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Contributions based on Anthropology, Demography, Economics, Human Geography, Museology, Planning and Sociology with particular reference to Scheduled Castes and Scheduled Tribes are invited. The articles should be type-written in double space on one side of half foolscap paper. Invariably two copies of the articles should be sent. The contributors should also not forget to send their bio-data in a separate sheet alongwith the article and its brief synopsis. No remuneration is paid to the contributors. Only twenty-five off-prints of the articles are supplied. Two copies of the books should be sent for purpose of review.

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Environmental changes affecting Tribal women : Problems and Solutions

N. K. Behura

In India, at present there are over fifty-one (51, 628,638) million tribals living in different States and Union Territories, and in Orissa, their number is approximately six million (59,15,067). They constitute an agglomeration of 437 tribes with varying cultures, and they are at different stages of the techno-economic parameter. It is common-place knowledge that they are mainly concentrated in forest, hilly, inaccessible and agriculturally less productive areas.

During the past few decades different types of development projects have been undertaken and most of these have been located in tribal areas. As a result of the establishment of these projects, the tranquility and serenity of these areas have been disturbed. The rapid burst of industrialization and urbanization, increasing exploration of mineral wealth, and improvements in communication systems have taken India in leaps and bounds. But these have also caused enormous environmental pollution, soil erosion, denudation of forests and have thereby disturbed the normal ecological balance.

During the last few decades large scale reduction in the vegetational cover has been effected in various parts of the country for installation of development projects, setting up of industries and town-ships and to provide agricultural land to development oriented displaced populations. This indeed has caused substantial reduction in the forest base of the country.

The relationship of the tribals with their physical environment was intimate and direct and on the very nature of their habitat and ecology, the tribals depend heavily for their livelihood, shelter, occupation and employment. Considering the fact that the tribals and their habitat constiute a system, the objective is not to destroy forest, but to preserve and perpetuate it because it is a multifaceted resource for sustenance and survival.

The symbiotic relationship of the tribals with forests is a trite fact. Tribals derive both directly and indirectly a substantial amount of their livelihood from the forests. They partly subsist on edible leaves, roots, tubers, honey, fish and wild games. They build their houses with timber, bamboo and reeds and practise cottage crafts with the help of local raw materials which they procure from their forest environment. They also obtain herbs and medicinal plants which have therapeutic value, both curative and preventive. Besides, their religion, foiklore and world view are woven round the spirits and deities of the forests.

Tribals have their own system of soil and forest conservation as they are innately concerned with the preservation and continuance of forests, and they exemplify the age-old serene pattern of co-existence between man and nature. In fact, the tribal societies manifestly demonstrate that there are still ways of living with nature harmoniously without recklessly exploiting and destroying it. As they were the original human settlers in the forest they husbanded the forest as a resource for fulfilling their basic needs and drives and optimised its use as a balanced productive eco-system. It was in the past, and is still endowed with spiritual ethos for the tribals in which trees, stones, water-springs, hills and lands get identified with abodes of Gods and Goddesses. Therefore, forest to a large measure, has been the determinant of corporate tribal ethos.

Forest is a resource to the tribes not merely in terms of fulfilment of basic needs and drives but also as the very foundation and determinant of their culture. It is a perennial source of food, shelter, redress, veneration, romance and pastime. Tribal life revolves round collection and sale of minor forest produce, such as, dry and fallen wood for fuel, small timber, bamboo, leaves, nuts, fruits, berries, honey, resin, lac, herbs, hides, skins, feathers, etc. This activity kept tribal women engaged in the forest around their habitat. For the tribals forest represented a form of renewed exploitable resource which required no human conscious effort for its maintenance.

Since independence economic development has been associated with shrinkage and destruction of forests. There is an ever increasing demand for land for setting up of industries, for launching of multipurpose development projects, for farming and settlement, and for all these endeavours the forests meet the disaster. Therefore, forests are under gravest threat; and over 5,000 hectares of forests have been cleared between 1951 and 1985 in India due to extension of agriculture, industries and various other development projects.

As a sequel to this many tribal families have been evicted from their respective natural forest habitats; and they have been forced to move to mining, industrial and urban areas steadily in a phased manner in order to eke out an existence. This sort of migration of the displaced tribal families provided motivation and encouragement to their kinsmen and friends, who had not been directly affected, to follow this move because of economic constraints emanating out of the restriction on the free exploitation of forest resources. And, moreover, all the tribes, whose mainstay of the economy was shifting cultivation, have found it difficult to secure enough fallow for the practice of the same, obviously for two reasons, namely, (*i*) their population is increasing and thus they need more land, and (*ii*) their traditional rights on forests have been substantially curtailed with the imposition of restrictions on their free exploitation of forest resources and use of forest land.

Tribals have and are losing command over land because of inadequate appreciation by the administrative machinery of the man-land relationship in tribal areas which is the quintessence of tribal life. Studies have revealed that when this man-land equation has been disturbed, it has proved to be disastrous to tribal economy and life, and they have been forced to quit their age-old habitat. Abandonment of the natural habitat has brought about a deleterious effect on the economy and life of the tribals. The tribals were in the primary sector of economy and pursued an undifferentiated and diffused economic mode, but were forced either by the change of environment or by their migration to abandon it because of the loss of control and traditional rights over the natural resources. Now they have taken to several non-traditional economic activities. The tribals who have moved out of their hibitats, have eventually, encountered a sudden disruption of their social life, because it has happened that members of a lineage and some times even brothers, have moved to different places for livelihood, and thus have been separated from each other. This has resulted in the break down of socio-economic interdependence. It takes usually long time to revive and recreate a viable social network. This indeed affects their social life.

In tribal societies men and women have very specific roles to play. With the rapid change in the environment or migration to a new place, the traditional mode of division of labour gets disturbed. However, the onus of management of the family at this critical phase of life too revolves on the house-wife. She makes strenuous efforts to pull the family out of the exsiting predicament. This fact bears ample testimony to the important roles which tribal women play in their social life.

Whenever tribal families move to urban, industrial or mining areas so as to eke out an existence, they are confronted with strange experiences and insurmountable problems. During the first few days the tribals remain completely disillusioned and despondent in the strange environment, because of lack of food, water, shelter and place for defecation; kinsmen, friends and neighbours are not around to depend upon. Of course, the problem some-what eases out with the passage of time. In this endeavour the role of tribal women is extremely important. Their strenuous efforts bring hope and solace to every member of their family. They purchase food provisions out of their concealed savings, procure water from far off places, collect firewood and prepare food for the family. Their selfless efforts, indomitable fortitude and unflinching devotion and sincerity of purpose together enable them to realise this dear objective.

In this kind of a distress situation a tribal woman treats her husband as one of her children. This is of course a metapher, but it brings to light the fact that most often than not the sense of responsibility of a tribal man is no better than that of a child. Temporamentally, a tribal husband behaves as a supreme lord towards his wife, and expects her to work for him, look after his crops and assets, bear children for him, serve food to him in time, pay for his drinks and keep him in good humour. A tribal man loves to remain inebriated in alcoholic drinks always.

It has been observed that whenever any drastic change in the environment of tribal habitat occurred, the landless tribals preferred to migrate to an urban/industrial or mining area where their kins or co-villagers are already there. Because, one initially looks up to fellow-tribesmen for guidance and for assistance in securing employment.

Tribals never experienced the scourge of poverty in their traditional habitat and environment, because forest was a perennial and diverse source of edible items. But under the changed conditions and in the new surrounding they for the first time experience the dire and stark conditions of money economy. Here too tribal women are quick to rise to the occasion, and in addition to their domestic responsibilities, are constrained to undertake wage labour. Being unskilled, they only market their physical labour, and unscrupulous employers unhesitatingly exploit their helplessness and make under-payment to them. The change in the nature of work and work-habits terribly affect the mind and body of tribal women.

The tribals, in the new urban environment, at the out-set feel like caged animals and birds. Particularly tribal women feel more uncomfortable in a slum where they are forced to live. They are unable to articulate in the slum and therefore feel miserable. This brings about a typical psychic affliction to tribal women. The forced change from a natural, exuberant and free environment to an artificial constricted and tricky ervironment often irretrievably confuses tribal women.

The burden of constructing a hut in the new environment to a certain measure revolves on women as they are the keepers of house holds. They take initiative in the appropriate site and take the decision along with their male counterparts to build a house there. They devote every moment of their leisure time to the construction of the hut, and collect freely available way-side miscellaneous building materials for speedy completion of the shelters.

The environment of the new habitat is infested with various types of pollutions, and the intensity of pollution increases with passage of time. Due to the lack of adequate open space children answer call of nature just around the hutment. Formerly, house cleaning was the task of tribal women, and now in addition to that they have to keep the environment of the new habitat clean. Amidst her daily busy routine a tribal woman has to find out time for this work. All these mean that the tribal women are more hard-pressed.

Slums, the new habitat of migrant tribal families, are unhygienic because of excessive congestion, lack of shower and water-supply, narrow and sinuous lanes and by-lanes, and totally unplanned construction of huts. Public latrines, wherever exist, are utterly inadequate for the population and are awfully dirty and thus are not used. The perplexed tribals quite often become physically sick in the new environment because here they have to take to a different dietary pattern, and therefore have to develop a new type of body resistance and immunity. Women and children are worst victims as they perpetually suffer from malnutrition. Our studies show that being confronted with unmitigated health hazards children and women often meet premature death. It is obvious that the new surrounding not only provides a set of new physio-psychological spurs to them, but also necessitates a new type of adjustment. As they are simple, they become easy prey of unscrupulous elements, particularly women, in the new environment. Initially quite often they get duped and outwitted. It is quite natural to expect that the socio-cultural life-style of the tribals steadily undergoes modifications as per the dictates of the new environment. It created various problems in the process as the simple tribals faced problems by both means and ability to internalise a complex and sophisticated culture within relatively a short span of time. Life in the new environment is fast, tricky and individualistic.

In the new environment of the tribal village diviners, medicine men, occult-practitioners, socio-religious functionaries and midwives. are not available for service. This implies that in the new environment they are deprived of the services of their socio-cultural functionaries, who assisted them to over-come crisis situations in their traditional society. In their native village these specialists were part and parcel of their social life.

Social problems

As has been indicated in the foregoing paragraphs many social problems crop up for the tribals.(1). Poverty which has alien to the tribals in their natural habitat makes its scourge and pangs felt in the now habitat. As they are now tagged to market economy they are constraised fo feel and experience the implications of poverty. (2) Now they are exposed to a

new type of exploitation by the labour contractors and other such rapacious employers. Delayed payment, irregular payment and underpayment cause misery and the resultant economic factors severely impinge on their pattern of life, (3) After a shift from the kin based society to an interest centric society, a tribal woman often becomes a victim of undesirable circumstances. With the loss of her socio-cultural identity she gradually gets estranged from her kins folk. The new wind gradually wipes out her traditional out look, attitudes, customs and values, (4) She gradually acquires illusions and vague dimensions of a "Culture of Poverty", which proves to be ruinous for her and for her family, (5) Maladjustment surfaces between the migrants and their new environment because of the latter's lack of dynamism, (6) Inadequacy of social control leads to weakening of group solidarity, and gives rise to frequent dicords and dissensions, (7) Migrants come under the increasing pressure of values and institutions that militate with their traditional ones and hence they often lose mental equanimity, (8) Lack of a regular and stable source of income does not enable the house-wife to prepare the family budget, (9) The tribals quickly get disenchanted with the new environment and become worried with its drab and artificial atmosphere, (10) Women are sometimes cured and compelled into immoral sex activities, (11) Poverty and lack of social control give rise to frequent conflicts in the family, which ultimately results in the dissolution of marriage, and (12) After divorce a woman becomes helpless and destitute and if she has crossed her youthful vigour, then she has hardly any chance of remarriage; the plight of a lonely tribal woman is great and endless.

There is no patent panacea for the problems of women among all tribes, because problems vary from one category of tribes to another, for example, the problems of Santal, Munda, Ho and Oraon women are some what different from other tribal women in Orissa, because they are settled agricultural tribes and their techno-economic level is relatively higher than other tribes, and realistically their women folk have more exposure to the societies around. Among other tribes women operate within the confines of their respective encysted societies. Therefore, problems of tribal women and their solutions need be conceptualised in the centext of their respective cultures. However, certain broad categories of solutions can be worked out. First of all a tribal women's cell can be established at the State level with sub-offices at the district level to enlist, categorise and monitor problems of tribal women tribewise. This cell apart from counselling, must be vested with powers to design a package of problem-specific solutions. Implementation of the ameliorative programmes be left to the ground level agencies, (2) The scheme of non-formal education in tribal areas be revamped so as to cater to the specific needs of the people. Lady students be given stipends or some sort of economic incentive so as to enable their families to spare them for the training, (3) Transit-*cum*-Vocational Training homes be set up exclusively for tribal women at district headquarters for appropriate rehabilitation of destitute and helpless women, (4) Women's Co-operatives be constituted under Government control for effective implementation of income-generating schemes, and (5) Since tribal women are non-literate and unsophisticated more labour-intensive training programmes be designed for their meaningful employment. They can be effectively engaged in unskilled as well as in semi-skilled jobs in cotton mills, spinning mills, sugar cane and food-processing industries, canning Industries, in the processing industries of minor forest produce, in labour intensive agricultural development schemes, in afforestation and forest regenerating programmes and in a number of self-employment schemes, such as, preparation of broom-sticks, mats, ropes, etc.

Urbanism and urbanization do not in fact help in the amelioration of the problems of tribal women. And land has now appeared to be a constraint for development. There is not much land left in most states for development of the landless people. Development of people with minimum spatial dislocation is a necessity at present in India. This is certainly one of the challenges of development. Development should not revolve round agriculture alone. And further development is not social welfare where money is to be pumped into the hands of beneficiaries. It encompasses a spectrum of activities and human mobilization to make people stand on their own feet and break away all the structural disabilities which chain them to the condition in which they live. In this context tribal women may be given various service and vocational trainings so as to eke out an existence.

ENVIRONMENTAL CHANGES AFFECTING TRIBAL WOMEN

N. Patnaik

A study was undertaken in three tribal villages to find out the nature of participation of tribal women in economic activities, work patterns and nutritional status of the people of these villages. The villages are (1) Sankarai—a Hill Bhuinya village located in Bhuinyapirh of Keonjhar district, (2) Sundijuba—a Kutia Kondh village in Thuamul-Rampur block of Kalahandi district and (3) Tumkur—a Lanjia Saora village in Guma block of Ganjam district. In all these three villages the tribals carry out shifting cultivation as their primary source of livelihood. But besides shifting cultivation the tribes of Tumkur have taken up extensive terraced cultivation from which they also get substantial income.

The techniques of cultivation varies from village to village depending upon the density of vegetation, cropping pattern and food habits.

Sankarai village

The economic life of the Bhuinyas of this village centres round shifting cultivation which is the primary source of their livelihood. To a large extent it is supplemented by collection of minor forest produce and to some extent by wet and dry cultivation and by hunting and fishing. The monthly calendar of agricultural operations with associated rituals are given in Table 1.

The Hill Bhuinyas keep cows, buffaloes, goats, sheep and fowls in their houses. The cows are kept not for milk but for cultivation and breeding. Some families keep she-buffaloes for milk which is sold rather than consumed. The cattle and buffaloes are used as drought animals for ploughing lands in the plains.

The Hill Bhuinyas are in the habit of collecting minor forest produce extensively for their own use and also for sale. The items include mahua flowers and seeds, mango, jack fruit, tamarind, trifala, sal seeds, kusum, mushroom, arrow-root, thatching grass, logs of wood, fire-wood, fibres medicinal plants and various types of edible fruits and tubers.

The Hill Bhuinyas follow sex division of labour. Generally heavier works such as cutting trees, ploughing, sowing, hunting and fishing are on the shoulders of men while lighter works such as cooking and other domestic works are the monopoly of women. Thatching houses and climbing trees are taboo for women. Works like forest clearing, weeding, transplanting, harvesting, collection or minor forest produce are attended by both men and women. The daily routine of works shows that women are required to work for a longer period of time than men.

Women including girls above 11 years get up very early in the morning and start their usual domestic works such as cleaning utensils, fetching water and cooking food. Then they proceed to work in shifting cultivation. If there is no work to be done in the swiddens they spend time in collecting roots and tubers, leaves and seeds in the forests. They return home at 2 p. m. with a head-load of fire-wood and collections. Then they start cooking their evening food and after taking food round about 7 p. m. they either retire or chitchat in groups for sometime. Their leisure time activities include weaving of mats and drying up of mohua flowers and sal seeds.

Sundijuba village

The important sources of income of the Kutia Kondhs is shifting cultivation. Wet cultivation, food gathering and hunting, animal husbandry and wage-earning are supplementary economic activities. The Kondhs cultivate four types of

ands, (1) Dongar land where they carry on hifting cultivation, (2) Beda land at the foot-hill, where paddy is grown, (3) Bhata land in which blackgram, oil-seeds, turmeric and maize are grown and (4) Bada or kitchen garden. The Table 2 gives the month-wise agricultural activities.

Collection of minor forest produce and hunting supplement income from land. The items collected from the forests are timber, bamboo, broomstick grass, mushroom, gum, honey, fruit, green leave, roots and tubers. Whatever collections are made from the forest are consumed at home and large scale practice of shifting cultivation is responsible for the depletion of game animals. Therefore, hunting is practised more as a pastime than as a major economic pursuit.

Tumkur village

The economic life of the Saoras of Tumkur village centres around agriculture. They practice three kinds of cultivation-in the little garden of homestead lands near their house, on their terraces and dry lands and in the swiddens on the hill-slopes and hill-tops. They supplement their income from land by food gathering. Mango, mohua and mushroom constitute important collections in seasons. Minor forest produce such as Karanja and sal seeds which are extracted for oil, broomstick, grass and many types of medicinal herbs which they collect during their leisure time meets their needs at home and form an important supplementary source of income. The wild animals have become scarce as a result of dessication of forests and therefore hunting has become an irregular feature. The Table 3 gives the monthly calendar of agricultural activities.

The Saoras observe sex division of labour both in economic and social activities. Some activities are done by men and some by women and some others by both. The division of labour along the sex line is given in Table 4.

Changing Scene

The study has revealed that the forest cover has been depleted more seriously in Tumkur than in Sankarai and Sundijuba villages. Therefore the practice of shifting cultivation is going on as extensively as before in Sundijuba village whereas it has diminised to some extent in Sankarai village and to a great extent in Tumkur village. Besides shifting cultivation supplementary economic activities are being carried out in all the three villages, in Tumkur more extensively than in other two villages. For example, the terraced cultivation practised by the Saoras in Tumkur has been a substantial source of income. By this the workload of the womenfolk of the village has increased very much. Since the works connected with shifting cultivation have been reduced the children are no longer employed in such works. The Table 5 gives the hours of work devoted to major economic activities by men, women and children in the 3 study villages. The table shows clearly that compared with Sundijuba village the other two villages Senkarai and Tumkur show a deminished rate of input of labour in hours in shifting cultivation by both men and women. It also shows that whereas children contribute their labour to the works of shifting cultivation they are not employed in Tumkur village. In fact, they are not employed in any of the economic activities.

Deforestation and some other factors have changed the work pattern of women in Tumkur and Sankarai villages. Three major influences have entered into the scene during the past decades. The first is the reduction in the forest area and with this the distance between the village and the forests has increased and availability of produce has decreased. In these villages the forest in the past were near at hand but today it has receded to a distance varying from 2 Kms. to 6 Kms. from the village. As a result the women whose duty was to collect forest produce including firewood have to walk longer distance for collection of minor forest produce.

The second external influence coming with the infiltration of non-tribals and intrusion of outside culture has caused considerable changes in the traditional economic pattern. The important change has been the private ownership of land for shifting cultivation. In the past the village used to allocate plots to each family only for the season, thus, ensuring materials security for everyone. Today, more powerful families occupy best plots and more extensive ones leaving the less fertile and less extensive plots to the poor.

The third influence which has resulted from the second one relates to non-availability of land and consequent competition. The concerned tribal communities which were once classless communities have been split up into

class differences and competition for forest resources allotted along class line has crept up. Thereby the cohesiveness has broken down.

The Table-5 shows that the women of Tumkur village devote more hours than men to works connected with shifting cultivation. They also put substantial hours of labour in works connected with terraced cultivation. Thereby the work input by women has increased. The rocky nature of land has increased women's work and the poor quality of soil has reduced the quantity of food produced in lands under shifting cultivation. This has affected the intake of food of the Saoras of Tumkur village. The Table-6 gives the intake of calorie and protein in the three villages. The table shows that the people of Sundijuba village where the practice of shifting cultivation continues to be productive are better fed than the settled and terraced cultivators of Saora community. Low level of nutrition in Saora village is due to greater extent of deforestation and soil erosion. Monetised eccnomy has resulted in nutritional deficiency.

TABLE I

Monthly calendar of agricultural operation with associated rituals

Sl. No.	Type of land	Crops grown	Type of operation	Month or months when performed
(1)	(2)	(3)	(4)	(5)
1	Biringa (Land under first year cultivation).	..	(*a*) Tree felling ..	February—April after *Magha podei* ceremony.
			(*b*) Firing ..	April-May
		Kolatha, Biri, Rasi ..	(*c*) Debushing ..	June
			(*d*) Sowing ..	July after *Akhin Parab*.
			(*e*) Ploughing and hoeing.	July immediately after sowing.
		Creeper plants ..	(*f*) Weeding and debushing.	September, October after *Asharipuja*.
		Vegetable and pulses	(*g*) Watching ..	November-December
			(*h*) Harvesting ..	November-December
2	Kaman (Land under 2nd year shifting cultivation).	..	(*a*) Debushing ..	February—April after Magha podei Parab.
		Kada, Mandia, Dhana, Gongei, Kangu, Creeper, Vegetables and pulses.	(*b*) Firing ..	March-April
			(*c*) Sowing ..	May or June after rain immediately after sowing
			(*d*) Ploughing and hoeing and debushing.	
			(*e*) Weeding ..	September-October
			(*f*) Watching ..	November-December
			(*g*) Harvesting ..	November-December

Sl. No.	Type of land	Corps grown	Type of operation	Month or months when performed
(1)	(2)	(3)	(4)	(5)
3	Guda (Land under 3rd year shifting cultivation).	Jalli or Niger ..	(*a*) Sowing ..	May or June after rain
			(*b*) Ploughing, hoeing and debushing.	Immediately after sowing
			(*c*) Weeding ..	August-September
			(*d*) Watching ..	September-October
			(*e*) Harvesting ..	November
4	Bila (Wet land) ..	Paddy and occasionally horsegram as second crop.	(*a*) Ploughing .	April-May after rain
			(*b*) Manuring ..	May
			(*c*) Sowing	June
			(*d*) Ploughing ..	Immediately after sowing
			(*e*) Transplanting .	July-August
			(*f*) Reploughing if sown by broadcast. ..	July-August
			(*g*) Weeding ..	September-October
			(*h*) Watching ..	November-December
			(*i*) Harvesting ..	December
5	Nala (Plain land) ..	Dhana, Koltha ..	(*a*) Ploughing ..	April-May after rain
			(*b*) Sowing ..	June
			(*c*) Ploughing ..	Immediately after rain
			(*d*) Weeding ..	September-October
			(*e*) Watching ..	October-November
			(*f*) Harvesting ..	November
6	Bakadi (Kitchen garden).	Maka, Sorisa, Vegetable, Tobacco.	(*a*) Ploughing ..	April-May
			(*b*) Manuring ..	Before ploughing and sowing.
			(*c*) Sowing maize as 1st crop.	May-June
			(*d*) Ploughing ..	Immediately after rain
			(*e*) Weeding ..	July
			(*f*) Harvesting ..	September
			(*g*) Ploughing ..	September
			(*h*) Sowing mustard as 2nd crop.	October
			(*i*) Ploughing ..	Immediately after sowing
			(*j*) Harvesting ..	January

TABLE 2

(Agricultural Cycle)

Sl. No. (1)	Type of land (2)	Crops grown (3)	Type of activities					
			January (4)	February (5)	March (6)	April (7)	May (8)	June (9)
1	Dongar ..	Kandul ..	Harvesting	Harvesting Threshing	Storing	Firing	Spreading ashes	Spreading ashes and Hoeing
2	Dongar ..	Dating ..	Clearing dongar	Felling trees	Felling trees	Spreading ashes	Furrowing	Sowing seeds
3	Dongar ..	Telenga Andia	Harvesting Storing	Felling trees	Felling trees	Spreading ashes Furrowing	Sowing seeds	Sowing seeds
4	Dongar ..	Desi Mandia	Felling trees	Felling trees	Felling trees	Furrowing & Spreading	Sowing seeds	Sowing seeds
5	Dongar ..	Jana	Felling trees	Felling trees	Cutting under growth	Hoeing	Sowing seeds	Sowing seeds
6	Dongar ..	Kueri ..	Felling trees	Felling trees	Felling trees	Hoeing and firing	Furrowing & spreading	Sowing seeds
7	Dongar ..	Kangu ..	Harvesting & Storing	Felling trees	Felling trees	Spreading ashes	Sowing seed	Sowing seeds
8	Dongar ..	Mung ..	Storing	Felling trees	Feiling trees	Firing	Furrowing & spreading	Hoeing
9	Dongar ..	Biri ..	Storing	Felling trees	Felling trees	Firing	Spreading ashes	Hoeing
10	Bhatia land	Munda Dhan	Ploughing	Furrowing	Making ridges	Ploughing ..	Levelling & manuring	Sowing
11	Beda land ..	Bata Dhan	Ploughing	Furrowing	Preparing ridges.	Ploughing	Levelling & manuring	Sowing
12	Beda land	(Indian corn) ..	..	..	..	Ploughing	Manuring & fencing.	Sowing
13	Beda land ..	Mustard ..	Harvesting	Harvesting	Storing	..	..	..
14	Beda land ..	Mustard ..	Watching	Harvesting	Storing	..	..	..
15	Beda land ..	Niger ..	..	..	..	..	Ploughing	Ploughing
16	Beda land ..	Kulthi ..	Harvesting & Threshing.	Storing	Storing	..	..	..
17	Beda land ..	Tobacco ..	..	Harvesting	Storing	..	Manuring	Ploughing
18	Beda land ..	Rasi ..	..	..	..	Ploughing	Ploughing	Fencing and manuring.

TABLE 2 (Contd.)

Sl. No. (1)	Type of land (2)	Crops grown (3)	Type of activities					
			July (10)	August (11)	September (12)	October (13)	November (14)	December (15)
1	Dongar ..	Kandul ..	Sowing seeds	Weeding and debushing	Weeding	Lopping twigs	Watching field	Watching
2	Dongar ..	Dating ..	Weeding	Weeding and debushing	Debushing and lopping branches	Cutting trees	Harvesting	Threshing, storing
3	Dongar ..	Telenga Andia	Weeding	Weeding and debushing	Debushing and lopping branches	Lopping branches and warding of animals	Watching	Harvesting and storing
4	Dongar ..	Desi Mandia	Weeding dubushing	Lopping branches	Watching	Watching	Harvesting	Storing
5	Dongar ..	Jana ..	Weeding	Weeding and debushing	Lopping branches	Watching	Harvesting and threshing	Storing
6	Dongar ..	Kueri ..	Weeding	Weeding and debushing	Lopping branches	Warding and watching	Harvesting and threshing	Storing
7	Dongar ..	Kangu ..	Weeding	Weeding and debushing	Debushing	Watching	Watching	Harvesting
8	Dongar ..	Mung ..	Sowing	..	..	..	Harvesting and threshing	Storing
9	Dongar ..	Biri ..	Sowing seeds	..	..	..	Harvesting and threshing	Storing
10	Bhatia land	Munda Dhan	Weeding	Weeding	Watching	Watching	Harvesting and threshing	Storing
11	Beda land ..	Bata Dhan	Weeding	Weeding	Watching	Harvesting	Storing	Ploughing
12	Beda land ..	(Indian corn)	Weeding	Weeding and warding	Harvesting	..	..	..
13	Beda land ..	Mustard ..	Fencing	Ploughing	Ploughing	Sowing	..	Watching
14	Beda land ..	Mustard ..	..	Fencing	Ploughing	Ploughing	Sowing	..
15	Beda land ..	Niger ..	Fencing	Sowing	Sowing	..	Harvesting and threshing	Storing
16	Beda land ..	Kulthi ..	..	Ploughing	Ploughing	Sowing	..	..
17	Beda land ..	Tobacco ..	Seedling	Seedling and fencing	Manuring	Weeding	Weeding	..
18	Beda land ..	Rasi ..	Sowing	..	..	..	Harvesting and threshing	Storing

TABLE 3

(Monthly calendar of Agricultural Activities with associated rituals)

Sl. No.	Saora month	English equivalent	Activities connected with terraced cultivation and uplands	Activities connected with shifting cultivation	Other activities
(1)	(2)	(3)	(4)	(5)	(6)
1	GALANBURUGAE .. (Harvesting of KANDULA and JANA).	January	Harvesting Kolthi from uplands, sowing Amba dhan in terraced fields.	Harvesting Kandula and Jana, new Kandula eating ceremony (RAGON ABDUR)	
2	NIVAGAE .. (Carrying firewood from swiddens & collecting mohua).	February	Transplanting Amba dhan	Harvesting kandula	Marketing pulses, negotiating marriage, collecting mohua
3	ARIAMDURGAE .. (Forest-clearing and firing)	March	Weeding	Forest clearing and firing combustible matter, forest clearing and firing ceremony (Koriya)	Repairing agricultural implements, collecting mohua, marketing pulses
4	GUSANOGAE .. (Dibbling of Kandula)	April	Repairing gaps in fencing around terraced fields	Forest clearing and firing, dibbling kandula, harvesting, turmeric	Collecting tamarind, mohua, marketing forest produce, mango eating ceremony (UDAN ABDUR)
5	LALAGAE (Hoeing)	May	Ploughing, harvesting Amba dhan, sowing ragi in uplands	Dibbling kandula, hoeing, swiddens, sowing ghantia, ganga, kangu, jana, burubudi, jhudunga	Collecting barada, samatila and arrangda leaves
6	PUJING GAE .. (Weeding) or GUSI GAE (Transplantation of Ragi).	June	Ploughing, transplanting ragi in uplands	Weeding, weeding ceremony (GONAION ABDUR)	Pineapple ripens, collecting leaves

TABLE 3—*(Contd.)*

Sl. No.	Saora month	English equivalent	Activities connected with terraced cultivation and uplands	Activities connected with shifting cultivation	Other activities
(1)	(2)	(3)	(4)	(5)	(6)
7	GUSAI GAE .. (Transplantation of Ragi)	July	Transplanting ragi, raising seedlings of paddy on seed bed	Weeding	Vegetable growing in kitchen garden
8	GUSAR GAE (Transplantation of paddy)	August	Transplanting paddy	Weeding	
9	TISAR GAE .. (Weeding)	September	Weeding	Watching crops, harvesting kangu and suan	Collecting mushroom & tender bamboo shoots.
10	GAPAL GAE .. (Weeding)	October	Weeding, harvesting ragi	Weeding, watching crops, harvesting kangu.	Collecting mushroom & tender bamboo shoots
11	GAJING GAE .. (Forest clearing) or GANGA GAE (Harvesting of Ganga)	November	Harvesting Biri from dry fields and paddy from terraced fields, Shaman's ceremonial eating of rice (LAJAP)	Forest-clearing, harvesting ghantia, ganga, watching crops	
12	TIMBIR GAE .. (Forest-clearing) or GAGAG GAE	December	Harvesting paddy, preparing seed bed for amba dhan, sowing amba dhan, ploughing & manuring terraced fields	Forest-clearing, harvesting Ganga, Jhudunga, Burubudi.	Collecting Bhalia (edible fruit) from forests

TABLE 4

(*Sex Division of Labour*)

Sl. No.	Name of the activities	Performed by men	Performed by women	Performed by women
(1)	(2)	(3)	(4)	(5)
1	Hunting and repairing of the hunting implements	M	..	..
2	Fishing and repairing of fishing implements	..	..	C
3	Agricultural Activities :			
	(*a*) Ploughing ..	M	..	..
	(*b*) Transplanting ..	...	..	C
	(*c*) Weeding ..	..	..	C
	(*d*) Harvesting ..	..	..	C
	(*e*) Forest clearing ..	..	..	C
	(*f*) Firing ..	M	..	..
	(*g*) Sowing ..	..	..	C
	(*h*) Hoeing ..	..	..	C
	(*i*) Watching crops ..	..	..	C
	(*j*) Kitchen gardening ...	...	..	C
4	Collection of forest produce :			
	(*a*) Collection of roots, fruits and tubers	..	..	C
	(*b*) Collection of honey ..	M	..	..
	(*c*) Collection of wood and bamboo ..	..	...	C
	(*d*) Salap liquor ...	M	..	..
5	Household activities :			
	(*a*) Cooking ..	..	W	..
	(*b*) Fetching water ..	..	W	..
	(*c*) Cleaning utensils ..	..	W	..
	(*d*) Husking grains and grinding ..	..	W	..
	(*e*) Storing of grains ..	..	..	C
	(*f*) Construction and repairing of houses	..	..	C
6	Tending cattle ..	M	..	..

TABLE 5

(Hours of work sex-wise)

Activities	Sundi juba (Kondh)			Sankarai (Bhuinya)			Tumkur (Saora)		
	Male	Female	Child	Male	Female	Child	Male	Female	Child
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Shifting Cultivation ..	16,198 (36·67)	11,220 (33·44)	9,692	13,681 (25·85)	11,214 (19·63)	2,019	6,512 (19·56)	22,275 (29·56)	..
Settled cultivation ..	4,546 (10·25)	1,981 (5·90)	1,630	2,161 (4·08)	1,442 (2·52)	150	5,297 (15·91)	9,689 (12·86)	...
Pasturage ..	213 (1·13)	49 (0·15)	1,887	2,115 (3·99)	521 (0·91)	1,003	3,117 (12·40)	452 (0·59)	..
Hunting/Gathering/ Fishing	3,429 (7·76)	2,825 (8·42)	5,974	5,298 (10·01)	6,035 (10·73)	4,561	392 (1·17)	2,508 (3·33)	—
Leisure time Activities..	19,521 (44·19)	17,474 (52·08)	27,346	29,679 (56·07)	37,815 (66·21)	17,097	16,961 (50·96)	40,434 (53·66)	..
Sleep ..	20,632 (31·84)	18,959 (35·33)	..	32,274 (37·96)	30,679 (34·95)	..	17,841 (34·90)	39,186 (34·21)	..
Total ..	64,800	52,508	46,529	85,008	87,792	24,830	51,120	1,14,544	..

TABLE 6

(Food intake)

	Calorie		Protein intake per unit per day in gm.		
	Intake	Deficiency	Vegetable sources	Animal sources	Total
(1)	(2)	(3)	(4)	(5)	(6)
Sankarai ..	2,422·95	1,077·05	37·24	5·01	42·25
Sundijuba ..	2,719·48	780·52	40·72	5·35	46·07
Tumkur ..	2,365·09	1,114·35	42·73	4·20	46·93

1. Shifting cultivators are better fed than the settled and terraced cultivators;
2. Low level of nutrition in Tumkur is due to greater extent of deforestation and soil erosion;
3. Monetized economy has resulted in nutritional deficiency.

Tradition and customs associated with pregnancy and child birth among Kondhs of Phulbani

Saraswati Swain

Orissa has the highest concentration of tribal population in the country, only next to Madhya Pradesh. There are 62 tribes consisting of a total population of 59,15,067 (Census 1981) which is more than 22 per cent of the entire population of the State.

They are the most deprived segment of the population, live in abject poverty, in very hostile environment, under most insanitary conditions. Houses are tiny little hutmets, the same room being used by human beings along with their pets. The overall growth rate of the tribal population is stated to be 16·68 per 1,000 as against the State's geneal average of 19·72 per 1,000 (Census 1971—81).

The tribal community do not constitute a standard homogenous group. They are culture, region and tribe specific and the socio-cultural pattern varies both in between and among the tribes. They believe in supernatural powers, who guide their lives and in case of offence or breach of taboo the mystical power punish them through death, disease or disaster. Jani, or the village priest is the mediator between the tribal people and the God. He worships and prays for the welfare, health of the people through various rituals including animal sacrifice and alcoholic drinks, which are offered to the Gods for their appeasement.

Inspite of the industrialisation and consequential urbanization, the tribal community has been able to maintain their age-old tradition, which perhaps, has been helpful not to allow them to be sweft away of their feet.

The present study was conducted in one of the tribal districts of the State (Phulbani) which is inhabited by mostly Kondhs who constitute numerically the highest tribal population of the State.

Prenatal Care :

Pregnancy is kept strictly confidential, lest the foetus would be aborted due to the evil eye of the bad spirit. Antenatal care is not advocated, more so by the health workers, even when they are available. If the condition becomes serious, the Jani is called into offer magico-religious remedies. At times when the mother does not feel comfortable, the local T. B. A. is requested to come and correct the position of the foetus.

Drugs supplied by the Health Workers are not used and in some cases are thrown away. They have a firm belief that, the child would become very big due to the effect of the drugs and naturally labour would be difficult and delayed.

Food taboos, though exits are not very rigid. The expectant mother is instructed to eat potato, Arhar dal, chicken as they are good for health. But blackgram, horsegram, pumpkin, mutton, green drum stick, plantain, jackfruit are prohibited since they lead to constipation. These restrictions are to be followed from the beginning of the 2nd trimester. Some other restrictions include prohibition of onion, garlic, arum, puffed rice, fish, etc. The reasons offered are as follows :

(*a*) Onion and Garlic encourage the spirit to enter the womb and the child would suffer from rash.

(*b*) Consumption of fried grain —The slimy portion of grain gets stuck to the body of the child and adversely affect its health.

(*c*) Eating of Rohu fish (a special type of fish) causes ulcer in the umbilical region of the child, who might also suffer from rash.

(*d*) Arum—Due to its effect the child suffers from fever.

(*e*) Boar meat—Child would suffer from tuberculosis.

(*f*) Puffed rice—Child suffers from various diseases.

Heavy physical exercise like husking of paddy, carrying head load are restricted during the first and third trimester of pregnancy though allowed in the 2nd trimester, which is considered to be necessary for easy delivery and to keep the mother fit.

She is instructed not to lie flat and not to press the abdomen against the floor.

The expectant mother is not allowed to go out alone during mid-noon and in the evening. These transitional periods are extremely important, though inauspicious, when she is likely to be attacked by evil spirits, who usually take shelter in lonely places and have a special fascination to cause harm to pregnant women if they find them alone.

The place of delivery is selected by the elder members of the family. Since the tribal houses mostly consist of one roomed huts, one of the corners is cleaned and prepared for the ensuing delivery. They do not like to go to the hospital as it is expensive, lonely, culturally unacceptable and do not allow visit of villagers, while in the tribal community the birth, death or illness are a community affair. This gregarious behaviour is necessary for their survival. Where nature is very adverse and unkind, unity is necessary to fight and cope with it. Hence there is a need of a close community life and mutual assistance.

Delivery Process

Delivery is usually conducted by the mother-in-law or any elderly woman of the village who is conversant with the job. At times the husband also assists in the process. The health worker or hospital people are not approached unless there are very serious complications.

Delivery is conducted mostly in squatting position. The mother is asked to hold firmly a pillar or a hanging rope (Sika specially installed for the purpose) during the process of bearing down. A binder is applied above the fundus which the person, assisting in delivery, holds back, lest the child would move upward.

The mother is surrounded by old ladies of the village who encourage her for a safe delivery. She is given hot water, warm rice water to drink. Ordinary cold water is never allowed. This is necessary to prevent collapse.

Some birth attendants smear their palms with oil and massage abdomen from top to downwards. Some oil also is poured in the birth canal for lubrication.

To reduce delay in delivery the following methods are applied which are both person and area specific:—

1. The delay might be due to evil eye of the ancestors or some evil spirit. Hence the witch doctor is called in for giving 'Katapani' or to adopt any other method to hasten up delivery.
2. A paste of Ahir root is prepared. A portion of it is applied over the forehead of the expectant mother and the other half is given her to eat. Child is immediately delivered after this method.
3. A piece of the root of Basanga tree (Adhatoda Vasica) is tied with thread which the women is given to wear around her waist.
4. Akanabindhi root (Cissampelos pareira) and Apamaranga roots (Boerhavia diffusa) are boiled in water. Hot fomentation is given over vulva and umbilical region with this water.

The umbilical cord is not cut untill the placenta is delivered. The instruments used are mostly blades, bamboo stick, broken earthen ware pot and chialkanda (pointed end of an arrow). In majority of cases the cord is not tied with any thread following their tradition.

The placenta is buried either in one corner of the room or outside the house just below the roof.

In case of delay in the delivery of placenta:—

1. The bark of Mahua tree (Madhuca Indica) [special type, where all the flower must have dropped before sun rise] is collected, a paste is prepared with this which is applied over the forehead of the mother.
2. Baula flower (Mimusops elengi) is placed over the head of the mother after which placenta is immediately delivered.

3. Bitter-gourd seeds, scales of skin of snakes and white mustard are put on fire and the smoke is blown towards vulva which hastens the delivery of placenta.

4. A naked boy is instructed to collect Murgh root (Sanserieria roxburghiana). A paste is prepared with this and tika applied over forehead of mother after which the placenta is expelled immediately.

Relief after Pains

1. Mixture of long peper or dried ginger powder is given with hot tea or hot water.

2. Kusum oil (Carthanus tinctorius) with Rangajada (Ricinus Communis) leaf is applied over abdomen. The leaf is dried over fire before it is placed over abdomen.

Prevention of Collapse

Juice of Karanja bark (Pongamia glabra) is extracted, a piece of hot iron is placed in it and the mother is given it to drink.

Declaring the Child dead

If the child does not cry immediately after birth, then a brass plate is bitten hard near its ear and even then if the child does not respond, it is considered to be dead.

After the delivery of the placenta, the vernix caseasa is removed by applying soft husk or a special type of mud. The baby is given bath in warm water by applying turmeric paste.

Breast feeding Practice

The child is not breast-fed for some time. Breast-feeding is not given in some areas until the umbilicus is dropped. The mother is untouchable during this pe.iod and hence should not breast-feed the child. Some believe that mothers' milk is mixed with blood du ing this period and hence is unsuitable as baby food. In other areas the child is put to breast after 24-36 hours. But there is variation in this procedure.

Before the child is put to b east the milk is first expressed, collected in mothers' pallu and is washed in running stream. It is never washed in well or pond water. The water God (Jala Mauli) lives in the stream and when the expressed milk is washed in the stream it would help in free flow of milk from mother's breast which is necessary for the health of the child.

In some places the child is not fed anything until it is put to breast. Even water is also not allowed. In other places boiled water or honey water is given. Honey water is believed to clean the stomach and protect the child from cold.

Delay in dropping of the Cord

The umbilicus is dried by application of warm caster oil and it usually dries and drops off in 3-4 days. In case of delay the following procedures are adopted:—

(1) Goat dung is burnt, made into a paste with caster oil and applied over the umbilicus.

(2) The dirt of the cot is collected and applied over the umbilicus.

(3) The first stool of the child is burnt and the ash is applied over umbilicus.

(4) The leaf of Bahada is burnt and applied over the umbilicus.

When umbilicus drops off, it is collected and buried in a hole made on the wall of the house. This is necessary to ward off evil spirit.

The yalso have a firm belief that the umbilicus will dry off very quickly, if the fat of the animal, sacrified at the altar of the deity, is boiled and applied over the umbilicus. There is no need to use it repeatedly like caster oil. Only one application of this holy oil is enough.

Postnatal Care

No other type of green leafy vegetables are allowed to the mother except drum stick leaves. The other leaves are harmful and would produce rash on the body of the child.

The mother is allowed to take dried rice, fried bringal, mustard oil and garlic for 21 days. But water rice and sour rice are totally prohibited. She is usually allowed one meal only during this pe iod. Long peper and dried ginger are given to dry up her body soon.

Both father and mother are declared untouchable for 21 days after the birth of the child (This period varies from area to area and also in case of male and female child). The first Pollution period is for 7-9 days, next one for 12 days and final one is for 21 days.

The father fetches water, food which he and his wife eat. No other family member is allowed to share food with them. They are also not allowed to touch the village well. They dig a hole in the iver bed and use the collected water.

After the umbilicus drops off the old earthen wear pot is removed from house, mother cleans her clothes and rice is cooked in a new pot. After 12 days the same process is repeated though now a bigger vessel is used to cook. This time the food is extended to young children of the village, but not to others. The renewable things are replaced to show and prove purity. The non- renewable things are washed and cleaned.

Mother is not allowed to move out for 21 days. Since she is impure during this period she is likely to be overpowered by evil spirits which would adversely affect her and her newly born child.

The final ceremony is called "Bigvessel" function. On this day turmeric powder is mixed in water. The elderly members of the house recollecting the names of the ancestors drop one raw rice each time in this water. When. a rice floats in water after uterance of a particular name, he is considered to have appeared. According to them the ancestor has reborn as the child and hence ceases to be an ancestor. The fundamental belief is that life and death are cyclical and continuous process. Death is not the end. He is worshipped with wine. It is believed that the child would grow well due to his blessings and no other evil spirit would be able to enter the house.

After this, rice is cooked in the "Big Vessel" specially procured and all share the food and bless the child. Meat and wine are served on this occasion. The Pollution period is over from this day and mother is allowed to touch the well and other belogings of the house. She is allowed to cook the family food.

This rememberance of names of ancestors varies in different places and also according to the sex of the child. If the child is a girl, 7 ancestors of grand mother and in case of a male child, 7 ancestors of grand father are remembered. They consider the child to be one belonging to any of the 7 generations of either side.

Tribals do not discriminate between boys and girls. Rather a girl is more acceptable since she is an economic asset both for physical labour and also in the marriage market.

The customs and traditions of any area have traditionally been categorised as Beneficial, Neutral and Harmful ones.

The beneficial practices belonging to this community could be enumerated as follows:

(1) Death and diseases are a community affair and so also the process of delivery. The support and encouragement provided by the women of the village to the expectant mother are a great source of psychological support and extremely comforting. Additional hands are also made available in case of need.

(2) Conducting delivery in squatting position was considered to be harmful, but of late, have been accepted as a scientific and useful tradition. The pillars do provide support during bearing down.

(3) Declaring both father and mother untouchable for 21 days not only ensures rest but allows them to come closer to the child which is extremely important from psychological point of view. Further the traditional practice of requiring father to cook the food for his wife increases his involvement in the welfare of the wife and also in management of domestic affairs.

(4) The restrictions and untouchability period are the best methods to prevent cross-infection.

(5) The various functions relatieg to cooking, encourages gradual mixing with the neighbours and also ensures their participation. These are only few of the practices existing in the tribal community.

However, the major objective of this article is to bring out the harmful methods which have been considered to be adversely affecting the health of the mother and the child.

(1) The various dietary restrictions are not only meaningless but positively harmful specially among the poorest section.

(2) The child-hood diseases ascribed to the diet of the mother are due to wrong belief and should not be encouraged.

(3) Restrictions imposed on pre-natal care and use of drugs are also harmful which need immediate attention.

(4) Further, restricting the diet of the expectant mother and subjecting her for heavy physical exercise adversely affect her health which has a bad effect on the foetus also

(5) The customs of using chialkanda or rokon earthen ware pots in cutting the cord bre definitely harmful. Again putting dirt and dung over the umbilicus are one of the most dangerous practices and both have been considered to be important causes of neonatal tetanus.

(6) Similarly the Practice of not tying the cord might lead toinfant deaths due to constant oozing of blood.

(7) Delay in breast feeding the child and not allowing it even water are also harmful, It is responsible for drying and peeling off of the skin which at times ulcerates due to secondary infection.

This article is just an overview, of some of the traditional practices existing among one of the tribal communities in Phulbani. Situations would be different else where.

The tribal people are extremely simple and have tremendous faith on the supernatural powers, who, they believe, to be regulating their lives. Theri culture has helped them to sustain themselves against all odds, gives them joy, makes their life meaningful and gives direction to all their activities. It acts as a defence mechanism against the unslaught of modernisation.

Inspite of this some of their cultural practices have been found to be extremely harmful. It would be desirable to encourage the beneficial practices, ignore the neutral ones and discourage the harmful ones. This could be possible through continuous and sustained health educational activities. The nature worship and superstition of the tribal community have an utilitarian value. When they would receive the benefits they would not hesitate to give up their belief. Hence it would not be very difficult to educate and change their beliefs. Infact this trait of their's have been used by outsiders to exploit them.

Further, being very simple they need to see and observe things to be convinced. Hence along with educational methods demonstration would also be useful and desirable.

A corolary of any of this would be that the hospital and health centre workers need a change in their commercial attitude. They also need training to be able to work in tribal Society.

Finally it could be Concluded that education of the providers and consumers are necessary to bring in a welcome change in any traditional society.

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Myths of Juang—An Anthropological analysis

Ch. P. K. Mohapatra

1. Introduction

Religion is not removed from life of the people of a culture irrespective of the degree of sophistication it has attained at present in the process of evolution. The sum total of ideas and beliefs which we term cosmology and which is manifested through the ritualistic behaviour is the basis of group identity that binds it own members together and differentiates from others, Broadly, mythology which is sum total of the myths of particular culture, is an explanatory model as to what the universe is like. Functionally comprehension of this model tends support to the very cause of existence of the individual living in the said culture. Then he is not allowed to get lost in the be wildering array of phenomena, natural and the like, that take place around him.

Folklore is considered as the repository of such myths, alongwith tales, proverbs, riddles and even tungtwister and puns and, therefore, constitutes a significant aspect of the aesthetic culture of a people. It is considered as the 'oral literature' of a culture because it provides the 'vehicles for the artistic expression of the life of a people'. The under lying unity of these vehicles lie in having the two common characteristics relating to their form and means of communication. These are exclusively verbal and 'orally transmitted from one generation to the other'.

Study of myths as a part of folklore of people constitute an important field of serious anthropological research for varied reasons. Apart from the basic necessity of rendering an insight into the form and content of the oral literature, it performs diverse functions. The spatial as well as temporal dimensions covered by the existence of a particular myth provides scope for a fruitful analysis that may cast into relief the trends of diffusion and the direction of general cultural change of a people or peoples among whom it exists. As myths are verbally transmitted from generation to generation change of character and locale in the text is likely to occur although the broad framework remain intact. But such change detected at a particular point of time help analyse the underlying motives and psychology of such people during that time. A study into the variation of the texts of a myth, therefore, is of as much importance as that of collection of a complete set of myths relating to the culture as a whole.

The present paper aims to describe a particular myth of a tribe that changes its text over a span of geographical area. The text has been collected by late Dr. Elwin from the different areas inhabited by Juang of Orissa. The narrative relates to how earth and man were created in the beginning.

2. The text

" Dharam made two-and-a-half portions of earth, but he could not steady it; it shook to and fro. From the dirt in his armpit he made a tiger and tigress; from them was born Bagho Risi. Soon he had a little sister; she was Patrosurani. These two came together and there was a son Risi Putro. Dharam thought in his mind. 'How shall I make the earth steady? Otherwise it will be hard for these folk to live'. The gods said, 'Let us get Bagho Risi's son'. They went to his house and said, 'Brother give us a cock'. The old man got up to fetch it, but his wife told him not to give it.' They really want our son'. The old man went back and said, 'we have no cock. The gods said, 'Give us your son, and we will make you young and give you two sons instead'. The old man agreed, but the mother told the boy to dress himself in iron knives and swords; she gave him an iron bow twelve hands long and an iron arrow twelve hands long. The gods sent tiger to catch the boy, but the tiger was afraid and did nothing. At last the gods laughed at the boy. 'What a dirty stinking fellow you are so said the gods. (Why don't you bathe sometimes?) The boy went to a lake and tried to bathe with one hand. He held the bow and arrow with the other. The tiger followed him but when it saw this it went away. The gods laughed again. 'You can't get clean with only one hand'. This time the boy put his weapons down on a rock beside him and began to bathe with both hands. The tiger leapt on him

and killed him. The gods came and caught him by the feet. They swung him round and round and his blood flew out in all directions. Wherever it fell the earth became steady. From his hands and feet came the hills and mountains; from his hair grew the jungle. But his parents Bagho Risi and Patrosurani grew young again and had twelve sons and daughters. Thus the Juang came into the world." (*Text No. 1*)

"The earth at the beginning LUD-LUD-LUD-LUD. Mahapurub wondered how to make it steady and a fit home for men. From his thinking, Rusi was born in an ant-hill. He came out and began to hammer on a stone. For twelve years Rusi hammered on his stone. One day as he came out of the ant-hill hammering on the stone,an Asu girl came by naked. She saw Rusi, and said in her mind. This is good. I will make this creature my husband'. She came towards Rusi. Now in those days girls were not beautiful. They had beards and the vulva hung down like a bag between the legs. Rusi saw her coming and thinking. "This girl will certainly eat me'. He ran into his ant-hill. The Asurin searched everywhere for Rusi but could not find him. She sat down on the ant-hill. 'What is the use of going anywhere else? She stayed there seven days and seven nights, but Rusi did not come out. The Asurin thought, 'I'll hide and then he'll come'. When she had hidden herself, Rusi came out, looked all round and thinking himself safe, hammered on his stone and sag, The Asur girl came up behind and caught him by the shoulders. Rusi was frightened. 'Let me go. Don't devour me'. 'No, no, don't be afraid. I want to make you my husband', 'But your brothers or sisters will devour me'. 'No, I am all alone. There is nothing to fear'.

So Rusi and the Asurin lived together; they both were naked. When Mahapurub heard of it, he thought, 'what shall I do when they have children' ? He went to them and, said, 'The earth is not yet ready'. They replied, 'What can we do to make it steady'? He said, 'Find the Kapila cow and kill it; then the earth will be steady. 'Rusi and his wife went to find the cow. They came to Baora Parbat and found the Kapila cow sitting there. Rusi tied a rope round its neck and pulled it allong. The Asurnin went behind and pushed. They took it to Gonasika and killed it there. As its blood fell on the ground the earth was made steady. Rusi and his wife ate the flesh, and ever since we too have eaten beef. (*Text No. 2*)

A somewhat similar story comes from Kajuriya in Keonjhar State.

At first the earth shook DAL-DAL-DAL-DAL. But Rusi brought a black cow to Gonasika and sacrified it there. The earth became steady and he sat down to feast on the flesh. The seven Kaniya came hungry to the world; they said to each other, 'what is this Rusi eating? Let us beg a little and eat it'. They sent the eldest sister to the Rusi. When she saw him she fell in love with him and sat beside him eating beef. It got late and the second girl went to call her. She saw the eldest sister sitting beside Rusi and called to her, but she took no notice. In this way five sisters went to call the girl, but she took no notice. At last the youngest came, and with her eyes she saw that the girl was eatting beef with Rusi. She called to the others, 'Come and look at this'.

Rusi buried the cow's head in the ground There was a great noise and from the cow's nose the water spurted out. Six of the Kaniya ran away, thinking that Rusi was going to kill them. But when Rusi saw them running, he sprinkled the cow's blood on them and they turned into mountains; the youngest was Malyagiri, the next youngest was Nilgiri, then Tamkogiri, Samkagiri, Subedargiri and Tupargiri. When Rusi threw the blood the girls were running in all directions, looking back over their shoulders towards him. So all these mountains are always looking back over their shoulders towards Malayagiri. But the eldest girl stayed with Rusi and become his wife. (*Text No. 3*)

"The Juangs of Balipai described how originally there was nothing but water. On the water floated a lotus leaf. On this grew a banyan tree and in the tree lived an ant. This ant possessed a little earth. When the Gods wanted to make the earth they did not know how to approach the ant, so they made a doll from the dirt of their bodies and when it was ready. put life into it. This was Markand Rusi. He went to the banyan tree and asked the ant for its earth. It refused to give it, and tried to bite the Rusi. But he caught it and squeezed it till it excreted earth. As the earth fell on the water the world came into being. Then only Markand Rusi was on earth. Not even the Gods were there. He was very lonely and longed for some one to serve him. He made two dolls of earth and asked Dharam Debta to put life into them. Both were boys. Markand Rusi said, "There

is no girl. How can these boys people the earth?' He tore his loin-cloth into four bits. He himself wear one bit He gave a bit to each boy. Then he made two more dolls and again asked Dharam Debta for life. Now there were two girls. There was only cloth for one girl; the other wore leaves. The elder brother married the girl who wore leaves; the younger the one who wore cloth. When they grew up Markand Rusi made an axe and said to the boys. Go and cut the jungle, sow your seed and eat.' He called the elder Juang and the younger Bhuiya. 'You are both Matisar', he said. 'You will always be brothers.' (*Text No. 4*).

"A Pal-lahara version of the same story tells how Rusi and his wife had six sons and five daughters (sometimas the figure is twelve sons and eleven daughters). The children of Mahasaro were Juang. From Ganesaro were born Sahibs and Rajas. From Danusaro were born Savara and Mallaro. From Ambasaro were born Bhuiya, Tosa and Gaur. From Dukanaiko were born Jora, Koriya and Kisan. From Guwariamundobhagiya were born Pan, Kol, Hadi and Brahmin. Greatest of all are the Juang, The sahibs are our younger brothers, (*Text No. 5*).

3. Analysis

The variations in the text of the myth are illuminating as these provide clues to understanding of the following :

(i) The Juangs at different localities have a different version of their own which have been profoundly influenced by the religion of surrounding Hindu population. The degree of variation can be observed as the central theme of sacrificing a human being for steadying the earth is substituted for sacrificing a cow for the same purpose. Human sacrifice is abhored by the Hindus and as such, the feeling have been spared in subsequent texts.

(ii) Sacrifice of cow and eating beef also despised in Hindu culture. But the Juangs cannot afford to provide a substitute. On the other hand the close association with Hindu population need to be sustained. Hence, a synthesis is to be attempted and justification of eating beaf has to be provided. The text 2 and 3 provide the justifications.

(iii) The descriptions of the text reveal the egree of incorporation of Hindu mythological characters. The more the amount of incorporation the more is the evidence of change pronounce of culture change. Text 4 and Text 5 provide illustration because these are obtained from areas such as Dhenkanal and Pal-Lahara inhabited by Juangs., who have achieved a greater degree of assimilation with the neighbouring Hindu population than that of Juang who live in Juangpirh and Bhuiyan Pirh area of Keonjhar.

(iv) It has been held "Folklore also gives us clues to the hidden reactions to social sanctions that on the sufface seem to be complied with willingly enough" This statement of M. J. Herskovits tries to impress that the hidden desires are manifested through distorting the customary behaviour in tales and myths The sacred characters are found to commit incest which is forbidden in the social life of any community. Examples of these abound in the tribal myths. Text. 1 describes how brother marries the sister which among the Juangs is considered incestuous. The description concerning incest is absent where the Juang are closely surrounded by Hindu population. Regulations of sex in Hindu culture is more regid than that of the tribals. Hence, there is absence of such descriptions in myths collected from Dhenkanal and Pal-Lahara areas.

(v) In Text 4 and Text 5 we find a glaring difference concerning the creation of the first races of man. In Text 4 the Juang and Bhuiyan are created first. This is indicative of the locality of the myth where first contact between the above two tribes was made and the degree of isolation from the non-tribal communities is more. In Text 5 the locality of the myth is Pal-Lahara where Juangs were created alongwith other tribal and non-tribal communities such as Sahibs, Rajas (Kings), Gaurs (Cowherds), Hadi (Sweepers), Bhuiya etc. In reality, a number of communities surround the Juangs of Pal-Lahara.

As has been stated earlier serious research into the folklore of tribal communities is apt to reveal many interesting facets of the verbal and non-verbal art forms of a society. The present paper is analysed from a particular point of view, i. e., the spatial variations of myths, the data being collected from a secondary source. Original data collected through first hand observation is apt to facilitate analysis from structural, aesthetic, philosophical and psychological angles. The State of Orissa provides a virgin field for serious anthropological researches into the folklore of the great many tribes. It is an enriched field exploration of which is yet awaited.

Material Culture and technology of the Lanjia Saoras

B. B. Mohanty

"Man may be conceived as living in a five dimensional world. First, there is the world of nature that which offers resistance to human effects and whose powers and laws he must obey. Secondly, there is the conceptual or symbolic world by which he interprets and envisages the natural world. Thirdly, there is the world of cultural reality, the man made world of artifacts and socifacts which is the creation of society. Fourthly, there is the ideal world of nature and actual world of culture, the ideal world of utopians and the intelligible world of ideal forms. Fifthly, there is the private world which the ego inhabits and which he does not share with others (Foster, G. M. : 1965). The culture study of any community without discussion about the functional importance of material objects and the role these play in other aspects of life s uch as economic, political, religion, educational and social is incomplete.

The saoras are numerically one of the largest tribal communities of Orissa found in all the 13 districts in varying number. But their main concentration is in the districts of Ganjam and Koraput. It is only in these two districts that the primitive section of the tribe which is known as Lanjia Saora are found. The Paralakhemundi Subdivision of Ganjam district and the Gunupur Subdivision of Koraput district from the contiguous compact Lanjia Saora habitat. The Saoras of other districts are very much influenced by the caste hindus among whom they live and have become hinduised in their way of life. This paper gives an account of the material culture of the Lanjia Saoras who are mentioned henceforward simply as Saoras.

Population

It is not possible to mention the exact population of the Lanjia Saoras as Census of India does not give section-wise population of the tribes. However, the total population of the Saoras in the State according to 1981 Census is 370,061 which accounts for 6·26 per cent of the total tribal population of 5,915,067 of the State. They occupy third position among all the Scheduled Tribes on the basis of their numerical strength. Their level of literacy is 14·47 per cent according to 1981 Census.

Settlement Pattern

"The Saora has an eye for beauty", says Elwin describing the location of the Saora villages. Any travellor to the Saora land is struck with the settings in which the Saoras build their villages. It would be fair to quote a paragraph of Elwin here, "It would be hard to find a more excitingly lovely place than Thordrangu, denging to the hill-side with a superb view of the lower hills and plains. Talasing too is build on the brow of a hill and from its eliffs you can look across to the splendid height of Jumtangbaru. Bodokhara another beautiful village a cup of the hills great rocks overlook it. Sogada in a valley surrounded by steep hills and terraced fields; the eye is enchanted by quite beauty of the scene. Tumul must be one of the loveliest places in India, where you look across green carpeted terraces and waving palms to range upon range of near and distance hills". To add to it the views of hill ranges from Manimgul, the paddy fields from Kalakote are superb, Ajoygoda is situated in a basin from where the giant Debagiri hill rises to one side. There are villages having paddy fields like Kalakote, and terraced fields, like Boraising, Tumukur and Sagada. There are also villages like Tobar-Patta and jung-juag without paddy fields.

The Saoras generally prefer to build their hamlets on high lands and hill slopes which are free from any water lodging chances. Other considerations which facilitate the selection of site are nearness to forest and hillspring. While engaged in shifting cultivation the well-to-do Saoras build small huts on the swiddens. They continue to live most of the time in those huts till the crops are harvested. Sometimes they took the cattles to those huts. During these days the villages look empty.

The Saora villages do not confirm to any particular type of settlement pattern. Saora houses are often built in rows leaving a street in between the rows. Sometimes there are several rows of houses with streets in between two rows, crossing each other at right angles. Sometimes the houses are arraged in rows one above the other like terraces and all the rows face to the same view. In many cases the houses are jumbled up here and there and there are narrow lanes and small openings to which the doors of the houses open.

There are small villages of 4 to 5 families like Laiba and Tabarpatta. There are large villages like Barangasing, Boramsing, Patilli, Sogada, Tumulo, Parisal and Titising, consisting of 100 or more families. A village might have several hamlets. At the entrance to the Saora village there are gate keeping Gods represented by wooden images. These Gods are offered food and flesh during festivals. They ward off epidemics, burglers and other mischievous elements. The Saora thus take adequate precautions to save their settlements from un-to-ward elements. Although the Saora villages are beautifully situated and houses are neatly arranged, those are the dirtiest of the tribal villages. The Saora houses are well kept and colour washed. The floors look like cemented but simultaneously they throw all dirt peelings, debris and cowdung just near their houses. During February and March the village is full of corns of millets and other such stuff. The Saora urinate just near their houses and even deficate quite close to their houses. Added to these are the pigs, fowl and cattles who continuously move about and make the place dirter. No Saora even thinks of clearing his village roads. There are small gardens adjoining the houses where they grow tobacco, gourds and maize. Such garden are not seen in large compact villages like Sogada or Tumulo

Saora houses are rectangular in shape and are fairly high. Separate holdings are distinguished from thatches. The plinth is high while the roof is proportionately low. There may be a single door or in some houses there is a back door, just in line with the front door. There is a high front varendah sometimes six feet in height. The varendah may be narrow. The headman or some well-to-do Saoras make it wider. The walls of the house are made up of stone and mud. In Udaygiri area where there is dense forest the walls may be built up of bamboo or wooden planks and plastered with mud. The walls are coloured red with red earth. Inside the house lies a big shelf with strong stands. On this shelf which cover about 3/4th of the house, are kept all the articles of the Saora beginning from foodgrains up to tiny titbits and clothes. The open space is meant for husking grains with pestles, and for dinning. The hearth is located at one end adjoining to a wall, underneath the shelf. A fire is kept at all times mostly all the year round. The saora house is thus full of smoke. In winter and rainy seasons all the family members sleep under the shelf. In summer some may sleep on the varendah. Usually all the inmates, parents their children and even the visiting relations sleep in the same room as they do not build separate dormitory houses for the unmarried boys and girls. The plough shares are piled at one corner. There may be a fowlsty inside the house. A pig sty may be located near the front door, or may be near the back door when there are two doors. On the walls there are italons or ikons representing men, archers, gunmen, mantle bearers, kings, queens, elephants, horses, dogs and any other form which the Saora consider important. These ikons have bearings on the Saora religion. The Saora house is kept as fortress for the family and the ancestors pay visit frequently. Dried buffalo meat hung from a pillar. At one place on the wall there is an ikon and near it hang from the roof several pots of rice, grains and some herbs and leaves. These are all for the *Kitung*, the God who created the Saora.

The village chiefs and other well-to-do Saoras build huge double roofed houses with spacious varendahs. Their doors and frames are decorated. Sometimes a Saora has more than one house meant for different wives. The Saora houses are not furnished at all. They sleep on mats made up of palm leaves. The

chiefs however have got some wooden furniture, string beds are not uncommon, as in case of the other tribes.

A Saora house contains varieties of articles, and in this respect they are far better than man, other tribes. There are varieties of clothes preserved for generations, some being very old and tottering. There are baskets of various sizes which they purchase from Tankla Saoras or from the Doms. In these baskets they store foodgrains, and carry their stuff to the markets. Artistic designs in basketry are not very much observed among the Saora. Besides there are metal and earthen pots. Every well-to-do Saora house may contain a bell-metal pot, purchased form traders. Besides, there may be earthen pots of different sizes. In some they store water, others are used for cooking, some others are used for varieties of purposes. The Saora do not have potters from their community. They depend for these on the potters in the plains. The Dom supply those pots at their door steps if they could not have gone to a market to purchase these. They also keep a varieties of knives and a Saora will always carry a knife fixed in his loin cloth wherever he goes.

A list of some household articles are given below with their English equivalent.—

Household Articles

Local Name	English equivalent
Mandi ..	..
Lab-dangi .	Earthen Pitchard
Ding-Ding-Dangi ..	Pot for cooking rice
Kudu-Gini-Gini-Koo ..	Gourd container
Gharana ..	Wooden pressure
Mari ..	Seed container
Tudu ..	Basket
Madi ..	Basket
Sanure ..	Leaf Umbrella

Dress and Ornaments

The traditional dress of the Saora consists of a loin cloth for the males and a simple skrit for the females. The skrit is put around the waist and the upper portion of the body is left uncovered. In this respect they differ from other tribes except the Bonda of Malkangiri who also do not clad above their waists. The clothes are land spun, hand are woven by the Dom at piece rates. The male loin cloth is about six feet in length and about 10" in breadth. There may be longer pieces. The cloth may be plain or may by decorated with red tassels at the ends. In Badkhimindi and Rayagada areas the decorated pattern are not seen. In Serongo area they are rare, but in Gumma and Pottasingi areas these type of clothes are seen plentily. This cloth is tied around the hip, passing through the private parts. The ends hung in the front and at the back, the later being longer for which they are called Lamba lanjias.

The female skrit is about 3ft. in length and nearly 2ft. in breadth. There are brown boarders and some designs at the ends. Women tie their skrits around their hips with the belly projecting. The length of the cloth is sufficient to wind around the legs and the breadth reaches up to the knee. At the present time the Saora have taken to mill-made clothes and females are seen with a second piece wound around their bodies. These who have returned from Assam and Christian converts are seen with blouses and sometimes sarees. The males generally do not put on anything except their loin clothes. But now-a-days they have taken to different dresses. Saora males put on wretched shirts and short trousers which they have purchased from tea-gardens or from the local markets. These clothes do not fit at all. It is rather interesting that while the males have taken to other varieties of dresses the females still cling to their traditional skirts. While going to headquarter places, or to meet some important persons the Saoras put on such crude dresses. During dances they tie a turban and wind some coloured clothes around the body. On the truban they fix feathers. The coloured clothes which they tied as turbans are called "Mane Gamchha", and these clothes are dedicated to the "Mane Sunum". These are to be brought out on special occasions.

Unlike the Bonda the Saora do not have such huge bundle of necklaces of beads and metal. They donot have also metal head dresses like the Koya. In the words of Elwin. "The Saoras are not good at ornaments". It is a fact that the Saoras purchase any type of beads and ornaments and put on these without leaving for symphony and symmetry. women may have brass or aluminium rings in thir fingers which

may number upto ten in each fingar. Matalic necklaces are very common. In the legs they also put on bangles of bell metal and brass. The most peculiar ornament is the round wooden pieces put on the earlobes of the women. From childhood they begin wearing small wooden plugs in the earholes and as such gradually the hole gets widen. Adult women sometimes have wooden plugs of 4" to 6" diameter. The pinna are pierced and small metal rings are worn. In the hair they put on bell-metal hair pins. In the nose there are generally three rings two on the alae and one on the septum. The well-to-do men put on gold necklaces and earrings. The Saora purchase their ornaments from the market and retain those with personal care. After death the dead ancestors may demand to see those personal belongings from the living. A list of ornaments used by both the sexes are given in the following table.

Ornaments used by women

Name	English equivalent	Materials used for construction
Drinatang	Necklace	Gold or silver
Tangam	Beads	Beads
Piprang Anangulu	Earring, Ear-ornaments	Silver
Kudu	Bangle	Silver
Andudak	Anklet	Bel-metal
Yen-Sing	Finger ring	Brass or bell metal.
Danusig-Ji	Toe ring	Bell-metal
Sikidi	Waist chain	Silver or brass
Danang-bub	Coloured tassel	Thread

Ornaments used by men

Kudupi	Nosering	Silver or brass
Pangalu	Ear flower	Gold or silver.

Agricultural Implements

Agricultural implements of the Saora are not many. They practise both plain and swidden cultivation and as such two different sets of implements required for both the type of cultivation are seen in a Saora house. 'Irtub' or 'Isha' is the traditional wooden plough. Its trunk, handle and neck are made up of one piece solid wood usually from 'Sarangi' tree. This wood is hardy and light. The blade of the plough is much narrower than those used in the villages in the plains. Another type of plough called "Patta-Irtub" which is used by them is quite different from the plough mentioned above. Although the work and method of operation of both types are same but the latter is made up of three pieces of wood and the former is made up of one wooden piece. Besides plough other implements used in plough cultivation are yoke, leveller, spade and sickle, etc.

In comparison to plough cultivation implements used for shifting cultivation are very simple which consists of an axe for felling trees and a digging stick or hoe for dibbling the rock bed. A hoe is a forked piece of wood tipped with a pointed iron.

The Saoras know how to make the agricultural implements, except the iron parts which they purchase from the local markets. Sometimes, they get these made at home whenever blacksmiths visit their villages during agricultural seasons. A list of agricultural implements is given in the following table.

Agricultural Implements

Name	Saora equivalent	Materials used for construction
Plough ..	Irtub or Isha ..	Wood, iron
Yoke ..	Rasang ..	Wood
Leveller ..	Hinsa ..	Wood
Spade ..	Koddada ..	Wood, iron
Bill hook ..	Kondatur ..	Iron
Sickle ..	Kadtib ..	Wood, iron
Rope ..	Artap ..	Siali fibre
Axe ..	Areadrum ..	Wood, iron
Crowbar ..	.. ..	Iron
Digging stick or Hoe	Lalaboi ..	Wood, Iron

Hunting & fishing implements

Hunting as a means of subsidiary occupation has lost its importance in the Saora society since long due to non-existance of deep forests and scarcity of games in the forests. However

occasionally the Saoras go for hunting to distant forests. The implements used for hunting are bow and arrow, axe, etc. The bow and the shaft of the arrow are made by them selves a nd the iron parts are either purchased from local market or made by the black-smiths.

Musical Instruments

The Saora possess a good number of musical instruments of which Tamak (drum) is the chief. It is a cup shaped hollow wooden structure with a diapharm made out of buffalo or cow hide. They beat the drum with sticks using both hands. Another musical instrument is a bamboo-flute the length of which is about one feet and the diameter is about one inch. Some holes are perforated along its length for playing the wind. The other musical instruments possessed by the Saoras is a buffalo-horn trumphet. It is about one feet in length. A small hole is made in the middle of the instrument for blowing air. 'Sarangi' is another type of string instrument to which most of the Saora youths like to play. It consits of four parts. The base part is made up of hollow bamboo tube, two bamboo pegs and a coconut cell and some strings. The other part of the instrument consists of a bow shaped structure in which some strings of horse hair is tied from one end to the other. The operator holding the base part of the instrument in his left hand and the other part in the right hand plays the instrument to produce musical sound. Sometimes a bunch of arrow shafts are beaten to produce musical sound. During festivals and leisure times when Saora men and women dance, they play these instruments. Generally, the instruments are played by the manfolk and the women dance with the rhythm of the music by singing songs.

JUANG KINSHIP TERMS : AN ANALYSIS

J. Das

"Kinship term is a linguistic tag for a role; the role has biological criteria or admitted substitutes for admission to it, and it has also cultural criteria for performance. Kinship terms are role terms" (Bohannan, 1963). In view of such basic understandings in anthropology, kinship terms may be perceived to play a very vital as well as significant role in the social life of the people in cross-cultural perspective. Generally kinship terms bind various roles together as kin members, categorise them for specific modes of interaction or behaviour and finally, as a key factor bears a testimony to all sorts of culturally patterned rights and obligations in the human society. Thus, the kinship terms as guiding terms or linguistic tags, play a central role in the study or kinship. The scientific analysis of kinship terms, therefore, is an inevitable need in the discipline of anthropology.

Juangs are mainly confined to Keonjhar and Dhenkanal districts of Orissa. As one of the most backward tribes of the state, they are still found to depend mainly on the shifting cultivat on and forest collections as well as hunting for the maintenance of their livelihood. According to the Census reports of India, the Juang population shows an increase from 1891 up to 1911 after which it experiences a decline in 1921. From 1921 to 1931 it again shows a significant increase of population. After a surprising fall of population in 1951, it shows a significant rise in 1971 census survey which accounts the total Juang population as 24,384 including 11,888 males and 12,496 females. The present paper is mainly based on the study of the Juang Kinship Organisation in Gonasika and Janghira areas of Keonjhar district conducted in the year 1975 and also further verification undertaken recently.

The basic theoretical concepts as regards the study of kinship terms can be highlighted in three-fold manner. Thus the views of L. H. Morgan, Radcliffe-Brown and Elman R. Service can be discussed for deriving a basic theoretical frame work. There is no doubt about the fact that the scientific study of kinship was first of all started with Morgan. With his scholastic thinking, he has affirmed that "Kinship terminologies are 'systems of consanguinity and affinity', that they have to do with a people's recognition of their genealogical relationships and therefore describe to us the actual organisation of the kinship order (In Service, 1971 : 98-99)". He has also "argued that kinship terminologies reflected the forms of marriage and the related make-up of the family (*Ibid*)." Morgan's view in this way mostly refers to the geneological organisation of the social life. But Radcliffe-Brown's view; on the other hand signifies the 'patterns in the conduct of inter personal relations. Thus, to Radcliffe-Brown, "Kinship terms are like 'signposts' to interpersonal conduct or etiquette, with implications of appreciate reciprocal rights, duties, privileges, and obligations (*Ibid*)". Although Morgan's geneological explanation of the kinship terms has been widely accepted, it does not explain or clarify all the essential aspects of kinship terminology. Following the ideas of Redcliffe-Brown, service has discussed that "to paraphaarse him, kinship terms are used in address and reference as denotative of social positions relevant to interpersonal conduct. They are, therefore, a form of status terminology (*Idid*)". Service has also quoted Munroe. Edmonson (1958 : b), who defines a status term as" a word designating a class of individuals occupying (simultaneously or serially) a single position in the social system, with specific defining patterns of rights and duties, the fulfillment of whi h is legitimized and guaranteed by sanctions (*Ibid*, P. 100)". Accepting kinship terms, as status terms Service, in his discussions on "Kinship Terminology and Evolution" has delineated four kinds ot status terms. First of all Status Terms are divided into two basic subdivisions as familistic and non familistic. According to

Service, familistic type refers to family like familial or named social positions in a group of kindneed; non-familistic terms includes the names or titles related to positions like occupational specialization, political offices, social classes and the like. Similarly egocentric terms specify social positions relative to ego and sociocentric terms refer to social positions relative to the structure of the society.

The kinship terminology among Juangs of Keonjhar that is to be discussed here, in the light of Services discussion, is typically an egocentrio familistic system. It is well convinced that Juang kinship terminology is of bifurcated collateral type. Lowie has defined four types of terminology which are—

(1) Generation; (2) Lineal; (3) Bifurcate—Collateral and (4) Bifurcate—Merging. As the Juang recognise the bifurcate—collateral type, they mostly use three terms—One for father, one for father's brother and one for mother's brother.

A study of kinship terms may help to elucidate the idea underlying the Juangs way of recognizing and grasping of kins. The kinship terms may be enumerated group by group according to the different lines of relationship. Thus, there may be several groups of kinsmen terminologically related through each member of the basic kin group, family. In this manner kinship terminologies are tracable within the lineage, among the avenculates and other kins, covering all types of consanguineal and affinal kinsmen.

1, Kinship Terminology in the Family

Sl. No. (1)	Relationship (2)	Terms of Kinship (3)	Terms of Address (4)	Terms of Reference (5)
1	Husband (W. S.)	Gusian	No terms but 'Eh'	Gusian or by teknonymy.
2	Wife	Kubila	No terms but 'Eh'	Kubilain or by teknonymy.
3.	Son	Kanan	E Landa or by name	Kanan
4	Daughter	Kantelani	E Landi or by name	Kanchelani
5	Father	Ba	E Ba	Ba
6	Mother	Bui	E Bui	Buing
7	Elder Brother	Ka	E Ka	Kakain
8	Younger Brother	Boko	E Boko	Bokain or by name
9	Elder Sister	Aji	E Aji	Ajin
10	Younger sister	Bakarai	E Bakarai	Bakarain or by name
(2)	*Kinship Terminology in Father's Line*			
1	Fa	Ba	E Ba	Ba
2	FaFa	Aja	E Aja	Ajain
3	FaFaWi	Na	E Na	Nanain
4	FaFaSi	Aji	E Aji	Ajin
5	FaFaBr	Aja	E Aja	Ajain
6	FaFaSiHu	Bau	E Bau	Bauin
7	FaFaBrWi	Na	E Na	Nanain
8	FaFaFa	Atir	E Atir	Atirain
9	FaeIBr	Atir	E Atir	Atiran
10	FaFaSiSo	Goblekon	E Goblekon	Goblekoin
11	FaMo	Na	E Na	Nanain
12	FaMoBrSo	Goblekon	E Goblekon	Goblekoin

Sl No.	Relationship	Terms of kinship	Terms of address	Terms of reference
(1)	(2)	(3)	(4)	(5)
13	FaMoelBr	.. Inibou	. E Inibou	.. Iniboin
14	FaMoyoBr	.. Sango	.. E Sango	.. Sangoin
15	FayoBr	.. Dadi	.. E Dadi	.. Dadi
16	FayoBrWi	.. San Bui	.. E San Bui	.. San Buin
17	FaelBr Wi	.. Atir	.. E Atir	.. Atirain
18	FaFaMo	.. Atirae	.. E Atirae	.. Atiraein
19	FayoBrSo	.. Atirkon	.. E Atirkon	.. Atirkoin
20	FaMoelSi	.. Ajikar	.. E Ajikar	.. Ajikarain
21	FaFaSiHuelSi	.. Ajikar	.. E Ajikar	.. Ajikarain
22	FaMoyoSi	.. Salirae	.. E Salirae	.. Salirain
23	FaFaSiHuyoSi	.. Salirae	.. E Salirae	.. Salirain
(3)	*Mother's line—MoBr+MoSi*			
1	Mo	.. Bui	.. E Bui	.. Buin
2	MoelBr	.. Mamu	.. E Mamu	.. Mamu
3	MoyoBr	.. Mamu	.. E Mamu	.. Mamu
4	MoelSi	.. Atirae	.. E Atirae	.. Atiraein
5	MoyoSi	.. Sanbui	.. E Sanbui	.. SanBuin
6	MoelSiHu	.. Atir	.. E Atir	.. Atirain
7	MoyoSiHu	.. Dadi	.. E Dadi	.. Dadi
8	MoBr Wi	.. Sasu	.. E Sasu	.. Sasu
9	MoFa	.. Aja	.. E Aja	.. Ajain
10	Mo Mo	.. Na	.. E Na	.. Nanain
11	MoMoBr	.. Aja	.. E Aja	.. Ajain
12	MoMoSi	.. Aji	.. E Aji	.. Ajin
13	MoMoBrWi	.. Na	.. E Na	.. Nanain
14	MoMoSiHu	.. Bau	.. E Bau	.. Bau
15	MoMoMo	.. Atirae	.. E Atirae	.. Atiraein
16	MoMoMoHu	.. Atir	.. E Atir	.. Atirain
17	BoBrSo(El)	.. Ka	.. E Ka	.. Kakain
18	MoBryoSo	.. Boko	.. E Boko	.. Bokoin
19	MoBrSoSo	.. Mamu	.. E Mamu	.. Mamu
20	MoBr el Da	.. Aji	.. E Aji	.. Ajin
21	MoBryoDa	.. Bakarae	.. E Bakarae	.. Bakarain
22	MoFaSi	.. Na	.. E Na	.. Nanain

Sl. No.	Relationship	Terms of kinship	Terms of address	Terms of reference
(1)	(2)	(3)	(4)	(5)
(4) *Son's line*				
1	So	Kanan	E Kanan or Landa	Kananin
2	SoWi	Buirae	E Buirae	Buirain
3	SoSo	Bokolap	E Bokolap	Bokolap
4	SoSoSo	Badu	E Badu	Badu
5	SoSoDa	Atichindae	E Atichindae	Atichindain
6	SoDa	Bokosen	E Bokosen	Bokosen
7	SoSoWi	Bokorae	E Bokorae	Bokorain
8	SoSoWiyoBr	Sango	E Sango	Sangoin
9	SoDaHu	Sango	E Sango	Sangoin
10	SoWiFa	Samudi	E Samudi	Samudi
11	SoSoWielsi	Ajikar	E Aijkar	Ajikarain
12	SoSoWiyoSi	Salirae	E Salirae	Saiirain
13	SoWiMo	Samuduni	E Samuduni	Samuduni
14	SoWiBr	Aram	E Aram	Aramain
(5) *Daughter's line*				
1	Da	Kachelani	E Kanchelani or Landi	Kanchalani
2	DaHn	Aram	E Aram	Aramain
3	DaSo	Bokolap	E Bokolap	Bokolap
4	DaDa	Bokosen	E Bokosen	Bokosen
5	BaHuFa	Samudi	E Samudi	Samudi
6	DaHuMo	Samuduni (Tiurae)	E Samuduni	Samuduni
7	DaHuSi	Buirae	E Buirae	Buirain
(6) Brother's line				
1	elBr	Ka	E Ka	Kakain
2	yoBr	Boko	E Boka	Bokoin
3	yoBrWi	Kuli	E Kuli	Kuli
4	elB-Wi	Kimindae	E Kimindae	Kimindain
5	elBrso	Kanda	E Kanda	Kandain
6	HuBrSoSoWi(w. s.)	Bokorae	E Bokorae	Bokorain
7	HuyoRrWi	Bokorae	E Bokorae	Bokoraln
8	HuYoBr (w.s)	Bokoger	E Bokoger	Bokoger
9	elBrDa	Konchelandae	E Konchelandae	Konchelandain
10	YoBrDa	Atichindae	E Atichindae	Atichindain
11	HueiBr (w.s.)	Baukar	E Baukar	Baukar

(w. s.)—Women speaking

Sl. No.	Relationship	Terms of Kinship	Terms of address	Terms of reference
(1)	(2)	(3)	(4)	(5)
(7)	*Wife's line*			
1	Wi	.. Kubila	.. E Kubila	.. Kubilain
2	WiFa	.. Kuinkar	.. E Kuinkar	.. Kuinkar
3	WiFaBr	.. Kuinkar	.. E Kuinkar	.. Kuinkar
4	WiMo	.. Mami	.. E Mami	.. Mami
5	WielBr	.. Inibou	.. E Inibou	.. Iniboin
6	WiyoBr	.. Sango	.. E Sango	.. Sangoin
7	WielSi	.. Ajikar	.. E Ajikar	.. Ajikar
8	WielSiSo	.. Kanda	.. E Kanda	.. Kandain
9	WiyoSi	.. Salirae	.. E Salirae	.. Salirain
10	WiSiHue/y	.. Buintar	.. E Buintar	.. Buintarain
11	WiFaFaSi	.. Ajikar	.. E Ajikar	.. Ajikarain
12	WiFaSiHu	.. Kuinkar	.. E Kuinkar	.. Kuinkar
13	WiBrDaHu	.. Aram	.. E Aram	.. Aramain
14	WiBrSoWiBr	.. Aram	.. E Aram	. Aramain
15	WiBrDaHuSi	... Buirae	.. E Buirae	.. Buirain
16	WiyoSiDa	.. Kanchelandae	.. E Kanchelandae	.. Kanchelandain
(8)	*Sister's line*:—			
1	elSi	.. Aji	.. E Aji	.. Ajin
2	yoSi	.. Bokorae	.. E Bokorae	.. Bokorain
3	elSiHu	.. Bau	.. E Bau	.. Bauin
4	yoSiHu	.. Sango	.. E Sango	.. Sangoin
5	Siso	.. Goblekon	.. E Goblekon	.. Goblekoin
6	SiHuFa	.. Kuinkar	.. E Kuinkar	.. Kuinkarain
7	SiDa	.. Goblesandae	.. E Goblesandae	.. Goblesandain
8	SiHuMo	.. Mami	.. E Mami	.. Mami
9	SiHuFaSiHu	.. Juinkar	.. E Kuinkar	.. Kuinkar
10	elSiHuFaFa	Bau	.. E Bau	.. Bauin
11	elSiSoSo	.. Bau	.. E Bau	.. Bauin
12	SiHuyoSiHu	.. Boko	.. E Boko	.. Bokoin
13	SiHuelSiHu	.. Ka	.. E Ka	.. Kakain

Sl. No.	Kinship term	Address term	Referance term
(1)	(2)	(3)	(4)
(9) *Father's Sister*			
1 FaSi	.. Sasu	.. E Sasu	.. Sasu
2 FaSiHu	.. Mamu	.. E Mamu	.. Mamu
3 FaSiSoSo	.. Mamu	.. E Mamu	.. Mamu
4 FaSiHuyoSi	.. Sanobui	.. E San Bui	.. San Buin
5 FaSiSoDa	.. Sanobui	.. E San Bui	.. San Buin
6 FaSielSo	.. Ka	.. E Ka	.. Kakain
7 FaSiyoSo	.. Boko	.. E Boko	.. Boloin
8 FaSiHuelSi	.. Atirae	.. E Atirae	.. Atiraein
9 FaSiHuyoSi	.. Sanbui	.. E Sanbui	.. Sanbuin

Analytical study of kinship Terminology

Regarding various types of applications of terminologies, a brief analysis is inevitably necessary. It may include, classificatory terms, denotative terms, general rules and so on.

According to G. P. Murdock (1957:97), kinship terms are technically classified in three different ways—

(*i*) By their mode of use,

(*ii*) By their linguistic structure, and

(*iii*) By their range of application.

As regards their mode of use, kinship terms may be employed as direct address or indirect reference. To Murdock, 'a term of address is one used in speaking to a relative; it is a part of the linguistitic behaviour characteristic of the particular interpersonal relationship', and 'a term of reference is one used to designate a relative in speaking about him to a third person; it is thus not a part of the relationship itself, but a word denoting a person who occupies a particular kinship status' (*Ibid*). In most of the Juang kinship terms, it is found that address terms are, same as the kinship terms, except in case of 'son' and 'daughter' which are in kinship term 'Kanan' and 'Kantelan'; but they are addressed as Landa and Landi or by their names respectively. Similarly wife and husband never address each other by any term; they only use a vowel 'Eh'. Each address term is pronounced following a vowel 'E'. In almost all cases, the term of address and the term of reference, both are same except in 'husband', 'wife', son', 'daughter' and 'father's sister'. Generally the reference terms are suffixed by 'i' or 'in' and in case of husband, father and son, basic kinship terms are used.

Thus, 'terms of reference are more specific in their application than terms of address', (*Ibid*). They are usually more complete than terms of address. It may be customary to use only personal names in addressing certain relatives, or a taboo may prevent all conversation with them, result of which terms of address for such kinsmen would be completely lacking (*Ibid*). Among Juangs, in case of sons or daughters, they are usually addressed by their names, as a result of which it lacks their kinship terms. But almost all Juang address terms are found similar with reference terms.

'According to linguistic structure, kinship terms are distinguished as : Elementary, Derivative and Descriptive' (Ibid P. 98). As per fhe definition of Murdock, an elementary term is an irreducible word, like English 'father' or 'nephew', which cannot be analyzed into component lexical elements with kinship meanings (Ibid). Generally Juangs use only elementary kinship terms neglecting the other two categories.

Regarding range of application, kinship terms are differentiated as denotative and classificatory (Ibid P. 99). These two types are found in vogue in the Juang society.

Denotative :

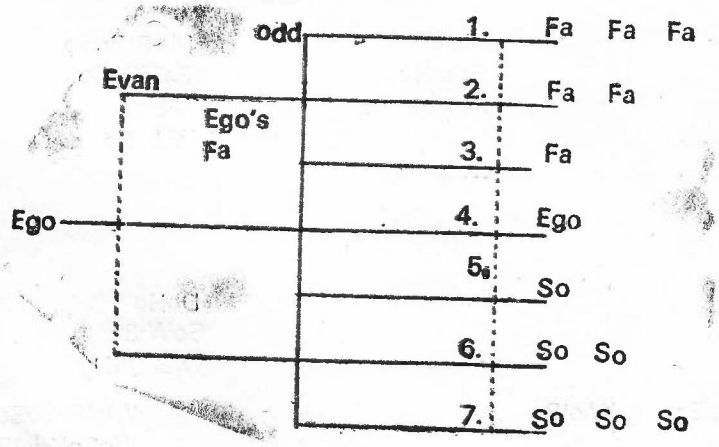
According to Murdock, 'a denotative term is one which applies only to relatives in a single kinship category as defined by generation, sex and genealogical connection' (Ibid). Often for a particular speaker, it can denote only one person. To Murdock, a denotative term also applies to several persons of identical kinship connection. Though the influence of the classificatory terms on the Juang nomenclature are well marked, it is worthnoting that denotative terms become rare with secondary relatives and practically disappear with tertiary kinsmen, giving way to classificatory terminology.

1. Father—Ba
2. Mother—Bui
3. Son—Kanan
4. Daughter—Kanchelan
5. El Br Wi—Kuli

Classificatory Kinship Terminology :

As Murdock has defined, 'a classificatory term is one that applies to persons of two or more kinship categories, as these are defined by generation, sex and genealogical connection' (Ibid).

In Juang terminology, the classificatory terms are abundant, except a few denotatative terms. Their terms maintain unique systematic order, thus including two or more categories of persons into classificatory terms, perpetuating generation, sex aud genealogical connection. From this point of view when we analyse their classificatory terms, it is found that in one local descent group taking ego as the referent person, all the classificatory Kutumbs in the local descent group are related to him through alternative generations. If we take ego's generation as an even numbered generation, then all his classificatory consanguines will belong to alternate even numbered generations. In other words, all the classificatory relatives belong to ego's moiety group. Father's moiety group is also similarly reflected. Now if we extend the claasificatory terms up to distant kinsmen these are affines, the same order of generations are always found to be maintained. Thus the generation principle holds good here. The most essential sex principle also maintains that one kinship term always denotes to same sex. classificatory kinsmen of the Now mixing all the classificatory consanguines and affines with reference to the ego, the fact may be more intelligible if they will be ordered generation-wise. For a particular classificatory term different generations can be taken into consideration in relation to ego in the following manner.



Now it is found that Ego's group bears even-numbered generations and Ego's father's group bears odd-numbered generations. Therefore, as per the principle, one classificatory term may denote the persons of one such group or either odd-number generations or even-number generations as given in the following table.

Classificatory kin term	FaFaFa 1	FaFa 2	Fa 3	Ego 4	So 5	SoSo 6	SoSoSo 7
Atir ..			FaelBr MoElSiHu				
Atirkon ..					YoBroSo WiYoSiSo		
Dadi ..			FaYoBr MoYoBr				
Kanda ..					ElBrSo SiElSiSo		
Aja ..		FaFa FaFaBr MoFaBr					
Bokolap ..					SoSo DaSo		
Ka ..			ElBr MoBrSo				
Boko ..			YoBr FaSiSo				
Bokesen ..						SoDa DaDa	
Aji ..		FaFaSi MoMoSi		ElSi WiElBrWi MoBrDa			
Bokorae ..				YoSi WiYoBrWi FaSiDa			
Ma-Mu ..			MoBr FaSiHu FaMoBrSo		MoBrSoSo FaSiSoSo SiSo WiBrSo		
Kuinkar ..			WiFa SiHuFa SiHuFaSi				
Aram ..			FaFaSiDa		DaHu SoWiBr WiBrDaHu		
Inibou ..	FaMoelBr	WielBr			WielBrSoSo SoSoWielBr		
Bou ..		elSiHuFaFa FaFaSiHu		elSiHu			ElSiSoSo

Classificatory kin term	FaFaFa 1	FaFa 2	Fa 3	Ego 4	So 5	SoSo 6	SoSoSo 7
Sango ..		FaMoyoBr yoSiHuFaFa		WiyoBr yoSiHu		WiyoBrSoSo SoSoWiyoBr yoSiSoSo SoDaHu	
Buintar ..				WielSiHu WiyoSiHu SoWiFa DaHuFa			
Sasu ..			FaSi MoBrWi				
Atichindae ..					YoBrDa WiyoSiDa		
Konchelandae					elBr. Da WielSiDa		
Atirae ..			MoelSi FaelBrwi FaSiHuelSi				
Goble Sendae			FaFaSiDa FaMoBrDa		SiDa WiBrDa		
Sano Bui			MoyoSi FayoBrWi FaSiHuyoSi		FaSiSoDa		
Mami ..			WiMo SiHumo WiFaSi				
Na ..		FaMo MoMo MoFaSi FaFaBrWi					
Buirae ..						SoWi DaHuSi WiBrSoWi WiBrDaHaSi	
Kimindae ..			yoBrWi		SoSoWi		
Ajikar ..		WiFaFaSi FaMoelSi FaFaSiHuelSi	WilSi HuEelSi (w. s.)			SoSoWiefSi	
Salirae ..		FaMoyoSi FaFaSiHuyoSi	WiyoSi SiHuyoSi			WiBrSoDa SoSoWiyoSi	
Samunduni			SoWiMo DaHuMo				

General Rules of the Kinship Nomenclature

From the analysis of the Juang kinship terminologies, it is quite evident that kins may be clustered into different group under distinctive kin terms The kinship terminology of Juangs in this way is found to follow some traditional or conventional rules, which shows different categories of terms of relationship.

(*a*) *Sex Differentiation*—Primarily some kinship nomenclatures show some sex differentiation through the use of suffixes in kin terms. In some kin terms for females 'dae' or 'rae' suffix is used from which the sex can be easily known. For example, the kin terms like Kimindae, Salirae, Buirae, Atichindae, Kanche andae, Atirae etc. can be considered.

(*b*) *Generation Differentiation*—In the terminology of Juangs, through generation difference is not strictly present among identical Kins, yet always classificatory persons, may be consanguineal or both consanguineal and affinal, naturally belonging to one generation or alternate generations which has already been dealt with.

(*c*) *Age Differentiation*—With respect to ego or to that of the linked relatives, the age differentiation is quite obvious in the Juang kinship terminology. Generally it is seen that there are certain terms to mark elder or yonger persons. For younger, they use 'Sano' and elder it is 'Kuba'. In this way a younger child of the family is known as 'Sano-wadi', eldest daughter as 'Kuba-Kanchelan' and youngest daughter as 'Sano-Kanchelan', similarly eldest son as 'Kuba -kanan' and youngest son as 'Sano-kanan'.

An elder brother by age is always known as 'Ka' and that of younger brother as 'Boko'. Elder sister is termed as 'Aji' and younger sister as 'Bakorae'. Likewise mother is known as 'Bui', mother's younger sister as 'Sanobui' and mother's elder sister as 'Atirae'. Father's elder brother is known as 'Badu' or 'Atir' and that of younger is 'Dadi' or 'Kaka'. Similarly mother's elder sister's husband is khown as 'Atir' and that of younger's husband is 'Dadi'.

Conclusion

Lastly, it can be concluded that Juang kinship Terminology basically refers to status terms which are of ego centric-familistic type. Besides the general observations on the kinship terms with reference to terms of address and reference, the classificatory kinship terms of the Juang attract a specific attention. It primarily refers to structural division of moiety groups and significantly categorized the classificatory kinsmen as belong to one moiety group (of even or odd number generations). Thus, classificatory terms as well as the general terms in the Juang society categorize the kinmembers, patterns their inter-personal relations, and assigns reciprocal rights, duties, privileges as well as obligations to them.

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Rehabilitation of displaced families in Upper Kolab Project Koraput

S. C. Mohanty

Introduction

The Upper Kolab Multipurpose Project is one of the major Hydel Power Projects of Orissa located in Koraput district. Commissioned since 1976, this project is designed to utilise the water potential of the river Kolab, a tributary of river Godavari for generation of hydel power, irrigation, drinking water supply to adjacent towns and promotion of pisciculture, besides other anciliary benefits. The project has an installed generation capacity of 320 M. W. of power and it will irrigate the ayacut of 44,515 hectares by flow irrigation and 22,267 hectares by lift irrigation.

The main dam and reservoir is located across the hilly border separating Jeypore and Koraput subdivisions while the power station lie at the foothills on the out-skirt of Jeypore town. The construction work of all the major components such as main dam and reservoir, the power station and the Satiguda subsidiary reservoir have been completed except that of the irrigation canals which are under progress. Since August 1986 water has been stored in the main reservoir. By the end of 1987 monsoon, the reservoir would store water to its full capacity i. e., 858 F. R. L. Experimental generation of power is likely to commence very shortly.

Rehabilitation of displaced Families

The project has affected thousands of families more or less rendering them homeless, landless and deprived of means of livelihood. Hence, it is a major liability of the project authorities to acquire and assess the cost of affected properties, pay compensation to the persons for loss of their land, house etc., evacuate the thousands of displaced families from the submersible habitation sites and rehabilitate them suitably which is not an easy task.

In order to accomplish this task, the project has an implementing agency i. e. the Land acquisition and Resettlement Organisation functioning at Koraput under the supervision of the Collector, Karaput and the Revenue Divisional Commissioner (S. D.). It is headed by the Land Acquisition and Resettlement Officer who is assisted by Zone Officers and the Officer on Special Duty (Rehabilitation) deputed by H. & T. W. Department. There is also a project Level Committee called Rehabilitation Advisory Committee with the R. D. C. (S. D.) as Chairman, the L. A. & R. O. as Member Secretary and the Collector, Koraput, the concerned District Level Officers, Project Officers and local public representatives as members. The Committee sits in session from time to time to review, monitor and co-ordinate the progress of rehabilitation programme and suggest further guidelines for smooth implementation of rehabilitation measures.

Rehabilitation Policy

As mentioned earlier, the State Government has formulated an uniform rehabilitation policy for all medium and major irrigation projects of the State since 20th April 1977. This policy was first implemented in Rengali Multipurpose Project. Later, Government instructed the Upper Kolab and Upper Indravati Project Authorities to follow the same policy. Further the Upper Kolab Rehabilitation Advisory Committee in its different sessions also took decisions supplementing the provisions of the policy in respect of the Upper Kolab Project.

According to the policy, the family that permanently belongs to the village whose habitation site is coming under submergence as a result of which the land, house, other assets

as well as the very existence of the family is so affected that it becomes landless, homeless and deprived of its means of livelihood and has to be displaced from the affected village, is to be treated as a "displaced family". The problem of defining a "family" according to its nature and constitution for this purpose has been discussed at length in the Rehabilitation Advisory Committee from time to time. At last it was decided that "famly" as defined in Government resolution No. 13169, dated the 20th April 1977 (I. & P. Department) shall be taken as the unit for the purpose of enumeration and discharge of rehabilitation liabilities by the project, provided that the "family" would be residing in the submersible village area on the reference date, i. e. the 11th June 1975 on which the foundation stone was laid down for Upper Kolab Project.

A displaced family is the major liability of the project. In order to discharge the liability, it is provided with certain special benefits for the purpose of rehabilitation in addition to proper compensation towards loss of its land, house and other assets affected and acquired by the project. While the amount of compensation for the loss of personal property may vary from place to place and family to family depending upon the kind and extent of acquired property, the quantum of rehabilitation assistance remains one and the same for each and all of the displaced families.

Thus as per the existing provisions, a displaced family is entitled to be allotted with half acre of house site and three acres of reclaimed irrigated land or six acres of reclaimed unirrigated land or both in the ratio of 1 : 2 depending upon the availability of such land. Though such lands are allotted free of salami, the reclamation cost at the rate of Rs. 300 per acre is recovered from the allottee which is limited to the extent of his submersible land holdings for which he has received compensation in case the latter is smaller than that of allotted land. For example, when a person receives compensation for 2 acres of his submerged land he shall pay reclamation cost for 2 acres of land even if he is allotted more than 2 acres of land for resettlement. The landless familles are exempted from this payment. This is based upon *"land for land" approach.*

If sufficient land is not available for allotment or if the allottee so desires that he is allotted less than six acres of land, he shall be paid cash at the rate Rs. 2,160/per acre in lieu of the extent of land not allotted to him which he may require for fulfilment of his immediate needs like fooding, house construction, purchase of bullocks, agricultural implements and the like. This is the *"part land and part cash"* provision.

Alternatively if land is not available for allotment or the displaced family refused such allotment and wanted to make its own arrangements for rehabilitation, it is paid a full *"rehabilitation cash grant"* in lieu of the land and house site amounting to Rs. 14,040 at the rate Rs. 2,160 per acre. In order to check misutilisation of cash grant the beneficiary families are persuaded to keep at least 80 per cent of the amount in savings deposits in banks and post offices and to withdraw the required amount only at the time of acquisition of assets like construction of house, purchase of cultivable lands, bullocks etc., for the purpose of their well-being as well as rehabilitation, This aspect shall be discussed later.

In addition to the above assistance, certain other rehabilitation benefits are also provided by the project to the displaced families such as, (1) Free transportation of household effects at the time of evacuation from the affected villages to the new place of resettlement., (2) Transit sheds for immediate shelter and house building materials at a concessional price for the families who resettled in resettlement colony set up by the project, and (3) Common facilities and infrastructures like roads, schools, tanks, wells, tube-wells etc. for drinking water, electricity, community houses, grazing grounds, cremation ground, etc., in the resettlement colonies.

Progress of Rehabilitation Work

The Upper Kolab Project has affected total number of 147 villages for construction of its main and subsidiary reservoirs. Of these, there are 44 villages and 2 hamlets whose habitation sites are coming under submersion under the mian and subsidiary reservoirs respectively (22 settlements fully affected and 24 partially affected). From these submersible villages 3,000 families are being displaced.

Prior to commencement of displacement of families from these villages large patches of forest land in Kotpad and Borigumma Tahsil areas have been reclaimed for the purpose of setting

up resettlement colonies for the displaced families. Essential amenities like Roads, Schools, Wells, Ponds. etc., have also been provided there in pursuance of rehabilitation policy.

Enumeration

As per the decision taken in the 1st, 3rd, 4th and 5th Rehabilitation Advisory Committee meetings, the Executive Engineer, Development Division, Upper Kolab Project conducted the enumeration of the families to be displaced from the affected villages. Thus initially a total number of 5,366 families were enumerated for the purpose of rehabilitation. In the 6th rehabilitation Advisory Committee meeting held on 16th September 1982 it was felt that the villagewise data collected through such enumeration exercise is not adequate and it was decided that the Land Acquisition and Rehabilitation Officer and the concerned Engineering Organisation would jointly undertake a fresh enumeration familywise, by administering a family schedule prescribed by the Committee. The schedule elicited vital information, about the family such as its size and constitution, community and occupational status, size of land holding, willingness to avail rehabilitation benefits, etc. Now this enumeration exercise is completed and the information thus gathered has been useful in discharging rehabilitation liabilities to the displaced families.

Displacement and Resettlement Operation

Displacement from Subsidiary Reservoir Area—The rehabilitation operation commenced from 1982 with evacuation of two hamlets viz., Baliguda and Dhemsaguda located on the outskirts of Jeypore town. These two hamlets were wholly affected for construction of subsidiary reservoir called "Satiguda Pond". The total number of families displaced from those settlements were 80 of which 15, 45 and 20 belong to Scheduled Caste, Scheduled Tribe and other Caste respectively. As these families did not went to move away from Jeypore town area for reasons of their own convenience as well as livelihood and so, they claimed rehabilitation cash grant. They were paid at the rate of Rs. 5,760 per family (as reclamation cost for six acres of land at the rate of Rs. 960 per acre) at par with that prescribed by Government for the displaced families of Gohira and Samkoi villages under Rengali Project and Mangalpur village under Upper Indravati Project. Later, in February 1983, the State Government in I. & P. Department enhanced the rehabiliation cash grant to Rs. 14,040 to be paid in lieu of six acres of land and half acre of housesite at the rate of Rs. 2,160 per acre. The families displaced after 1983 were being paid the assistance at this enhanced rate. Since then, the displaced families of Badliguda and Dhemsaguda have been claiming the balance of cash grant at the present enhanced rate. After due consideration of their claim, the Rehabilitation Advisory Committee, in their 9th session held on the 25th February 1987, approved and recommended their case to Government for necessary action.

Displacement from the Main Reservoir Area—After the evacuation families from Badliguda and Dhemsaguda affected by the subsidiary reservoir, the rehabilitation activities centered around the thousands of families required to be displaced from the 44 villages (20 villages fully affected and 24 partially affected) located in and around the main reseryoir area. These villages come under the jurisdiction of 3 Tahsils (Koraput, Nandapur and Machhkund), 4 blocks (Koraput, Semiliguda, Nandapur and Lamataput), and 2 N. A. Cs. (Koraput and Sunabeda), all belonging to Koraput Sadar Subdivision. The main reservoir has a vast water spread area of 114·32 Sq. Kms. at 858 m. F. R. L.

Phase-wise Programme

The project authorities had chalked out a time bound programme of evacuation of 45 villages according to their location in respect of successive phases of impounding of the reservoir. That was, to evacuate the 5 villages within 835 m. R. L. by 1984 in the *first phase*, 21 villages within 835 m. R. L to, 850 m. R. L. by 1985 in the *second phase* and 18 villages lying in and around 858 m. F. R. L. by 1986 in the *third and final phase*.

This evacuation programme was successfully implemented in respect of the first phase and second phase villages in 1984 and 1985. Whereas in 1986, the scheduled programme could not be implemented for non-availability of required funds. Hence, the remaining part is being executed during the year 1987.

First Phase

In pursuance of the scheduled programme the process of evacuation of villages in respect of the main reservoir started since 1984 with

the displacement of the first batch of 699 families from all the 5 villages of the *first phase* lying in the heart of the reservoir. Of these villages, 2 were affected wholly and the remaining 3, partially. These families were displaced after part payment of rehabilitation grant and so, the balance was paid to them during 1986. Among these 699 families, 129,440 and 130 belong to Sch. Caste, Sch. Tribe and Other Caste respectively of which only 23 (3·3 per cent) other caste families could be persuaded to resettle in the rehabilitation colonies. They were provided rehabilitation benefit partly in cash and partly in kinds of farm land and housesite amounting to Rs. 1,33,159 and 68·25 acres, respectively. The remaining 676 families forming the majority (96·7 per cent) refused to resettle in the camp and claimed *full cash grant* to make their own arrangements for self rehabllitation. All of them were paid a total amount of Rs. 94,20,840 at the rate of Rs. 14,040 per family except the 5 families in which the beneficiaries died after receiving part cash payment of Rs. 5,000 i. e., at the rate Rs. 1,000 in each case before their displacement during 1984 and so, the question of payment of the balance amount of cash grant (total Rs. 65,200 i. e., Rs. 13,040 to each of them) is still under consideration.

Second Phase

During the following year (1985) the second phase of evacuation programme in respect of 21 villages (13 fully affected, 8 partially affected) was taken up and successfully completed in time. A total number of 1410 families (141 Scheduled Castes, 570 Scheduled Tribes and 699 Other Caste) were displaced. Of these, only 26 other caste families could be motivated to resettle in the camps. As per their option they were provided rehabilitation assistance upon the same "part cash and part land" principle as it was done in 1984. The total amount of cash paid and the land with housesite allotted to them in the Camp were Rs. 1,01,922 and 76·50 acres respectively. The remaining bulk of 1384 families claimed full cash grant amounting to Rs. 1,94,31,360 at the rate of Rs. 14,040 per family in order to enable them to arrange for their self rehabilitation.

Third Phase

As stated earlier, the third and final phase of displacement and rehabilitation operation could not be concluded during 1986 for non-availability of funds. However, four of the third phase villages, viz., Mundagad, Khamari, Teraguda and Dangdeula (Masiput) had already been evacuated during 1985 because, they were lying close to 850 R. L. and there was possibility of submersion in case the water level in the reservoir would go up. There was complete evacuation of all the 62 affected families in case of three villages whereas from the fourth one, Dangdeula (Masiput) only six out of 15 families were displaced. Similarly, from another third phase village, Chikapar, 10 families whose living quarters came within 850—858 M. R. L. were displaced in 1986. Thus, by 1986 a batch of 78 families had been displaced from five of the third phase villages—three fully evacuated and two partly. As all of them opted for cash grant, they were paid in total of Rs. 10,95,120 at par with the prescribed rate.

The remaining part of the third and final phase programme was executed during the year 1987, after receipt of necessary funds. As per the previous estimate there were 18 villages of which 5 were fully affected, 13 were partly affected and 2 hamlets were marooned, those were to be evacuated in this phase. By the middle of 1986 the construction of the main reservoir was completed and the process of storage of water has started. In the meantime by resurvey of the settlements lying in and around the reservoir area it has been found that some more settlements were likely to be affected by the reservoir when it shall be impounded up to 358 M. F. R. L. by the end of 1987 monsoon. This issue was discussed in detail in the 9th Rehabilitation Advisory Committe Meeting and it was decided to include two more affected settlements, viz., Doraput and Andolguda in the existing list of 18 villages of this phase for the purpose of immediate evacuation of affected families and payment of rehabilitation assistance to them. One of these settlements i. e., Andalguda, a hamlet of village Kulab was partially affected while the other one Doraput, a hamlet of the village Balda was going to be marooned by the reservoir without any possibility of forging communication links. Likewise under similar circumstances 9 more families of Dengdeula (Masiput) and all the 165 families belonging to village Chikapar have been displaced and extended the benefits of rehabilitation.

Thus after finalisation, the total number of families to be displaced from 18 Nos. of third phase villages became 811. As stated earliar 78 of

these families has already been displaced since 1985 and 1986 after payment of cash grant for self-rehabilitation. Of the remaining 733 families scheduled to be displaced during the year 1987, 702 families belonging to 13 villages have been evacuated by this time. While 402 of these families claimed cash grant for self-rehabilitation, a remarkable success has been achieved by persuading the rest 306 families, most of whom are Scheduled caste & Scheduled Tribe to resettle in the colonies upon "part land and part cash" formula. The last 25 families of this phase belonging to 2 villages (Kaki and Chhagan) are waiting to be rehabilitated after receipt of Government sanction.

This operation started since April of year 1987 and inspite of various constraints the evacuation of villages could be completed just before the onset of monsoon.

The Resettlement Colonies

As mentioned earlier that in pursuance of Government policy and the corresponding dicisions of the Rehabilitation Advisory Committee, the project authorities have taken steps to set up resettlement colonies with all the essential amenities for the rehabilitation of the displaced families in the command area of Upper Kolab irrigation ayacuts. The Rehabilitation Advisory Committee in all its session held so far, has reviewed and monitored the progress of work in this respect and recommended expedient steps for removing the bottlenecks. The important recomendations of the Rehabilitation Advisory Committee to this connection are :

1. All the works such as reclamation and other infrastructural facilities like roads, schools, wells, ponds are to be completed prior to commencement of the programme of displacement of families from the submersible habitation sites corresponding to the programme of impounding of the reservoirs;

2. At least 20 per cent of the camp area should be kept reserved for village forest, cremation ground, gochar, installation of village deities and other communal purposes;

3. Compensatory afforestation of the unutilised camp area should be taken up.

4. All possible measures should be taken to motivate and persuade the displaced families to resettle in the camp instead of opting for cash grants for self rehabilitation.

In compliance to the above instructions the project authorities have identified 12,700·84 acres of land in the command area of Upper Kolab Irrigation Project. Out of this, 9,412·85 acres of land are located in 23 villages of Koraput Tahasil and the balance 3,268·89 acres in 25 villages of Borigumma Tahasil. So far 8,837·77 acres of land have been reclaimed and developed in Kotpad area for setting up 7 rehabilitation colonies as given below. :—

Camp No. 1 & 2	..	763·77 acres
Camp No. 3	..	453.27 acres
Camp No. 4	..	2,840·70 acres
Camp No. 5	..	1 130·07 acres
Camp No. 6	..	909·98 acres
Camp No. 7	..	2,739·98 acres
Total	..	8,837·77 acres

Out of this 8,837·77 acres of land 2,945·00 acres of land are irrigable. 2,996·00 acres are non-irrigable land and 1,012·00 acres are earmarked for homestead purpose. The balance area is reserved for "Gochar", "Samsan" and other developmental purposes. Expenditure to the tune of Rs. 1,18,26,862 has been incurred towards reclamation of land and providing facilities such as construction of road., tank and school buildings in all the 7 camps. The displaced families have been resettled in Camp Nos. 4,5,6, & 7 in Kotpad Tahasil where the following facilities have been provided : —

Camp No.	No. of D. P. families residing	Facilities provided	
5	43	Tank	.. One
		Wells	.. Three
		Tube-wells	.. One
		School	.. One
6	6	Tank	.. One
		Wells	.. Two
		Tube-wells	.. Two
		School	.. One

Camp No.	No. of D. P. families residing	Facilities provided	
7	65	Tanks	.. Two
		Well	.. One
		Tube-Well (under construction)	.. One
		School	.. One
4	164	Tank (under construction)	.. One
		Wells	.. Two
		School	.. One

Besides the above facilities one high school building at Sasahandi adjacent to Camp Nos. 4,5 & 6 and a net-work of approach roads have also been provided.

In accordance with the provisions of the rehabilitation policy and recommendations of the Rehabilitation Advisory Committee, the Officers of the Land Acquisition & Resettlement Organisation and the local public representatives made their best efforts to persue the displaced families to go to the resettlement camps situated in Kotpad Tahasil right from the onset of displacement and resettlement operation. But unfortunately this attempt was not very successful in the beginning.

It was a hard task to motivate the backward and illiterate people to resettle in the camps aginst the irrestible attraction of receiving the benefit in hard cash and spending it lavishly for some-time once they know this alternative is there. The task became harder still when one has to deal with the Harijans and Adivasis who don't care for anything for their future and wellbeing other than receipt of money in shape of cash grant.

Further the displaced tribal families belong to 'Gadaba' and 'Paroja' tribes; whereas the tribes living in villages adjacent to the resettlement camp areas are 'Bhottadas' and 'Amanatyes' with whom they cannot forge social and marital alliances. So for ethnic and other reasons, they did not want to be away from their counter-parts living in other unaffected villages in Koraput subdivision. As such they preferred to stay at higher elevation of the hillocks situated in the vicinity of their native villages and even some of them resettled with their kith and kins in unaffected villages. Absence of forest environment and lack of immediate employment opportunity in the resettlement colony area are also among other factors responsible for their reluctance to go to these colonies. Moreover, the vested interests played their role well to motivate them against going to camps and to claim the cash grant from which they would syphon a lion's share.

Once again from the beginning of 1987 the rehabilitation authorities of the project launched a "Move to camp operation" in favour of the would be displaced families. They were explained about the benefits of resettlement camp against problems of cash grant. The leaders and elders of the affected villages were taken to the camp site and shown the fertile land, irrigation facilities and other amenities such as schools, wells, tanks, roads etc., provided there. The large marooned hamlet Parjapondi having 228 families to be displaced, became the focal point of operation. The response of the Scheduled Tribes and Scheduled Castes was negative in the beginning. In course of regular visit and prolonged motivation all these 228 families, majority of whom are S. C. & S. T. (197 S. T. & 195 S. C,) agreed to move to the colonies and thus a major break through could be made.

On examination of the facts presented above one can see that, starting from 1982 to the end of 1986, a total number of 2,267 families had already been displaced, the majority of whom i. e., 2.218 families representing 97·84% claimed "full cash grant" and only a very small number of 49 families (2·16%) all belonging to other caste could be sent to the resettlement camps. On the contrary, during 1987 out 708 families displaced so far, a fairly large number of 306 families forming 43% of the total could be motivatad to move to resettlement

camps. As stated above, 228 of these camp going families alone are from Parjapondi village and the remaining 78 came from Machhara (Bariguda) and Balda (Doraput).

Problems of Cash Grant and Remedial Measures.

It is seen from the above facts that out of total 2,975 families displaced so far the majority i. e. (2,620) representing 88% have claimed cash grant for self-rehabilitation and only the rest 355 (12%) families have moved to the resettlement camps. While there is no doubt that the families resettled in camps with land, house sites and other amenities shall eke out a better and happier livelihood, what will be fate of the thousands of landless and homeless displaced families who have received cash grant? However, the project discharged its rehabilitation liabilities towards these families by payment of cash grant and the concerned authorities recommended certain procedures and provisions to check the misutilisation of money as far as possible. But the experience shows that further problems would arise when the money would be misutilised by some families, especially those belonging to scheduled castes and scheduled tribes and they would become paupers. It is a human problem which deserves reconsideration by all concerned.

As stated earlier, the Government recommended in the rehabilitation policy for keeping 80% of cash grant in savings deposits in order to check misutilisation by the vulnerable tribals. The Rehabilitation Advisory Committee of the project in pursuance of this policy also recommended for cash payment and savings deposits in respect of cash grant as follows:—

(*a*) For the 80 families displaced from Badiliguda and Dhemsaguda in 1982 money was paid @ Rs. 5,760 per family:—

(*i*) Cash payment	Rs. 760
(*ii*) Term Deposit (5 years)	Rs. 5,000
**Total .. **	**Rs. 5,760**

(*b*) Families displaced after 1983 (@ Rs. 14,040 per family)—

(*i*) Cash payment	Rs. 540	
(*ii*) Savings Account Pass Book	Rs. 5,000	
(*iii*) Term Deposit (5 years).	Rs. 2,500	cr Rs. 8,500 in fixed deposit.
(*iv*) N.S.C.	Rs. 6,000	
Total ..	Rs. 14,040	

The project is located within the sub-plan area like Koraput where the tribals account for more than 50% of the total population. Majority of the displaced families belong to scheduled castes and scheduled tribes. Gadaba (Bada Gadaba) and Parja (Jodia Parja) represent the tribals. Dom, Ghasi and Kumbhar dominate among the scheduled castes while Mali, Rana and Paiko castes represent the general caste.

Centuries of neglect; socio-economic exploitation by prosperous neighbours, vested interests, and unscrupulous Sahukars; illiteracy, ignorance, ethnocentrism and limited world view have made them backward. These tribals who are not fully conscious of their future as well as the value of money, got large sums as land and house compensation and rehabilitation assistance. Vested interests took full advantage of this opportunity. The cunning moneylenders exploited the situation to reck up past debts and demanded repayment of their dues. Liquor vendors and petty traders had a bumper trade and some amount of the cash grant and compensation found way into their purses.

After the joining of the Officer-on-Special Duty (Rehabilitation) in the project some remedial steps were taken to control this situation in response to the Government policy and the recommendation of the Rehabilitation Advisory Committee. Concerned Banks and Post Offices were requested to release money to the displaced persons and compensation holders only after receiving recommendation from the Resettlement Authorities of the project. The beneficiaries were persuaded to utilise the money properly for creation of assets required for livelihood. By regular field check, it was ensured that the money has been spent for house construction, purchase of land and bullocks, etc. Consequently it was seen that some beneficiaries have become

conscious and utilised the money to acquire farm land, live-stock and for construction of new houses. The tribal and other displaced families who are living around the urban centres and have become little advanced by external contact, showed tendency to spend large sums of money for construction of pucca houses and purchase of luxurious items like wrist watch, cycle, radio, modern dresses, etc.

However, the families belonging to Mali, Rana and Paiko castes are skilled agriculturists and conscious of the value of money The manner of utilisation of money in their case is satisfactory. Some of these families prior to their displacement had the foresight to search fa and wide for places where feetile lands andr gainful employment opportunities are available for their resettlement. But it is the Adibasis and Harijans, most of whom misutilized a large part of money for food and liquor, as they entertained their kith and kin with gifts and presents and purchased gold and other useless items.

Conclusion

Rehabilitation of displaced family is a major aspect of a developmental project. Of course In case of Upper Kolab Project there has been some success in this field, that has generated new hopes. More and more attention is being paid to the families resettled in the colonies. Apart from the rehabilitation benefits which they have already received from the project according to the provisions of rehabilitation policy, efforts are baing made to provide them additional benefits from external agencies in order to build up their inner strength and accelerate the pace of their socio-economic rehabilitation.

Rehabilitation officials are keeping regular contacts with these colonies to look after day-to-day problems. Medical and health services are being provided as and when required. Ration cards are being supplied so that they would get their rations at fair price. Forest authorities are moved to supply them firewood and forest materials for housing at concessional rates from the nearby reserve or Khesra forests.

In association with the local agriculture authorities, extension service is being provided for promotion of agriculture. For example, during rabi season 85 free mini kits of black gram and green gram seeds along with fertilisers have been supplied to the willing beneficiaries with a view to introduce new crops. In spite of the drought situation prevailing during the year 1987 the cultivators of these colonies have got a good harvest of their crops like paddy, ragi, maize, millet, black gram, green gram, alsi, etc.

Further, steps have been taken to render external institutional assistance to these families by covering them under various income generating schemes through concerned D. R. D. A., I. T. D. A. and Block agencies. Employment opportunities have been secured for them for a couple of years in the construction of irrigation canals of the project which are also passing through these colonies. Besides this, compensatory afforestation of the unutilized camp area shall also be taken up in near future in which they shall get employment.

Thus, all possible welfare measures are being taken for the resettlers in the colonies to make their life more secure and happier. This has created a kind of awareness and raised the aspirations of the displaced families. In this way the "move to resettlement colonies" campaign started in the beginning of 1987 has gathered momentum in the meantime. Now it has started delivering the goods. It has effectively carried the message of happier life to the displaced families and thereby reversed the dangerous trend against 'cash grant' in support of rehabilitation colonies.

As a result, the displaced families of the Ist and 2nd phases who had already chosen to receive cash grant for self-rehabilitation almost unanimously, baring a few, have now started reconsidering the wisdom of their decision against resettlement in the colonies. For many of them it is too late because they have spent away the money and still feeling insecure, But some of them are still left with some money in bank deposits due to the belated regulatory and persuasive measuers initiated by the rehabilitation authorities against withdrawal of bank deposits and misutilization of cash grant as discussed before. These families are now coming forward requesting for their resttlement in the colonies by surrendering the portions of 'cash grant' still available in their bank deposits. This issue had been discussed int he last meeting of the Rehabilitation Advisory Committee and a decision had been taken to give chance to these families. Since then, 25 families from three 2nd phase villages have availed this opportunity and now they are happily resettled in the colonies.

Last but not the least, the plight of the majority who had received cash grant should not be forgotten. Many of them are still living in the villages located around the periphery of the main reservoir, which has a great potential for promotion of pisciculture. But these people lack necessary skills and resources for taking up this profitable enterprise. In this situation the external agencies should come forward to assist them to exploit this opportunity. The project is providing necessary infrastructures and services like approach roads and ferry service wherever required for these periphery villages in order to restore communication link of these villages with the nearest growth centres and urban centers. The project is also starting soil conservation plantation schemes around the main reservoir and its catchment area to arrest soil erosion and siltation in the reservoir. This programme would create employment opportunities for the displaced families living in the area.

Once for all, it may be said here that success and achievements may be limited but atleast a beginning has been made. With everything said and done so far, it is time for the official and non-official agencies to come forward and lend a helping hand to these displaced families.

ANNEXURE I

Abstract of Rehabilitation Programme for the displaced families in Upper Kolab Project

The reservoir that affected the villages	Phase of submersion	Year of displacement	No. of affected villages	Total No. of displaced families				No. of families received cash grant	No. of families resettled in the colony	No. of families not received full assistance	Remarks
				S. C.	S. T.	O. C.	Total				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Subsidiary reservoir (Satig u d a Pond) Water sp r e a d Area-56·7 Hct. at 593·50 m FRL.		1982	2 (hamlets)	15	45	20	80	80	..	80	Paid at the rate of Rs. 5,760·00 per family as reclamation cost @ Rs. 960·00 per acre for six acres as per the prevailing rate. Their claim for the present enhanced rate @ Rs. 14,640·00 recommended to Government by the 9th R. A. C.
Main Reservoir Water Spread Area at 858 m. FRL.—114·32 sq. km.	PHASE I Up to 835 m. RL.	1984	5	129	440	130	699	671	23	5	5 beneficiaries died after receiving part cash assistance of Rs. 1,000·00 each in 1984 at the time of displacement. Payment of the balance @ Rs. 13,640·00 each to their legal heirs is under consideration.
	PHASE II 835 m. RL to 850 m. RL.	1985	21	141	570	699	1410	1384 (—25)	26 (+25 in 1987).	..	25 fam-ilies who has received cash grant in 1985 surrendered the money left with them and were resettled in the colonies as they found better and secured life therein.
	PHASE III 850 m. RL to 858 m. F.-R. L.	1985—1987	18	144	370	297	811	480	306	25	786 families from 16 villages already displaced and got rehabilitation assistance. Rest 25 families from last 2 villages (Kaki and Chhagan) not yet displaced pending Government instructions.
		Total	44	429	1425	1146	3000	2615 (—25)	355 (+25)	30	

Vocational need of the Scheduled Caste farmers in modern farming system

B. N. Dash
&
R. N. Das

After forty-two years of independence, majority of the weaker section of our country still remain under poverty line. Among them, scheduled caste communities top the position and therefore need immediate attention for upliftment. They not only suffer from economic distress but also from social disabilities arising out of untouchability. Therefore, they come in the bottom line of poverty scale.

Generally scheduled caste people depend on agriculture and wage earning for their livelihood. Some of them also earn their livelihood through much hesitated caste occupation. According to 1981 census, it is revealed that out of the total scheduled caste population 40·26 per cent are workers, 37·44 per cent are workers from among general caste population. Among the scheduled caste people, 49·21 per cent are agricultural labourers and 27·45 per cent are cultivators. Besides some scheduled caste people are engaged in occupation like scavanging, tanning, weaving, preparing fishing net, making bamboo basket and washing clothes, etc.

Most of the scheduled caste people in rural area are small and marginal farmers and landless agricultural labourers. Thus for development of agriculture among scheduled caste communities a needbased, production oriented technological strategy will be very much beneficial.

With this back ground in mind the present investigation has been carried out to study the following objectives—

(1) To measure the socio-economic status of the scheduled caste communities.

(2) To determine the knowledge level and vocational aspiration of scheduled caste people in farming practices.

(3) To know the awareness of the seheduled caste people about different on-going programme/schemes/information and sources relating to agriculture development.

(4) To study the relationship between socio-economic variables and vocational need of the scheduled caste people in farming innovations.

Methodology

The study was conducted in four panchayats of Bhanjanagar and Belagguntha blocks in Ganjam district. Multistage random sampling procedure was followed to select the panchayats, villages and the respondents for the study. One hundred scheduled caste respondents were interviewed through a structured schedule. The data collected were processed and analysed using various statistical measures. Such as percentage, mean-score co-relation' co-efficient, etc. to reveal the following results.

TABLE I

Distribution of respondents

Sl. No.	Blocks	Grama Panchayat	Village	Total No. of Scheduled Caste household	No. of Scheduled Caste respondent selected
(1)	(2)	(3)	(4)	(5)	(6)
1	Bhanjanagar ..	Diha Padhala ..	Diha Pahala ..	62	40
			Tulasipali ..	20	10
			Benakunda ..	10	5
		Bausalandi ..	Chhedablemi ..	22	15
			Lalsingh ..	18	5
2	Belaguntha ..	Tanarada ..	Tanarada ..	40	10
			K. Berhampur ..	25	8
			Pratapur-Matikani.	15	4
				Total ..	100

Findings and discussions

TABLE II

Distribution of respondents according to different socio-economic status

N=100

Sl. No.	Socio-economic factors		F	Per cent
(1)	(2)		(3)	(4)
1	Age ..	(*i*) Young (up to 30 years) ..	28	28
		(*ii*) Middle (31 to 50 years) ..	47	47
		(*iii*) Old (Above 50 years) ..	25	25
2	Education ..	(*i*) Illiterate ..	56	56
		(*ii*) Primary level ..	25	25
		(*iii*) Middle School ..	13	13
		(*iv*) High School ..	6	6
		(*v*) College ..	1	1
3	Family type ..	(*i*) Nuclear ..	62	62
		(*ii*) Joint ..	38	38
4	Family size ..	(*i*) Up to 5 Nos. ..	42	42
		(*ii*) Above 5 Nos. ..	58	58

Sl. No.	Socio-economic factors		F	Per cent
(1)	(2)		(3)	(4)
5	Occupation	(*i*) Caste occupation ..	26	26
		(*ii*) Agriculture ..	14	14
		(*iii*) Animal husbandry ..	22	22
		(*iv*) Business ..	4	4
		(*v*) Service ..	2	2
		(v*i*) Wage earning ..	32	32
		(v) Any other ..	..	..
6.	Landholding	(*i*) Landless and agricultural labour ...	38	38
		(*ii*) Up to 1 ha. ...	55	55
		(*iii*) 1 to 2 ha. ..	7	7
		(*iv*) Above 2 ha. ..	...	..
7.	Income ..	(*i*) Up to Rs. 2,500 ..	8	8
		(*ii*) Rs. 2,501—5,000 ..	78	78
		(*iii*) Rs. 4,001—6,400 ..	14	14
		(*iv*) Above Rs. 6,400 ..	..	..
8.	Housing pattern	(*i*) Thatched ..	87	87
		(*ii*) Semipucca ..	13	13
		(*iii*) Pucca ..	..	..

		Institution	Member F	Member %	Office bearer F	Office bearer %
9.	Social participation	1. G. P.	2	2	2	2
		2. Co-operative Societies	2	2	..	..
		3. Other organisations				
10.	Social Contact ..	1. Localite	68	32		
		2. Cosmopolite	32	32		
11.	Agricultural Implements.	M. B. Plough/Base super plough/	6	6		
		Trenchhoe	9	9		
		Sprayer	3	3		
		Seeddril	..	..		
		Groundnut decorticator	..	..		
		Paddy thresher	..	..		
		Power tiller/tractor	..	..		

The table above reveals that majority of the Scheduled Caste farmers belong to middle aged group (47%), illiterate (56%), mostly living in nuclear type of family (61%), having more than 5 family member (58%). They mainly earn their livelihood from the following occupation such as wage earning (32%) followed by Caste occupation (26%), Animal Husbandry practices (22%) and Agriculture (14%). Moreover the Scheduled Caste farmers with agricultural occupations possess agricultural implements like trenchhoe (9%), M. B. plough/Bosesuper plough (6%), and sprayer (3%). Most of the Scheduled Caste people belong to marginal-group (55%) followed by landless agricultural laboures (38%). Majority (78%) have an average annual income of Rs. 2,500—Rs. 5,000. Most of them (87%) live in thatched house. Sixty-eight per cent of S. C. people are localite in nature with little or no social participation.

TABLE III

Knowledge level and vocational need of the Scheduled Caste people in farming practices

Sl. No.	Farming practices	Minimum obtainable score	Minimum score (M. C.)	Gap in percentage
(1)	(2)	(3)	(4)	(5)
1	HYV/improved varieties of seeds ..	3	1·4	53·33
2	Seed rate per ha. ..	3	1·2	60·00
3	Seed treatment with chemicals ..	3	0·4	86·66
4	Land preparation ..	3	1·1	63·33
5	Recommended spacing ..	3	0·6	80·00
6	Nursery care and management ..	3	0·9	70·00
7	Time of sowing/planting ..	3	1·3	56·66
8	Application of NPK			
	(*a*) Method of application ..	3	0·2	93·33
	(*b*) Dates of application ..	3	0·2	93·33
	(*c*) Time of application ..	3	0·9	70·00
9	Pest and Disease Management			
	(*a*) Chemical control ..	3	0·3	90·00
	(*b*) Cultural control ..	3	0·6	80·00
	(*c*) Biological control ..	3	..	100·00
10	Weed control ..	3	0·4	86·66
11	Water management ..	3	0·7	76·66

Sl. No.	Farming Practices	Minimum obtainable score	Minimum score (M. C.)	Gap in percentage
(1)	(2)	(3)	(4)	(5)
12	Storage and marketing of foodgrains ..	3	0·8	73·33
13	Fruits and vegetable cultivation ..	3	0·9	70·00
14	Soil testing ..	3	0·1	96·66
15	Green manuring ..	3	1·0	66·00
16	Crop rotation ..	3	..	..
17	Azola cultivation ..	3	..	100·00
18	Dry land farming ..	3	0·5	83·33
19	Paddy-*cum*-fish farming ..	3	..	100·00
20	Use of bacterial culture ..	3	..	100·00
21	Mushroom cultivation ..	3	..	100·00
22	Fodder cultivation ..	3	0·6	80·00
23	Use of Agri. implements ..	3	1·1	63·33
24	Preparation of F. Y. M. ..	3	1·0	66·66

A perusal of the table III reveals that scheduled caste farmers are not aware of advanced technology like mushroom cultivation, paddy-*cum*-fish farming and use of bacterial culture. Since these technology are more scientific in nature and need care and management, the scheduled caste farmers lack in knowledge about such innovations.

The knowledge gap in soil testing, different methods and proper doses of N. P. K. application have been to the extent of 66·96 per cent. These technologies are complex in nature and hence scheduled caste farmers could not master them easily with poor education.

Eighty-six per cent of gap in knowledge was observed in the items of technology like seed treatment with chemicals and weed control followed by dry land farming (83 per cent). In item like cultural control of disease pest, fodder cultivation, water management, storage and marketing of foodgrains, fruits and vegetable cultivation, time of application of N. P. K. nursery care and management there exist knowledge gap to the extent of 80 per cent...This shows the scheduled caste farmers adopt traditional methods of agriculture. They need to be guided properly to adopt the above technology.

In innovations like HYV/improved varieties, time of sowing/planting, land preparation, knowledge gap is minimum as these are simple in nature. Still then scheduled caste people should be taught to develop their skill in the above practices to bridge up the technological gap.

On the whole the above findings suggested that the scheduled caste people are poor, traditional oriented, ignorant with little or no knowledge regarding modern practices of agriculture.

TABLE IV

Awareness of the Scheduled Caste people about different programmes/schemes/information sources relating agricultural development

ITEMS N—100	Knowledge (in percentage)
1. Dissemination of agricultural information through Radio, T. V., Video, slides and films, etc.	16
2. Provision of technical literature from Department, O. U. A. T. and other organisation.	3
3. Participation in Training programme/Field day, demonstration, Campaign, Exhibitions, farmers fairs, Research trials, etc.	12
4. Credit facilities by financing institutions ..	42
5. Subsidy facilities on agricultural inputs ..	33
6. Crop Insurance ..	..
7. Land reforms and consolidation ..	18
8. Rural Development Schemes—	
(A.) I. R. D. P. ..	73
(B.) E. R. R. P. ..	66
(C.) The Jawahar Rojagar Jojana ..	55
9. Command Area Development (C. A. D. A). ..	..
10. Special Rice Production Programme (S. R. P.) ..	2
11. Total Foodgrain Production programme (T. F. P. P.) ..	..
12. National Oil-seed Development Programme (N. O. D. P.) ..	15
13. National Demonstration Programme (N. D. P.)	..
14. Cotton Development Programme	..
15. Sugarcane Development Programme	..
16. Co-operative Societies ..	52
17. Agro Industries Corporation ..	21
18. Oil Federation (Oil Orissa) ..	21
19. National Seeds Corporation ..	..
20. I. F. F. C. O. ..	4
21. H. F. C. L.	
22. F. C. E. ..	
23. ASSPY. ..	..
R. C. M. S. ..	..
24. O. U. A. T. ..	3
25. K. V. K. ..	65
26. L. L. P. ..	6
27. U. E. B. P. ..	8
28. Distance Education Programme ..	14

It is evident from the above table that most of the scheduled caste respondents were not aware of the different projects such as crop insurance, C. A. D. A., T. F. P. P., N. D. P., Cotton Development Programme, and Sugarcane Development Programme. Besides, the knowledge of scheduled caste respondents was negligible regarding different organisations like N. S. C., H. F. C. L ,. F. C. I., ASSPY and R. C. M, S., Scheduled Caste people are economically backward, socially and culturally incomaptible with other members of social system. Hence they need to be motivated and encouraged about the above programmes

Only a few scheduled caste people (about 21%) were aware of Oil Federation, Agro Industries Corporation, Land Reforms and Consolidation, Distance Education, dissemination of Agricultural Information through Radio, T.V., Video, Slides, Films, National Oilseed Development programme, Training Programme, Field day, Demonstrations, Campaigning, Exhibitions, Farmers' Fairs and Research trials, University Extension Block Programme, Lab to Land Programme, IFFCO, OUAT., Provision of literature from Department of Agriculture and OUAT and Special Rice Production Programme. This may be due to lack of access of scheduled caste people to the above enterprises. Hence they may be educated and motivated to increase their awareness about the aforesaid programmes.

The table also stated that most of the scheduled caste people were very much acquainted with programmes like IRDP (83%), ERRP (76%), THE JAWAHAR ROJAGAR JOJANA (65%), Co-operative Societies (62%), Krushi Vigyan Kendra (59%), Credit Financing Institution (42%) and Subsidy facilities on Agricultural inputs (33%) in order of merit. IRDP, ERRP, THE JAWAHAR ROJAGAR JOJANA are source of the National and State programmes aimed at Rural Development. The awareness amnog the ccheduled caste people regarding the above programmes is relatively more due to their active involvement in these programmes. Further the scheduled caste people should be motivated and educated more for their participation and active involvement on the programmes like K.V.K,. Co-operative Societies, Credit Financing Institutions and subsidy facilities on agricultural inputs for their socio-economic upliftment.

TABLE V

Relationship between socio-economic status and farming innovations

Sl. No.	Socio-economic status	"r"	Level of significance
(1)	(2)	(3)	(4)
1	Age ..	0.17	NS
2	Education ..	0.34	**
3	Family type ..	0.07	NS
4	Family size ..	0·03	NS
5	Social contact ..	0·41	*
6	Social participation ..	0·27	**
7	Land holding ..	0·01	NS
8	Occupations ..	0·42	*
9	Average annual income	0·05	NS
10	Housing ..	0·13	NS
11	Agril. Implements ..	0·25	**

* Significant at 5 per cent level

** Significant at 1 per cent level

NS—Not significant

Eleven socio-economic factors of scheduled caste people were taken up to correlate with dependent variables, i.e. vocational need in farming practices. Table V reveals that factors like education, social contact, social participation, occupation, agricultural implements are significantly related with vocational need of the S.C. farmers.

The present findings reveal that higher the level of education, greater is the vocational aspiration; More s the social contact, more is the interest to know about different agricultural practices.

There is a significant relationship between social participation and educational need. "r" value in the present investigation reveals that lower social participation leads to lower level of knowledge of farming practices.

It is clear that higher the dependence on agricultural occupation, more is the adoption of different agril. Technology.

Besides other factors such as age, family type, family size, landholding average, annual income, housing structure are not significantly related with the vocational needs.

Conclusion

The study on the whole reveals that scheduled caste farmers possess very lower level of knowledge in different advanced technology in agriculture and different agricultural development promoting programmes. They possess lower status which are significantly related with their vocational need in agriculture.

Efforts should be made by the Government and voluntary agencies to motivate and educate this category of people in order to bring about their socio economic development.

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Differential growth pattern between parental and filial generation in a tribal population

R. P. Mohanty

Introduction

There are as many as 62 different tribal communities belonging to a varieties of racial elements in Orissa. Of these 62 tribal communities, there are 12 major tribes, namely Kondh, Gond, Santal, Saora, Kolha, Munda, Paraja, Bhuinya, Kisan, Oraon, Koya and Gadaba numbering 1 lakh each, who are still found to be far away from the mainstream even after four decades of India's Independence.

The Kondhs, one of the primitive and numerically the large among all the tribal communities of Orissa, mostly live in the densely wooded hills and hill slopes on the Eastern Ghat of India along the Bay of Bengal in Orissa and Andhra Pradesh. The Kondh with 9,89,342 population (according to 1981 Census) occupies the top most position in the list of Scheduled Castes of Orissa. Though its main concentration is in South Orissa (Koraput, Kalahandi, Phulbani & Ganjam), they are scattered by fits and stars throughout the State. The territory in which these people reside in deep concentration is known as Kondmals.

In course of time the Orissan Kondhs have formed themselves into separate endogamous groups and have economic diversity. Broadly they are divided into the following 3 categories—

1. *Kutia Kondh*—This is the weakest section leading in an isolated life of poverty.
2. *Dongria Kondh*—This section is comparatively less primitive and is skilled in horticulture.
3. *Desia Kondh*—Kondhs who have settled at foot hills and depend mostly on cultivation.

This large ethnic community irrespective of its subdivision has been suffering from many deadly diseases like Malnutrition, Malaria, etc. since time immemorial. During the British period the Kondhs were in no way helped either through any eradicational programmes of these diseases or any developmental programmes for their socio-economic upliftment. But on the other hand they were often discriminated and were looked down as barbaric and uncivilized people by the Britishers. Anyhow, though some eradicational and developmental programmes have been implemented since the end of the second decade of India's Independence no remarkable impact has yet been felt as a result of which many Kondh people are also still seen to have been suffered from the above-mentioned diseases and are leading a very poor and miserable life.

Under the Raj system, they were very daring soldiers of the land and they once revolted against the British rule. But economically and in technological level they were very poor. They had a bad reputation of human sacrifice in religious matter, which however was stopped by the foreign rulers.

Now-a-days the Kondh habitat is also marked to have been severely disturbed due to the change in forest eco-system which occurred through long practise of shifting cultivation, cutting of firewood and timbers, interference of the forest conractors and brokers, shortage of rainfall, etc. This deforestation directly influence soil, plants and animals of the jungle and the tribal people who depend on the forest for their daily need are also affected severely. It makes as deficiency to subsistence economy of these people as they mostly maintain their livelihood through collection of fruits, seeds, roots, tubers, leaves and hunting of wild animals. Besides, forest produces like

honey, wax, resin etc. are also collected by them for cash economy. But due to the deforestation the forest have been destroyed as a result of which forest-based food stuff cannot be obtained therefrom. Hence, the tribal people are being forced to lead a very miserable life and this situation ultimately creates an economic pressure on these people.

Kondhs are forced to migrate to distant areas of Assam and Bengal to work in the tea gardens and coal mines. Those who manage to stay back, use their traditional method to exploit the environment.

Keeping all these views in mind, this study was carried out during November-December, 1986.

Area of Study

For this study 11 (Eleven) Desia Kondh villages, namely, (1), Kanjamendi, (2) Rajaghara (3) Gohingia, (4) Siritiguda, (5) Gajipadar, (6) Podasahi, (7) Kudupakia, (8) Gosukia (9) Bonduda, (11) Taparakia, and (11) Salapjodi were selected at random around the Nuagaon Block of Phulbani District of Orissa.

Food Habit

Generally the Desia Kondhs eat three times a day, Rice, Maize, Millet, etc. are their food. These constitute people are fond of dried fish but the quantity consumed in lunch and super is very less.

Various cereals like Kandula, Janha, etc. are the substitutional staple food for rice, maize and millet. Various roots like Mulakuna, Dakutkuna, Kandakuna, Kuarkuna, Sembikuna are mainly consumed during Bhadrab-Vaisakha due to lack of rice or other staple food. Green leaves and mushroom, though consumed in good quantity, it is totally seasonal. As the geographical condition does not allow pisciculture, consumption of fish is very less and occasional.

Rice is not washed before it is cooked and the boiled rice water is not thrown out as it is consumed very often. Turmeric, chilli, mustard and tilla oil are the main ingredients for preparing curry.

Tobacco plant is grown in their kitchen garden and almost all the Kondhs are fond of smoking. They are very much addicted to drinking of Salap juice (maede kalu), date-palm juice (kujuri kalu) and Mahuli (Inpi kalu) which is sometimes cooked with Manelia and Janha.

The Kondhs relish chicken, mutton, buffalo meat, pork and beef but the later three items are mainly consumed in festive occasions and marriage ceremonies. Animals like rabbit (madu), wild pig (Barha), etc. are the main rare preys from the nearby forests.

The main purpose behind this key study is to assess the variation of growth pattern in some metric measurements between two generations, i.e. between parental and filial (father & son) generation or in other words the purpose of this study is to compare various linear, areal and ponderal growth in two generation.

It was generally believed that there is a secular trend in stature, i. e. the filial generation is taller than the parental generation in stature. But some of the workers in India like Dr. P. Ganguly and others had recently shown that stature in the filial generation in some population have become less. In order to verify the secular trend of growth, the best method is to compare measurements of individuals of different generations, the best group for comparision is father and son and mother and daughter.

Items of Measurement

20 anthropometric measurements have been taken in total out of which 13 are somatometric and the rest 7 are cephalmetric. The somatometric measurements include (1) Height vertex, (2)Height tragus, (3) Height acromion, (4)Height illiocrystale, (5) Height Dactilion, (6) Sitting Height (7) Biacromial breadth, (8) Bicrystale breadth, (9) Transverse chest breadth, (10) Chest girth, (11) Foot length, (12) Foor Breadth and (13) Weight of the body and the cephalometric measurements include (1) Maximum Head length, (2) Maximum Head Breadth, (3) Facial length, (4) Facial Breadth, (5) Bigonial Breadth, (6) Total Head height, (7) Horizontal circumference of Head.

TABLE 1

Variation in some Metric Characters between Parental and Filial Generation

Sl. No.	Measurement Items (Somatometric)	Mean Parental Gen.	Mean Filial Gen.	'T' Value	Signft (*) Insignft (O)
(1)	(2)	(3)	(4)	(5)	(6)
1	Ht. Vertex ..	159·31	159·71	+0·304	O
2	Ht. Tragus ..	145·86	146·05	+0·159	O
3	Ht. Acromion ..	133·88	131·88	—1·092	O
4	Ht. Dactilion ..	57·04	57·46	+0·543	O
5	Ht. Illiocrystale ..	96·88	96·36	—0·737	O
6	Sitting Height ...	79·74	81·60	+1·032	O
7	Biacromial Breadth ..	34·48	33·73	—1·332	O
8	Bicrystale Breadth ...	26·01	25·10	—3·707	*
9	Transverse Chest Breadth ..	27·40	26·54	—2·283	*
10	Chest Girth ..	85·05	81·20	—4·363	*
11	Foot Length ..	24·94	25·10	+0·898	O
12	Foot Breadth ..	10·03	10·64	+6·746	*
13	Weight of the Body ..	48·09	46·88	—1·161	O
14	Maximum Head Length ..	18·70	17·91	—1·990	*
15	Maximum Head Breadth ..	14·12	13·94	—2·189	*
16	Facial Length ..	11·6	10·78	—2·202	*
17	Facial Breadth ..	12·97	13·76	+8·710	*
18	Bigonial Breadth ..	9·97	9·75	—0·876	O
19	Total Head Height ..	21·51	20·38	—6·029	*
20	Horizontal Circumference of Head ..	53·89	54·33	+1·175	O

Analysis, Discussion and Probable causes of variation

In item Nos. 1, 2, 5, 6, 11, 12, 17 and 20 the growth has increased and in the rest of the items it has decreased in case of the filial generation. This means that the parental generation has increased its growth in these items which have been decreased in filial generation. It may also be said that the parental generation has ceased its growth particularly in those items which have been gained by the filial generation at an earlier age than the later generation.

Though there is deserved fluctuation in all items, only 9 characters are found to be significantly differing. These are in 4 somatometric and the rest 5 are in cephalometric measurements. The somatometric measurements are (1) Bicrystale Breadth, (2) Transverse Chest Breadth, (3) Chest Girth and (4) Foot Breadth and the cephalometric measurements are (1) Maximum Head Length, (2) Maximum Head Breadth, (3) Facial Length, (4) Facial Breadth and (5) Total Head Height.

As it has been mentioned earlier, these significant variations between these two generations might have occurred due to suffering from long term diseases, deforestation or bad natural condition or effect, lack of good nutribition, mental retardation which is a continuous process or due to any other causes which is not yet known due to very few studies carried out particularly in this problem.

However, a study by Mahanta (1978) on Koya (a primitive tribe of Koraput) revealed that the total growth in Height Vertex has reduced in case of the filial generation. This generation has also less growth in Chest Girth and Head Length. The reason, though not explicity known, he assigned mainly to environmental deterioration because the Koya habitat had been encroached and the eco-system had severely been disturbed mainly by the refusees of East Pakistan before about two decades of the research was carried out.

As such there is no apparent disturbance in the eco-system by such encroachers in the Nuagaon area but the Kondh people themselves and other agents, as it has been mentioned earlier have been changing, the eco-system of the area in a slow and continuous process which may be concluded as the same cause mentioned for the variation in growth pattern in two generation among the Koya people of the said area. The only difference between these two causes meant for these two different tribal communities is that the encroacher of the Koya habitat might have a direct or indirect interference or impact on the economic life of the Koya people which is not occurred in the Kondh habitat of Nuagaon area as there are no such encroachers. It should be mentioned that other ethnic groups except the Kondhs of the Nuagaon area might have a same type of interference in the economic life of this tribal group as the encroachers have in the economic life of the Koya people. But neither immigrant groups are found to have been settled down in the Kondh habitat of the area nor any other major or minor ethnic communities are found to have been a part of the habitat except the Kondh village Kanjamendi. But the communities like Christian, Pana with a very minor population and the Block officials who reside near this village have not any remarkable impact on the economic life of the local Kondhs which would cause a continuous and long term mental retardation.

In all, a slow depriviation has started which is worsening day by day. The Kondh farmers can not increase their productivity which was previously partly compensated by cultivation in the uplands. Upland cultivation has been considerably decreased. There is a short fall in primary food production. Also, the low lands are gradually loosing productivity. There is also acute shortage of water for cultivation. Considering all these factors, it can be summarised that there is evident deterioration of food both quantitatively and qualitatively in last two decades. From our preliminary observation on food this has been substantiated. Though the off springs have not decreased in height, they have decreased in girth and width of the trunck.

P. V. Tobias has taken the stature of the adults in Southern Africa and compared with some previous studies conducted by various physical anthropologists in the different parts of South Africa.

He has examined here the role that anthropometry can play in finding out the state of environmental adequacy or insufficiency in any community. His study is mainly based on the follwing questions—

(a) To what extent the study of adult stature alone provide some kind of indicator of the degree of environmental adequacy.

(*b*) To what extent the secular trend towards increasing adult stature, a reflection of improving environmental circumference is possible.

(*c*) Can variation in the degree of sexual dimorphism or stature in various human populations be used as a gauge of environmental adequacy ?

He finds that the increase in the adult mean stature of the samples of San people over the last sixty and more years would seem to remain as the only fairly clear cut example of the secular trend towards increased adults stature in Africa, and the environment plays a great role in it).

This study basically differs from the study of Tobias or Ganguly in terms that the hereditary factors are constant. In view of the complicated nature of heredity of the studied anthropometric characters, it is better to keep the hereditary aspects as constant for both the comparing generations. Due to practical inconvenience of measuring women especially young adult girls who are mostly married in other villages, this study has been kept limited to the male side. It would have been better to note any difference among the other sex.

Conclusion

Though at least one revelation has come out that there has been marked difference between the two generations in nearly about 50 per cent of the characters, no substantial explanation except the impact of environmental factor, economic factor, nutritional factor, hygiene factor, etc. can be offered for this deviation without further enquiry. Also, a larger body of data of different regions is necessary to highlight the difference.

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Our Contributors

1. Dr. N. K. Behura	..	Professor of Anthropology, Department of Anthropology, Utkal University, Vani Vihar, Bhubaneswar.
2. Dr. N. Patnaik	..	Ex-Director, Tribal & Harijan Research-*cum*-Training Institute, Bhubaneswar.
3. Dr. (Smt.) Saraswati Swain	..	General Secretary, National Institute of Applied Human Research and Development, Kalyani Nagar, Cuttack-13.
4. Dr. Ch. P. K. Mohapatra	..	Deputy Director, Tribal & Harijan Research-*cum*-Training Institute, Bhubaneswar.
5. Shri B. B. Mohanty	..	Research Officer, Tribal & Harijan Research-*cum*-Training Institute, Bhubaneswar.
6. Shri Jagannath Dash	..	Lecturer, Department of Anthropology, Utkal University, Vani Bihar, Bhubaneswar.
7. Shri S. C. Mohanty	..	Research Assistant, Tribal & Harijan Research-*cum*-Training Institute, Bhubaneswar.
8. Shri B. N. Dash	..	Training Associate, K. V. K., Bhanjanagar O. U. A. T.
9. Shri R. N. Das	..	Information Specialist, O. U. A. T., Bhubaneswar
10. Shri R. P. Mohanty	..	Research Scholar, Department of Anthropology Utkal University.

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