nature. The leadership pattern of the *Parojas*, includes *Muduli* (administrative head), *Jani* (religious head), *Disari/Gurumain* (shaman & herbal medicine man) and *Chalan* (village messenger). These positions are hereditary by nature. The villagers honour these leaders who perform various roles in the field of village administration, religious activities, and disease treatment system.

Belief system of the *Parojas* is a mix of behaviors, which are considered as a part of day-to-day life processes built over generations. The belief system has community sanctions behind, which makes everybody to be abided in all sphere of life. The *Parojas* link the health and disease related beliefs to link to natural and supernatural powers, which are religious and magical by nature. They consider certain fatal diseases like leprosy and TB, which occurs due to the human curse. During pregnancy a mother is not allowed to meet freely with others. They are kept in separate houses and the experienced women along with the *Gurumain* (the female priest) are allowed to interact with the expectant mothers. Even the *Gurumain* organizes rituals to satisfy *dhariti mata* for smooth and disease free delivery of the child.

The *Parojas* worship a number of deities like *jhakar debata*, *dongar debata*, and *gram debata* and *duma debata* who have functional relationships with their day-to-day life. Like *Kondhs*, the *Parojas* also consider health as a state of physical and mental fitness in which person can able to perform his/her natural responsibilities in both household and other sphere of activities. They consider women as the bearer of procreation, managing home and also contributing in forestry and agriculture operations, but the functional responsibility of the males relates to agricultural and forestry.

The *Parojas* view that many natural and manmade factors are responsible for the occurrence of disease. They render multi-causal or mono-causal explanations. The poor and unhygienic sanitation and polluted environment received priority among the *Parojas* as proximate causes of disease. However, the villagers very frequently and spontaneously link illness to traditional and supernatural factors. The *Parojas* take into account the air, water, food and mosquito, as the natural mediums of transmission of diseases.

Physical Environment:

Shifting cultivation and forest economies were the major sources of livelihood. The new resettlement provides fewer opportunities for generating a good living. In the resettlement colonies due to poor maintenance of tube wells they are depending on natural water bodies (*nalas*), which many times results endemic bacterial infectious diseases. The narrow footpaths link the habitations of a village or between two villages which often separated by natural streams. The resettlement colonies are linear type, which face to each other. The small single room house used to prepare food, store grains, sleeping, and as the seat of their household deities. The cowsheds are kept outside the main residential house, which gives fewer opportunities for pollution to spread. Open defecations by the *Parojas* many time helps in contaminations of water sources and results water borne diseases like dysentery, diarrhoea and skin diseases.

Paroja Tribal Personal Hygiene:

Compared to the *Kondhs*, the personal hygiene of the *Parojas* is clean. All the members use to take hot water bath during winter and monsoon. The male members only use a piece of loincloth. Women use a piece of *saree* normally tied over the shoulder, which covers upto the knee. Smoking of locally made *pika* or cigarettes (*Dhungia*) are popular among both the sexes. They consume various types of liquor

prepared of *ragi*, *rice*, and *palm juice*. Both men and women from their early age start drinking liquor. Excess consumption of liquor has caused many diseases even among adult groups. They feel that due to their high intake of liquors in middle age many males suffer from TB. Their customs and practices influence the personal hygienic characteristics of the *community*.

IV

Status of health condition and health care services in study villages:

Disease Pattern

Seasonal illness episodes of the *Kondhs* and *Parojas* were documented on the basis of their memory recall for a period of one year prior to the date of survey. There were in all 809-illness events reported during the year. The common ailments reported were malaria, fever, body pain, headache, cough, joint pain, skin diseases and diarrhoea. The Scheduled Tribe population accounts 89.86 per cent of the total number of illness episodes reported during the year (against their share in the population). Of the total diseases reported among them during the study, fever accounts for 57.62 per cent of which malaria constitutes 61.81 per cent, whereas, diarrhea (10.04%), skin (5.08%), APD (4.81%) have also been reported. The disease pattern among the *Kondhs* and *Parojas* shows that the females have been affected from 430 cases (53.15%) than males who suffered from 379 cases (46.84%). The major diseases affecting females were 173 cases of malaria (60.95%), 91 cases of fever (52.36%), 22 cases of joint pain (73.33%), whereas, males suffered from 51 cases of body pain (51.11%), 21 cases of cough (60.00%), 19 cases of APD/Gastric (51.35%), and 22 cases of skin diseases (52.38).

Length of Illness:

The length of illness among the *Kondhs* and *Parojas* has been calculated till their first contact for treatment with any public health institution. In case of malaria and fever the average length of illness was relatively greater. Of the total reported cases, around 38.13 per cent of malaria patients (82) have suffered for 6 to 10 days, while 37.20 per cent (80) have suffered more than 10 days. Likewise, in case of fever, 31.88 per cent (8) have suffered for more than 6 days, while 38.18 per cent (97) have suffered for more than 10 days. In aggregate 28.92 per cent (234) have suffered for 6 to 10 days, while 50.34 per cent (408) have suffered for more than 10 days till they make use of health services from PHIs.

Sources of Treatment:

In total 5.80 per cent cases (47) have not sought any treatment, while 431 (53.27%) treatment events the patients have attended government hospital and 217 (26.82%) treatment cases have attended private source. Around 114 (14.09%) episodes have attended both private and public health institutions for their treatment on priority basis. This clearly indicates the transition of the tribal society, which was once depending on ethno-medicines, who have started adopting allopathic treatments. There

are few serious ailments, which could not be treated by private sources. This led them to depend on public PHIs. The villagers know that PHIs are the source to give specialised health services since it has trained health personnel. They viewed that the regular absence of government health personnel in their operational areas affects the villagers to get health services from PHIs

There are 7 quacks operating from Janbai who moves from village to village with regular intervals and provide allopathic treatments. The quacks maintain a good rapport with the villagers. They prefer to give injectables to raise more income. Few Bengali quacks have been operating at Janbai to provide health services even for last 35 years. In Jodambo health sector, around 12.01 per cent have adopted private sources for treatment. The villagers feel quacks as more reliable and accessible at doorstep.

Status of Traditional Birth Attendant (TBA):

Traditional Birth Attendant (thus known as TBA or *Dhai*) in *Kondh* villages is popularly known as '*Dhokaris*' who play a very important role during pregnancy and childbirth. Due to the lack of facilities by PHIs for institutional deliveries in rural areas, TBAs have been playing an effective role. Due to their functional importance, government and non-government agencies have been providing training to TBAs (*Dhai*). In-depth interviews were carried out with 14 TBAs distributed over all the health sectors. Of them, 9 (64.28%) were STs in which four TBAs in each are belonging to *Paroja* and *Kondha* tribe, 3 (21.42%) were SCs and the rest 2 (14.28%) were belonging to other caste groups. The age classification of these TBAs indicates that around 57.14 per cent belonging to the age group of 41 to 60 years, while 35.71 per cent were above 60 years of age. About 92.85 per cent were reported as illiterate.

All the *Kondh* and *Paroja* TBAs are active in performing their responsibilities, while the *Kondh* TBAs are going beyond their village boundaries. The *Paroja* TBAs because of their old age are unable to go beyond the village boundaries to render their services. None of them have ever received any type of training from the government. While two of the *Kondh* TBAs have trained their young generations to act as TBA, the *Paroja* TBAs have complained about the non-participation of the younger generations for this purpose. The *Kondha* TBAs during last year on an average has attended 9 delivery cases, while a *Paroja* TBA has attended 4.71 number of delivery cases. The TBAs were normally paid in the form of kind, which is not a major source of income for them. They consider their skill as a service to their own people.

In cut-off area facilities for institutional delivery were not available. The Female Multi Purpose Health Workers were irregular and often found irregular in their operational areas. The TBAs being local attend the deliveries. It was also observed that for better health service delivery the operational linkages have not been established between the female Multi Purpose Health Workers and TBAs in their day-to-day operations. As a result, the Health Workers were unable to make use of the TBAs while implementing their programmes. Due to this, many health programmes were not reaching the interior pockets of the area. The logic of the Health Workers for not involving the TBAs was that most of the TBAs were old enough to carry out the responsibilities in a demand driven and decentralized manner. The natural growth of

new TBAs under the guidance of old TBAs was inadequate. The TBAs were also not playing any role in their operational areas for identification and linkages of TB patients with the local PHI or to any health personnel. In spite of, the Health Workers feel that some of the TBAs still have operational viability, which can be made use for greater interest.

Traditional Healers or Disari:

Traditional tribal healers or magico-religious specialists play a very important role in health related issues. They are popularly known as *Disari* who is also a specialist in ethnic medicine. They perform their role as a religious leader who forecasts the auspicious days and period to do festive occasions and also performs certain rituals. All *Disaris* do not play the role of traditional healer. The *Disaris* adopt the process of divination to invoke deities and spirits by chanting spells so as to ascertain the cause of affliction. In almost all cases they prescribe certain food taboos and instruct to arrange for the prophylactic rite. Patients suffering from diseases caused due to physical and environmental factors have been treated directly with ethno-medicines.

An attempt was made to carry out in-depth interviews with 10 numbers of *Disaris* or traditional healers. The socio economic background of these *Disaris* reflects that around 90.00 per cent of them belong to ST groups and were within the age group of 41 to 50 years. Around 40.00 per cent of them were illiterate, while another 40.00 per cent of them were literate. Around 80.00 per cent i.e. eight number of total TBAs provides health services within 5 to 10 number of villages, in a distance of 6 to 10 kms. Four healers (40.00%) have treated 11 to 15 patients each, while five (50.00 %) of them have treated more than 15 cases during last year.

The tribal people have an understanding of symptoms and treatment regime for each disease. The ingredients adopted for treatment includes herbal products and they follow specific procedures for treatment. The data reflect that the *Kondh* people also treat complex diseases like white leprosy, measles, malaria, snakebites, dog bite etc. However, the use of herbal medicines in different diseases is subject to laboratory verifications.

The study indicates that the ethno-practitioners are still playing important roles in the disease treatment regime of tribal societies. The transfer of skill on hereditary basis justifies the contribution of these agents to maintain good health in the village. They enjoy a substantial influence in and around the villages, which goes beyond ethnic boundaries. These traditional practitioners as a community of health service providers can be given training from time to time so as to infuse certain basic scientific knowledge pertaining to health and hygiene.

Conclusion:

- The tribal people still recognise and are adhered by both natural and super natural factors as responsible for causing diseases. They are more influenced by their traditional belief patterns.
- The common diseases, which affect tribal people in cut off area, were reported as malaria and fever followed by skin diseases and diarrhoea.
- The extension workers engaged in delivery of health services in cut off area do not have a holistic understanding of diseases suffered by the tribal people. In this process tribal communities normally do not accept the prescriptions made by the Health Workers.
- It was observed that the operational linkages in whatever form were observed functioning between the female Multi Purpose Health Workers and local functional institutions like TBAs do not contribute much for better functioning of local health institutions and outreach health service delivery.
- In case of few serious ailments, which cannot be treated by private sources, the patients are depending on PHIs, but their poor economic conditions do not allow them to avail specialized treatments from outside. Absence of doctors at Jodambo (PHC) and Janbai (SHC) (very frequently even for long years) restricts the delivery of treatments provided from PHIs.
- MHUs during their short duration of visits to a village were unable to cover the chronic cases like TB and in providing follow ups to TB patients.
- Quacks are the first person in cut-off area to provide health services to the villagers even in remotest corners. Even they identify special TB cases and link them for sputum tests directly.
- The tribal males were observed suffering more from TB than females. This was a common trend in all the health sectors. They are mostly within the age group of 31 to 50 years.
- The physical absence of health workers acting as DOT Providers (DPs) in their operational areas for a longer period of time has affected the delivery chain of RNTCP. It has also affected the community processes which were useful for identification of TB cases, motivation of TB patients for medicine intake, follow-up sputum tests etc.
- Gram Panchayats are empowered to review all the development programmes within their area every month. It was observed that review of health programmes are not adequately carried out in GP level meeting.
- Training in the form of orientation and transfer of special skills on recurring basis were lacking in the health service delivery system. This affected the functioning of the health personnel and the health service delivery system. It also affected the establishment of a supportive monitoring mechanism.

- The IEC activities on various health programs in cut off region were not at all implemented.

Major Suggestions:

- The infrastructure development in the interior regions of tribal dominated Malkangiri district may be emphasized more in order to develop the access of the tribal people and to develop their quality of life.
- Selected Traditional Birth Attendants (TBAs), Traditional Healers and local quacks who have community acceptance may be provided with basic orientation training on both common and special diseases. They may be entrusted to carryout identification of patients affected due to serious diseases and timely need of treatment.
- Health related training module may include some of the health issues of local tribal communities with respect to their belief pattern, culture and practices. This will help health personnel to have a holistic understanding of the tribal people and their problem.
- In the GP level, monthly review meetings the status of health programs may also be reviewed. The Multi-Purpose Health Workers should attend these meetings at GP level. Along with other health related data the health worker should be made responsible to provide the data regarding the status of serious diseases like TB, Leprosy etc in their own operational areas.
- In villages the traditional leaders and the Ward Members may be involved in monitoring the implementation status of various health programmes.
- Looking at the contextual needs and feasibility the IEC activities so far developed by Health Department and Special projects like DANTB under RNTCP may be implemented.
- The ICDS centers, Panchayat Offices, schools, and village community centers may be furnished with IEC messages on basic health related issues through wall painting and durable attractive pictorials. The folk dance, folk drama may also be adopted as means for disseminating special health programs in weekly markets and festive gatherings.
- Laboratories for pathological and sputum testing may be placed and strengthened in all region.
- The selected NGOs, who have initiated the processes of RNTCP activities like identification of potential TB cases may be promoted to work in a larger operational area as DP.
- A viable joint management of primary health services may be made when delivered in villages and GPs taking into account the role of health extension personnel, NGOs, members of PRI and local traditional leaders.

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TRIBAL AND NON-TRIBAL INTERACTION IN KALAHANDI DISTRICT OF ODISHA: A STUDY OF CHHATAR JATRA OF GODDESS MANIKESWARI IN BHAWANIPATNA

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INTRODUCTION

During British Raj in India Kalahandi was a princely state which after independence merged with the state of Odisha on 1st January 1948. Bhawanipatna is the headquarter town of Kalahandi district in Odisha. Situated on the National Highway it is located about 418/427 kilometers away from the State capital Bhubaneswar. Tribal dominated Kalahandi district is a land of goddesses like Dakeswari (Dukri), Lankeswari, Manikeswari and Raktambari. Manikeswari is the presiding deity of Kalahandi. The mere mention of name Manikeswari invokes reverence and speaks about the Sakti or goddess worship in Kalahandi.

Bhawanipatna, Jugsaipatna and Thuamul-Rampur of Kalahandi district are famed for Manikeswari temples. In addition, she is also worshipped in other places like Kashipur, Parlakhemundi, Sankhemundi and Sonepur. However, the annual *Chhatar Jatra* of Manikeswari celebrated in Bhawanipatna in the Hindu month of *Aswina* (September-October) is very famous and popular. People of this area may be staying away from their home due to some reasons or other but they exhibit the same passion and display same emotions that their families, relatives and friends experience here during *Chhatar Jatra* of Manikeswari Devi. People are mad about Chhatar Jatra and eagerly wait for the celebration. What drives them so passionate? May be they get to see the deity and witness her procession with *bira-badya* Ghumura. May be they get to see many known faces. But the innocent faces of animals and birds, unaware of their imminent death, attracted me during my research trip to this place during Chhatar Jatra.

CHHATAR JATRA: A HISTORICAL OVERVIEW

Historically, Kalahandi is a Kandha dominated area. It is said that, Kalahandi was once recognized as *Karund* and the rulers of this region were known as *Karundadhipati* as well. The meaning of *Karunda* or corundum is valuable gem stone and most probably, the word Kalahandi is derived from *Karunda* or corundum. In other words, Kalahandi is believed to be the treasure land of valuable stones like Ruby, which is locally known as *Manikya*. The name of its presiding deity Manikeswari is derived from *Manikya*. Undoubtedly, the name of the deity is justified.

Manikeswari temple of Bhawanipatna is located in the premises of the ex-ruler of Kalahandi. It is said that, Raja Ramachandra Deo had built a temple in Bhawanipatna and installed Manikeswari Devi therein. Reportedly, however, the present temple of the deity is constructed by Raja Brajamohan Deo in 1935.

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It is said that, the sixth king of Naga dynasty in Kalahandi was Harichand Deo (1173-1201). His reign was full of misfortunes. He had to face all the disturbances and led a life of agony and pain. After his sad demise, the insecure queen fled to her father's house at Gadapur in Phulbani district, traditionally a Kandha dominated area. Then she was pregnant. In such a condition, the queen's father who belonged to Ganga family gave her shelter. There she gave birth to a son who was named Rama Chandra Deo.

After the death of Raja Harichand Deo, Kalahandi remained in a state of anarchy for some time. Due to the political disorder, lawlessness and chaotic condition in the State, common people had to suffer a lot. It was a Kandha dominated area at that time. The people being insecure of their lives in absence of the ruler, went to Gadapur in search of their queen. They became happy to see their queen and the young prince Rama Chandra Deo at Gadapur. They requested the queen and her son to return to their kingdom and rule over it. But the queen's father refused to allow them to go back on security ground. On the other hand, the Kandhas and Umras promised them protection and help.

Rama Chandra Deo, though a minor at that time, thought it proper to reign over his own kingdom than to stay at his maternal grandfather's house. Finally, he returned with his mother to Kalahandi brought by the Kandha *Umras* from Gadapur. He was crowned as the king of Kalahandi at Jugsaipatna by a Kandha man who is known as Pat-Majhi. This custom is still in vogue from that time. As per the tradition, all the kings of Kalahandi are crowned at Jugsaipatna by a Kandha who is called Pat-Majhi.

While returning home, Ramachandra Deo brought Manikya devi from his maternal uncle's house (Senapati and Kuanr, 1980: 53). At that time, Jenabalipatna or Jugsaipatna was the capital of Kalahandi. So, Manikya devi was first established there in the name of Manikeswari. Subsequently, the deity she was shifted to Bhandesir garh i.e. the present Bhawanipatna.

There is a controversy about the origin of Naga family of Kalahandi. A group of scholars claim Nagas of Kalahandi are successors from the Naga family of Chota Nagpur. But the renowned historian Jitamitra Prasad Singh Deo believes that, they are direct descendants of the Nagas of Chakrakote (Singh Deo, 1987:267). Whatever might be the opinion of scholars on the origin of Naga-*vamsi* rulers of Kalahandi, they are unanimous in accepting the ex-ruling house of Kalahandi which still exists as belonging to Naga-*vamsis*.

The Sakti cult- a great tradition has given birth to this *Chhatar Jatra*- a little tradition. Every year, for the common people it is a proud privilege to be associated with this historic tradition of Bhawanipatna. These days, this *Chhatar Jatra* is not only a popular folk festival in its native land but it is also recognized as one of the captivating and enthralling festivals in the neighbouring areas including Chhattisgarh.

CHHATAR JATRA: IN ITS PRESENT FORM

The *Mulastami* (*Aswina Krushna Astami*) is the beginning of Chhatar Jatra. The ex-ruler's palace has an imposing look with a spacious park to its front. Traditionally, Ghumura dance competition is organized on this occasion. The winning group is allowed to participate during the festival. The troupe leads the Jatra from Jenakhal to Manikeswari temple in early morning of *Aswina Sukla Navami tithi*.

The *Mulastami* day is marked with an important ritual conducted before Manikeswari Devi. It is a *gupta niti* (secret ritual) known as *Munda-basa*. The phrase is derived from two words *munda* (head) and *basa* (to place). At midnight the head of the Devi is

removed and replaced by terracotta head studded with gems and ornaments. The old head is then immersed in the Purushottam tank adjacent to the temple. Thus, ceremonial replacement of the head of the deity takes place on Mulastami. This reminds us the annual *Nabajaubana* and *Nabakalebara* rituals of Lord Jagannath's temple at Puri.

Manikeswari is also reasonably identified with *Stambeswari* or *Khambeswari* which represents pillar-worship for the reason that, apparently there is similarity between the iconography of Manikeswari and *Khambeswari* or *Stambeswari*. Further, annual ritual of change of structure of the deity (head) also reminds us the Kandha ritual practice of renewal of pillar-worship. In view of this it seems acceptable that, Manikeswari has linkages with the tribal tradition of this area.

Furthermore, it would not be out context to mention that, the earliest form of mother or Sakti worship in this part of Odisha is historically found at *Stambeswari*. During the fourth and fifth century AD, worship of *Stambeswari* was prevalent in Kalahandi. The earliest epigraphic evidence was found in a copper-plate grant of Tustikara Deva popularly known as Teresingha copper plate of Raja Tustikara, which attests this fact. It may be noted here that, there is a pillar of *Stambeswari* in Sonapur and another temple in Aska in Ganjam district. The *Stambeswari* is another form of *Khambeswari*, who is a very popular deity among the tribal people of Kalahandi in particular and West Odisha in general.

A JATRA OF ADIVASIS, THE EARLY SETTLERS OF KALAHANDI

It seems appropriate to highlight the existential realities of the earliest settlers or indigenous population or tribal people of Kalahandi area, which they share despite their heterogeneity. Though they constitute about eight per cent of the total Indian population, they are found in large numbers in Kalahandi district of Odisha. Most of them live in hills and forests. They are also called Adivasi, the literary meaning of which is early settlers'. Because of the location of their habitat, majority of them were engaged in forest related occupation thriving in a state of subsistence economy which was not at all conducive to state formation.

In all probability, during the state formation in this part of Odisha during 4th-5th century AD, Raja Tustikara had adopted the tribal deity of this area as *Stambeswari* to conciliate the local inhabitants and to make it easier for the establishment of his kingdom. It is also possible that, the local tribal people of this area had been influenced by the "Raja-Dharma" or the Ista-Devi of Raja Tustikara and started pillar worship, which is still prevalent in their communities in one form or other. Significantly, *Khambeswari* is the tutelary deity of Dumals of West Odisha. Due to extension of political boundaries, the ruler was in need of settled agriculture to generate surplus for maintenance of his kingdom and officials. Thus, tribal people were engaged in agriculture took the leading role for its extension.

It may be a matter of surprise for many, how the head of the deity is removed and replaced by terracotta head every year during this festival. It may be noted here that, Manikeswari Devi is headless. Consequently, she is identified with Chhirmamastha, - a goddess of *dasa-mahavidya* group. Her body is like a cylindrical structure, over which a clay head is fixed. Thereafter, the body is covered with clothes and ornaments. This is an annual secret ritual observed in the midnight of *Mulastami tithi*.

Another interesting ritual is observed before the deity Budharaja in the midnight of Mahastami (*Aswina Sukla Astami*) *tithi*. Budharaja also known as Bhairaba is worshipped in a small temple situated in the northern side of the Manikeswari temple.

Significantly, this temple is opened only once in a year on the occasion of *Mahastami* when offerings including newly harvested rice are made to Budharaja.

Though Nuakhai is observed generally on *Bhadra Sukla Panchami* or *Rushi Panchami tithi* in West Odisha, Nuakhai of Budharaja is celebrated on *Mahastami tithi* because his temple is opened only once in a year on this day. So, as a matter of tradition, the royal family of Bhawanipatna takes *Nua / Nabanna* next day on *Nabami tithi* after Chhatar Jatra only after Nuakhai celebrated by Budharaja on *Astami*. After the annual offerings before Budharaja, the *Chhatar* of Manikeswari Devi leaves for Jenakhal.

ANIMAL SACRIFICE: A AGE OLD RITUAL PRACTICE IN CHHATAR JATRA

Animal sacrifice is a very common practice prevalent in almost all the Sakti pithas in India in the month of *Aswina*. On the night of *Astami tithi*, animal (*Podh* i.e. buffalo) is sacrificed before the deity *Budharaja (Bhainro Baba / Bhairava)* situated near the north gate of *Maa Manikeswari* temple. Notably, *Budharaja* is a tribal deity of Gonds, a major tribal community of Odisha. After this ritual, the *Chhatar* is carried to *Jena-Khal*, which is located about three kilometers away towards west of the temple. *Chhatar* represents *Maa Manikeswari*. Some rituals along with animal sacrifice are performed there.

Thereafter, the deity in the appearance of *Chhatar* returns to her residence i.e. Manikeswari temple. The literary meaning of *Jatra* is traveling. *Manikeswari* in the form of *Chhatar* comes out of the temple once in a year. For this reason, this annual festival is called *Chhatar Jatra*. Thus, the *Chhatar* makes its return journey from Jenakhal to the main temple of Manikeswari in the early hours of *Maha-navami tithi*. This is the most celebrated journey of the deity accompanied by the beats of musical instruments like *ghumura*, *nishan* and *ghanta*. Traditionally, it is known as *jena badya*. The chorus enralls the observers and creates a sense of fear among the onlookers.

It is not out of place to mention that Kandha people worship a deity called *Chhatar Bauti*. She is portrayed as a malevolent deity. She is supposed to be the cause of child death. Interestingly, if a child cries while the *Chhatar* is traveling then it is believed that the death of that child is imminent. In view of this, it may be said that *Chhatar Jatra* is influenced by the tribal culture and tradition in Kalahandi.

As it has been mentioned above, rituals are performed at *Jenakhal*. Animals are sacrificed there as an integral part of this ritual. The literary meaning of *Khal* is hole. *Jena-khal* represents the female sex organ. As *Linga* represents Lord *Siva* in its uniconic form in various *Saiva Pithas*, *Jena-Khal* represents *Sakti* at this place. It deserves mention here that, in Sindhekela of Titilagarh sub-division and Khariar the deity *Duarseni* is worshipped in such form i.e. hole. So, it may be said that, in some parts of West Odisha *Sakti*-worship in the form of Yoni-worship is prevalent.

Animal sacrifice is as old as this festival. Significantly, there is no restriction and compulsion if the devotees want to offer their animals on their own. The essence of animal sacrifice emerges from the strong belief that, it will bring prosperity to the sacrificers and their community. What is sacrificed losses itself by being slain. But, this loss of life is somehow believed as bringing material gains to the sacrificer. This is the main reason why devotees slaughte animals on the path of *Chhatar* and offering the blood to the deity on their own.

Such an unkind ritual practice by the common people on the open street is hardly found elsewhere. Some animal protection activists opine that, it is very dangerous. Since the common people freely indulge in ritual killing of animals in open streets of

Bhawanipatna, it has become very hard on the part of the District Administration and the social activists to stop this practice.

Even the Government or non-Government agencies either do not bother or are helpless. They think that conscious citizens must take up this issue. They should think about the ways and means to celebrate the *Chhatar Jatra* with the least bloodshed.

Today, it is really a difficult time. People have to identify additional social responsibilities that they can shoulder. When asked a pretty old but beautiful woman replied, "You are not the driver of the vehicle. You see a lot happening on the streets and sometimes you just have to shut up and let things happen". This lady was both informative as well as interesting. So many aspects of this festival came to light through her eyes only.

On *Vijaya Dasami tithi*, *Chhatar* is carried to the nearby mango grove of Naktiguda, where it is worshipped. One *Boda* i.e. he-goat is sacrificed before the deity. Then an earthen pot is fixed on the top of one tall mango tree. Shooters come to participate in the shooting competition known as *Lakha-Bindha* competition. They aim at the earthen pot on the top of the tree. This *Lakha-Bindha* ground is considered to be the battle ground and the pot is regarded as the enemy. Earlier, the traditional weapons like bow and arrows were used on this occasion. In due course of time, bow and arrows have been replaced with guns. The winner of this competition participates in the *Chhatar Jatra* and leads the procession of the deity. It is considered to be a rare distinction and honour.

It is said that, once upon a time human sacrifice was prevalent at *Jenakhal*. It reminds us the famous *Meriah* sacrifice of the Kandhas. Furthermore, it is said that *Jenakhal* is located on the way between Bhawanipatna and Junagarh. The previous name of Bhawanipatna was *Manikyapatna*. At that time, it was named after the deity Manikeswari. After the construction of *Bhawani-Sankar* temple near the *Bhandeswar* temple, the name of *Manikyapatna* became Bhawanipatna.

The literary meaning of the word *Jena* is *Raja-Putra* i.e. prince. In this sense, the meaning of *Jenakhal* is the hole or place or graveyard where *Raja-Putras* (princes) were sacrificed. As per the tradition, the Raja of Bhawanipatna used to offer human blood to the deity i.e. *Chhatar* on *Durgastami* at *Jenakhal*. Every year, the defeated *Raja-Putras* were sacrificed here during *Chhatar Jatra*. Time has changed. In due course of time, human sacrifice has been substituted with animal sacrifice.

GHUMURA: THE ASSOCIATED FOLK DANCE

As per the tradition, *Ghumura* dance is performed in front of the palace of Bhawanipatna on that night (*Astami tithi*). In course of time, it has taken the shape of competition, which adds colour and glamour to *Chhatar Jatra*. A number of *Ghumura* dance troupes participate in this competition. The winner of the competition leads the next year's procession of *Chhatar Jatra*. It is an honour for the *Ghumura* dance band. Undeniably, *Ghumura* dance is an integral part of *Chhatar Jatra*, which helps in preserving and disseminating this ancient heritage and rich folk tradition of Kalahandi. Certainly, this dance is amazing and exciting in its form and content. It has a class of its own. The media and modern technology have enlarged its scope and prospects. Professionalism in traditional performing art has become the trend of the day.

Hundreds of people assemble near the Bhawanipatna palace on the occasion of this competition and witness this rich folk dance form of Kalahandi. In view of this it may be said that, *Ghumura* is a major traditional dance form, which still holds ground in the cross section of the society in Kalahandi. In fact, the entire Kalahandi feels the vibration

of *Ghumura* dance in this season. It is relevant to mention that *Ghumura* in Kalahandi is not simply a dance form but the very way of life of its people -*Kalahandias*. Here virtually every village has a *Ghumura* institution and every villager is a lover of *Ghumura*. The language of *Ghumura* is well known to every individual in this land. Since long, *Ghumura* has not only entertained the people of Kalahandi but also acted as an emotional bond of unity among them. It is an instrument of social harmony in Kalahandi. However, the *Ghumura* has no longer remained confined to Kalahandi. It has traveled far and wide and created a name in the national as well as international arena.

Early in the morning of *Navami*, *Chhatar* leaves *Jena-Khal* for the temple with a grand procession amidst the high sounding beat of *Ghumura*, *Jena-Badya*, *Ghanta* and the like. This return journey of *Maa Manikeswari* in its *Chhatar* form is the main *Chhatar Jatra*, which is attended by thousands of devotees. The distance between *Jena-Khal* and *Manikeswari* temple is about three kilometers. Thousands of animals like he-goats, fowls, pigeons, ducks and swans are sacrificed on the way during the return journey of *Chhatar*.

The annual *Chhatar Jatra* of *Manikeswari Devi* is accompanied with the *Lakhabintha* (target-shooting) ceremony, which is celebrated with great pomp and show during the days of *Durbar* administration.

It is believed that this transformation from human sacrifice to animal sacrifice has come during the reign of *Udit Pratap Deo* (1853-1881). Once, he was returning from *Delhi* after attending the *British Durbar* in the year 1877. On his way back to *Bhawanipatna*, he spent one night at *Kesinga* which is situated on the bank of the river *Tel*, the border of his kingdom and *Patnagarh*. That night, *Maa Manikeswari* appeared in the dream of *Raja Udit Pratap Deo*. She expressed her displeasure over the blood sacrifice prevalent in her *pitha*. She asked the *Raja* to start *satwika puja* i.e. vegetarian ritual in her temple. She also directed him to bring some good Brahmins from *Sambalpur* who would perform such kind of *puja* in her *pitha*. The king did not waste time and invited a Brahmin family from *Sambalpur* who started *satwik puja* in *Manikeswari* temple. It is relevant to mention that *Raja Udit Pratap Deo* married the princess *Asha Kumari* of *Sambalpur*. She was the only daughter of *Raja Narayan Singh*, who was the last king of *Sambalpur* kingdom.

CONCLUSION

One of the great disadvantages of post independent India has been the absence of royal patronage to *Chhatar Jatra* as usual. However, there is no denying the fact that, common people extend their patronage and support to this festival for its growth once a year. Unquestionably, the inheritance of celebrating *Chhatar Jatra* and making this festival more popular are the sacred responsibilities of the general people of Kalahandi at large. They have been devoting themselves to keep this century long tradition alive. There is tremendous amount of enthusiasm within Kalahandi and outside also to witness this thrilling *Jatra* in the month of *Aswina*. *Chhatar Jatra*, once again, contributes to local tourism like no other institution. Many people come to explore a new lease of life on this occasion.

Manikeswari Devi is considered to be a unique blend of tribal and non-tribal culture in this part of *Odisha*. One finds close resemblance between the iconography of *Stambeswari* or pillar worship and the present *Manikeswari Devi*. *Kandhas* of this area

consider Manikeswari as the sister of the deity Dharnipenu. In this context, Kar (2007:32) has given a narrative. The song of the Kandhas says: “*Juhar Juhar Manikesari/ Maa Raije Maharani/ Sayabani Mahan Laybani/ Mahan Dharni San Baheni*”. In view of this, it may be believed that Manikeswari in her present form and Manikesari of the Kandha people are interrelated and through the process of universalization, the present form of worship of the deity has evolved.

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Man-Nature-Spirit Complex among the Santals

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Abstract

The present study is based on fieldwork observation over a period of two months in a few Santal hinterland villages of Manada Gram panchayat and Gorumaisani Gram panchayat of Mayurbhanj district, Odisha. The data have been collected during 2003-2004 through interview guide. An attempt has been made to portray the Santal beliefs and practices and understand their worldview, relating to "man-nature spirit complex in the changing scenario. The paper infers that so long the worldview of the Santals assumes its integral position in relation to the greater society, the boundary maintenance of the community will be faster and the language as a tool would help for the retention of cultural identity expressing their cohesive force.

Introduction:

World view is seen as the way society sees the world. This means that the society into which one is born in will determine the way one sees the world. Religion creates one's society which in turn, will see the world in his/her own way. Religions have a belief in two ways to experience supernatural force: the transcendent dimension and the immanence. Transendent being a belief in an existence above or apart from the material world, while immanence is the idea that gods or spiritual forces pervade the universe and are present in every aspect of life, as compared with the idea of transcendence. Transcendent and Immanent dimensions of a religion can be very different. A transcendent being can be God because He is beyond this world. and His abode is the outerworld. An immanent being includes the supernatural force who is all around the people at all times. They live with the supreme beings and worship them for being in their territory. Religion as a part of culture occupy major segment of the worldview. Religion is a set of belief in supernatural entities. Every religion has two basic components: the spiritual and the ritual. The religions vary mostly on the basis of their ritual components.

Tribal Communities are generally totemic groups. Traditionally they have their own culturally defined territory with the internal boundaries represented by specific clans. Every aspect of tribal life is integrated and interrelated to its tangible and intangible culture and traditions. Santal religion like many other religions can not be defined by its subject matter in a narrow sense as spirit worship, ancestral worship or as a part of nature which are intimately connected with natural life cycle and the seasonal variations. The meanings they attribute to celestial and non-celestial events or objects are mental

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associations deep-rooted into their age-old traditions. According to their traditions, the Santals have always been wandering from one place to another. It is natural; therefore their religions like their language and culture have always been influenced by the people with whom they come into contact. Prof. Orans (1965) adopted the concepts and designated the twentieth century growth-pangs in Santal Society as a search for the "great tradition". According to the concept, "great tradition" incorporates qualities of a systematic and well-integrated world-view, a self-conscious substructure of ethical mores and a degree of expressiveness regarding its individual excellence *vis-à-vis* the neighbouring communities. Biswas (1995) in his study on Santal Rebellion explained the role of culture in maintaining solidarity. The objective of the paper is to understand the worldview of the Santals and document those as it is presumed that if the data on worldview is not collected now it can be collected never due to the fast change in cultural frontiers.

Methods adopted:

The data have been collected from during 2003-2004 through interview guide. The informal interaction was the major technique adopted for data collection. The interaction with the aged male and female were given importance. An attempt has been made to portray the Santal beliefs and practices of Santals and understand their worldview, religion in the changing scenario. The paper infers that so long the worldview of the Santals assumes its integral position in relation to the greater society. The data were collected from a wider areas thickly populated by the Santals. The villages in the interior pockets of Manada Gram panchayat and Gorumaisani Gram panchayat of Mayurbhanj district, Odisha were selected for this purpose.

Santal life and belief:

In Santal life, *Bongas* or Spirits play an important role in human existence. *Bonga*, the supernatural power, a force, roams around and it is only by coming to terms with them can a Santal be happy. All these *Bongas* in a special sense are a Santal creation, monopoly or prerogative. Their prime concern is only Santal: they have nothing to do with other religion. To keep their day happy and to experience the tribal existence, Santal must not only attune themselves to the village customs but unite in honoring their ethereal protectors. They have two worlds to live in, a world visible and the world invisible but influential. They believe that *Bongas* keep an eye on every item and action of every Santal.

To appease the *bongas* special sacrifices are made periodically in order to overcome the crisis, sickness, failure of crops and any form of anticipatory misfortune. The *bonga* at no account can be polluted. During the period of pollution Santals withdraw their association from *bonga*. A durable dissociation is also likely to displease the *bongas* that might reflect in form of mishaps, therefore, the ritual purification must be promptly performed so that the village may again enjoy their aid. The *bongas* are guardian spirits and a defense force of unalterable law. *Bongas* assist Santals to be themselves and enjoy life with humor and honor and remain active. Further, the worldview refers to a wider area of mental and physical entities of perceived world. It

includes the sharing and caring world by the members of a society represented in their myth, lore, ceremonies, social conduct and general values. All of the unobserved but inferred beliefs an individual have about the world and the universe that are hidden aspects of their behavior. A world view is a set of feelings and basic attitudes toward the world rather than a set of formulated opinions about it. World views are mostly learned early in the life and are not readily changed. They have a determinate influence on our observable behaviors, both verbal and non verbal.

The Worldview

The Santals are simple and unsophisticated peoples. Like any other people, they have developed their own worldview, a system suited to deal with the basic dichotomy of human existence- life and death, good and evil from their own perspective. For Santals, the life cycle ritual needs, and other biological and socioeconomic requirements are met through cultural apparatus. Their religious experiences are mediated through their culture and are expressed in terms of symbols, metaphors, myths, legends, folklore, songs, cult, rituals, and so on. They consider *Thakur Jiu* (Life Giver) or *Cando Baba* (Sun Father) or *Marang Buru* (Great Mountain) the source of all good-omen. *Baric Bonga* is the malevolent spirit that has capacity to devastate and destabilize the socio-cultural system. Therefore, they need to keep the *bonga* and spirits in good humor to avoid any exigencies or problems of sickness and sufferings.

A Santal newborn is a gift of God therefore every one extends wish for better future. The child has to undergo a set of rituals to be identified and incorporated into the society through observance of rituals and rites. Most of these realities are expressed through the ritual ceremonies performed after a child is born. The ritual of the *janam chatiar* (birth purification and name-giving) is one example where these aspects are enacted through bathing, shaving the head of the baby, divining of *ganang* (unboiled rice) grains, and welcoming of the baby into the community. The puberty rites are unnoticed however the rituals for marriage are celebrated with much pomp and ceremony. The death purification ceremonies like funeral rites of *bhandan*, or *mora karam* (after-death celebration) provide further details of Santal belief system that the dead person goes back to the same spirit-world of life from where he/she has come as a baby and remains defiled and defiling for which reason not only the family needs purification, but the very return of the deceased person to the shadowy world is already defiling because it is regarded as a sinful state, which has been created for the punishment of the sins of greed and pride. Hence, the deceased person needs to be brought back spiritually to his/her own family and is installed as an invisible member as *hap dam* (ancestor). The deceased members are remembered and respected during family occasions.

For Santals there is no clear distinction between the sacred and the profane, the physical and metaphysical bodies, religious and non-religious, spiritual and material areas of life. It is all a continuum. Animals and the material world are at the disposal of human beings for their self-preservation and well-being. Santal life is closely related to nature and to the whole of creation. Land and forest remain united with Santal identity and are very much reflected in their love, poetry, songs, dance, and music. The Santals, for

example, address the “supreme being” as *Sinj Cando* (Sun Father), *Nindo Chando* (moon) and *Ipil* (the stars) in different names. Some of them are *Ipil ij* (the comets), *Aran Ipil*, *Budhi Parkam* (the great bear). They believe that, once the first women of Santal, *Piltchum Budhi* takes the corpses of her 12 dead sons to the sky due to some unwanted incident for burrying

Santals’ perception of time:

The Santals are more conscious about time. The change of day and night is thought with reference to the position of sun. They say ‘*ber rakap*’ when the sun rises and when ever the cock sings *sim rakap* or *simra* or *chand hasur*, but the night fall at the sunset (*ber hasur*). Two meals rhythm the day, the first one *baskedaka* is made of left over from the previous day and rice cakes are made out of cold rice. The house wife cooks in the evening (*ayub*), a more complete meal, *singed daka* which includes rice and vegetables as well as some fish or meat curry when they can afford it. If the production of paddy grain is surplus, a third meal may be taken at 3 o’ clock in the afternoon *tikin*. Women carry this meal and go to the field to serve to their husbands. Starvation shapes the Santal conception of time. Evening (*ayub*) is the time when cattle return to the cowshed and children are put to bed. It is that time when grandmother is singing lullabies. This is the time when crow and bats makes an eerie noise in the trees and follow human being into village Street. It becomes dark (*nut*) but still we hear voices of working women coming from their cookery.

Just before it gets dark old men sitting on the veranda scrutinize the sky in order to study the strange dance of the vulture (*gidi*). These birds are known as bad omen, such as bad crops. Then comes the dark (*nut*) when snakes (*bin*) are seen. Santal men talk about village affairs and the last meal is eaten before going to sleep. The days when the moon is full, Santal boys and girls meet at the dancing ground *akra* and sing till late night. Midnight (*tala nidas*) is the time when witches (*dain*) are roaming. When it is full night witches throw the germ of diseases at the door of their victims’ houses while the *Ojhas*- the witch-doctor-cum-medicine man will try, later on, to localize at dawn when they engage in exorcism on behalf of their clients. According to another view the witches disguise as tiger (*chetra*) and jackal (*tuyub*) and kill the men.

Santal Beliefs and Ritual Practices

No human society live without being drawn to some kind of transcending reality, which we call supernatural reality that gives meaning and provides answers to the deeper and fundamental questions about life: It is religion that unites these questions and it is concerned with ultimate truth, absolute beauty, and final goodness. Religion unites human to human, to the transcendent and to the whole of creation.

The Santal’s Perception of Supernaturalism

The religion of the Santals primarily refers to their belief and relationship with the Supreme Being, the ultimate destiny of all and everything. However, the application of the name of “God” which is transliterated into foreign terms-like *Ishwar* or *Bhagwan* used by the Hindus, or the term *Allah* used by Muslims, or “God” by Christians – does not

seem to be suited to the Santals. For the Santals, the concept of a powerful God who conquers and wins all the time, just as imperial power, does not appeal to their hearts. Santals prefer to think of a God who is fatherly or a God who is tender or motherly. Therefore, the use of terms like, *Thakur Jiu* (Life Giver) or *Cando Baba* (Sun Father) finds some resonance with their own traditional expression. The Santals also believe in the *bonga* (spirits) who take care of and deal with human needs. This implies Santals' religious experience of how human beings relate and share in a greater degree with the invisible world of the *thakur Jiu*. Thus, the *bonga* (benevolent spirits) act as spiritual force to achieve this goal. They remain as intermediaries to create a link between God and humankind whereas the presence of the malevolent *bonga* represents the sinfulness of this world. In short, for the Santals, religion:

- a) Is an integral part of socio-cultural living;
- b) Permeates all aspects of life-customs, social behavior, individual and group identity of Santal-nationality;
- c) Lives in the spontaneous awareness of the *bonga* (spirits) as intermediaries between *noa puri* (visible world) and the *hana puri* (the invisible reality of the world of the "supreme being," the Creator); and
- d) Moves as a force and a great contributing factor in binding the society through ritual practices and cultural celebrations.

The Belief in Supreme Being

As has already been mentioned earlier, Santals do believe in one "supreme being" whom they call *Thakur Jiu* (Life Giver) or *Marang Buru* (Great Mountain) who is considered to be "supreme" among all the "religious beings." The most common term used for the Supreme Being these days is *Cando Baba* (Sun Father). Santals do not refer literally to the Sun itself. It is an expression of a divine activity and expression of divine love in relation to human beings. For the Santals, *Cando Baba* is a benevolent deity who organizes the days and nights and is responsible for heat and cold, rain and sunshine and from a dwelling "somewhere in the sky." The deity blesses with life here on earth but stays far away above the sky. It is underneath the sun, beneath the clouds.

The Belief in *Bonga* (Spirits)

The Santals also believe in the existence of the spirits who are called *bonga*. The *bonga* have much influence on daily living of the Santals. To ensure their continuing care, beside annual sacrifices, the *bonga* are also appeared during all rituals and festivals. Whenever a meal is taken, a small portion of the food is dropped on the floor for the *bonga*, or at the time whenever rice-beer is drunk, a little is spilt on the ground for *Marang Buru*. "Thus, the Santals live not only in their tribal society but in a greater society consisting of supernatural beings as well. According to the Santal religious beliefs there are two types of *bonga* - the malevolent and the benevolent. The *bonga*-worship is primarily to please and to invoke the powers of the benevolent and to avert the ill will of the malevolent ones. In the worship of *bonga* we can distinguish analytically two interrelated aspects:

The objective aspect of the religious rites is to have an alliance with the benevolent *bonga* and thereby control or even defeat the powers of the malevolent

bonga; b) The expressive aspect of the worship is manifested through various seasonal and religious rites, festivals, and rites associated with various social rituals.

The Santals have an innate relationship with their *bonga* and consider themselves living with them. This relationship is mostly of dependence, submission, propitiation, and reverential fear. They offer supplications with rice-beer and animal sacrifices, in the name of the *bonga*. It is worth mentioning that there are instances among the Santals in the rural villages where persons even in time of serious sickness would not look for medical help but instead turn to the *bonga* to be cured. Birth ceremony has a very critical importance because it bestows social parentage and clan status on the new-born child. It also brings the child into relation with a particular set of family spirits and deities.

Belief in Witchcraft

The Santal belief system also includes the existence of witches. They believe that there are certain people, especially women, who possess special powers and techniques to harm people, cattle, and crops. These so-called witches are involved in doing harmful activities like poisoning, taking out human livers, sending troublesome spirits to certain families, and changing themselves into black cats. Because of such belief in witchcraft practices, the Santals easily suspect one another, and are often led to fight (Oran, 1965). It is presumed essential to have such a belief especially in the pagan world. However, there is also a counter-belief among them, that there are certain people, *Ojha-janguru* (specialists), mainly men, who possess special powers and techniques for detecting witches and nullifying their spells. Thus, whenever Santals get into trouble, they seek the help of these people who, more often, exploit the society. Referring to the sickness and other problems, the Santals believe that they are caused by the evil spirits when they become dissatisfied with the people or when they think that they are being manipulated by some evil-minded people (witches). Therefore, the Santals try to identify the agents of the trouble through the help of *ojha-janguru*, and try to pacify each agent through various sacrifices.

The Jaheera (Sacred Grove)

The sacred grove locally known as Jaheera is an essential part of a Santal village. It is a sacred place of worship. After a village has been set up, a *Jaheera* is installed through special ritualistic ceremony at the outskirts of the village. The main feminine deity of the Jaheera is known as *Jaheyayo*. According to the Santals, she resides there along with other important gods such as the *Marang Buru* and *Litemone*. The *Jaheyayo* presides over the sacred grove, tends over other *bongas* in the Jaheera, and looks after the well being of the villagers especially their physical needs. The spirits of the Jaheera are worshipped during the principal festivals of the community. These festivals are Sohorae (Harvest festival), Baha (Flower festival), Erok' (Sowing festival), and so on for the general welfare of the village, particularly for obtaining good monsoon and good crops and for the better health of the villagers and bovines and other livestock.

Totems:

A totemic groups Santal clans organize them for mutual respect and veneration to their totemic objects. Their myths and legends describe the creation maintenance and destruction, the creation of celestial bodies the earthy objects and life of earth (Bodding, 1929 and Ghosh, 1994). After creation of earth, *Pilchu Haram* and *Pilchu Burhi* gave birth to seven sons and seven daughters. In later stage they married among themselves and then formed seven exogamous clans. With the passage of time, five more groups were formed and thus 12 clans are found among the Santals. They are Hansdak', Murmu, Hembrom, Soren, Kisku, Tudu, Marndi, Baske, Besra, Chonre, Puria and Bedea. An affiliation or sacred contact is believed to link these clans with their respective totems. Therefore, each of the names of clans is derived from either from the plants or animals species. There is a belief prevalent among the Santals that totems have some connection with the dead or birth of ancestors of the clans. Hansdak clan members claim to be of the highest status as they derived the name of their clan from first ancestors. The term designates wild goose, while dak' in Santali means water. This clan is, therefore, linked to the original state of world and first ancestors. It is the most senior among all the clans of the Santals since it is related to myth of creation. Moreover, swan or goose is not just animal. It builds nest on earth, walks on earth and flies on sky. Next in order are the Murmus who are represented by the Nilgai or the antelope. According to the myth of genesis of these clans, it is said that is antelope first animal to be sacrificed by Santals. Since this time, Santals started hunting and eating animals and subsequently become fond of hunting and eating of flesh. The antelope being purely a land animal is responsible for providing life to human and the swan combines the four elements and stands for humanity and creation of human beings. The Hansdak' and the Murmu are the two superior clans of the Santals. As the story goes, Hansdak' are given the status of advisors and the Murmus are the priest. The *Kiskus* have kingfisher bird as their totem and come third in the hierarchy. They are regarded as kings and are given and royal status. Hembrom are fourth in order and have betel nut as their totem. It is believed that the ancestor of the *Hembrom* clan was born with a betel nut string around his waist. There are also those who believe that their ancestor was actually born under a betel nut tree, which is hard and solid. *Marndis* are linked with grass or type of weed and are traders. The *Sorens* are soldiers or warriors and are linked to the constellation of stars. The *Tudus* are musicians and have accepted owl as their totem. *Baskes* are cooks and associated with the stale rice. They believe to have offered stale rice to the God and are thus prohibited from eating it. *Bedeas* have sheep as their totem and believed to have no personal possessions like the animal they revere. They are not found in now-a-days and believed to have been mixed with the other clans. Lastly are the *Paurias* and *Chonres* who have pigeons and lizard respectively as their totems. It is found that in most of the cases they revere their totem animals and do not do any harm to it and that the only animals the clan members could hunt are not their totem for it is customarily restricted them endangering the totemic species.

So strong are their feelings towards these totemic species that they respect them as their own clan members. If any of the clan members sees a dead totem, he observes the death rituals. Eating or hunting the totem is prohibited. According to their customary norms, the restriction of marriages among the different clans lies in the nature of the

totems and the elements they are connected with. In first place the marriage is forbidden between the water and land i.e. swan (*Hansdak'*) and antelope (*Murmu*). It is restricted between "lower heaven" and lower earth i.e. kingfisher and weed (*Kisku* and *Marndi*) also "upper heaven" (*Hembrom*) and "upper earth" (*Soren*). Secondly marriage is prohibited between three heavenly birds (Owl, Hawk and Pigeon). The totem also defines some relationship between the consumed and the consumer. The Pigeon that is the pray of the Hawk along with the lizard eats rice and the owl also hunts this lizard. Therefore initially the *Chonres* did not marry with *Besras* and *Tudus*. But presently this restriction is no longer followed and the marriages take place between all clan members. These clans are for the divided into several sub-clans, each one upholds a distinctive myth and set of customs that differentiates it from the others, including kinds of food taken, ornaments worn and worship of the spirits of Gods (*Bongas*). Even the sacrifices vary during the rituals from one sub-clan to another. The names of the sub-clan are derived from plants and animals. Out of the 16 sub-clans that were available in the area, nine trace their origins to certain animals. For example, *Chilbinda hansdak'* derived its name from the ancestor who killed an eagle, "*Jihu hansdak'*" from Jihu or babbler bird. *Sole-Hemborm* does not eat eels as it is believed its ancestor had been saved by it while ferrying a flooded river. The *kahu-Besras* are prohibited to kill crows. The totem exercises powerful influence on the habit of the Santals. They believe in the supernatural power at a higher rate. In Santal life, *bonga* or spirits play the central role. According to the *bonga* an impersonal and supernatural power, Santal worship their gods and goddess in the *jaheera* (sacred grove). *Jaheera* is also said to be as *sebaoda*. In the *jaheera*, large number of *sal* trees are present. *Marang Buru* and *Jaheerao* are the main god and goddess of Santal. The Santals believe that these deities are present in the *sal* trees. The village priest or the *Ojha* worships in the *jaheera* for the well being of Santals. Santals also believe that ghost and *dain* are also present in some trees like palm tree, *bade dare* tree (banyan tree) etc. So they restrict the children and pregnant women from going near those trees.

The Santals are very superstitious in nature. Before making a house in a certain place, they examine whether that place is suitable for construction of house or not. So in the night they along with *Ojha* go to that place to appease the deities for welfare with *ghatipani*, *jhuna*, *sindur*, two small white coons, a bowl made up of Kansa or bronze and cow-dung. The *Ojha* places brass bowl filled in water with dried rice and vermilion. Then the *Ojha* ties the sacrificial chicken near the bowl and offers some rice to the chicken. The moment the chicken starts taking grains the *Ojha/pujhari* cites *mantras* (hymns) at four corners of the symbolically marked world (*pruthivi*), to invite *dharitri mata*, *marang Buru* and *jaheerayo*. The members accompanying the *Ojha* also cite the hymn as a mark of reverence to the ancestral spirits. Next morning the same group along with the *Ojha* attend the sacrificial spot to find whether wings of the chicken fallen on the spot to decide the spot as suitable for house construction. Similarly, if the wings of the chicken did not fall down or there is no excreta of the chicken then they believe that the place is not suitable for them and if they will make houses there then the head of the family will die.

The “House-altar”

Every Santal house has an inside a section locally known as *bhitar* marked as an abode of the *Orak' bonga* (house spirits) also known as *abge bonga* -the *bonga* of the sub-clan. The household head is entitled to offer *puja* to these deities. The names of the *Orak' bonga* are never said to any outsider nor any female member is allowed to enter the section. Right to offer worship to house deity is a prerogative and inheritable to the son in the main line of descent. The *bhitar* is also used as a sacred place to germinate and to store *handia* (rice beer) offered to satisfy the *bonga*.

The Ancestors (*hapadam*)

Kisku (2000) has made an extensive study on Santal ancestor worship and explained the power of ancestral souls as benefactors of the Santal community. From the rites and rituals as practiced by the Santals, it is quite evident that ancestor-worship is a common feature among them. The dead ancestors are the real benefactors of the families or groups to which they belonged and they are easily approachable by their living kin. Hence, in all important occasions like birth, marriage, or at death the deceased ancestors are remembered and offered sacrifices

The Other World

The Santals believe that the spirits of the dead the other world very much depend on the materials of the living world hence there is an interdependence and material transaction between these two worlds. Depending on the economic strength the ancestral worship can be postponed even to one year. The Santals believe that thicker is the smearing of blood of the birds and animals on the frame and wall nearer to the ancestral abode, greater is the quantum of blessing likely to fall on them. Security is thus extended from other world.

Santal Myths:

Myths on creation of world reveals as follows. The world at the beginning was filled with only water and God found the scarcity of cultivable land. He created all amphibians to make them, search for land and water separately. Then he created seven animals-crabs, crocodile, alligator, eel, prawn, earthworm and tortoise. For creating land, God invited the kings of all these animals to help Him and the latter failed to offer satisfactory answers to the question raised by Him. To His surprise, at the end the earthworm gathered courage and succeeded in creating land. It is said that the King of earthworm after seven days and seven nights ate the bottom of water and excreted on the back of a mobile tortoise. The tortoise anchored itself on both the side firmly and brought up the earth and thus earth was brought to shape for cultivation. The Santal myth about the creation of world is comparable to myths of other indigenous people in India and abroad. Most of the myths and mythemes are on animal and abnormal human capability. Another myth revealed that God has created two heavenly birds namely; *Has* and *Hasil* - from his outer body parts. Then these two birds found to be both hydro-adoptive and land adoptive. It is believed that they flew below the sun and above the earth thus making the contact between both the worlds. After flying several days, they built the nest on the earth and laid eggs. They were cosmic eggs, out of which two

creatures; human male and female were born. They were *Pilchu Haram* and *Pilchu Burhi* the ancestor of the human kind. Both these myths relating to creation of world and mankind refer the birds and animal as ancestors. Thus Santal concept of life begins with animals. .

The Santal Identity

Every ethnic group or society has its own unique characteristics, value systems, language, religious belief, mores, life-attitudes, culture, customs, and traditions. It has its own approach to life and death, disease and sickness, individuals and community, and above all, a sense of identity. Anyone visiting a Santal village or habitat will easily realize the distinct identity of Santals from their settlement and housing pattern. This sense of identity or cultural self-image defines the traits of solidarity and uniqueness, as well as seeks differences with other groups in the larger society around. However, in many ways, the Santals of Mayurbhanj today can be seen going through an identity crisis for a variety of reasons. The development initiatives taken by various agencies including central and state government have not been successful to bring change in their customs and traditions

The change is a must for every culture and community as well as its resources. It is observed that the Santals are sandwiched between their mythological past and techno-economic dynamics of the present that contribute to their deprivation caused by ignorance and exploitation. Moreover, Santals are now more divided than united due to the fact that some of them have already embraced Christianity and belong to different church denominations, while the vast majority still follows the old traditional pattern of culture and religious practices. The gap among these groups has been widening in the course of history. The Santals today face transition from the sovereignty of the isolated village to the complexities of modern polity, bureaucracy, and economy. Although magic and witchcraft have also figured prominently in Santal religious practices, some authors believe that they have been acculturated by the neighboring Hindus. The Santals strongly believed in the existence of witches in the society, who, motivated by envy and operating through the medium of the “evil eye” or other magical practices, inflicted sickness, death, and other calamities upon members of the village community. By means of divination practices exercised through the witch-doctor and the *Ojha* (exorcist) and the identity of the witch is revealed. Once the name of the witch is known, that person is often beaten, fined, driven from the community, and not infrequently killed. Witches in Santal society were inevitably females, while the *Ojha* and the witch-finders are males.

In the contemporary world Santals like any other ethnic tribal group is known as a marginalised group. As regards the influence of greater society, the Santals are no exception. This significant cultural transformation challenges the ritual-based cultural matrix. The worldview of Santals in its tradition-dominated socio-political structure tries to retain its identity in its own way. The constitutional recognition for their script *Olchiki* has further contributed to their identity. In a sense they are projected as retainers. However, due to constant outsiders’ intervention they are trapped in transition. The confrontation in their ritual-based sense of traditional culture and the forces of change

and modernisation represented by the political changes and the socio-economic factors contribute to put them in transition. In their worldview they are badly caught in between their adherence to traditions and the planned change. Nevertheless, their rich traditional and cultural heritage can never be overestimated. Their very deep sense of spirituality surges up from the life cycle rituals- birth, initiation, marriage, pain and death. Completed and purified, their sense of equality, solidarity, and the community life, the concept of life and death, of sacredness of human life, of rite of purification, of respect, of veneration for the ancestors, belief in the afterlife, etc., explains the richness of their culture.

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HEALTH CONDITIONS OF THE TRIBALS IN ODISHA

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Abstract: Importance of good health has been well recognized over time. But many times a section of our society suffer from ill health and *do not have* much access to health facilities in remote areas of our state. This paper makes such a comparative analysis to show the health deprivation among the tribals in Odisha. Using the NFHS-II and III data health conditions of the tribal children are analyzed by taking mortality, anthropometry and access to health facilities into account. It also makes a causal analysis of poor health status of the tribal children in Odisha.

Introduction

Importance of good health has been well recognized over time. Cross country studies have estimated the impact of health and nutrition on GDP (Malenbaum, 1970; and Wheeler, 1980). Micro studies have also found the economic contribution of a healthy man to be higher compared to others (Martoroll and Arroyave, 1984; Ryan and Wallace, 1986; Deolalikar, 1988). The Efficiency Wage Hypothesis — explaining the relationship between nutritional status or health and labour productivity has been discussed in Leibenstein (1957), Mazumdar (1959), Stiglitz (1976), and Bliss and Stern (1978), among others. Poor health and premature death reduces the life expectancy of the people and therefore, also reduces their investment incentive on education and other areas. This can tell upon future level of economic growth. This way the vicious circle moves. Thus, there is a need to break this vicious circle by public provision of health care facilities. This is truer for the poor states, poor and deprived section of the society who live in the most under-developed areas. Because, they consistently suffer from the poor health outcomes (Macinko et al. 2003). In this paper an attempt is made to analyse the health conditions of the tribals of Odisha.

Odisha continues to be one of the poorest States of the country (Das, 2006). As per 61st NSS report, the poverty level in Odisha is as high as 46% (URP method). Among the different social castes, poverty among the tribals is the highest (Haan & Dubey, 2003; Panda, 2000). Using the wealth index it is found that 71% of the tribal households of Odisha belong to the lowest quintile group while the percentages for SCs, OBCs and other castes are 48.9%, 31.3% and 18.1% respectively to that group (NFHS-III, Odisha State Report). High incidence of poverty, malnutrition and poor health condition of the people are the common characteristics of the tribal dominated districts of Odisha. However, there are a few studies dealing with these problems. This paper makes a modest attempt to analyze the health conditions of Odisha.

The paper is divided into the following sections. The first section briefly states the importance of the study. The second section describes the data sources and the methodology adopted for the study. The third section analyses the health condition of the tribals of Odisha. For this it makes a caste-wise comparative analysis. The next section tries to find out the determinants of health conditions of the tribals. It also uses the people's physical and economic access to health facilities for the purpose. The last section summarizes and gives concluding remark. It also provides a few suggestions for the improvement of the health conditions of the tribals.

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Data and Methodology

The study uses various mortality and anthropometric information (obtained from NFHS-II and III) to analyze the health condition of the tribals of Odisha. It also uses the IIPS' estimates of district specific life expectancy rate, infant mortality rate (IMR) to give an idea of lower health status of the tribals compared to others. The paper mainly concentrates its analysis on the child health, as it is more sensitive compared to that of the adults. Moreover, every society wants to protect and nourish its future generation – the children, using all its resources. Therefore, the paper deals with the various health measures meant for children. The definitions of the measures used in the paper are given below:

Table-1: Definitions of different Health Measures

Measures	Definitions
IMR	The number of deaths to children under 01 year of age per 1,000 live Births. Figures are based on births during the five years preceding the survey.
Child Mortality	The number of deaths to children (1 - 4) years of age per 1,000 live births. Figures are based on births during the five years preceding the survey.
UFMR	The number of deaths to children under 05 years of age per 1,000 liveBirths. Figures are based on births during the 05 years preceding the Survey.
Underweight	Children whose weight-for-age measures are below minus two standard deviations (-2SD) from the median of the reference population are Underweight for their age.
Stunting	Children whose height-for-age is below minus two standard deviations (-2 SD) from the median of the reference population, are considered short for their age, or stunted.
Wasting	Children whose weight-for-height measures are below minus two standard deviations (-2SD) from the median of the reference population are wasted.

The study makes a comparative analysis of the health situations of different castes in Odisha to show the relative deprivation of the STs. Correlation analysis is made to show the associations of different health indicators on the one hand and the health indicators and the variables which are expected to have linkage with them on the other. In order to find out the causes of poor health status of the tribals, it makes the regression analysis. For this purpose, it uses various health inputs like immunization, institutional delivery etc, clinical measures like low BMI of mothers, anemia among children and mothers etc. as independent variables. Besides these, it also uses household variables like availability of safe drinking water, toilet facilities etc. as independent variables. Considering the role of education for the promotion of knowledge and awareness of different diseases- their causes and consequences, preventive and curative measures available for them – we have also used it as an independent variable. Since women mainly take care of the health and nutrition of the household members, their education and awareness is more important compared to that of men. So, instead of taking education of all, female education is used as an

independent variable to explain the health condition of the people. The study also uses physical and economic access to different facilities to analyze the situation.

III

Health Conditions of the Tribals: A Comparative Analysis

Premature Mortality Situation

Infant mortality and under five mortality (UFMR) rates in Odisha continue to be at a very high level (in spite of their decline). Information available through SRS bulletins of different years reveals Odisha's place among the few top states. However, among tribal children these are found to be highest compared to other castes (NFHS Reports-Table-2 below). Moreover, SC, OBC and Other castes have experienced sharp fall in all types of mortality rates.

Table-2: Premature Mortality Situation of the Tribals in Odisha

Source	Caste	IMR	Child mortality (1-4)	UFMR
nfhs-3	SC	73.7	19.5	91.8
	ST	78.7	62.5	136.3
	OBC	66.0	18.8	83.5
	Others	53.1	11.7	64.2
	Total	64.7	27.6	96.6
nfhs-2	SC	83.9	42.4	122.7
	ST	98.7	44.0	138.4
	OBC	95.6	20.1	113.8
	Others	79.1	15.0	92.9
	Total	81.0	25.5	104.4

But among the STs, there is sharp fall in IMR, but only marginal in under-five mortality rate. What is more alarming is that child mortality has increased by 18.5 % points during the period. Similarly the difference between the IMR and the child mortality in the NFHS-3 is only 16.2 % points whereas the same for SCs, OBCs and other castes are 54.2%, 47.2% and 41.4% respectively. This implies that there must be some serious problem among the children in the age group (1 - 4) among the ST. This may be due to their food and nutritional deficiency or their suffering from various types of infections which requires further study on the diet and nutrition, immunization, prevalence of child specific diseases like ART infection of the ST children. In all types of anthropometric measures, the tribal children are found to be more deprived compared to those of other social classes - in NFHS-III and also almost in NFHS-II. In spite of various developmental programmes of the Government, it is found that more than 50 percent of the ST children are stunted and under-weight. This implies that every one child out of two is malnourished, i.e. they are short and thin corresponding to their ages. Even more than one-fourth of them are wasted, i.e. have lower weight corresponding to their height. What is more worrisome is the sharp rise of the stunting percentage among the ST children from NFHS-II to NFHS-III, i.e. the situation has deteriorated over time. Similarly, in underweight, there is small fall during this period among STs while fall is sharp among the OBCs. In wasting, there is small rise of wasting percentage among ST children. The poor anthropometric status of the tribal children might be caused by their poor nutrition, exposure to environmental pollution and degradation of the natural resources and their loss of livelihood security.

Table-3: Child Anthropometric Situations in Odisha

Year		Stunting		Underweight		Wasting	
		below-3SD	below-2SD	below-3SD	below-2SD	below-3SD	below-2SD
nfhs-3	SC	23.1	49.7	14.8	44.4	2.3	19.7
	ST	28.4	57.2	22.9	54.4	8.2	27.6
	OBC	16.1	40.8	9.8	38.1	5.9	17.8
	Others	12.3	33.6	6.5	26.4	3.4	12.8
nfhs-2	SC	22.8	50.7	24.2	59.4	3.0	22.8
	ST	19.9	49.4	26.5	59	5.7	30.5
	OBC	18.3	44.2	20.7	53.6	4.5	24.6
	Others	9.8	32.4	12.2	43	2.3	19.7

Mortality and anthropometric measures have links among them. Malnourished children are likely to have higher mortality in their infancy as well as in childhood. For a statistical analysis, (available) States' NFHS – III ST data are used. It is found that there are significant associations of different health measures (both mortality as well as nutrition indicators), which was quite expected. It is found that (Table:4) out of the six variables only stunting and child mortality do not have significant positive association. In all other cases there are positive and significant associations. The values of correlation coefficients (r) are given in the table- 4 However, this analysis does not reveal causation. Moreover, it must be mentioned that these variables are likely to be affected by other variables like economic conditions, health care availabilities and practices, education, culture and norms etc. – some of which are discussed below.

Table-4: Values of Person's Correlation Coefficients (r)

		Stunted	Wasted	Underweight	IMR	Child mortality rate	UFMR
Stunted	(r)	1	.750**	.508*	.584*	.394	.515
	N	22	22	22	16	15	15
Wasted	(r)	.750**	1	.869**	.698**	.661**	.753
	N	22	22	22	16	15	15
Underweight	(r)	.508*	.869**	1	.547*	.744**	.719
	N	22	22	22	16	15	15
IMR	(r)	.584*	.698**	.547*	1	.668**	.948
	N	16	16	16	16	15	15
Child	(r)	.394	.661**	.744**	.668**	1	.870

mortality rate	N	15	15	15	15	15	15
UFMR	(r)	.515*	.753**	.719**	.948**	.870**	1.000
	N	15	15	15	15	15	15

**Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

IV

Causes of Poor Tribal Health

Low weight at birth, non-availability of professional attendance at birth and lack of post-natal/ care — are generally described as the causes of high child death rate. Among the tribal women, proportion of deliveries at the health institutions is low; in Odisha, it is 17.3%, compared to 91.6/ in Goa and 1.5% in U.P. — thus, the professional attendance at birth is low(25.5% in NFHS-3). The representative data of weight at birth among the tribal children in Odisha (because of home delivery) is not available. However, the information on anemia among the ever-married women; antenatal check-up and low BMI among women can help us to analyze here. It is found that iron deficiency anemia is highest among the tribal women, compared to that among SC, OBC and other women. It is as high as 74.7% for tribals as per NFHS-2 (in NFHS-3, it has decreased marginally to 73.8%) while the figures for the other three groups mentioned above were 66.3%, 61.3% and 54.4% respectively. Similarly, professional antenatal check-up was lowest among tribals in NFHS-2(40.7 percent); it is also lowest in NFHS-3. The percent of women availing such facility was 77.1 percent for others, 73.0 percent for OBCs and 69.3 percent for SCs as per NFHS-2. Thus, iron deficiency, no antenatal check up might have caused low weight at birth and other related problems. Similarly, the poor coverage of childhood vaccination (fully) can also be used as an explanatory variable of high infant and child death rates as well as poor nutritional status among the tribals. While the percent of children (12-23 months) fully immunized belonging to general (higher) caste is 58%, the same for tribals is almost half of it, i.e. 30.4 percent. Similarly 22.3 percent of the tribal children are found to be not immunized at all as per NFHS-III. Some of the variables which are likely to affect mothers' and child health (and mortality) are presented in the table-5.

Table-5: Variables, related to mothers' and child health in Odisha (in %)

	nfhs-3			nfhs-2		
	Child Immunisation		(%) 3 or more ANC visit	Child Immunisation		3 or more ANC visit
	complete	Zero		complete	Zero	
SC	59.5	3.7	58.6	44.5	8.6	-
ST	30.4	22.3	46	26.4	18.2	-
OBC	59.4	3.1	66.3	48.5	8.1	-
Others	58	15.9	74.4	49.3	5.3	-
	Hospital delivery	del.asstbyhealth personnel	LowBMI (w)	Hospital delivery	del.asstbyhealth personnel	LowBMI(w)
SC	30.2	39.1	50.8	14.3	27.9	54.6
ST	11.7	17.3	51.3	7.7	14.8	55.5
OBC	40.6	53.6	39.3	26.4	37.7	48.2
Others	60.4	66.9	28.6	39.7	50.7	37.9
	Anemia		IFA consumed by mothers	Anemia		IFA consumed by mothers
	Children	Mother		Children	Mother	
SC	63.5	64.2	64.7	75.2	66.3	85.8
ST	80.1	73.8	58.3	83.9	74.7	76.6
OBC	58.7	58.6	72.8	70.9	61.3	85.6
Others	58.2	53.4	72.1	63.1	54.4	84.9

From the above reports it is found that the situations of the STs are worse than those of other castes. However, to know whether these variables affect child health or not, correlation and regression analysis are made as follows using the ST data of the States (NFHS-III).

First, correlation study was made and regression analyses are done taking the variables which have significant associations with health indicator variables (mortality and anthropometric). The motive is to find out the determinants of poor health conditions of the tribals. Again, calculated 't' values of regression were compared with tabulated ones and those regression equations are accepted which have higher calculated t values. Such equations are presented below:

- Underweight = 9.917 + 0.335 woman low BMI (1)
(1.986) (2.917) adjusted R² =0.263; Significant at 0.05 level
- Wasted = 15.587 + 0.768 woman low BMI(2)
(3.171) (6.304) adjusted R² =0.648; Significant at 0.05 level
- Wasted = 78.279 -0.768 ST literacy (3)
(5.41) (-2.435) adjusted R² =0.19; Significant at 0.05 level
- Stunted = 55.779 - 0.294 institutional birth(4)
(17.126) (-2.757) adjusted R² =0.239; Significant at 0.05 level
- Stunted = 57.978 - 0.296 birth assistance (5)
(14.259) (-2.644) adjusted R² =0.222; Significant at 0.05 level
- Stunted = 30.269 + 0.274 child anemia (6)
(4.351) (2.736) adjusted R² =0.236; Significant at 0.05 level
- Stunted = 35.518 + 0.354 woman low BMI(7)
(7.861) (3.163) adjusted R² =0.30; Significant at 0.05 level
- Stunted = 40.683 + 0.196 child anemia - 0.212 institutional birth(8)

(4.823) (1.92) (-1.944) adjusted R² =0.329; Significant at 0.051 level
 Stunted = 43.367- 0.232 institutional birth +0.296 woman low BMI (9)
 (8.45) (-2.472) (2.881) adjusted R² =0.329; Significant at 0.051 level
 Stunted = 44.963 +0.305 woman low BMI - 0.239 birth assistance (10)
 (8.118) (2.997) (-2.484) adjusted R² =0.444; Significant at 0.051 level
 Stunted = 72.244 - 0.482 ST literacy (11)
 (7.801) (-2.618) adjusted R² =0.215 ; Significant at 0.05 level
 Child mortality=103.866 - 1.309 female literacy (12)
 (4.941) (-3.418) adjusted R² =0.433 ; Significant at 0.05 level
 UFMR =262.55 - 3.033 female literacy (13)
 (6.212) (-3.94) adjusted R² =0.509 ; Significant at 0.05 level

It is found that low BMI of mothers is affecting (increasing) all the three anthropometric deprivation measures of children. Institutional birth and birth assistance – the two variables having very high (r) values – and is found to affect (reduce) stunting among children. Similarly child anemia is also found affecting (positively) stunting. However, when both child anemia and institutional birth are taken as independent variables of stunting, their explanatory power declines, but still the 't' values are found to be significant at 5% level. Similar is the case of women's low BMI and institutional birth and professional assistance at the delivery. Variable –ST literacy is also found affecting negatively, the stunting and wasting. Among the mortality variables, child mortality (1 - 4) and UFMR (below 5) are found to be affected by the variable, / female literacy. However, IMR is not found to be significantly affected by any of these variables/ (under study).

Access to Health Facilities

Access to health facilities are considered important in determining the health condition of the people in the neighbourhood. However, information of the tribals' access to health facilities is not available directly. Using the district level information relating to all people, an attempt is made here to show poor access of the tribals. In Odisha, the tribal population is approximately 23 percent and they live in almost all the districts.

Table-6: % of villages without the following facilities (within 5 km distance)

District	Medical Institutions	transport connectivity
Balasore	36	35
Bolangir	50	41
Cuttack	28	37
Dhenkanal	46	40
Ganjam	-	-
Kalahandi	63	54
Keonjhar	43	30
Koraput	-	-
Mayurbhanj	41	33
Phulbani	59	59
Puri	37	31
Sambalpur	44	37

Sundargarh	54	41
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Source: District Statistical Hand Book (1991 Census)

But their concentration is more in some districts. The State has approximately 47 percent of its area under scheduled area where percentage of scheduled tribe population is approximately 60 percent. So, taking the districts which have higher ST proportion compared to that of the State as tribal dominated districts, people's access to health is compared in the tribal dominated and non-tribal dominated districts.

Using the information of 1991 census (District Statistical Hand Book), it is found that at least half of the villages did not have medical facility within 5 km distance in the districts of Balangir, Kalahandi, Phulbani and Sundargarh (Table-6). But the coastal district like Cuttack had only 28 percent of such villages. When health facilities are not available within 5 km distance, it dissuades the people to take their patients to hospital in case of minor ailment. Similarly, the poor transport connectivity of these districts further adds disincentive to the people. Only when the situation becomes very serious people take the patient to the hospital, but at that time the probability of death becomes very high.

Similarly, medical facilities per population and per square kilometer are also used to analyze people's access. In case of Odisha and especially for the tribals, the latter criterion is more useful as in the hilly and interior areas, where poor tribals live. In these areas, density of population is not high; rather people live in scattered areas without having road and transport connectivity.

Table-7: Availability of Medical Facilities (Area wise)

District	ST(%)	Doctors/sqkm	Area/MI(1994)	Area/MI [®] (2004)
Angul	11.68	0.02	155	148
Balangir	20.65	0.02	142	110
Balasore	11.29	0.05	60	44
Bargarh	19.37	0.02	121	99
Bhadrak	1.89	0.04	62	42
Boudh	12.48	0.01	183	194
Cuttack	3.57	0.15	58	49
Deogarh	33.61	0.01	171	245
Dhenkanal	12.88	0.03	109	93
Gajpati	50.86	0.02	116	144
Ganjam	2.90	0.06	93	100
Jagatsingpur	0.82	0.05	46	36
Jaipur	7.76	0.04	70	41
Jharsuguda	31.39	0.02	100	92
Kalahandi	28.68	0.02	130	128
Kandhamal	51.98	0.02	86	146
Kendrapara	0.52	0.04	53	48
Keonjhar	44.50	0.02	109	99
Khurda	5.19	0.08	53	37
Koraput	49.73	0.02	171	135

Malkangiri	60.32	0.01	291	148
Mayurbhanj	56.64	0.03	97	91
Nabarangpur	55.45	0.02	132	106
Nayagarh	5.88	0.03	113	78
Nuapada	34.69	0.02	179	167
Puri	0.30	0.05	55	54
Rayagada	56.31	0.02	172	144
Sambalpur	34.74	0.06	94	148
Sonepur	9.79	0.03	109	90
Sundargarh	50.24	0.02	129	118
Odisha	11.68	0.03	119	92

Note: @= only allopathic institutions of Health and Family welfare Department
Data sources: Pr. Census Abstract,2001, @= Computed from Odisha HDR 2004; +data in Odisha Voluntary Health Association (1995),Status of Health in Odisha 1995,prepared by Almas Ali and Shikha Nayak, Information and Documentation Cell, Bhubaneswer.

In this context the criterion medical facilities per square kilometer is used to show the poor access in tribal dominated districts (Table-7). It is found that out of the 12 districts where Area/medical institution is higher than the state average, 9 belong to the tribal dominated district. But majority of this non-tribal districts have lower area/medical institution ratio (Table-7). Similar trend is also visible in Area/ allopathic medical institutions in 2004. High Area / medical institution ratio of the interior, tribal dominated district indicate higher transport cost of visiting the medical institutions for seeking medical assistance. This is also reflected from data of the districts' percent of women received anti-natal care (ANC) below 20%, percent of safe delivery below 20%, percentage of women visited by ANM within 2 weeks of deliveries less than 20%. (Table-8). Among the names of these districts the share of interior, tribal dominated district is very high. In these districts use of health facilities available is poor, indicating the poor access of the people.

Table-8: Name of the Districts Where Coverage Is Below 20%

Items	Districts
woman received no ANC	Bargarh, Jagatsingpur, Jharsuguda, Kandhamal, SBP, Sonepur, Sundergarh.
safe deliveries	Angul,Balangir, Balasore, Boudh, Deogarh, Gajapati, Kalahandi, Kandhamal, Keonjhar, Koraput, Malkangiri, Mayurbhanj, Nabrangpur, Nuapara, Rayagada, Sonpur.
woman visited by ANM within 2 weeks of delivery	Angul, Balangir, Bhadrak, Boudh, Dhenkanal, Jajpur, Kalahandi, Kandhamal, Keonjhar, Khurda, Malkangiri, Mayurbhanj, Nabrangpur,

Nayagarh, Nuapada, Puri, Rayagada.

Source: Odisha Human Development Report,2005

To examine the association of tribal people with all types of health deprivations and health care inaccessibility, correlation study is made using the data (of total population) of 30 districts of Odisha (table-9).

Table-9: Values of Correlation Coefficients

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
A	1	.556**	.480**	-.063	-.333	-.483**	-.555**	.420*	-.419*	-.787**	.410*	.220	.149	-.496**
B	.556**	1	.333	-.100	-.439*	-.246	-.177	.208	-.210	-.647**	.463*	.232	.210	-.557*
C	.480**	.333	1	-.129	-.247	-.324	-.528**	.170	-.162	-.620**	.264	.037	.095	-.258
D	-.063	-.100	-.129	1	-.280	.028	-.044	.089	-.086	-.158	.003	-.213	-.224	-.074
E	-.333	-.439*		-.247- .280	1	.417*	.249	-.339	.342	.607**	-.377*	.230	.234	.658**
F	-.483**	-.246	-.324	.028	.417*	1	.591**	-.477*	.472**	.515**	-.305	.236	.269	.480**
G	-.555**	-.177	-.528**	-.044	.249	.591**	1	-.457*	.437*	.570**	-.539**	.209	.158	.397*
H	.420*	.208	.170	.089	-.339	-.477**	-.457*	1	-.998**	-.508**	.419*	-.118	-.180	-.398*
I	-.419*	-.210	-.162	-.086	.342	.472**	.437*	-.998**	1	.504**	-.400*	.113	.176	.398*
J	-.787**	-.647**	-.620**	-.158	.607**	.515**	.570**	-.508**	.504**	1	-.580**	-.061	-.012	.558**
K	.410*	.463*	.264	.003	-.377*	-.305	-.539**	.419*	-.400*	-.580**	1	.168	.172	-.254
L	.220	.232	.037	-.213	.230	.236	.209	-.118	.113	-.061	.168	1	.953	.389
M	.149	.210	.095	-.224	.234	.269	.158	-.180	.176	-.012		.172.95 3**	1	.408*
N	-.496**	-.557**	-.258	-.074	.658**	.480**	.397*	-.398*	.398*	.558**	-.254	.389*	.408*	1

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed). **Note:** A=ST Percentage, B= Area/Medical institution(2004), C= Delivery at age 20, D= Safe drinking water percentage, E= Toilet percent, F= immunization, G= Mothers three antenatal care visit, H= Infant mortality rate 2001, I= Life expectancy J= Female literacy, K= Under five mortality rate, L= Doctor per lakh population, M= Bed per lakh population, N= Doctor per square kilometer.
Data Sources: A= Primary Census Abstract 2001, B, J,L, M,N= Odisha HDR05; for the rest= Ram & Mohanty(2005)

It is found that the variable– tribal population percentage (2001) has positive and significant associations with variables like area/medical institutions, percentage of delivery below the age of 20 in case of mothers, IMR, and under-five mortality rate. It has significant negative associations with variables like percentage of full immunization, three antenatal care visits of mothers, life expectancy at birth, female literacy and doctors per sq. km. There is positive association of this variable with doctor per lakh population and bed per lakh population and negative association with percentage of households with safe drinking water. Thus the variables considered here have expected behavior.

Since there is very high negative association between IMR and life expectancy at birth, we have ignored life expectancy at birth and are using the IMR, which has significant negative association with immunization, antenatal care, female literacy and doctors per square kilometer. Similarly, it has positive significant associations with UFMR. It has desirable associations with variables like availability of medical institutions, toilet facilities and doctors. However, the association of IMR with safe drinking water is not in the desirable direction. In this case it may be noted that here safe sources of drinking water are pipe water, tube well, hand pump and 11 covered well (World Bank definition). But in many cases tube wells are defunct, quality of water from tube well is not good and in those cases people depend on unsafe water. This is more true in cases of tribal dominated areas.

In case of UFMR, it is found that there is significant positive association with variables like lack of medical institutions and IMR; significant negative associations with variables like toilet facilities, antenatal care, and female literacy. The directions of the association of this variable with drinking water supply (as in case of IMR), doctors per lakh population and bed per population are not in the expected manner. In this context it may be said that in the sparsely populated areas, facilities per area is more meaningful in explaining the reality than the facility per population. The two variables – mothers' antenatal care and female literacy have significant associations with both the mortalities.

We are tempted to make regression analysis using the same data (i. e. of table-7) as follows:

IMR= 115.263 – 0.805immunisation	(14)	
(7.344) (-2.87)	Adjusted R2 = 0.200	Significant at 0.01 level
IMR= 123.692 – 1.091 Antenatal care	(15)	
(6.311) (-3.117)	Adjusted R2 = 0.180	Significant at 0.051evel
IMR= 104.533 – 6.93 female literacy.....	(16)	
(9.343) (-2.87)	Adjusted R2 = 0.231	Significant at 0.01 level
IMR= 82.065 – 311.595doctor per sq.km	(17)	
(13.828) (-2.299)	Adjusted R2 = 0.129	Significant at 0.05 level

There are significant associations among these independent variables; hence by taking them simultaneously would cause the problem of multi-colleniarity. Moreover, the 't' values in those cases are not found to be significant. So we avoid them showing here. For finding the causes of under five mortality we use the following regression equations:

UFMR= 147.691 – 1.157 Toilet	(18)	
(18.273) (-2.151)	Adjusted R2 = 0.111	Significant at 0.05 level

UFMR = 111.496 + 0.196 area/Medical institutions. (19)
 (13.421) (2.762) Adjusted R2 = 0.186 Significant at 0.05 level
 UFMR= 170.043 – 0.789 female literacy(20)
 (16.126) (-3.769) Adjusted R2 = 0.313 Significant at 0.01 level

UFMR= 193.829 – 1.284 Antenatal care(21)
 (10.476) (-3.386) Adjusted R2 = 0.265 Significant at 0.01 level

Among these 04 independent variables we take area/ medical institutions and antenatal care simultaneously. Similarly we also take toilet facility and female literacy (assuming in other cases the problem of multi-colleniariry). Accordingly we find:

UFMR = 169.166 + 0.161 area/ Med.instit. – 1.125 Antenatal care(22)
 (8.708) (2.57) (-3.197) Adjusted R2 = 0.388; `t' of first one is sig. at 0.05 and that of the second one is at 0.01 level

UFMR = 170.1 – 0.119 Toilet. –0.757 female literacy(23)
 (15.844) (-0.197) (-7.824) Adjusted R2 = 0.288; `t' of first one is sig. at 0.05 and that of the second one is at 0.01 level

Thus, here we find female literacy and antenatal care are important in reducing IMR and UFMR. The former might take care of health and sanitation of the household and thereby can affect the endogenous and exogenous factors of IMR (Bhende and Kanitkar,2003). It also promotes the later. Similarly, child immunization and availability of doctor in the area is significantly reducing IMR. However, for UFMR, sanitation factor (toilet facility), and nearness of medical institutions are found to be important. The former reduces the possibility of ill-health and the latter helps the treatment of the ones.

Economic Condition and Health

Besides physical access, economic access to health facilities is also important. It takes care of the private expenditure. In spite of the pubic provision of health care facilities people very often have to spend a lot on health. Private expenditure on health increases when the quality of public health provision deteriorates. For example, when doctors are found to be constantly absent in Government hospitals, people have to seek the help of private physicians (by paying), even by travelling to distant places (and incurring cost). This type of situation is more in the interior and tribal dominated districts. Moreover, what is more important is the share of income devoted for the purpose is higher for the poor compared to that for the rich (Padhi and Mishra, 2000). Even cases of incurring of debt for bearing the private expense of ill health are not rare among the poor. However, the information of the proportion of tribals of this category is not known. Poor access might be resulting in poor health condition among the ST population.

Analysis of IMR, child mortality etc. among different economic classes reveals (both in NFHS 2 and 3) almost an inverse relationship between economic condition and the mortality rates (presented in table-10). This is also found with child malnutrition and economic condition. The highest income group has very less mortality rates compared to the lowest one. This may be due to the higher access to all types of resources, including health, nutrition and education of the high economic group. Most of the tribals do not belong to these classes. Economic condition of the tribals measured by per capita income, asset (both physical and human capital) ownership, dwelling condition,

and poverty ratio - reveal poorer status compared to that of the non- tribals. Poverty ratio among ST (73.08%) was higher than the SCs (52.30%) and others (33.29%) in the 55th Round of NSS Survey (Haan and Dubey,2003).

Table-10: Economic condition and premature mortality in Orissa

Source	Wealth index	IMR	Child mortality	UFMR
	Lowest	79.8	42.3	118.7
	second	73.2	27.4	98.6
	middle	51.7	14.0	64.9
	fourth	51.4	15.1	65.7
NFHS-3	highest	28.2	0.0	28.3
	Lowest	101.1	40.9	137.9
	middle	83.5	14.4	96.7
NFHS-2	highest	32.8	1.4	34.1

According to this study, poverty among STs of southern NSS region of Odisha is as high as 92.42%. This region contains more than 60 percent of the ST population of the State. This also indicates the policy implication for reducing inequality in general and improvement of the conditions of the tribals in particular. In the 61st round also poverty among STs is expected to be higher than that of other castes.

Table-11: Economic condition and child malnutrition in Orissa

	Wealth index	Stunting		Underweight		Wasting	
		>-3SD	>-2SD	>-3SD	>-2SD	>-3SD	>-2SD
NFHS-III	Lowest	28.9	59.6	21	53.3	6.0	24.0
	second	19.3	41.9	11.1	41.2	7.0	18.9

	middle	11.8	39.7	7.6	32.6	3.5	15.4
	fourth	5.3	20.5	3.2	21.3	3.5	17.6
	highest	4.1	13.2	2.5	10.2	1.5	6.6
NFHS-11	Lowest	20.4	50.8	26	61.9	5.0	28.6
	middle	16.4	38.5	15.5	48.9	2.6	19.8
	highest	4.3	21.2	9.9	27.8	2.4	16.9

V

Summary and Conclusion

Health condition of the tribal children as analyzed above taking into account the mortality, anthropometry and access to health facilities reveal poorer status compared to that of the children in general and other general caste (higher) children in particular. While, SCs, OBCs and Other castes have experienced sharp fall in all types of mortality rates, among ST, there is sharp fall in IMR, but only marginal fall in under-five mortality rate and an increase in child mortality from NFHS-II to NFHS-III. In all types of anthropometric measures, the tribal children are found to be more deprived compared to those of other social castes — in NFHS—III and also almost in NFHSII. Mortality and anthropometric measures have links among them. It is found that out of the six variables only stunting and child mortality do not have significant positive association. In all other cases there are positive and significant associations.

Among tribal women, proportion of deliveries in the health institutions in Odisha is very low (17.3%), thus, the professional attendance at birth is low (25.5% in NFHS-3). It is also found that iron deficiency anemia (74.7%) and women with low BMI — are highest, professional antenatal check-up is lowest among the tribal women. There is lowest percent of fully immunized children among tribal. It is found that low BMI of mothers is affecting (increasing) all the three anthropometric deprivation measures of children. Institutional birth and birth assistance — the two variables having very high (r) values — and is found to affect (reduce) stunting among children. Similarly child anemia is also found affecting (positively) stunting. ST literacy is also found affecting negatively the stunting and wasting. Among the mortality variables, child mortality (1 - 4) and UFM (below 5) are found affected by female literacy. However, IMR is not found to be significantly affected by any of these variables (under study). Thus, it can be said that increased nutrition intake of mothers, institution birth and promotion of literacy among the deprived section like women and ST may improve the health conditions among the ST children.

Using the district level information of Odisha, it is found that tribal dominated districts have poorer access to health facilities compared to the non-tribal dominated districts. It is also found that the variable — tribal population percentage has positive

and significant associations with variables like area/medical institutions, percentage of delivery below the age of 20 in case of mothers, IMR and under-five mortality rate; and significant negative associations with variables like doctors per square kilometers, percentage of full immunization, female literacy and antenatal care visit of mothers. However, the associations of IMR and UFMR with safe drinking water are not in the desirable direction. Similarly, the associations of doctors per lakh population and bed per population with UFMR are not found in expected direction. Female literacy and antenatal care visit of mothers are found reducing IMR and UFMR.

An inverse relationship between economic condition and the mortality rates on the one hand and child malnutrition on the other is found from the analysis.

Poor health status and low physical and economic access of the tribals to health care require the State to play positive role, especially for the weaker section in the backward area. Attempts should be made to raise the physical access which will promote economic access and improve their health conditions. Similarly promotion of female literacy is required to reduce the IMR and UFMR. Attempt should also be made to increase the percentage of mothers making antenatal care visit. Accordingly fund should be allocated to achieve the Millennium Development Goals in health.

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IMPACT OF ORISSA FOOD MIX ON GROWTH OF TRIBAL CHILDREN - A NUTRITIONAL ANALYSIS

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INTRODUCTION

Children and their well being are basic concerns of every nation. Despite substantial improvements in health and well being of the children since independence, malnutrition remains a silent emergency in India till now. More than half of all children under age of four are malnourished. While mortality has declined by half, malnutrition has only come down by one fifth in the last fifty years. Thus further progress will be difficult to achieve unless malnutrition is tackled with greater vigor. Several measures were under taken by government of India to provide food security to vulnerable sections of the society through ICDS. Implementation of ICDS in India has reduced the number of Grade-III malnourished children by 4 to 9 percent in different regions of the country. However 1-3 percent of children enrolled in ICDS Programme continue to be in Grade-III malnutrition. Thus supply of more concentrated supplementary foods in low cost at household level may be a better alternative.

In this direction the present investigation is designed to formulate low cost food mixes using locally available resources.

- To study nutritive value of formulated food mixes.
- To ascertain the quality of food mixes by organoleptic taste, acceptability taste and by observing their shelf life.
- To study the impact of formulated mix on growth of the selected children.

MATERIALS & METHODS USED

For the present study eleven Anganwadis of Udala ICDS Project of Mayurbhanj District of Odisha was selected by random purposive sampling. To study the dietary pattern and nutritional status of 350 children belong to below 5 years of age were selected randomly. The most common and locally grown cereals, pulses and vegetables were taken into consideration for formulation of Odisha Food Mix in different proportion. The quality and nutritive value of food mixes was ascertained in the laboratory by various tests. The quality test was done by organoleptic tastes by a panel of members keeping quality, acceptability & effect of growth of children. Estimation of Moisture, Protein, Fat & Carbohydrate was done in the laboratory by Air-oven drying method, Lowry's method, Gravimetric method, Herbert et al. method etc. respectively. Then 30 wasted children belong to 2-4 years of age groups were selected to assess the impact of formulated mix on their growth by feeding them 100gms of best Orissa food mix for a period of three months through Anganwadi workers.

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RESULTS AND DISCUSSION:

Based on the findings of food consumption pattern of selected tribal communities, base materials for formulation of low costs nutritious diet for tribal children was selected. 30 children belong to wasted nutritional status of 2-4 years age group were also selected for feeding trial and to find out the impact of formulated mix on their growth.

COMPOSITION OF ORISSA FOOD MIX

The most common food stuffs consumed by tribals of Mayurbhanj district were selected for formulation of Orissa food mix. These were rice, rice-flake, puffed rice, wheat, Bengal gram, horse gram, green gram, drumstick leaves, groundnut and sugar. Four food mixes were developed in three combinations namely A, B & C, by using two simple processing techniques namely roasting and puffing which were commonly used by the tribals for food preparation. The base materials chosen for preparation of mix-1 were parboiled rice, rice flake, horse gram, green gram dal, drumstick leaves, groundnut and sugar and the proportions taken in trial A was found to be more acceptable than others i.e. 4:4:4:4:1:1:2. Similarly the base materials chosen for preparation of Mix-2 were puffed rice, wheat, horse gram, Bengal gram, drumstick leaves, groundnut and sugar and the proportion taken in trial-C was found to be more suitable than other i.e. 5:5:3:3:1:1:2.

Rice flake, horse gram, green gram, dal, Bengal gram dal, drumstick leaves, groundnut and sugar were selected as base materials for preparation of mix-3, by roasting processing technique. Preparation 'B' was found to be most suitable combination for this mix-3 i.e. 8:3:2:3:1:1:2. Similarly mix-4 was prepared by puffing processing technique. Puffed rice, rice flake, horse gram dal, Bengal gram dal, green gram dal, drumstick leaves were selected as base materials. Proportion 'C' was found to be most suitable combination for this mix i.e. 4:6:2:2:2:1:1:2. Horse gram, drumstick leaves, groundnut and sugar were found to be common in all food mixes. Proportion of drumstick leaves, groundnuts and sugar was found to be same in all mixes i.e. 1:1:2.

NUTRITIVE VALUE OF ORISSA FOOD MIXES PER 100GMS Vs COMMERCIAL FORMULAE

Table - 1 Nutrient Composition of Formulated Mix Vs Commercial Formulae

Nutritive Value/Mix	Moisture (g)	Protein (g)	Fat (g)	Carbohydrate (g)	Calorie Kcal	Calcium mg	Iron (g)	Vitamin-A gm	Vitamin-C (mg)	Fibre (g)
Mix – 1	3.65	16.08	3.72	67.44	345.1	105.25	6.55	363.0	11.2	1.6
Mix – 2	3.38	16.56	3.81	65.76	344.15	94.8	5.63	382.6	11.15	1.52
Mix – 3	3.0	15.66	3.38	66.96	349.6	94.3	11.04	371.5	11.15	1.5
Mix – 4	3.35	14.85	3.48	60.36	345.5	79.65	9.542	351.0	11.0	1.83
Commercial Weaning Food	2.5	6-17	9	65.7-68.9	380-419	120-600	7.5-18.5	350	35-85	1.4-4.1

The nutritive value of four food mix showed that mix-1 contains more amount of moisture (3.65g), carbohydrate (67.44g), calcium (105.25mg) & vitamin C (11.2g) whereas mix-2 contains more amount of protein (16.56g) fat (3.81gm) and vitamin-A (382.6µgm) in comparison to others. Similarly mix-3 contain higher amount of calorie i.e. 349.6 kcal/1g and iron 11.4mg/100g in comparison to others. However the differences in nutrient content of four formulated mixes were negligible and were adequate in protein, energy and other nutrient contents to meet the guidelines set by ICMR. Similar findings were also observed by Chandrasekhar (1998).

A Comparative statement of the nutrient contribution made by formulated food mixes vs. commercially processed foods available in market showed that the protein, carbohydrate, carotene and fibre content of the developed food mixes were within the range of the commercial weaning foods. The calorie content of the developed food mixes were only 8 to 9.43% deficient than the commercial foods. Thus it could be concluded that calcium, vitamin-C and Iron content of the commercial food is more than the formulated foods due to enrichment. The vitamin-A content of the formulated food was more than the commercial food, which may be due to incorporation of drumstick leaves in the mixes.

ORGANOLEPTIC EVALUATION OF FOUR SELECTED FOOD MIXES

Results of the organoleptic evaluation for four formulated food mixes showed that mix-2 scored highest for appearance, flavor, texture and taste whereas mix-1 ranks 1st for colour. Overall acceptability of food mixes showed that mix-2 scored maximum total points followed by mix-4. Statistically it was observed that there was significant difference among the taste of the four formulated food mixes which may be due to wide differences in score of the taste. No significant difference was found in appearance, colour, texture and flavour of the food mixes. Thus mix-2 considered superior with regard to five organoleptic characteristics followed by mix-4., mix-1 and mix-2 were considered to be least acceptable. Reddy et.al. (1993) found recipe consists of wheat, bengalgram dal, greengram dal, groundnuts and jiggery scored maximum total points.

KEEPING QUALITY OF FOUR FORMULATED FOOD MIXES

The results of the keeping quality of four formulated mixes showed that there were slight changes in mean quality scores of flavour and taste of the food mixes from the ends of second week onwards but the changes were found to be statistically insignificant, thus the food mixes can be stored both in tin containers and moisture free polythene bags for four weeks without any deterioration in taste and flavour. Chandrasekhar et.al (1998) found those polythene bags are more suitable at the household level.

ACCEPTABILITY & TOLERANCE OF FOOD MIXES ON CHILDREN

The results of the acceptability of the four Orissa food mixes revealed that the average score of mix-2 and mix-4 was higher than mix-3 and mix-1, but the difference was not noticeable. With regard to digestibility no adverse effects in terms of digestive tract were noticed except mix-1. Statistically it was also observed that there was no significant difference in acceptability and digestibility of the food mixes. Therefore it could be concluded that all four mixes were well accepted except mix-1 and mix-3 being least satisfactory. Similar findings are also found by Reddy et.al (1990).

COST OF COMMERCIAL FOODS VS FORMULATED FOOD

The comparative cost of the formulated weaning foods with the commercial weaning foods as purchased from the market (as per the rates of 1999) showed that the commercial weaning food were 10-20 times costlier than the household formulated foods. The calculated cost of the developed mixes per two servings showed that i.e. 0.85 paise to Rs. 1.10 paise per 100g, which were very inexpensive, nutritious and within the easy reach of low-income groups. Similar findings were also observed by Devi et.al (1990), Usha Chandrasekar (1988).

IMPACT OF FOOD MIXES ON GROWTH OF CHILDREN

Results of the organoleptic studies, nutritive values of food mix keeping qualities, acceptability & digestibility of the four formulated food mixes clearly indicates that mix-2 is superior in all characteristics in comparison to other food mixes. Thus it can be concluded that mix-2 will be more suitable for children to improve their growth followed by mix-4.

Therefore to assess the growth pattern of children fed with the best developed Odisha food mix, mix-2. was selected, 30 wasted children belonging to the age group (2-4 years) were selected for the experiment. Statistical analysis to assess the effect of sex showed no significant difference in the change in anthropometrics measurements of boys and girls. Hence the data has been pooled and the mean increases were considered. Fifteen children were grouped as control and 15 children were grouped as experimental subjects. Initially the crown heel length & weight of the children measured and there after these measurements were taken regularly every month over the experimental period of six month. 100gms of best Odisha food mixes was fed to experimental groups only.

The results of growth assessment is shown in table

Table No - 2 Experimental and Control groups

Sl. No	Parameter	Group	Initial	Final	Increase	't' value
1.	Weight (kg)	Control	9.77±0.33	10.15±0.34	0.39±0.03	7.2 ***
		Experimental	10.5±0.37	11.26±0.37	0.75±0.04	
2.	Height (cm)	Control	87.73±1.29	88.97±1.25	1.23±0.12	5.03 **
		Experimental	87.77±1.67	89.9±1.65	2.13±0.13	

*** Significant at 0.001% level

It is evident from the above table that there was better improvement in height and weight of the children in the experimental groups in comparison to control groups during the period of 3 months who received supplementation. The mean weight of the children in experimental group was initially 10.5±0.37 kg which became 11.26±0.37 kg after a period of 3 months whereas initially mean weight of children in control group was 9.77±0.33 kg which became 10.15±0.34 kg finally. The mean increase in weight was 0.76g for experimental group whereas it was 0.38g for control group over a period of 3 months. Statistically it was also observed that the mean difference between the experimental and control group in the increase of weight over a period of 3 months is highly significant i.e. at 0.001 level of significance.

Similarly the mean height of the experimental group was 87.77 ± 1.67 cm and of the control group 87.73 ± 1.29 initially. After the experimental period of three months it was observed that the mean height of experimental group was 89.9 ± 1.65 cms whereas the mean height of control group was 88.97 ± 1.25 . The mean increase in height over the experimental period was found to be 2.13 ± 0.13 cms for experimental group whereas it was 1.23 ± 0.12 c.ms for control group. Statistically it was also observed that the mean difference in increased height between the experimental and control group over a period of 3 months also revealed that it was highly significant at 0.001 level of significance. Thus it can be concluded that over a period of three months the children who received the best-formulated food as supplementation were taller and heavier than their counter parts in the control group who did not receive the supplements. Statistical analysis also showed that increase in crown heel length and weight was significant at 0.1% level ($p < 0.001$) of significance for children receiving supplementation when compared to that of the control group.

CONCLUSION

Thus it can be concluded that low cost roasted or puffed food formulation developed in this research work can be produced locally and adopted for household consumption. It can be well substitute for commercial weaning foods. Since the base materials taken for formulation of food mixes are cheap and locally available and within the easy reach of tribal families, they can easily prepare the above formulated food mixes at their house hold level and can feed their children to keep them healthy. The daily intake of 100g, of the best formulated food mix could make up the nutrient deficiency prevalent among the tribal children.

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TRIBAL ODISHA: ETHNIC TIES AND TENSION IN CHANGING TIME

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INTRODUCTION

Ties and tensions in human society in its lexical dimension have conceptual relatedness with conflict, co-operation syndrome that drives the evolution of society. Sociologists say the coexistence of two opposing tendencies is necessary to help stabilize the societal structure vis-à-vis the continuous invasion of new ideas and values. In this process acceptance or rejection of ideas is accommodated providing required mobility to the linear progress of society. It has universal presence influencing the entire animal world though it has become an institution in the rational anthropological society.. The anthropological world has societies with differing levels of socio-cultural maturity and exposure to withstand the invading external influence. The society that is receptive to new ideas makes steady progress. But it is other way round for societies which is impervious to external influence. In the developed societal structure the ties and tensions are made to borrow itself in the pools of reasoning and works in a subtler way. But it is not the case with less developed society and culture. Ties and tensions are manifestly visible in crude form that often brings social unrest and restiveness among the members of the society. Societal progress is always in flux facilitating synthesis out of thesis and antithesis. The synthesis or the stabilization is again subject to disintegration. The society in this structured way under goes the evolution since ages.

The ethnic society in the tribal World assumes significance for the core reasons of its un-sophisticated nature of Society under slow mutation. All the basic attributes of a forming society are there and the ethnic culture is evolved with the signature of the Nature.

The institution of ties and tensions when it is located in the ethnic society, it rolls out a canvas for study of the society in its numerous perspectives in relation to interacting issues which help to keep the ethnic edifice. The ethnic society has nuanced characteristics crafted by subsistence economy related culture. The societal relations are seen often influenced by economic necessity. Central to the institution of ties and tensions in the ethnic society is apprehension of threat syndrome. The security of life and society exemplified in food security and security from diseases and death constitute the parameters to bring ties and tensions. Some sociologists are of the opinion that in relentless pursuit of mainstreaming of the ethnic people in present time, the ties and tensions are intensified bringing a fluid condition into the ethnic society. The Change dynamics often makes the society face the brunt of the tensions with the ties consolidated parochially to augment the tension.

STUDY IN ETHNIC ODISHA

The ethnic society in odisha offers a fascinating case study of ties and tensions under stress and strain as it progress on fast track towards mainstreaming. The stasis of the ethnic society was put under the pressure dynamics of rapid changes by various agents bringing disintegration of traditional societal order.

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The disintegration is conspicuous in societal and economic front. The ongoing Naxal problem relates to socio-economic sphere where as communal issues in Khondhamal relates to religious one. Both issues do not come under the traditional ethnic culture it has the impact of the ongoing mainstreaming process. It asks for searching discussion on the present status of the ethnic ties tensions in the state.

TENSIONS UNDER TIES AND ETHNIC COMMUNALISM

The communal flare-up in the Khandhamal district between converted ethnic Christians and ethnic Hindu tribal people have added new dimension to neo-ethnic tensions. The tension assumes the tone and tenor of the mainstream society away from routinised nature of traditional ethnic conflict. Eminent anthropologists of the state see in the incident the turn around of tribal society under the impact of the move towards mainstreaming

Earlier the ethnic people of the tribal inhabiting district like the ethnic people elsewhere used to live in closed society, stayed put in jungle tract. They have had no institution of formal religion. They have faith in animism. The socio-economic life was carried out in symbiotic manner by the ethnic kandha community and dalit pana communities, who have been living cheek in jowl with the tribal people. The formal relationship was that of master and servitor. The servitor dalita pan inured by their respective role pulled on well with the dominant ethnic group in a given system. Numerous ethnographic studies have recorded the relationship in the traditional stasis of traditional society of Kandhamal.

The equilibrium of the society came under the stress when Christian missionaries came with the colonial master for proselytizing purpose. In this act the uniformity in faith was split apart. In course of time the split was widened affecting each aspects of the ethnic society. The inbuilt cohesiveness of ethnic society admits rupture. The new converts tried in numerous ways to formalize the split. As ritualistic aspects differ- the split did not face any problem. But as long as the neo-converts have no agenda to temper with the economic system, there is no tension of any kind. But when it is done overtly and covertly the built up tension showed its ugly face. The simmering discontent exploded making the district as a communal cauldron. In other tribal districts where there is significant numbers of neo converts are found, one can witness the tension swim in the minds of major groups. The relationship between ties and tension is characterized by zero sum game. We can find the heightened tension is followed by weakened ties in the ethnic community. In the communal flare-up, one can see the attributes of main stream society where socio-economic factor played decisive role.

The ethnic society has structural deficits when it is compared with the mainstream one. The society is required to leap frog in many aspects to catch the main stream society. In this process of haste, tension creeps into the societal process. Once the dominant ethnic group enjoying hierarchical superiority, in the changed context feels the ethnic ego injured. This brings hiatus of mind consequently making the victims to close their rank to fight for the restoration of ethnic status.

TIES AND TENSIONS UNDER RED RADICALISM

The recent import of Naxal creed into tribal polity has registered its impact on the traditional nature of ethnic ties and tensions. The alarming spread of the creed is reflective of its growing acceptance that asks for armed resistance for bringing an

equalitarian and exploitation free society. The issue opens up a Pandora's Box of tribal problems and its lackadaisical solution. There have been glaring deficits in all fronts and dysfunctional service delivery at the grass root. The sorry state of affairs stands in contrast to the constitutional obligation. The generation next tribal people are impatient of the slow moving of the democratic practice and get attracted to the syndrome of instant justice practiced by Naxal ideologues.

The Naxal creed promises to address the socio-economic ills of tribal society. The tribal people amid mounting problems get attracted by the creed. But there has been a tussle between the Naxals and the leviathan state. Tribal people feel that they get benefits from the state. They do not want to raise arms against the state. They still have faith on the institutional frame work of democracy to give benefits to them. They also further develop cynical attitude to the sustainable viability of the ultra-leftism. But anarchical Naxal influence divides the tribal society hermetically. Some tribal people showed their inclination to acts of the government, where as younger elements among them subscribe to red radicalism. This division facilitates them to lock their horn resulting in intra and inter ethnic strife. The salwa judum experiments in Chattisgarh and the counter tribal movement against the *chasi mulia adivasi sangha* in Koraput may be cited as examples to state that the ethnic ties become victims of the Naxal influence.

The Naxal creed, as it is found has no separate socio-economic agenda for the tribal people. The people rife in dissatisfaction are simply used as scaffolding to reach the designate target by the Naxal ideologue. Once the utopian idea of absolute equalitarian social order is achieved, no one knows the place and position of tribal people

CONCLUSION

Numerous studies reveal that in the on going Naxal operation, the foot soldiers of the movement-the tribal people lost their life in large numbers but the non-tribal mentors are saved. Further more no tribal people have credible position of leadership in the party hierarchy. This showed the shapes of things to come in future for tribal people. Some says that the situation of the tribal people is precariously placed between tiger and deep sea. In their search for identity they are used by the Naxal organizer. Mainstreaming of tribal people is what constitutes the policy thrust of Government. But not un often the relevant tribal policy has ambiguity that admits interference of other set of policies, eventually diluting the original purpose. This schizophrenic approach creates problem to slow down the process of tribal development facilitating Naxal out fits to exploit the tribal dissatisfaction. To add to the problem, when the globalization sponsored heavy industrialization come to guide the economic destiny of the country, large scale mining operation, land acquisitions are done with vigor, the age old matrix of the tribal people along with their indigenous life pattern are done away with. This state of affairs creates consternation among the tribal people. In the context of mainstreaming the ethnic ties and tensions need to be studied as its scope expands beyond the ethnic context. The coming close of two cultures create more inbuilt tensions than ties. Tribal people feel aggrieved for their enduring indigenous culture, so dear to their heart is being trampled down cruelly. The coordinated invasion of their culture, polity and way of life including the matrix where the subsistence economy is deeply rooted is facing destabilization. The unsettling influence makes them to fight pitched battle against the establishment. Tribal people want integration as opposed to

assimilation with mainstream culture. But the present condition is not running like as per their expectation. Some anthropologist sees in it the cause of the lingering tension.

It is unfortunate that the transition to mainstreaming of the tribal people take long period of time. Critics argue that the lengthening of the period creates additional problems to delay the process inordinately. It is high time that the fundamental discrepancies must be sorted out for good and credible result.

In the knowledge based society of today, no ideas framing social issues is full proof and permanent. It is incumbent on people to be always amenable to changes and be prepared to absorb the shocks of tensions while accepting new ties

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**DISCONTENTMENT AMONGST THE DISPLACED
& FACTORS FOR DELAY IN RELOCATION:
*The case of TATA Steel Kalinga Nagar Project***

**Anand Ota
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Abstract

The present paper examines the major factors responsible for growing resistance to Development Projects in the State of Odisha. For this purpose, an empirical-cum-diagnostic Study was undertaken by the Researchers on the Displaced and Affected Persons of the TATA Steel Kalinga Nagar Project. Various Sociological and Anthropological tools such as Interview Technique, FGD Technique, Schedule Technique, PRA Technique etc. were used to collect information from two specific categories of Displaced Persons of the Project such as the Already Displaced Persons and the non-shifting Displaced Persons. A brief out come of the interaction with sample respondents belonging to both these groups have also been mentioned in the paper. Further, secondary analysis of more than 20 Development Projects were also carried out by the Researchers which forms the basis for the recommendations made at the end of the Paper to counter certain problems involving the Resettlement & Rehabilitation of the Displaced Persons on a range of issues being confronted by most Industrial Houses.

Key Words:

Displaced Persons, Affected Persons, Project Affected Persons, Resettlement & Rehabilitation, Project Implementing Authority

Abbreviations:

APs	Affected Persons
CPRs	Common Property Resources
DPs	Displaced Persons
DFs	Displaced Families
FGD	Focus Group Discussion
HBA	House Building Allowance
IDCO	Industrial Development Corporation of Orissa
IGAs	Income Generating Activities
IIC	Integrated Industrial Complex
IPR	Industrial Promotion Resolution
JLGs	Joint Liability Groups
MA	Maintenance Allowance
MTPA	Million Tonnes per Annum
NGOs	Non Government Organizations
PAPs	Project Affected Persons
PIAs	Project Implementing Agencies
PRA	Participatory Rural Appraisal
R & R	Resettlement & Rehabilitation
RoR	Record of Rights
SCs	Scheduled Castes
SHGs	Self Help Groups

STs	Scheduled Tribes
TSA	Temporary Shed Allowance
VVJM	Visthapan Virodhi Jan Manch

Background of the Project

In order to usher speedy industrial growth by tapping the abundant mineral resources in the State, the Government of Odisha promulgated the Industrial Promotion Resolution (IPR) in 2001. This Policy contained provisions to remove certain stringent barriers for the entry of National and Global players into the sector of mining. The setting up of the Integrated Industrial Complex (IIC) at Kalinga Nagar in the Jajpur District of the State was one such attempt made by the State Government to expand the industrial base in the State by harnessing the untapped mineral reserves.

Apart from TATA Steel, various other Corporate Houses such as Neelachal Ispat Nigam Limited, MESCO, Jindal Stainless Limited, VISA Iron & Steel Industries, Maithan Ispat Limited, Rohit Ferro Alloys Limited, Baidyanath Sponge Iron Limited etc. have also been allotted land by the Industrial Development Corporation of Odisha (IDCO) in the IIC at Kalinga Nagar.

The land allocated to TATA Steel for setting up of its plant falls within the administrative jurisdictions of Dangadi and Sukinda Blocks of the Jajpur District. The production capacity of the proposed plant of TATA Steel is 6 Million Tonnes Per Annum (MTPA). The initial year of commissioning of the plant was scheduled in 2010 at a proposed investment of Rs. 15,000 Crores. However, due to stiff resistance, the year of operationalization of the plant has been rescheduled to 2012 at an expected investment of Rs. 40,000 Crores.

Magnitude of Displacement and Extent of Land Lost

TATA Steel has been allotted a total of 3487.808 acres of land for setting up its plant. The allotted land is located in 13 Hamlets which fall under six Revenue Villages such as Chandia, Gobarghati, Gadapur, Baragadia, Khurunti & Nuagaon.

Table 1 Technical details of the land allotted to TATA Steel by the Industrial Development Corporation of Odisha (IDCO)

<u>Technical Details of the land allotted to TATA Steel</u>	
1.	Private ownership: Government ownership of the allotted land is in the ratio of 4.5: 1 (approximately)
2.	The acquisition of the privately owned land took place in 1992 under the Land Acquisition Act
3.	Compensation to land losers was paid between 1992 to 1995
4.	Almost 60 % of the Government owned land allotted to TATA Steel is encroached by the Scheduled Castes (SC) and Scheduled Tribes (ST)

Source: **“Displacement & Rehabilitation Issues in Tribal areas: A Diagnostic Analysis” authored by Mr. Anil Ota & published by Inter-India Publications**

Due to the acquisition of private land, about 4500 people have lost land in varying degrees out of which 1195 families have been enumerated as Displaced Families (DFs) as these families are losing their homestead land and are getting physically displaced.

Table 2 Socio-demographic profile of the Affected and Displaced Families of TATA Steel Kalinga Nagar Project

<u>Socio-Demographic Profile of the Affected & Displaced Families</u>	
1.	Out of the total Displaced Families, 88 % are Scheduled Tribes (STs), 1 % are Scheduled Castes (SCs) and 11 % belong to the General category
2.	2% of the ST population has adopted Christianity
3.	Literacy rate of the Affected People (AP) is 37 %
4.	Ho and Oriya languages are spoken in the Affected Villages
5.	Sex Ratio in the Affected Villages is 963
6.	33 % of the inhabitants of the Affected Villages belong to the Working Population Category

Source: “Displacement & Rehabilitation Issues in Tribal areas: A Diagnostic Analysis” authored by Mr. Anil Ota & published by Inter-India Publications

Given below is a brief tabular account of the R & R status of the DFs of TATA Steel Kalinga Nagar project. The table consists of the updated figures on the status of shifting of the enumerated DFs, the status of the already shifted DFs (whether they are in Transit Camps or in Rehabilitation Colonies, etc.) and whether they have received their R & R entitlement such as House Building Allowance (HBA), Temporary Shed Allowance (TSA), Maintenance Allowance (MA), etc.

Table 3 Overall Resettlement & Rehabilitation Status of the Already Displaced Families of TATA Steel Kalinga Nagar Project (As on 08.12.2010)

<u>Resettlement & Rehabilitation Status</u>	
Total Number of Families to be shifted	1195
Total Shifted Family	868
Families in Resettlement Colonies	272
Number of families in Transit Camps	252
Number of families in Rental Accommodation	139
Number of Families in Transit (Self Arrangement)	170
Number of families availed Self Rehabilitation	35
Plots Allotted in Resettlement Colonies	561
Temporary Shed Allowance paid	805

House Building Allowance provided	590
Maintenance Allowance Paid	781

Source: TATA Steel Kalinga Nagar Project

From table 3, it can be clearly interpreted that only 64.63 % of total DFs who have shifted from the Affected Villages have been provided with HBA. There are two primary reasons responsible for the delay in the disbursement of this entitlements; Firstly, the R & R Policy requires the demolition of the housing structure and photographing of the demolished dwelling to be submitted to the Sub-Collector before HBA can be disbursed to the DFs and Secondly, a few allotted plots have litigation cases against them for which additional caution is being exercised and supplementary measures are being taken by the authorities to verify the Record of Rights (RoR) of the land before handing it over to the DFs.

Objectives of the Paper and Methodology Used

The present Study has been undertaken to disentangle the underlying factors responsible for the high degree of annoyance amongst the Displaced Persons (DPs) and the inordinate delay in the relocation of the DPs. The Empirical Study has been undertaken by the Researchers with the following broad objectives: -

1. To understand the chronology of key events concerning TATA Steel Kalinga Nagar Project
2. To critically examine the status of the Displaced & Affected Persons vis-à-vis the entitlements of the Kalinga Nagar specific Rehabilitation Policy, Orissa Resettlement & Rehabilitation Policy 2006 and the efforts of TATA Steel for sustainable resettlement & rehabilitation of the Displaced & Affected Persons which are beyond the stipulated policy provisions
3. To identify the critical demands of the Displaced Persons & agitators and the gap between the existing Policy Provisions and the Demands
4. A timeline emphasizing on the historical account of the nature of resistance and the plausible reasons for the stiff opposition that the Project has been countering
5. The extent of initiatives made by TATA Steel to percolate entitled benefits to the Displaced and Affected Persons
6. To identify the Key Factors of resistance which have stood as tumbling blocks for non-implementation of Timely R&R operations
7. The perception of the local people (including the Displaced and Affected People) regarding the Project and the gap between the perception of the people and reality
8. To identify the reasons for discontentment amongst the non-shifting families and the factors delaying the evacuation of the families enumerated to be displaced
9. To identify the key and critical issues to be looked into for smooth evacuation of the Displaced Families in Development Projects in general and in the TATA Steel Kalinga Nagar Project in particular

For undertaking the empirical study and collecting the required data and information various Anthropological and Sociological research techniques were used. The following are some of the major research techniques employed by the Researchers during the course of the study: -

1. Interview Technique
2. Focus Group Discussion Technique (FGD)
3. Schedule Technique
4. Observation Technique (Participants Observation & Non Participant Observation)
5. Participatory Rural Appraisal Technique (PRA)
6. Case Study Technique

Information for the purpose of the Study was collected from both Primary as well as Secondary sources. Collection of information from Primary Sources helped the Researchers to cross-check and validate whether the information collected from Secondary sources were indeed authentic. Given below is a brief account of some of the most important information collected from Primary and Secondary sources.

1. Secondary Sources

- a. Historical Background of TATA Steel Kalinga Nagar Project (Initial allotment of land indicating year and extent of land, Payment of compensation in different phases & installments, Agitations/ resistance to the project, Key persons or sections of people instrumental in the resistance, Timeline of the project indicating the important happenings, Timeline of resistance in the project area and nature of resistance as well as its duration, Response of the Government to each resistance)
- b. Technical Specifications of the land allotted to TATA Steel Kalinga Nagar Project (Size of the land, Villages/ Hamlets under which it falls, percentage of encroached land)
- c. Affected villages indicating number of Project Affected Persons (PAPs) and Displaced Persons (DPs) along with their Social Composition/Village wise list of DPs indicating their status of displacement (how many are staying in Transit Camps, how many have moved to the Resettlement Colonies and how many have not left the affected village and how many have gone back from the transit camp to the affected village, and how many DPs have migrated from the Transit Camp to other places/states)
- d. Copy of the first R&R Package announced by TATA Steel Kalinga Nagar Project indicating the date and the provision. Subsequent revision of R&R Package and its copy. If possible the R&R package announced at different points in time in a tabular form
- e. Institutional Mechanism of TATA Kalinga Nagar Project for the Resettlement and Rehabilitation as well as Land Acquisition

2. Primary Sources

- a. The key reasons responsible for the non-shifting of the enumerated DFs
- b. The major reasons of discontentment among the rehabilitated DFs (in the Transit Camps as well as Resettlement Colonies) and the non-shifting DFs

- c. Causes for the inordinate delay in the disbursement of Resettlement and Rehabilitation (R & R) entitlements to the DPs and PAPs
- d. The perception of the local people with regards to the initiatives of TATA Steel for the sustainable R & R of the DPs and PAPs

Reasons of Discontentment

Although more than four-fifth (82.64 %) of the enumerated DFs have shifted out of the Affected Villages and are either residing in Transit Camps, Resettlement Colonies or Rental Accommodations, they continue to remain discontent for a few reasons. During the course of the Study, it was identified by the Researchers that most shifted DPs have been provided with a plethora of commitments by the Company out of which hardly any have been fulfilled. This surfeit of unfulfilled commitment has induced a sense of mistrust and suspicion in the minds of the DPs with regards to the actual intention of the Company. Given below is a list of some of the major reasons for discontentment of the already shifted DPs identified during the course of the Study: -

1. The monthly Maintenance Allowance (M.A) of Rs. 2300 (earlier Rs. 2000) was termed by more than 80 % of the respondents residing in the Transit Camps to be abysmally low. The sample respondents were of the opinion that although the TATA Steel officials had increased the M.A by Rs. 300 a few years back but, the spiraling rise in the market price of essential commodities has been at a much faster rate as compared to the hike in the M.A incorporated by the Company.
2. A number of verbal complaints with regards to the quality of grocery and welcome package items being awfully poor were lodged by the respondents with the Researchers. Most of the already DFs stated that the cereals, pulses, rice and other food items supplied by the Company were mostly affected by either pests or were rotten. 5 to 6 DPs also complained of having suffered from food poisoning after consuming the food supplies.
3. The House Building Allowance (H.B.A) of Rs. 1,50,000 which is being provided by the Company to each DF which has been allotted a plot of land in the Resettlement Colony for facilitating construction of house has been termed as extremely inadequate and insufficient in building even a decent house (in terms of size and quality). Apart from the low H.B.A, the pattern of releasing the same in three different installments considering the progress in the construction of the house in the Resettlement Colony is a major impediment in the speedy construction of the dwelling structure by most DFs.
4. Most DPs opine that the Company has miserably failed in restoring or replenishing the Common Property Resources (CPR) acquired by it during the course of land acquisition. Some of the major predicaments countered by the DPs due to the non-restoration of the CPR are the acute lack of burial space for the deceased and grazing land for the bovine population, lack of access to fuel and fodder, lack of access to source of clean water.
5. Repeated incidents of the Members and activists of the VVJM physically assaulting the DPs in Transit Camps and Resettlement Colonies have incorporated a sense of fear psychosis amongst the DPs. The DPs alleging lack of police protection are reluctant to move out of their transit accommodation and houses. During the course of the Study, it was found out that, in various occasions, family members of the DPs

who were trapped in the Affected Villages have faced the wrath of the VVJM in the form of social ostracization and economic boycott.

6. The DFs residing in the Transit Camp expressed their sheer discontent regarding the size of the accommodations allocated to them. Two specific points of discontentment with regards to the Transit Camps were raised by the respondents; firstly, the size of the houses allotted to them for temporary accommodation in the Transit Camps were too small; secondly, the roof of the transit houses were made up of Iron Sheets which often led to the heating up of the dwellings in the summer season making it extremely difficult on part of the DPs to reside in them.
7. The assurance of at least one member of the family between the age group of 18 years to 40 years being provided permanent employment in the plant has not been fulfilled by the Company. This is because, stiff resistance to the Project has led to an inordinate delay in the construction of the plant and until the plant is made operational; it is not possible on part of the Company to provide permanent employment to the eligible DPs. A lot of dissatisfaction was expressed by many DPs mainly residing in the Resettlement Colonies (as they have evacuated their houses since long) with regards to not being provided permanent employment by the Company. In fact, a few DPs also felt cheated assuming that the Company made false commitment of providing them employment to lure them to vacate their houses and after they have evacuated from the Affected Villages, their just demands are being ignored.

Causes of Delay in Evacuation

In spite of wide-ranging consultations being carried out by TATA Kalinga Nagar authorities in collaboration with various Non Government Organizations (NGOs) and Government bodies with the enumerated DPs, 327 enumerated DFs (27.36 %) are continuing to resist the project and are still unwilling to shift from the Affected Villages first to the Transit Camps and then the Resettlement Colonies. The following are some of the principal causes for the delay in the evacuation of the DPs as identified by the Researchers during the course of the Study: -

1. The land was acquired between 1991 to 1995 at the official compensation rate prevalent during the time of acquisition. Although, the land losers have received Rs. One lakh per acre (including Rs. 60,000 per acre as ex-gratia), they are demanding compensation at current market value of their lost land.
2. Police cases have been registered in the name of some enumerated non-shifting DPs and PAPs for violating the law of the land from time to time. The fear of being arrested and court forwarded is preventing three dozens-odd persons from evacuating their houses and shifting to the Transit Camps before being rehabilitated in a Resettlement Colony.
3. Compensation for Residential Houses Structures standing on the acquired land was paid between 1991 and 1995. However, after 1995, a significant number of non-shifting DPs have added to the old housing structure and are now demanding compensation for the extended portion as per the current schedule of rate.
4. It was found out that almost one-third of the non-shifting DPs are willing to shift but are not being able to owing to the threats of the members of the Visthapan Virodhi Jan Manch (VVJM). In fact, while attempting to come out of the Affected Villages to

the Transit Camps, a large number of enumerated DPs have been caught and ruthlessly beaten up by the activists of the VVJM.

5. Rearing of cattle constitutes an important component of the Tribal economy. They not only provide milk for consumption but are also used for agricultural purposes. Complete lack of provisions for accommodating the cattle population in the Resettlement Colonies and the acute inadequacy of the size of homestead land (1/10th of an acre) allotted to the shifted DPs is one of the conspicuous reasons mentioned by the non-shifting DPs for their unwillingness to relocate themselves.
6. It was found out both from Primary as well as Secondary sources that most of the enumerated DPs who have not shifted from the Affected Villages possess handsome amount of immovable property upon which plum fruit bearing trees stand. As no compensation is being paid to the land losers for the trees lost due to acquisition, most landed DPs have strongly demanded computation of the trees to be lost of grounds of land acquisition and adequate compensation to be paid against them.
7. Although, the R & R policies in vogue guarantee employment to at least one member of a Displaced Family between 18 to 40 years of age, the 40 years and above category of people are ineligible for jobs in the Company. Hence, this category of people are apprehending that if they shift from their villages and their agricultural land is acquired then, their sole sources of earning might be ruined.
8. 52.99 % of the population of the Project area depends on agriculture (Agricultural Labor and Cultivation)ⁱ and people who have been into the practice of farming to eke out a living are unwilling to shift their traditional land based occupation to a non-land based livelihood activity. Most enumerated non-shifting DPs who profess agriculture as a source of livelihood were of the opinion that if they would leave their customary practice of farming and enter into an industrial establishment as an employee then, their degree of job-security will be less and so will be their freedom at work.

Lessons Learnt and Issues to be looked at for Smooth and Timely Evacuation of Displaced Families in Development Projects

Ever since independence, a large number of Development projects have been taken up in India – most of these in the under-developed regions. Although there are no concrete facts and figures to accurately position the number of people who have been displaced in the Country on account of Development projects, rough estimates suggest that in India 11.5 million peopleⁱⁱ (1.45 of the Country's population) have been displaced and not rehabilitated properly between 1950 and 1980 alone.

In the State of Odisha, conservative estimates place the figures of the number of people displaced at more than 10 lakh and the number of people getting affected without being physically displaced at 40 lakhⁱⁱⁱ. Various sectors where development projects have been taken up in the State include Dam, Irrigation, Mining, Industrial, Urban Infrastructure, Wild Life etc. Apart from the irreparable socio-cultural Losses and disruption of economic activities, the PAPs often suffer from a range of other problems such as psychological disorders, lack of access to locally available natural resources, social disarticulation etc.

Keeping in view the devastating impact that physical displacement has on the PAPs in general and the DPs in particular, it was considered necessary by the Researchers to conduct an empirical-cum-diagnostic Study on one of the mega-industrial projects in the State of Odisha which has hit National and International headlines for the stiff resistance that the Project has been facing from a forum which proclaims itself to be the protector of Tribal rights. The findings of the present Study and an analysis of the Displacement & Rehabilitation issues of some other major projects in Odisha forms the basis for the recommendations proposed in the succeeding paragraphs to facilitate smooth and timely evacuation of DFs in Development projects: -

Gainful engagement of the 40 to 60 years age group persons

Although, the Orissa Resettlement & Rehabilitation Policy 2006 does not provide any provision for providing direct employment to persons belonging to the age group of 40 to 60 years, individuals belonging to this category considering their age can be engaged in gainful monetary occupation. Hence, Project Implementing Agencies (PIAs) should at their own cost provide skill upgradation and capacity building training to willing individuals falling under this age group so that they can engage themselves in Income Generating Activities (IGA). PIAs should also providing banking linkages to people having successfully completed the training programmes so that they can avail financial assistance at ease. Tie ups with banks for slashing the Rate of Interest (RoI) charged or for extending the period of repayment of the loan can also be considered by the PIAs.

1. Rehabilitation of persons belonging to the Socio-economically weaker sections of the society

As part of the social sustainability initiatives and societal obligations of the PIA, special emphasis should be given to rehabilitate the socio-economically weaker sections of the society comprising of Destitute Women, Divorcees, Orphan Children, Aged people without Children etc. irrespective of whether they are entitled to avail R & R benefits or not. Destitute women and Divorcees should be provided essential training and engaged in IGAs through group mode by forming Self Help Groups (SHGs) and Joint Liability Groups (JLGs). Similarly, Orphan Children below 18 years of age should be admitted to boarding schools and those below 4 years of age should be kept in an Orphanage set up by the PIA and run by a credible NGO. A plot of land should be registered in the name of each Orphan Child (In case they fall within the territorial jurisdiction of the Project Area and are either categorized as Affected or Displaced) along with other entitlements such as H.B.A, M.A etc. in the form of fixed deposits and recurring deposits respectively. After the child attains the age of 18 or has completed his education, he/she should be provided possession of the plot of land and access to the money deposited in the bank in his/her name.

2. Claims for Employment Guarantee for the Second Generation

In various Development Projects, demands are being made by the Displaced Families to the PIAs to provide employment guarantee to their second generation (i.e. children). The basis of justification being used by them is that – *as their agricultural land has already been acquired upon which they were dependant to earn their livelihood, the only source of income for them as well as their succeeding generations is through job.* However, guaranteeing employment to the second generation will not only lead to complacency among the employees but, the same

will also have a severely detrimental impact on their work efficiency which can hamper the entire process of Organizational goal attainment. To counter this demand of the DPs in various Development Projects, the PIAs should provide Capacity Building Training and even consider sponsoring the education of some meritorious children and provide preferential treatment to them while applying for employment to the Organization.

3. Inordinate Administrative Delays and severe Procedural Complexities in disbursing Rehabilitation Assistance

The complicated administrative procedures involved in first identifying the DPs and then disbursing the Rehabilitation Assistance in case of most Development Projects has led to severe annoyance amongst the APs (DPs as well as PAPs) often resulting in violent protests against the PIAs. Stern opposition from the APs has delayed many and stalled some Development Projects across the State. To overcome the problem of slippage of time in grounding the Project which often leads to cost overrun, it is advisable that a strategy for time-bound R & R of the APs is formulated and implemented by the Government in collaboration with the PIA to address the grievances of all stakeholders concerning postponement of the Project.

4. Social Disarticulation amongst the Displaced Persons

DPs in most Development Projects (as in the case with TATA Steel Kalinga Nagar Project) have been found to be suffering to stern Social Disarticulation as a consequence of which, they are neither willing to discuss with people regarding the problems being countered by them in their day-to-day life nor are they keen in participating in social gatherings. This self-imposed Social Ostracization is not only hampering their mental growth but is also severely impacting their overall socio-cultural identity which in the future might lead them to a cultural identity crisis in the society. This is primarily because, no sincere attempts are being made by the Industrial Houses to allocate plots of land in the Resettlement Colony taking into consideration the arrangement of houses or the settlement pattern (By Caste, By Territorial Clans etc.) in which the DPs were residing earlier in the Affected Villages. It is advisable that cultural events exhibiting the indigenous art, architecture, dance and music forms of the community should be organized by the Company and large numbers of community member should be encouraged to participate in them which will help foster a sense of unity and lead to socio-cultural regeneration.

5. Non-Replenishment of Common Property Resources

It has observed that in case of almost all Development Projects, the PIA has made no sincere attempts in replenishing or restoring the essential CPR in the relocation site of the DPs. Essential CPR such as Community Pond, Places of Worship, Community Halls, Grazing Field, Burial & Cremation Grounds, and Play Grounds etc. are as integral aspect of the socio-cultural lifestyle in rural India. In fact, in many projects, the lack of ponds in the new relocation site often results in the DPs walking down long distances to take bath and fetch clean water for household consumption. Walking down such long distances not only leads to wastage of time but also results in physical drudgery and a consequent reduction in work efficiency. Similarly, lack of grazing fields is a major impediment in raising livestock or bovine population and the non-existence of play grounds might lead to stunted growth of the children of the locality due to inadequate physical exercise which is essential

during the growth phase of an individual. Hence, all sincere efforts should be made by the PIA to replenish the essential CPR in the new relocation sites/ Resettlement Colonies and stern action should be taken by the Central and State Governments against the Corporate Houses which fail in fulfilling their obligations towards the Affected People.

The above-mentioned critical issues that should be looked into by Industrial Houses and Government Bodies responsible for smoothly oversee the R & R of the PAPs is a result of the empirical-cum-diagnostic study conducted by the Researchers on the TATA Steel Kalinga Nagar Project as well as the minute examination of 20 Development Projects in Odisha which either have been delayed or have been stalled due to resistance from the Displaced and Affected Persons owing to improper R & R. If the Government and the Industrial Houses consider the above-mentioned recommendations made by the Researchers and incorporate them in the R & R Policy, it will definitely be helpful in restoring the livelihood of the PAPs and help in creating a win-win situation for both the PAPs as well as the Industrial House.

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End Notes:

- i Census of India, 2001 as published in "Displacement & Rehabilitation Issues in Tribal Areas: A Diagnostic Analysis" authored by Mr. Anil Ota and published by Inter-India Publications (Page 69)
- ii Fernandes, Das and Rao (1983:23) as published in "Development Projects and Displaced Tribal: An Empirical Study" authored by Prof. (Dr) A.B. Ota and published by Scheduled Castes and Scheduled Tribes Research and Training Institute, Government of Odisha (Page 5)
- iii "Development Projects and Displaced Tribal: An Empirical Study" authored by Prof. (Dr) A.B. Ota and published by Scheduled Castes and Scheduled Tribes Research and Training Institute, Government of Odisha (Page VII, Preface)