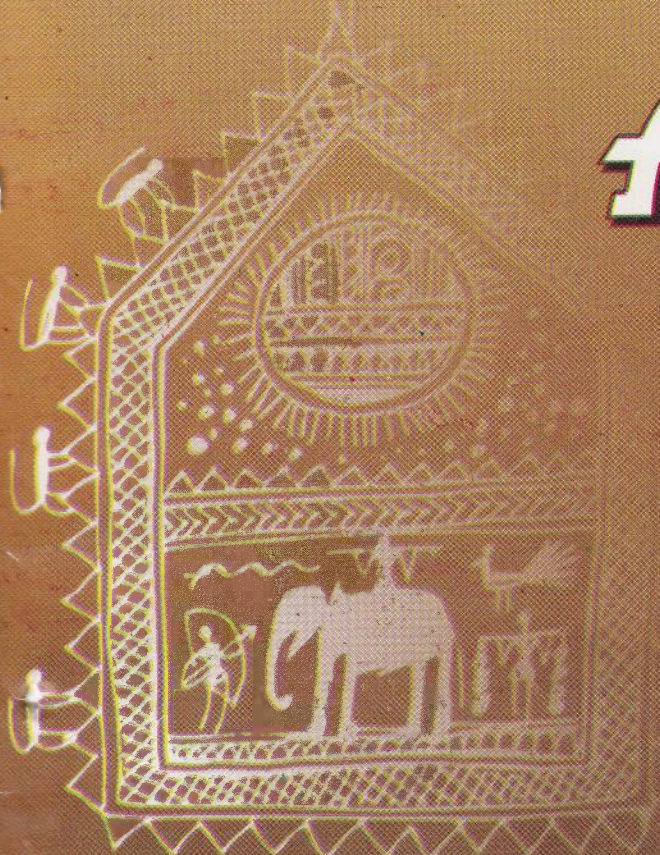


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Journal of Scheduled Castes & Scheduled Tribes Research and
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E d i t o r i a l

In this second issue of Vol. 45, December 2005 of the Journal *ADIVASI* five research papers contributed by different scholars have been published.

The first article "*Oleopathy-It's use by different Tribes*" deals with how oils and fats available in different plant bodies are used for treatment of certain ailments by indigenous methods by the traditional medicine men belonging to different tribal communities of Orissa.

The second article "*Tribes of Orissa: An Inquiry into Anthropological Ecology*" analyses the ecology of the tribes in a theoretical prospective with illustrations from two Primitive Tribal Groups (PTGs) of Orissa, that is, the Bondo and the Kutia Kandha.

The third article "*Some Wild Plants as Food items used by the Tribal people of Sundergarh District, Orissa*" attempts to examine scientifically different varieties of wild plants, locality where such plants are available and different parts of the plants used as food items by tribal communities of Sundergarh district.

The fourth paper "*Institution of Family and Marriage among the Lanjia Saora : Continuity and Change*" depicts the social organization of the Lanjia Saora, a PTG of Orissa with particular reference to the institutions of family and marriage.

The last article "*Public Distribution System in Kashipur Block : Aspects of Organisation and Administration*" highlights functioning of the Public Distribution System in Kashipur Block and how far the tribals have derived benefits from this system.

I express my sincere thanks to the paper contributors for their painstaking efforts in preparing their articles.

I also express my deep gratitude to the members of the editorial Board for their valuable suggestions and editing the articles before publication.

Dated, the December 16, 2005
Bhubaneswar

Gopinath Mohanty
EDITOR

OLEOPATHY- IT'S USE BY DIFFERENT TRIBES

*Gopinath Mohanty
Ajit Kumar Moharana*

The World Health Organization (WHO) has endorsed health as one of the fundamental human rights and defines it as a state of complete physical, mental and social well being and not mere absence of disease or infirmity. Any departure from health - ill health, ailment or disease; can be defined as a state which limits life in its power, duration and enjoyment. This institutionalized definition based on modern medical science, economy, sociology and psychology has been watered down to tribal world view on health as the physical body condition that fails to do justice to the amount of nourishment assimilated to the body system, translation of the same into manual /physical work (production of goods and services) and on ill health (disease) as non consumption of the usual as well as the so called 'live food' or rich food (proteins, fats and fibrous green food ingredients) commensurating the age and the body construction of consumer. However forest people agree that health and ill health indicate either end on a continuum (Lewis- 1976: 50)

A tribal considers a healthy person as an individual capable of consuming a lot variety of seasonal and festive foods in good quantities, delivering the right amount of work output and participating in socio- cultural functions as well as attending to the usual household chores easily. A tribal however, do not considers pregnant women, mentally or physically challenged persons and the aged ones as patients.

Tribal people are synonymed as Hill or Forest People who's socio-cultural as well as economic umbilical chord is attached to the nature – the forest and the hills. These geographically and socially marginalized people rely heavily on natural stuffs and cultured goods raised with primitive technology associated with a lot of labour and wastage. While attending to the usual household chores and economic activities the tribal people expose their bodies to maladjustment of environment- the internal as well as the external ones, leading to disorder in organism. Though 'disorder may either be somatic or psychic' (Deb Burman - 1986: 185) and the diseases may be classified as a) Natural b) Supernatural, c) Interpersonal and d) Emotional (Press-1982: 185) the tribes belonging to six cultural types namely, 1) Forest Hunting type, 2) Primitive Hill Cultivation Type, 3) Plains Agricultural Type, 4) Simple Artisan Type, 5) Cattle Breeder Type and 6) Industrial Worker Type (Vidyarthi- 1984:272) are psychologically weak enough to concede that there exist two types of diseases namely Natural and Supernatural and the causative agents of diseases are a) breach of taboo, b) sorcery, c) spirit intrusion, d) evil eye, e) wrath of gods and goddesses and f) ghost intrusion (Hasan 1971: 144)

People are material using animals (Larkin, Peter and Exline – 1980: 170) and depend on collected as well as cultured goods of both biotic and a biotic origin for their very existence. Selective biotic substances are consumed regularly to

sustain life and reproduce. Quite a lot of such substances are used internally as well as externally in small quantities to keep body organs function well. Medicaments, as these substances are known widely, have the power to check the onslaught of the external environment- seen or unseen, material or nonmaterial; as well as the malfunctioning of the organs comprising the internal environment of the body. These medicaments are used both in the 'Great Traditional Medicine' – the Ayurveda, Unani, Sidha etc, and in the 'Little Traditional Medicine- the Folk System of Medicine. Both the systems are quite extensive and consist mainly of vegetable drugs, animals remedies and abiotic substances like water, earth, stone, ores etc. The Folk System of Medicine, though undocumented is not flexible as that of the well-documented allopathic system of medicine, has the avenue of using the medicaments in shape of *Churna*, *Anjana*, *Lepa*, *Kvatha*, *Taila*, *Grita* etc. The medicaments of vegetable origin are collected by the tribal people from nearby vegetative surroundings (forests) while some so called alien ones are purchased from local markets. The medicaments are derived from biomasses of plant origin like root, wood, pith, bark, leaf, flower, fruit and seed and from the animals. Some medicaments are mineral based like earth, water, ore, stone, kerosene oil and metals of various types.

Tribal people consider seed as a powerful medicament and equate its extract- the oil, to that of the other so-called 'Live Medicaments' obtainable from animal sources. Oleo meaning oil is widely distributed natural substances of animal, plant and mineral origin. It is a general term applied to a large group of greasy, fatty and inflammable substances that are insoluble in water but readily soluble in organic solvents like turpentine, ether etc. It is non-volatile and constitute along with protein and carbohydrate. Oils unusually are liquids and fats usually solid or semisolid at ordinary temperature. Both fats and oils are compounds produced by reaction between glycerol (an alcohol) and fatty acid. Lipid is the common term used for oils and fats derived from different sources. Fats are also considered as saturated oils. Lipids (Oils and fats) have various food and non-food uses.

Physical Property:

Oils and fats, being insoluble in water, insulate animals against cold because of low rate of heat transfer. It arrest loss of moisture from body and check dehydration during winter months. Lipids are antioxidants and keep skin young and muscles below it firmer. Oils in particular are good solvents of chemicals available in natural and manufactured (artificially prepared) medicaments. The lipids are also good preservatives of biomes. It prevents the physical symptoms of essential fatty acid deficiency manifested by skin lesions, scaliness, poor hair growth and low growth rate. Tribes, through methods of trial and error, have discovered the medicinal properties of oils and fats. Tribes of different types (primitive, agrarian, acculturate or urban type) have not only discovered the use of oil as medicine but also as a base for preparation of medicines from multiple ingredients.

Clinical Property:

Tribal people have discovered a few of the many clinical properties of the oils. They are not adept to process and use essential oils derived from the locally available plant based materials (roots and leaves in particular). At times they use oil mix (mixture of different oils) to fortify the clinical properties of the individual oils. The most popular medicinal oils used for food and nonfood purposes are derived from the seeds of *Mohua*, *Kusum*, *Karanj*, *Banavalia*, *Bhaghanakhi*, *Neem*, *Pingu*, castor, mustard, sesame and coconut. Kerosene is the only mineral oil used by the tribal people for mitigating a few 'superficial' or 'deep' diseases. The clinical properties of the oils are mentioned below.

Clinical Properties of Oil

Oil	Property
1. <i>Baghanakhi</i>	Alexiteric
2. <i>Banavalia</i>	Acrid, thermogenic, aphrodisiac, trichogenous
3. Castor	Cathartic, aphrodisiac, anthelmintic and alterative
4. Coconut	Oil- Disinfectant, insecticidal, aphrodisiac and trichogenous Shell- Cooling and diuretic
5. <i>Karanj</i>	Anti septic, thermogenic, antipyretic etc
6. <i>Kusum</i>	Cool, febrifuge and galactagogue
7. <i>Mohwa</i>	Emollient and Laxative
8. <i>Neem</i>	Insecticide, antipyretic, anti septic etc.
9. Mustard	Thermogenic, acrid, emollient etc.
10. <i>Pingu</i>	Stimulant & aphrodisiac
11. Sesame	Cooling, acrid, galactagogue, diuretic, astringent, aphrodisiac
12. Kerosene	Disinfectant & insecticide

Uses:

Most of the oils used in oleopathy are the external applicants. A few oils are used as dietetic medicines. The external applicable medicines are prescribed by all the three schools tribal medicine men -those practicing i) ritual medicine, ii) both ritual and material medicine and iii) material medicine. (Maharana -1997: 48). The use of oils and their combinations to cure both the 'superficial' and the 'deep' diseases are given below.

Use of different oils

Ingredient	Use
1. <i>Baghanakhi</i>	Mitigation of inflammation
2. <i>Banavalia</i>	Treatment of skin diseases, anorexia and hemorrhoids
3. Castor	Treatment of tumour heart, slow fever, inflammations, pain in back and lumbago

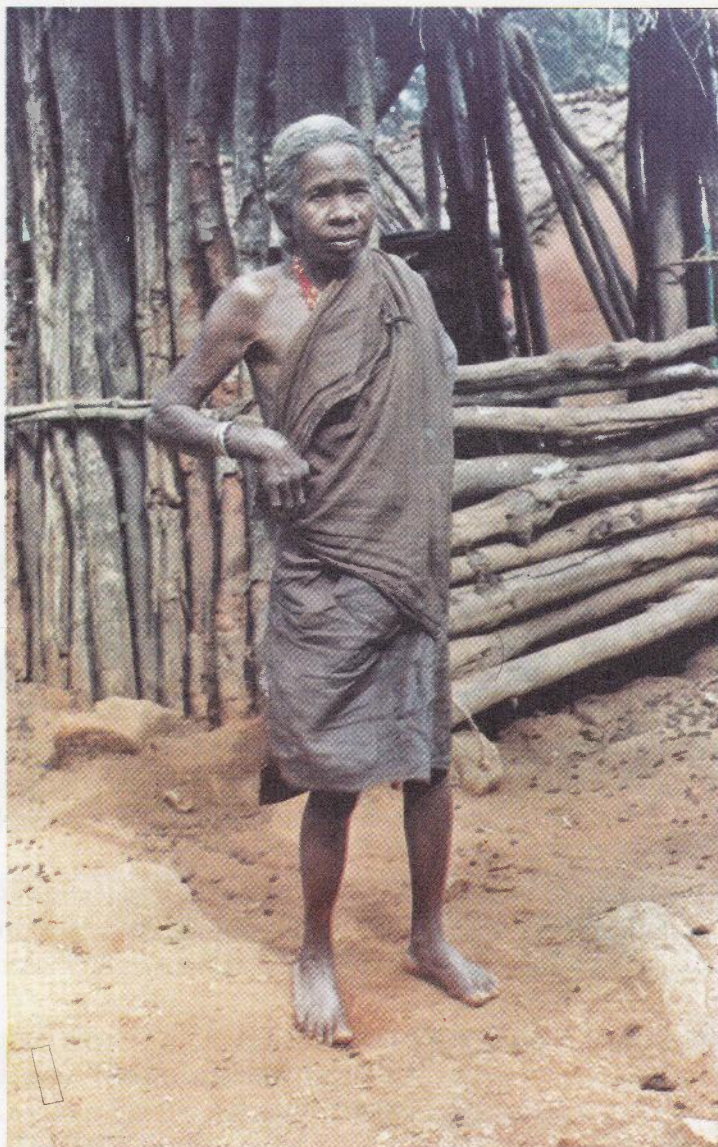
4. Coconut	Preparation of medicated oils and ointments Treatment of hyperpiesia, halitosis and strangury
5. <i>Karanj</i>	Effective against eruptive diseases, scabies, herpes, rheumatism, eczema, itch, piles and ulcer
6. <i>Kusum</i>	Treatment of itch, paralysis, pneumonia rheumatism, sprain, wound and skin diseases
7. <i>Mohwa</i>	Useful in Dermatopathy, rheumatism and hemorrhoids
8. <i>Neem</i>	Cure of leprosy, guminflammation, jaundice, lever complain etc.
9. Mustard	Useful in dry cough, Asthma, joint pain, skin diseases, cough and cold etc.
10. <i>Pingu</i>	Useful against gout & Rheumatism.
11. Sesame	Treatment of lung diseases, scabies, small pox, inflammation and gouty joints
12. Kerosene	Used as a disinfectant, solvent and insecticide

Source and Extraction:

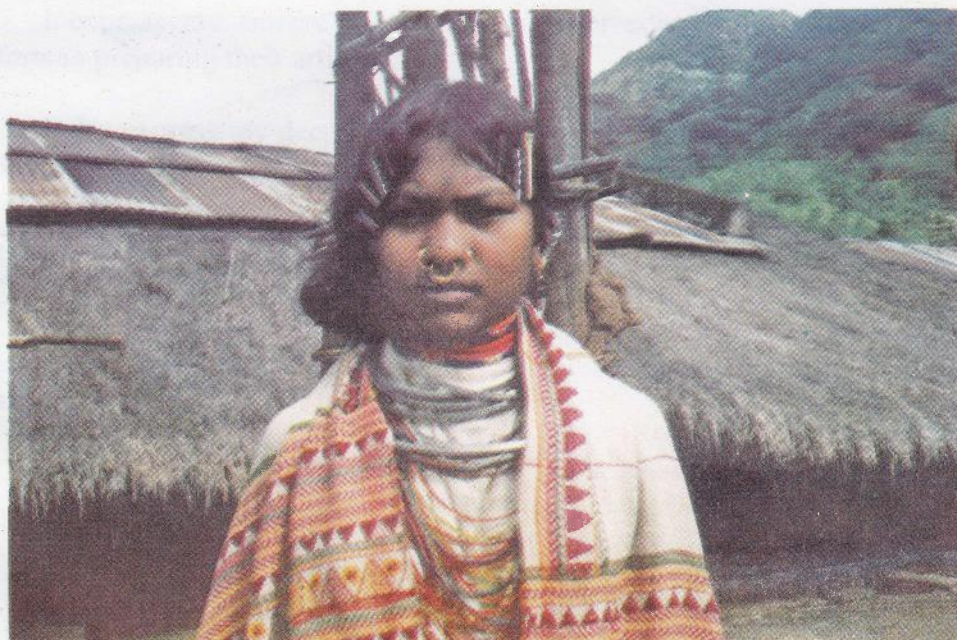
Tribal people are adept to primitive technology associated with loss of time, labour and material wastage. They use simple means to extract oil. Seed is the usual source of vegetable oil. Tree borne oil seeds like *Mohwa* (*Madhuca latifolia*), *Kusum* (*Schleichera trijuga*), *Karanj* (*Pongamia pinnata*), *Neem* (*Azadirachata indica*) *Bana valia* (*Semecarpus anacardium*), *Pingu* (*Celastrus paniculatas*) and *Baghanakhi* (*Martynia annua*) are collected from nature as Minor Forest Produce (MFP). Castor (*Racenus communis*) seeds are collected from cultured plants raised in uplands (shifting cultivation fields, uplands and backyards). Oil seeds like mustard (*Barassica nigra*) and sesame (*Sesame indicum*) are harvested from uplands and backyards. Simple mechanical means like gears based on 'Vertical Press' (pressing under two heavy horizontal logs) or 'Rotational Press' (Threshing in a *Ghani*) are used for extraction of oil from the seeds. A few traditional medicine men extract oil from these seeds by grinding the oil seeds and boiling the same in water. The oil floating on water is retrieved with the help of a feather. Minute drops of oil are derived when seeds of *Baghanakhi* and *Banavalia* are roasted under controlled condition. The droplets oozing out of the fissures of the seeds are retrieved with the help of a feather. Heating of fresh butter prepared from cow milk yields butter oil. The usual way of extracting animal fat is either boiling meat of the animal in water for longer period or heating tallow collected from the carcass. Coconut (*Cocos nucifera*) oil has recent intrusion into the tribal pharmacopoeia. The oil is purchased from market while the primitive tribes like Bonda have their own method of collecting small droplets of oily liquid by burning its shell in slow fire.

Medicine:

Oil based medicines are either taken orally as dietetic medicines or as the external applicants. Kerosene oil, perhaps due to its use as a insecticide, has been used by primitive tribes like Bondo to de-worm the digestive system. However,



Juang lady



Dongria Kandha girl

consumption of kerosene oil is not medically sanctioned. Oils are used directly on affected parts of the body (externally). Tribal people use some thick and pungent oil to prepare medicinal formulations for external applications. Medicines used in oleopathy are simple, patient friendly, economic and devoid of any side effects. The use of some of the popular oil based medicines has been documented in Annexure-1.

Medicine men:

The tribal people have pharmacopoeia of their own for manifold diseases like malaria, yaws, leprosy, scabies, VD, bowel complaints, influenza, cholera, small pox, ophthalmia etc. (Roy- 1989: 85). The practice field of the tribal is midwifery, bone setting, supernatural cures of various types with main emphasis on utilizing natural herbs, roots, plants and other natural things, in a given eco system (Watts-1970: 88). These medicine men deliver amazing result by use of oleopathy because of not only the medicinal property of the ingredients but also the 'common cultural tradition of the patient with the providers and faith of the former with the latter' (ibid-89). Some of these medicine men have mastered the art of massaging the medicated oil on the body of the patients. It is said that persons born with legs first have the amazing quality of mitigating the pain in joints or in muscles by massaging oil. The animal based oils and fats, as the tribes believe, have magical properties in mitigation and cure of skin and intramuscularly problems. Their application yield positive results in case of ailments in joints. They also believe that these oleos have amazing power to mitigate chronic ailments. Needless to say that these oily medicament are rarely available in the house of the common tribal people, but are readily available at the house of traditional medicine men.

Conclusion:

Oleopathy, a popular form of treatment of 'superficial' or 'deep' diseases are gaining ground due to absence of any side effects. The ingredients are 'patient friendly' and available locally. Its applications require no expertise / specialization. The cost of ingredients is very low. No specific gears are required to prepare oil-based medicines. However, a little knowledge on the chemical as well as clinical properties of the medicaments and enhancement or reduction of the effective of certain properties of it will make the tribal medicine men and their oleo based medicinal formulations more acceptable not only to the educated and enlightened tribal patients but also to the ever skeptic non tribal patients.

Annexure-I
Oils / Fats used as Medicaments by different Tribes

Oil/Fats	Medicine		Tribe	Remarks
	Preparation	Administration		
1. <i>Baghanakhi</i>	Seeds are roasted with dry bamboo splits. Droplets	The oil is retrieved with the help of a feather and painted over the skin to	Kondh, Saora, Bathra, Koya and other	Green fibrous foods are recommended.

	of oil ooze out of the seeds.	cure <u>scurvy</u> .	South Orissan tribes.	
2. -do-	-do-	The oil is painted on <u>yaws</u> affected body surface	-do-	Dry fish & dry meat avoided
3. <i>Banavalia</i>	The seeds is roasted in live charcoal.	Droplets of oil ooze out of the seed. The warm oil is applied on cracking heel with the help of a feather.	Shifting cultivating tribes and the North Orissan tribes.	
4. -do-	Oil is derived as above. A thin thread is soaked in it.	The thread is tied around left ankle if the right scrotum is swollen. In case of the swelling of left scrotum the thread is tied around right ankle (treatment of <u>hydrosil</u>)	Primitive tribes like Bondo, Didayi, Kutia Kondh & Saora etc.	
5. <i>Castor</i>	A few tender branches of <i>Neem</i> , a finger long turmeric and a little <i>Sal</i> resin are grinded to a past like mass	The past is smeared all over the body of a patient suffering from <u>measles</u> .	South Orissan tribes	
6. -do-	A piece of <i>Phanania</i> Bark is painted with the castor oil.	The bark is run across the abdomen seven times and then it is tucked to the roof of the house.	Juang & Bhuiya	
7. -do-	-	A drop oil is put on the <u>wound caused by needle or thorn</u>	Saora, Dongria Kondh & Kutia Kondh	Usually the oil is applied on piercing marks on ear & nose.
8. -do-	Two to three castor leaves are given a thin coat of castor oil & kept over the live charcoal. It weather.	The weather lives are placed over swollen scrotum. After some times the scrotum is tide with a piece of loin cloth. It cures <u>hydrosil</u>	Bonda	The patient is advised to take complete rest.
9. -do-	-	Pure castor oil is massaged on head gently to mitigated <u>head reeling</u> .	Both Primitive & acculturate tribes of Orissa	The patient is advised not to be exposed to hard sun.

10. Coconut	Coconut shell is burnt & the ash is mixed with a spoonful of oil	The paste like mass is applied on the <u>sore</u> .	North Orissan tribes	The sore is not exposed to heat and hard sun.
11. Karanj	A ladle full of oil is warmed a little.	The warmed oil is massaged on the abdomen to cure <u>spleen inflammation</u> .	Saora	Non-veg. food items are avoided
12 -do-	A piece of cloth is soaked in oil, squeezed & wrapped around a bamboo staff.	The bamboo is rolled over the <u>sprained joint</u> to lessen pain.	Saora & other primitive tribes of South Orissa	Fish, meat, egg & ragi is avoided
13 -do-	A piece of turmeric is grinded with the oil & kept for two days.	<u>Itches & scabies</u> on skin surface are scratched and washed. Wiped the pest is applied twice a day	Saora and other primitive tribes of South-Orissa	Vegetables & Fruits emitting latex are not consumed
14 -do-	Bark of <i>Khara</i> and a piece of turmeric is grinded with a little oil. The paste like mass is aged for two days.	The paste is applied on the skin twice a day to cure scabies and itches.	-do-	-do-
15 Kusum	-	The oil is massage on joint to mitigate pain due to <u>sprains</u>	Saora	Advised to take complete rest.
16 -do-	The oil is warmed a little	A few drops of the oil is put into the ear to arrest pain due to <u>ear infection</u>	Juang & Bhuiya	Ripen fruit, soaked rice and Rice beer are avoided
17 -do-	-do-	The warm oil is massaged on feet and palm at regular interval to be cured from cough & cold	-do-	-do-
18. Mohua	The oil is warmed	The warmed oil is applied to the corner of the mouth infected by vitamin deficiency (<u>infection at the corners of mouth</u>)	North Orissan tribes	Advised to consume leafy vegetables.

19. -do-	A fresh water snail is fried with the oil and mashed.	The mashed substance is taken with the principal food for 10 to 15 days for cure from <u>piles</u> .	Bonda & Didayi	Undressed snail is said to be more effective in containing the disease
20. -do-	-	The <u>burn wound</u> is cleaned well & given a thick coat of the oil with the help of feather. The wound is then smeared with powdered charcoal	-do-	The wound is kept away from water and fly.
21. -do-	A fresh water crab is fried with the oil without salt & turmeric powder.	Hot fried crab is eaten twice daily for two to three days for cure from <u>cough and cold</u> .	North Orissan tribes like Santal, Ho & Bhumij	Rice beer & soaked rice is avoided.
22. Mustard	A few <i>Kadamba</i> leaves are boiled with the oil. Cooled & filtered.	The oil is massaged on the joint & muscles affected by <u>pain due to bata</u>	North & Central Orissan tribes	Fomentation is avoided
23.-do-	The orchid flower & two to three pods of garlic are put on boiling mustard oil. Cooled & filtered.	Two drops of tepid oil is put into the ear for cure of <u>hard of hearing</u> .	Bonda & Didayi	The flower of orchid grown <i>Neem</i> or mango tree is preferred.
24. -do-	A <i>Handala</i> fruit is grinded with a little oil.	The pest like mass is applied on the chest at night time.	Juang. & Bhuiya	Consumption of ripen fruit is avoided.
25. <i>Neem</i>	Two to three <i>Mandara</i> flower are boiled with a cup of oil. Cooled, filtered & bottled.	The oil is massaged gently on head for a month to stop <u>hair fall</u> .	North Orissan tribes.	-
26. Pingu	-	The oil is massaged on joints and muscles gently to cure <u>joint pain and muscle cramp</u> .	Tribes of Mayurbhanj & Keonjhar	Hard massaging is avoided.
26. Sesame	The seeds of <i>Mahakal</i> are	The oil is put into the ear to rectify	Kondh	The ear is plucked with

	boiled with the oil. Cooled.	the syndrome of <u>hard of hearing</u>		cotton.
27. Castor & <i>Kussum</i>	Equal volumes of two oils are stirred well and warmed .	The tepid oil mixed is massaged on the body. Feet and palms are massaged vigoursly to bring the patient out of <u>coma</u> .	Bonda	The body of the patient is covered with a coarse cloth.
28. <i>Kussum & Karanj</i>	Equal volumes of the oils are taken in a container and stirred well.	The oil mixed is applied on the body twice daily for cure from scabies.	Bonda & Didayi	Dry fish & salty food items are avoided. More vegetables are consumed
29 <i>Kussum & kerosene</i>	The oils are taken at the proportion of 1:2 V/V & stirred well.	The oil mixed is painted twice a day on <u>infection in between the fingers</u> due to contact with water for a week	-do-	Stale food items are avoided.
30. Cow butter oil .	The root of <i>Ekangi</i> is rubbed against rough surface with little butter oil.	The past like mass is licked by the infant patient suffering from <u>polio</u>	Kondh	The infant patient is allowed to play run and climb freely.
31. -do-	A few strands of <i>Duba</i> grass is grinded and fried with butter oil. It is aged per a day. Small tablets are made out of it.	A tablet is taken at a time twice day for a period of one month of more for the treatment of <u>TB</u> .	Santal	<i>Raulia</i> (traditional medicineman) prepares and administers the medicine.
32. -do-	A small strand of <i>Kuleibaha</i> is grinded to a fine past & whipped with butter oil.	The past like mass is applied on head gently. Head is then washed thoroughly after two days to arrest <u>hair fall</u> .	-do-	Advised to comb hair regularly.
33. -do-	A piece of <i>Kadamba</i> bark is pounded and boiled in butter oil. Cooled, filtered and bottled.	The bottle oil is applied on skin by a feather to cure scabies, bruises, swollen patches etc.	Kondh, Kondadora, Saora etc.	Recommended to consume leafy vegetables.

34. -do-	A few vejibaigan, leaves of Basang, bagunia, Tulasi & a Harida fruit is grinded to a fine past. It is whipped with equal volume of butter oil to get a balm like mass. Small tablets are made out of it and stored.	Five tablets are taken at a time twice day after food for a period recommended by the traditional medicine man for cure from <u>Asthma</u> .	Juang & Bhuiya	Rice beer, Palm juice & soaked rice is avoided.
35. Kerosene	-	The oil is massaged on head gently and washed with soap or ash after two hours to get rid of lice(<u>lice eradication</u>)	Bondo & Didayi	Contact of kerosene with eye is avoided
36. -do-	-	Half a cup of kerosene is filtered and taken internally at night time for de-worming.	Bonda	Adult patient are treated with kerosene.
37. Fat of bear	-	The molten fat is massaged on joint /muscle to mitigate joint / muscle pain	Kondh, Saora, Bonda, Koya, Didayi, Santal etc.	Fat of freshly killed bear is preferred.
38. Fat of Hen	-	Molten fat is painted over the <u>burn wound</u> with the help of a feather.	-do-	Fat of black of or red hen/ cock is preferred
39. <i>Neem</i>	-	Theoil is applied over the body at nighttime to get rid of mosquito bite.	All tribes of Orissa.	-
40. <i>Karanja</i>	-	-do-	-do-	-

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TRIBES OF ORISSA: AN INQUIRY INTO ANTHROPOLOGICAL ECOLOGY

K.K. Mohanti
N.K. Behura

We are eager to acquire knowledge about anthropological ecology of tribes of Orissa, who constitute a vital segment of the demographic niche of our State. They represent 22.13 per cent of the total population of the State (2001 Census). Their habitat pre-eminently and explicitly exhibits certain uniqueness, which comes under the preview of analyses in the domain of anthropological ecology. From epistemological view point anthropological ecology encompasses a vast domain comprising vital aspects of humans, such as what has been conceptualized by **James N. Anderson**, "My conception of ecology comprises all aspects of man as a bicultural animal as they are subsumed within the structure and functioning of ecosystems including human morphology, reproduction, population genetics, stress physiology, nutritional requirements, the ecology of the health and disease, and human adaptability. It also encompasses human population ecology – that is population processes: fertility, mortality, migration and population structure – the feedback between biological and cultural factors (technological, economic, organizational) in populations, spatial and economic distribution, and ecological consequences of population trends. Individual biological and population processes are interrelated with ecological perceptions, environmental cognition, language as cultural codification, ideology, creative thinking, planning and decision – making. Finally, this holistic conception of ecology includes the adaptive ness and non-adaptive ness of human behaviour and institutions viewed in their widest context." (1973: 184). In this context, following the intellectual thrust of **Marshall D. Sahlins**, we may conceptualize a three- layered model of a culture- system: first layer as techno economic sub-system, serving as the foundation, second layer as social – structural sub – system and the third as the ideological sub- system; whereas sahlins emphasizes on the first as the basic foundation upon which the other two rests as superstructure. Sahlins' conceptual frame includes both polity and ideology in the superstructure. All the layers are interrelated with each other or in other words, the first layer is linked with the second and the first and the second together are related to the third. The techno-economic or the material base adapts to nature and the superstructure to material base (cf. Sahlins, 1977:218).

Over the years, Anthropology, the total study of man has gained the reputation of an interdisciplinary and holistic science in the global context and the concept of ecosystem which bridges the hiatus between the natural and the social sciences could come closer to anthropology. Both physical or biological and socio-cultural aspects of studies on humans are interested in unraveling the ecological relationships of man. It is significant to note that in Anderson's view, "ecology is the study of living systems as integrated complexes" (1973:180) and ecological research is synthetic and complex and it may encompass the whole range of anthropological studies. Broadly speaking human ecology analytically pinpoints 'biocultural adaptations as its core –content. In this context, it is apt to mention that we come across three strands of thought, such as 'environmental determinism,

'environmental possibilism and 'cultural ecology. The idea concerning environmental determinism was found in the writings of **Montesquieu** (1689-1755) who pleaded that natural forces were so powerful that they determined lives of humans in their own environmental niche. The above idea profligate and environmental possibilism emerged not as a substitute but as an opposed position and in the words of Sahlins, "..... which holds that cultures act selectively, exploiting some possibilities while ignoring others; that it is environment that is passive, an inert configuration of possibilities and limits to development, the deciding forces of which lie in culture itself and in the history of culture"(1977:215). Thereafter, emphasis on culture vis-à-vis environment came to the forefront when it was realized that culture represented the total way of life based on human adaptations. "Culture", according to Sahlins, "as a design for society' s continuity, stipulates its environment" (Ibid:215). While showing the interrelationship among individual, culture and society, **Ralph Linton** states that individual's behaviour is determined by contacts with his environment. Linton emphasizes culture and states, "Between a natural environment and the individual there is always interposed a human environment which is vastly more significant. This human environment consists of an organized group of other individuals, that is a society, and of a particular way of life which is characteristic of this group, that is, a culture (1952:7-8).

All humans are cultural beings. They create culture, possess it and utilize for their basic survival. The perceptions of the group of people is reflected through their culture. It provides the most powerful apparatus to humans by which they interact with the environment physical as well as cultural and evolve designs for appropriate livelihood system which promotes their sustenance. Culture ultimately determines the method of material, both edible and non-edible, acquisition; the mode of production; indigenous skills for procurement of basic needs, like food, clothes and shelter; in group and out group interactions as per dictates of social-structural arrangement; models for ideological base comprising ethics, values, world view, ethos, beliefs and rituals, aesthetics, etc. in other words, human existence is determined by culture which subsumes both physical as well as cultural environment.

Sahlins speaks of 'continuous dialectic interchange between culture and environment. Moreover, the nature is subterhuman as cultural configuration enjoys priority over natural configuration. For example, the transition from nomadism to sedentarism, although a complex process, exhibits the dominance of culture over environment. Therefore, under these considerations Anthropology enjoys the status of a super organic science which is above the disciplines which have the statuses, like inorganic, organic, psychic organic, etc. Culture has its own commitment to safeguard the interest of the group of people and nature's benevolence nurtures and nourishes humans, except in certain harsh and abnormal contingencies. However, culture has also some safety valves, although in a limited way, for adaptation to transformed situations. Adaptation further initiates coping mechanisms which people use selectively for their progress. The inner values of culture and environmental contexts need juxtaposition for a comprehensive understanding of cultural ecology.

Anderson brings to surface the interactional view point in man environmental relationship. The relationship is stated to be based on reciprocation rather than contradiction and ecological perspective gives rise to a holistic internationalism (1973 : 185). Another corroborative strand of thought concerning 'ethno ecology' comes to our preview when we discuss on anthropological ecology. Ethno ecology is construed as an ethnographic endeavour. In the words of Anderson, "Ethnoecologists have emphasized the description of the perceptual or "Cognitized" (Rappaport, 1963) environments of specific cultures as a primary research strategy. Their goal is first to describe what people know about nature and second to describe how people use this knowledge to get along in the world "(1973:188). Both perceptual environment and folk classification have been duly emphasized by both anthropologists and geographers.

In the context of ecological anthropology or anthropological ecology, we come across two situations, such as (1) man against nature and (2) nature-nurture controversy. Firstly, man has been rebellions against nature and always wanted to conquer over it. Humans manipulate nature in several ways for their benefit, eg. developing or securing better livelihood system for a better lifestyle. They come forward, posing their rationality, in order to have a sustainable command over natural resources. If, for some reasons, the command is obliterated or reduced it results in resentment and far reaching consequences. Therefore, man - nature harmony, reciprocity and unity are preferred than its dichotomy resulting in disharmony, conflict and disunity. Secondly, nature - nurture controversy leads us to biocultural realm of the study of man and eschews environmental determinism and psychological reductionism. ".....culture is the super organic extension of man's evolved nature and also part of his nurture and environment is the nurturing constraints of nature" (Anderson, 1973: 203)

The concept of microenvironment attracts our attention when we discuss about ecosystem, ecological niche, etc. A microenvironment is conceived as a resource cluster within the human ecological niche, which forms a part of the ecosystem. It represents the smallest unit of natural area, otherwise known as biotype in biology or microhabitat. As stated by **Hardesty**, "A human ecological niche is a feeding strategy of human group. It defines a set of resources within an ecological system that is essential to the group's survival and is measured by subsistence variety. The niche of a human group is not static but changes with the process of adaptation. Human groups are static, yet dynamic. Changes are inevitable. Similarly, human ecological niche changes when changes are noticed in techno-economic, socio-cultural, politico- jural, magico-religious spheres. Both physical as well as social environments experience changes, of course, in varying degrees. According to Richard Wilkinson(1973), the 'fit' between a human group and a given environment is promoted by adaptive changes and appropriate coping mechanism is developed not only to manage a constant environment but also to take care of the changes brought about therein. Technological innovation or socio-cultural factors are capable of bringing about change in the environment.(cf.Hardesty, 1977: 120).

It is apt to note that humans exhibit constant efforts for moulding physical environment into cultural environment. It is said that 'culture is the man made part of the environment' (Herskovits, 1948). Humans, through their acquired skills and ingenuity shape their physical ecosystem to ensure a comfortable life for the group. They provide responses to endless challenges of environment for a suitable livelihood promotion. In this connection, we are reminded of the need theory of **Malinowski** which provides clues to understanding the basic biological needs of humans and their cultural responses. The basic biological needs are metabolism, reproduction, bodily comforts, safety, movement, growth, health, physiological tension, fatigue and aloneness. All these biological needs have respective cultural responses. For example, metabolism is secured through commissariat. Reproduction leads to kinship nexus, bodily comforts through shelter, safety through protective measures, movement through activities, growth through training, maintenance of health through hygiene, normalization of physiological tension through release mechanisms, reduction of fatigue through rest and eschewal of aloneness through gregariousness or togetherness. In this context, it may be stated that humans develop suitable mechanisms for adaptation with the environments, which they live, rather than nonhuman modes of adjustment.

Adaptation may be construed as the central theme in the study of anthropological ecology. According to **Sahlins**, "Adaptation implies maximizing the social life chances. But maximization is almost always a compromise, a vector of the internal structure of culture and the external pressure of environment" (1977: 219-220). Further Sahlins advocates that appropriate adaptation and selection lead to cultural progress. In the operational context, the process of adaptation shows three levels, such as (1) behaviour (2) physiology, and (3) genetic/ demographic. Behavioural adaptation pertains to learning and not genetic inheritance. Idiosyncratic behaviour is a psychological phenomenon, whereas cultural behaviour develops within socio-cultural milieu and it includes ethnological, organizational and ideological dimensions. Technology provides the 'tool kit' or the basic survival of human beings. The tool kit may include a tool as primitive as a digging stick or as modern as nuclear power plants. Secondly, physiological adaptation includes such processes as acclimatization, metabolism, etc. Thirdly, genetic and demographic adaptation shows slow rate of activation (cf Hardesty, 1977:24) In other words, adaptation is said to be a persistent process which is dynamic.

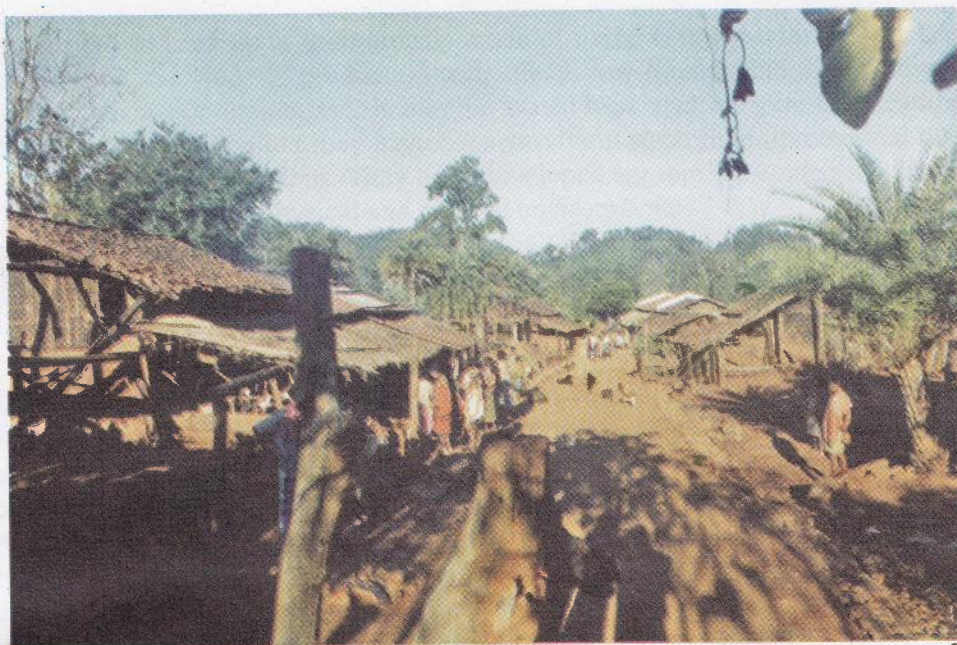
With these above theoretical trends and considerations, we may briefly discuss some aspects of anthropological ecology of tribes inhabiting various parts of Orissa State.

II

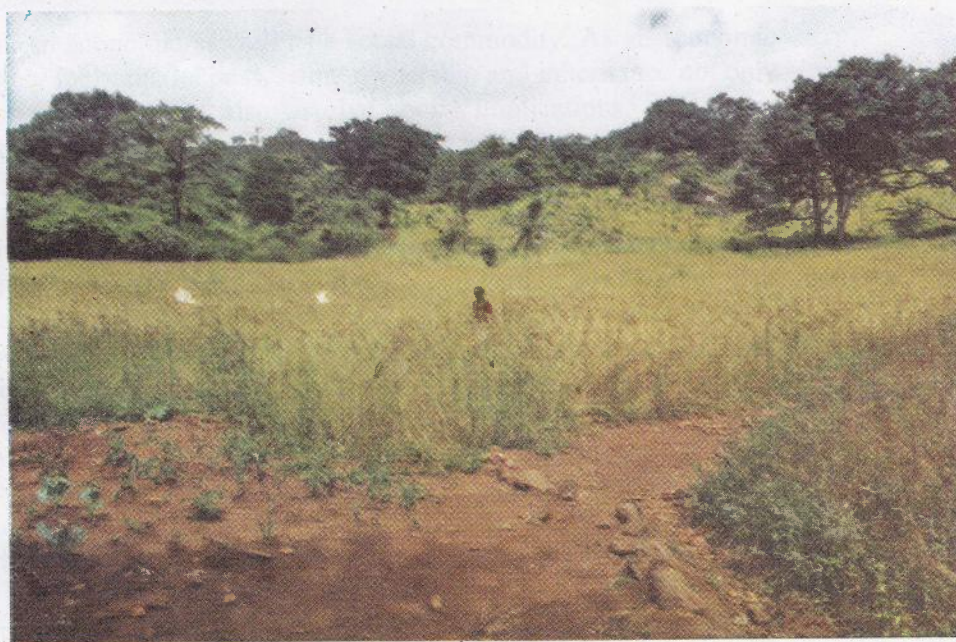
The State of Orissa spreads between 17°49'N latitude and 22°34'N latitude and between 81°27' E longitude and 87° 29' E longitude on the east coast of India. The State is bounded by the States of Jharkhand on the north and West Bengal on the north-east, Andhra Pradesh on the south, Chhatisgarh on the west and the Bay

of Bengal on the east. It emerged as a separate State with effect from April, 1, 1936. from geomorphologic point of view the state may be divided into five parts, namely the coastal plains, the middle mountainous country, the rolling uplands, the river valleys and the subdued plateaus. The tribal people are chiefly concentrated in the above three regions except the coastal plains and river valleys. Orissa forms a part of the Gondwana land mass and geological formations range from Archaean geological period to the recent period. The rolling uplands with undulating topographical features include the Rairangpur rolling uplands, the Baitarani rolling uplands, the Brahmani basin rolling uplands, the Mahanadi basin rolling uplands, the Jharsuguda Rolling uplands, the Bargarh uplands, the Bolangir uplands, the Redhakhole uplands, the Rushikulya basin uplands, the Vamsadhara and Nagavali basin uplands and the Malkangiri uplands. Besides there are high plateaus which include the Keonjhar plateau and the Nabarangpur plateau. Further, there are mountainous ranges in the interfluves of the subarnarekha, Budhabalanga and Baitarani, in the interfluves of Baitarani – Brahmani, the Brahmani – Mahanadi, the Mahanadi, Rushikulya and Vamsadhara, the Nagavali – Sabari and the Sabari-tel catchment basins. The elevations of rolling uplands vary from 150 metres to 900 metres. The heights of mountain peaks range from 600 metres to 1500 metres. Because of its location Orissa experiences tropical climate and the rainfall usually varies from 181.2 cms to 107.5 cms. The forest cover in the State is not evenly distributed. It is also alleged that the forest cover gradually diminishes for various reasons. However, the reserved forests constitute the highest percentage of the total area under various categories of forests. (cf. Sinha, 1971: 1-8 & 146-162)

The tribal people in the State are chiefly concentrated in the Scheduled areas which include the entire districts of Mayurbhanj, Sundargarh, Koraput (undivided); Nilagiri block of Balasore district; Keonjhar and Champua tahasils of Keonjhar district, Kuchinda tahasil of Deogarh district, R-Udayagiri of Gajapati district; Thuamul-Rampur and Lanjigarh blocks of Kalahandi district; and Kandhamal and Balliguda tahasils of Kandhamal district. The tribal Sub-Plan area comprises 118 out of 314 blocks of the State. There are 21 Integrated Tribal Development Agencies (ITDAs) and 17 Micro Projects in the Sub-Plan area for the all round development of tribal communities. The tribal population is sporadically distributed in other parts of the State beyond the Sub-plan area. Besides, there are 46 Modified Area Development Approach Pockets covering 47 block area and 14 cluster Approach pockets in 14 blocks of the State. The MADA pockets have been identified in blocks which have 10,000 or more population and out of this 50 per cent or more scheduled tribe population is enumerated. Similarly, in case of a block having 5,000 or more population of which more than 50 per cent is comprised by Scheduled tribe population, a cluster Approach pocket is formed. Both MADA and Cluster Approach Pocket blocks get more financial grants for multisectoral tribal development intervention. In view of contiguity, the entire tribal Sub-Plan area is divided into two parts, namely the Northern T.S.P. area and the southern TSP area when we dichotomize the State into two regions, such as the coastal region and the inland region, the tribal population is chiefly concentrated in the inland region. There are altogether 62 scheduled Tribes in the state and out of these 13 tribes /sub-tribes have been identified as primitive Tribal Groups or otherwise may be termed as Vulnerable Ethno Cultural Groups. They have been



Kutia Kandha village



Bondo Habitat

designated so because of their archaic mode of living coupled with the practice of pre-agricultural mode of production technology, low literacy and diminishing and near stagnant population, etc. it may be stated here that in spite of negation of development intervention they have been surviving since time immemorial due to their rich Cultural traditions. They have developed appropriate coping mechanisms for adaptation to both physical and cultural environments.

III

In this section, we may discuss briefly three vital components of natural resource, such as (i) **land**, (ii) **forest** and (iii) **water**, which have been providing basic sustenance to tribal people. Resource utilization and mobilization depend upon their indigenous ingenuity, skill and above all their rationality. They are conscious of optimum utilization of natural resources because they are aware of their protection, preservation and conservation. For example, a tribal food-gatherer while collecting underground edible roots and tubers never empties everything but leaves the seeds to generate in future and usually refrains from killing a pregnant wild animal in hunting expedition. Through their intimate contact with nature and age old interactions for livelihood pursuits they develop their indigenous knowledge, which helps their foraging way of life. For example, the nomadic Birhors are conversant with the hypsographic features, such as location of hills, forests, rivers, rivulets and hill streams including seasonal variations in water flow; a availability of plants, trees, shrubs, mushrooms, edible fruits, flowers and leaves, etc; animals, birds and other organisms available in different seasons, etc. The Birhor economy revolves round forests and land is not contextually relevant. Their transition from nomadism to sedentarism may take a long span of time, provided they are given suitable arable land and they gradually acquaint them selves with agricultural technology for food production.

Land is both an economic as well as a social commodity. As an economic commodity it is highly inelastic. Its possession/ ownership and inheritance not only elicit economic considerations but also involve social implications, concerning socio-cultural customs/ laws. Tribal people utilize their indigenous knowledge for reclamation, shaping, bunding, terracing, etc for permanent cultivation. They go for boulder-bunding, verteber plantation, contour-ploughing in order to eradicate soil erosion. The tribal people have their folk systematic of land, such as low (wet) land, upland (dry), hill slope (swidden) land and kitchen garden land around their homestead land. For example, the Bondo Highlanders call the Jhola (Lieng), Pada, Dongar and Dinabui to low land, upland, swidden land and Kitchen garden land, respectively. In the above consideration, the Paudi Bhuiyan classify them as Bila (Jami), Nala, Biringa/ Kaman/ Guda and Bakadi. The Koya has three fold classification of land, such as Bariha Kuta (low land), Usk Beda (up land) and Elka (hill slope). The Desia Kandha classify land into Jodi Ketang/ Dhepa Ketang (low land), Nela (up land) and Sauru (shifting cultivation land). The tribal people are aware of the fact that food cannot be produced without exploitation of land, which is considered as the first factor of production. Despite the use of chemical fertilizers in certain areas, they still go with their traditional practice of manuring through cattle dung. In addition to regular agricultural operations they take care of

the land through the maintenance of bunding which are often disturbed by water flow especially during rainy season. The concept of Basumata, the earth goddess which is benevolent, includes due propitiation through rituals and among most of the tribal communities, Basumata occupies a pivotal position in their theological pantheon. Basumata is appeased in order to prevent crop failure and to bless for bumper yields. They have their own knowledge about land capability, land slope, soil permeability, erosion proneness, fertility, alkalinity and salinity of soil, wasteland management, grazing land, etc. through their experience. For example, the hill slope which is put under swidden cultivation and the top soil is washed away, it is abandoned for some years for recuperation in order that it is regained for future production. In this slash and burn cultivation they add ash of burnt tree branches and leaves to gain fertility for the soil. In case of terrace cultivation they have to take care meticulously through adequate bunding and suitable stream channeling for water management. They also go for plantation in different slopes for prevention of soil erosion. In some areas they have also started using power tillers for land cultivation. In certain tribal communities ancestral land is given due importance. It is also a fact that innocent tribals are often exploited by predators and land grabbers who are responsible for alienating tribal land. After a lapse of some years the problem becomes acute for restoration of lands to its original owners become difficult despite promulgation of law and sincerity of efforts of concerned administrative mechanism.

It is a fact that upland farming has posed serious problems for tribals with their low techno-economic base. All are aware of the adverse effects of shifting cultivation (Swidden cultivation) on their environment and ecosystem. Therefore, ecosystem has to be maintained at any cost for sustenance of humans, failing which disaster will be the only consequence. Approaching for sustainable development will require maintenance of eco-balance in tribal habitats. Mere persuasion to eschew shifting cultivation practice, will be a cry in the wilderness. Something tangible is to be achieved with people's participation and such attempts are to be followed up with sincerity. A marvelous scheme, styled as Podu Prevention for the rehabilitation of shifting cultivators was launched by Government of India in 1980s. It is alleged that the predators with their deleterious motives siphoned the benefits which would have accrued for the tribal people. In this connection, we are reminded of a sustainable solution recommended by one of the technical experts in forestry sector in connection with techno economic surveys conducted in the Bondo area of Malkangiri district and the Kutia Kandha area of Belghar in Phulbani district (cf Mohanti, 1996:57-67). Our Philippines experience supported by I.C., A.R suggests sloping Agricultural land technology (SALT) for restoration of Podu ravaged area with 3 stages, such as SALT-1 (agro forestry), SALT-2 (Simple Agro Livestock Technology) and SALT-3 (Sustainable agro forest land technology). It is said that the above technology is simple, low cost, economically viable and could be done in phased manner. It encompasses an integrated effort for the enhancement of the quality of environment and the quality of life as well.

All of us know that water as a natural resource is essential for the survival of humans as well as numerous organisms and plants and agrarian production

primarily depends upon the availability of water. The water supply mainly depends upon the intensity of rainfall. The loss of water through evaporation, run off, seepage, etc. can be prevented to certain extent by suitable water management modes. In tribal areas, besides indigenous systems, we come across water harvesting structures, weir dams, etc. for irrigation. Due to undulating nature of land form medium or minor irrigation facilities are not available. It adversely affects agricultural practices. The watershed development scheme is a novel approach in addition to Pani Panchayat scheme and both are aimed at environmental protection as well as the maintenance of ecological balance, especially in tribal inhabited areas. But their implementation strategies are to be sharpened so that they ensure people's participation. These schemes are to be viewed holistically as water intended for crop production is as much a natural resource as a social product concerning social organization nexus of the people concerned. In fact, the social organization of the people matters for water budgeting, water management, decision-making, conflict resolution, etc. In tribal areas, hilly and undulating terrains there is little or no scope for development of canal system for irrigation. The only way out is in eco-hostile areas, lifting of water through low cost pumps.

In order to explore water management potentialities there is need for identification of water resource through detailed survey. Such survey in micro areas will certainly benefit the water users and the location of water harvesting structures can be actuated. Further, lift irrigation points are to be located and utilized at the time of need. Installation of diesel propelled pumps in various lift irrigation points are to be encouraged among the users. Simple installation may not serve the purpose and there is need for timely repair and maintenance. In case water management is done sincerely with people's participation it will not only ensure enhancement in the productivity but also improvement in the ecosystem.

Tribal way of life cannot be conceived without reference of the forest ecosystem. Tribal and forest interface with symbiotic relationship is existing since time immemorial. Depletion of forests for various causes results in eco-imbalance. Swidden ravaged areas experience diminishing rate of rainfall. Tribal people who are found in and around forests are the worst sufferers because of shrinking in the size of forests. It has adversely affected their livelihood system. Moreover, due to promulgation of forest acts, the tribals have lost their command over forest resources. Their right has been curtailed and reduced to concessions as per the National Forest Policies introduced from time to time. It may be remembered that tribals are not destroyers of forests and their intentions and roles can be utilized for forest conservation. For example, tribals never destroy fruit bearing trees, medicinal plants, trees which provide them drinks etc. They derive food, fodder and fuel through exploitation of forest resource. Their expertise and experience will certainly provide capital for regeneration of forests in deforested areas. Besides edible materials they also collect materials for construction of their house from the forest. With a view to improving the quality of environment, the forest resource is to be handled properly. There is no scope for value addition and marketing of minor forest produce and as a result the middlemen as predators exploit tribal people. It is one of the causes of perpetuation of chronic poverty in

tribal households. The measures adopted through social forestry or Joint Forest Management have not been able to deliver desired results. The PESA Act appears as a silver lining for empowerment of tribal people and we may cherish a better tomorrow for enhancement of their better quality of life. It is expected that the National Forest Policy and the forthcoming National Policy for Scheduled Tribes should be complementary and mutually inclusive. It is a good gesture that the national Policy on Tribals contemplates that in case of displacement, the tribals are to be resettled in their natural habitat in order to retain their socio-cultural identity. The natural habitat with the strategy of development in situ will certainly promote their environment and culture or the total way of life. Further, it is essential that the forest villages are converted into revenue villages with minimum infrastructure amenities and essential services. It is also noticed that matters concerning regularization of encroachments into forest land which took place after 24th October 1980 have initiated certain issues and it requires humanitarian considerations.

IV

As discussed earlier, we may briefly state the ecological niche of two tribal communities of Orissa State by way of illustration. The two communities are, (1) **The Bondo Highlanders** and (2) **the Kutia Kandha**, a section of the Kandha tribe. Both inhabit the southern tribal sub-plan area, but are speakers of two language families, first representing the Mundari group in Austro-Asiatic language, and the second belonging to Dravidian language. Both the groups have been identified as Primitive Tribal Groups (PTGs) or otherwise may be known as Vulnerable Ethno-cultural Groups (VEGs). The first group inhabits villages of Mudulipada and Andrahal Gram Panchayats of Khairput block in Malkangiri district, whereas the second group is found in Belghar and Gumma Gram panchayats of Tumudibandh block under Balliguda sub-division of Phulbani district.

The Bondo Ecological Niche:

1. Four eco-cultural zones : Mudulipada, Andrahal, Pindajangar, Patraput
2. Total area: 130 Square kms.
3. Location: 18° 22' N to 18°30' N lat and 82°15'E. to 82°20' E. Long.
4. Mudulipada zone: Altitude: 400 to 900 metres Drainage:- Damladei Nadi and Champanala, Sitakunda Spring. Vegetation: Open mixed jungle, Shifting cultivation : Present cultural homogeneity in group of villages, seat of the Patkhanda cult.
5. Andrahal Zone: Altitude: 600 to 1000 metres, Drainage: Hill springs, Vegetation: Open mixed jungles; better forest coverage. Culture to some extent is influenced by the neighbouring Gadaba people. Less developed economically.
6. Pindajangar Zone: Altitude: 500 to 900 metres Dispersed settlement, Vegetation: Dense forest cover; collection of minor forest produce

- (bamboo)., Better agricultural practices, Cultural homogeneity in group of villages, Less development is noticed in economic sphere.
7. Patraput Zone: Altitude: 500 to 800 metres, Drainage: Machhkund river and its tributaries, Vegetation: Forest growth is good; Collection of minor forest produce., Fishing is practiced. Agriculture: Production of cereals, vegetable, oil seeds and pulses., Less developed economically.
 8. Forest area: Unreserved forest (The Eastern Ghats), Roughly 70 per cent Podu ravaged forest cover.
 9. Swidden Cultivation: No of households – 1310(87.74%), Area- 2443.22 acres (0.93 Ac. per household)., Crops grown – Blackgram, Mandia, Suan, kangu, Kandula, kankadakhi, A lsi, judang and other vegetables (cf R out, 2005:49).
 10. Rock type : Mainly Khandalite group(eastern part), Mainly Charnokite group(Western part)
 11. Geomorphic units: a) Residual hills, b) Denudational hills, c) Plateaus, d) Dried Pediplains, e) Valley fills.
 12. Climate: Pleasant summer, cold winter and heavy rains during monsoon, Yaan, Rieng and ligda, respectively.
 13. Rainfall : Average 1953 mms annual (1980-1990)
 14. Temperature : Average maxm & minm. Varies from 17°C to 23°C
 15. Soil Types: Sedentary, permeable, spring seepage, colour red with rich iron content, valley bottom is waterlogged and suitable for paddy cultivation.
 16. Demographic and other features:

	2000-01	1900-91
No.of village/hamlets –	38	32
No.of households	1493	1497
Population	5530(2563m+2967 f)	6173
Sex ratio 1000m.	1158 f. per1000m	1112 f per
Average household size	3.7 persons	4.0
Land holding per household	1.09 acres	-
Landless households	508	-
Annul. Income per household	Rs.7113/-	Rs.3264/-
Annul. Per capita income	Rs.1920/-	Rs.1816/-
Annul. Expenditure per household	Rs. 6806/-	Rs.3418/-
Annul. Per capita Expenditure	Rs.1838/-	Rs.1854/-
Literacy rate	6.35%	2.75%
	(10.69%+2.60%f)	(5.06%+0.69%f)

17. Ethnosystematics of Land : I) Jhola/Lieng(Wet land)- monocropping and transplantation.(ii) Pada (up land)- multicropping, broadcasting, (iii) Dongar (Swidden land)- multi-cropping, broadcasting, (iv) diabui(Kitchen garden)- Vegetables
18. Requirement of selected food items by 2001(SC & ST R& TI Study, 1990-91) Cereals – 1750 tonnes, Pulses – 272 tonnes, Oil seeds –368 tones, Fuels –22,837 tonnes
19. Crops Grown: Kharif:- cereals, HYV paddy, Millets,-maize, jowar, ragi, suan, pulses- arhar, green gram, black gram; oil seeds- nigher, castor, til.

- Rabi:- cereals, dalua paddy, wheat, millets-ragi, maize; pulses-green gram, black gram, horse gram Kkulthi), field pea, oil seeds- till, mustard, ground nut. Vegetables:- Sweet patato (23.6 ha.), Potato(1.2 ha), other vegetables (114 ha.), spices, chilly (31.6 ha.), onion (7.2ha.), Ginger (8.8ha.), Coricander (3.2 ha.).
20. Health Sector: one P.H.C at Khariput and 10 sub-centres, Causes of death: Fever, Diarrohea, Respiratory tact infection, Skin diseases, hyper-endemic for malaria.
 21. There is dire need for promotion of education, communication, potable water supply, electrification, land development, water management, etc.
 22. Five clusters for Development: I) Mudulipada (7 villages), (ii) Andrahal (3 villages), iii) Bondapada (8 villages), iv) Kirsanipada (10 villages), Tulaguram (4 village) Clusters will facilitate implementation of multisectoral development programmes.
 23. Settlement and Habitation:- Hill slopes, valley bottom and foot hills contain the Bondo settlement. The settlement pattern shows the situation of dispersed type of houses. Each village has a common meeting platform of boulders, known as sindibor and a hundi, the place where village tutelary deity is installed for propitiation. They usually perform various rituals while constructing houses. Their house with simple architectural style contains one multipurpose room. The materials used for construction of house are collected from nearby forests. They construct their houses themselves and may take help of the Bondo men who have expertise in carpentry. The Bondo women maintain their houses after construction through plastering of walls and re-flooring. Their settlement and habitation are both in consonance with the Bondo ecological nich.
 24. Food and Drink:- The Bondo utilize edible materials which are either collected or produced or purchased from weekly markets. They attach more importance on indigenous edibles and only essentials, such as salt and some spices are purchased. They prepare some cuisines through their simple culinary mode in order to make them tasty. They store edibles through traditional methods for use during the lean period. They are fond of non-vegetarian dishes especially during festivals and ceremonies. Food is cooked by the Bondo women and also served among the family members. Sago palm juice, mahua liquor and distilled liquors from various ripe fruits are their favourite drinks.
 25. Social organization:- nuclear family is predominant type, Patrilineal, Patriarchal and Patrilocal families, kuda- exogamous patrilineal clan-, Badnaik, S isa, Challan, Dhangada majhi, K irsani, Muduli, M andra, D ora and Jigdi, Prevalence of ritual kinship /bond friendship , Moiety – Ontal (Cobra) and Killo(Tiger) are currently non-functional, Bisexual youth dormitory:- Ingersung (boys), Selandingo(Girls), Marriage – by negotiation and by ceremonial capture., Kinship – Bifurcate merging.
 26. Political organization:- Sindibor – A stone platform used as meeting ground and seat for village court., Naik- Hereditary secular head, Challan – Assistant to Naik, Barika – Messenger and Middleman (traditional multi-purpose worker), Badnaik – Secular chief of Barajangar confederacy. Currently statutory panchayats with elected representatives are functioning.

27. Magico-religions organization:- Supreme deity: Patkhanda Mahaprabhu , Singi (Sun) and Arke (Moon), other deities and spirits : Muldei, Hundi, Kapurchuan, Singraj, Uga, Renungbar, Sadar/Sindibor and spirits, such as Lamtachuan, Doliang, Garbada, Kaliarani, Kinding Sagar and Girmam., Ancestral cult is propitiated , Sacerdotal functionaries include, Sisa- Priest, Disari – Medicineman –cum-Astrologer, Gurmai-Shaman, They distinguish between the sacred and profane, they have a number taboos concerning food, religion, sex etc., they have knowledge of purity and pollution, good and bad dreams, auspicious and inauspicious omens, they observe a large number of rituals and festivals throughout the year.
28. It is apt to furnish figures available regarding land use statuses in 1975 and 1989 in Bondo hills as it provides a scientific inventory of available resources in the ecological niche and may be given below:

Land use class	Area in hectares 1975(1989)	Percentage of total area 1975 (1989)
1. Village Settlement	80(85)	0.22(0.24)
2. Jhola land Cultivation(stream bed terrace)	1217(1240)	3.38(3.45)
3. Dry terrace land cultivation	475(533.25)	1.33(1.48)
4. Shifting cultivation	3979(6009.25)	11.00(16.73)
5. Dense forest	1870(1853.25)	5.20(14.40)
6. Open Forest -	5237.50(5174.25)	14.58(14.40)
7. Plantation	3.50	0.01
8. Groves	3.75(23.75)	0.01(0.07)
9. Hills with shrubs / grass cover	22581(17730.25)	63.00(49.37)
10. Barren rocky area	467(2357.75)	1.30(9.10)
Total	35,910.25(35,910.25)	100.00(100.00)

* 1989 figures within parantheses.

Source:- Mahapatra, L.K., Development in situ of the Hill Swiddeners – A case study of the Bonda in Orissa, NCDS, Bhubaneswar, 1997.

29. Following Hardesty (1977) we may calculate approximately the carrying capacity of the Bondo ecological niche. As per the above table, nearly 36,000 hectares of land is available. The individual land need may be assumed as 2 hectares and land use factor as 1. with these assumptions, the carrying capacity may be calculated as follows;

$$\begin{aligned}
 \text{Carrying Capacity} &= \frac{\text{Total available land}}{\text{Individual annual land need} \times \text{land use factor}} \\
 &= \frac{36,000 \text{ hectares}}{(2 \text{ ha./person}) \times 1} \\
 &= \frac{36,000 \text{ ha}}{2 \text{ ha/person}} \\
 &= 18,000 \text{ persons.}
 \end{aligned}$$

Since carrying capacity is a dynamic concept, it is affected by land tenure system, technological factorws, institutional arrangements in the society, crop pattern, weather factor, market nexus, etc. we may say that the existing area in Bondo hills may cater to the need of 18,000 persons.

The Kutia Kandha Ecological Niche:

1. Total geographical area: About 300 Sq. Kilometres
2. Location: 19° 45' N.Lat. to 20° 5' N Lat. & 83°30' E long to 83°45' E.Long.
3. Elevation: 2500 feet above sea –level
4. No.of villages in the Project Area : 68+2 uninhabited.
5. Forest Areas: Belghar range of Balliguda forest division. Total estimated area 23,628.51 hectares or 78.76% of the total geographical area of the project. Forest Categories:- Reserve Forests- 10,648 hectares (35.5%), Proposed Reserves – 4,948.75 hectares (14.8%), Other Forests – 8,031.76 hectares (28.7%) (revenue land) High quality timbers are produced due to luxuriant growth of trees (Sal, Asan, Dharua, Piasal, Sidha, etc) large number and varieties of minor forest produce are available (Kendu leaves, siali leaves, siali fibre, tamarind, mahua, sal seeds, broom stick, salap etc.)
6. Swidden cultivation: No.of households practicing : 1127 out of total no. of 1148 households in the project area (98.17%)., Approx area : 1581.25 acres, Swidden land: 1.40 a cre/per household, Crops grown: Ragi, Black gram, Red gram, Niger, Mustard, Alsi, Kandula, Jhudunga, Koshala, Jawar, Janha, Kangu, Suan, Kulthi, etc. (cf Rout, J.P, 2005:49)
7. Rock type : Khondalite (garnet, silimanite), igneous and metamorphic type, khondalite is named after the Kandha tribe.
8. Geomorphic Units: I) Hill (thin vegetation, swidden cultivation), ii) Hill slope (thin forest, podu ravaged area), iii) Pediment (upland, shrub forest, under cultivation), iv) Valley (under cultivation)
9. climate: The area enjoys warm, humid sub-tropical climate., Rainfall: Average annual rainfall is 1,360 mons. Monsoon from June to September, Rainy days are 90., Temperature: winter- mean maxm, temp. 30°C mean minm, temp. 6.3°C
10. Soil Types: 5 important soil, series, such as Susabata, Deogarh, Belghar, Guma 1, and Guma 2. Soil Colour: Dark- brown, Dark-yellowish brown, Dark- reddish brown, dark greenish, light yellowish brown., Soil content : Acidic to middly acidic clay loan; ranges from high permeability to moderate permeability, low ground water table., Land capability: These exists 9 classes of land arranged in order of efficiency in their capability or suitability for agriculture/ horticulture. In these connection, various factors such as slope, soil depth, salinity or alkalinity conditions permeability, erosion proneness, fertility, water retention capacity etc.
11. Demographic and other features: no.of households: 816(1980)- 1025(1990), Population :- 3,706(1980)- 4,090(1990), Sex ratio : 1092f. per 1000m, Average household size : 4.66(1980) 3.89(1990), Literacy rate : 2.9(1980) – 7.92(1990), Average annual income (per household) – Rs.3,845/-, Average annual expenditure(per household): - Rs.4,367/-

12. Extent of land and types: a) Area of the Project : 30,000 hectares), b) Total cultivable area: 1550.50, c) Low land : 281.873, d) Medium land : 141.720, e) Upland : 866.965, (f) cultivable waste land : 2102.778, h) Gochar : 190.390, Rakhita : 312.221
13. Drainage Pattern and water Resource: Elevation: 2500 ft. above sea level; Rivers, such as Utai and Chauldhua are tributaries of the Tel river. There are perennial streams, Oike Bilamal and Dhudusi and in addition there are small hill streams in the area. For enhancement of productivity and maintenance of environmental equilibrium there is need for water management. Water harvesting structures and weir dams are to be constructed in suitable places as medium or minor irrigation facilities are not viable in undulating uplands. Besides, lift irrigation facilities are to be extended.
14. Ethno systematic of Land: i) Low land, ii) Upland, iii) Swidden land , iv) Kitchen garden.
15. Requirement of selected food materials: Cereals : 1585 tonnes, Pulses : 248 tonnes, Oil seeds: 335 tonnes (Projected till 2000 A.D)
16. Crops Grown: Kharif: High yielding paddy, Maize, Ragi, Arhar, Niger, Groundnut, Rabi: Summer Paddy, Green Gram, Blackgram, Ground nut, Mustared, Vegetables: Potato, Sweet potato, Chilly, Turmeric, Ginger and seasonal vegetables of various types.
17. Settlement and habitation:- The Kutia Kandha settlement pattern is more or less linear type and street in between parallel rows of houses is oriented in east-west direction. While constructing their house they put emphasis on the availability of sunlight and prefer an elevated place in order that water logging is avoided. The plinth, superstructure and architectural design are simple. The materials used for construction are indigenous and in tune with the environment. They utilize their ethno scientific knowledge and simple technology to make their house commodious, durable and safe and perform divinations and rituals to get rid of evil spirits. The north-east corner in the kitchen space is utilized for the installation of ancestral cult. Although their house is usually one roomed, it has multipurpose uses, such as sleeping, cooking, dining, storing etc. the division of labour for construction of house is simple and based on age and sex.
18. Food habit: The Kutia Kandha food basket contains edibles which are collected from forests or produced in lands or procured from weekly markets. Availability of edibles experiences seasonal variations and food processing also involves simple techniques, such as cooking, boiling, baking etc. some food materials are also taken raw. During heyday or festive occasions they although rejoice and use good food materials, they store food raw or semi-processed with their indigenous method to face challenges of food scarcity. They have likings for non-vegetarian dishes. They make use of the surrounding environmental niche to eke out their living. Tobacco leaf powder wrapped in sal leaf is used by them as smoke. Their favourite drinks are rice beer, sago-palm juice and Mahua liquor.
19. Health Sector: One 12 bedded hospital at Belghar, One P.H.C. at Tumudibandh, Two Sub-Centres; Common diseases:- Malaria, Skin diseases, respiratory tract infection, diarrhoea, gastroenteritis etc.

20. There is need for the promotion of education, communication, potable drinking water supply, electrification, land development, water management, etc.
21. Clusters for Development Intervention:- 1) Belghar (13 villages), 2) Bilamal (22 villages), 3) Gumma (21 villages), 4) Kanibaru (10 villages), 5) Batipada (8 villages), 6) Ushabali (4 villages), Multisectoral development schemes/ programmes can be implemented in the above identified clusters.
22. Social organization:- The Kutia Kandha family is the smallest social unit. Preponderance of nuclear family. Patrilocal, patrilineal, patriarchal type of family. Marriage is usually monogamous, but polygynous unions are not ruled out. Levi ration and sororation are prevalent. Widow remarriage and divorce are found. Sub-tribe is divided into a number of exogamous clans. Villages are more or less multiclan. Each clan consists of a number of partilineages. Two types of marital unions, such as marriage by negotiation and by ceremonial capture are seen.
23. Political organization:- Traditionally mutha organization exists beyond village. The secular heads are Mutha Majhi, Pat Majhi and Bismajhi. The Chhatia is the messenger. Traditional authoritarian structure is weaning after the introduction of Panchayati Raj system. The traditional and modern leadership do not show any conflict or dispute but instead there is cooperation.
24. Magico-religious organization:- The Kutia Kandha are polytheists. They propitiate a large number of deities and spirits. Jani is the sacerdotal chief. Bejuni is the shaman. They perform various magico-religious rituals and ceremonies. The Sun god and Darni Penu (earth goddess) are the chief deities. Buffalo, goat, chicken, egg are offered to deities for their appeasement. They distinguish between good omen and bad omen, auspicious and inauspicious and observe a large number of taboos.
25. Carrying capacity:- Following Hardesty(1977) we may calculate the carrying capacity of the Kutia Kandha ecological niche. Nearly 30,000 hectares of land is available in the project area. Assuming individual land need as 2 hectares and land use factor as 1 we may apply the formula as follows:

$$\begin{aligned}
 \text{Carrying Capacity} &= \frac{\text{Total available land}}{\text{Individual annual X land use factor land need}} \\
 &= \frac{30,000 \text{ hectares}}{(2 \text{ ha/per person}) \times 1} \\
 &= \frac{30,000 \text{ hectares}}{2 \text{ ha per person}} \\
 &= 15,000 \text{ persons}
 \end{aligned}$$

The Kutia Kandha population in the K.K.D.A. Micro Project area which was 4,090(1990) might have increased roughly to 5,000 in 2001. therefore, from the above calculation it may be assumed that their ecological niche may accommodate 15,000 persons, provided multi-sectoral development schemes and programmes are implemented with due sincerity.

V

Humans are gregarious by nature, and thus they form social aggregates, called communities or societies, which have distinct structures. In the process of group formation family comprises the base of each society or community. Members of each group share a common culture. Each discrete culture varies from all others. Groups of tribal people constitute ethnic units. Paradoxically each tribal community composed a closed system with somewhat open boundaries. Geographical and social separation and isolation contributed to sustained socio-cultural diversity. Distinct social boundaries persist in spite of cross-cultural flow of cultural elements. An ethno-cultural group generally refers to a population, which is biologically and culturally self-perpetuating. Its members share common cultural values and constitute a field of communication as well as social interaction. They maintain an identity as a socio-cultural category and are distinguished by others as such (Barth, 1969:11). This implies that ethno-cultural groups are culture-bearing units. Here sharing and maintenance of 'common culture' assume centrality. Such units exhibit configuration of particular culture traits with continuity in time. Culture traits exhibit no doubt the influence of ecology. In one sense they reflect adaptation to the environment in historical perspective; in another sense they also reflect how people accommodate with the physical environment Barth asserts that the same group of people, with unchanged values and ideas, would surely pursue different patterns of life and institutionalize different forms of behaviour when faced with the different opportunities offered in different environments" (ibid). Thus the upland Bondos differ from the low land Bondos in their adaptation to their respective environments. They occupy different niches and there is minimal or no competition for resources between them. In a way they monopolize separate territories. Thus they develop distinct cultures.

"Culture" is defined as the integrated system of learned behaviour patterns which are characteristic of the members of a society and which are not the result of biological inheritance" (Hoebel & Frost, 1976:6). It is the result of social invention, and maintained through communication and learning. It has survival value. Every separate society has its distinct culture. Consequently the characteristic behaviours of the members of one society are in some respects significantly different from the characteristic behaviours of the members of all other societies.

Each culture is made up of a multitude of selected traits integrated into a total system, a whole. All parts have a special relationship to the whole. Each culture is built up of elements and traits. As a result of the unique arrangement and introduction of the **past** a unique configuration emerges. This is exactly what is evinced in the of Bonda and Kutia Kandha societies.

Bondo, Kutia Kandha and other ethno-cultural communities continue to be below the subsistence level of economy. Cravings of hunger stimulate them to food-gathering activities in natural habitats. **The subsistence resources available to them depend upon three factors;** natural environment, population, and culture. They partly subsist by gathering roots, berries, seeds and insects. They have also

acquired the techniques of plantation, cultivation and harvesting of crops. Simultaneously they also practise husbandry of some animals.

Gradually they have taken to foraging, which is intensely dependent upon collection of various seeds, fruits and roots. These forages also rely upon hunting to supplement vegetarian food by animal meat. This level of economy is punctuated by a particular level of culture. Cultures develop as ancestors the problems of individual and group living. The important imperative of living is to survive. They have built up over the years a from of survival capacity relative to the environments in which they are ensconced. Culture consist of set ways of meeting the survival needs of human. Cultures provide individuals with mechanism to gather, hunt, fish, make tools, defend themselves and lead a healthy social life. Cultures provide humans 'proved' ways to meet the needs for food, shelter, safety, reproduction and psychic security.

Societies have their needs, which are met by their cultures. Cultures help societies to survive. Cultural systems include established ways of providing food, shelter, health and of organizing relations, enculturation of individuals the economy technology, and social order. Cultures vary in the quality of the institutional devices they provide for survival. Therefore, the cultures of the Bondo and the Kutia Kandha explain these phenomena.

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SOME WILD PLANTS AS FOOD ITEMS USED BY THE TRIBAL PEOPLE OF SUNDARGARH DISTRICT, ORISSA

A.B. Prusti

J. Panda

Abstract:

In this article 25 taxa of wild plants used as food items at times of scarcity, drought etc. by the tribals inhabiting Banaigarh, Lahunipada, Gurundia, Koida Kuanrmunda, Bisra, Nuagan, Lathikata, Sundargarh, Subdega, Balisankara, Lefripada, Badgan, Tangarpali, Hemgiri, Kutra and Rajgangpur of Sundargarh district have been discussed. It is a part of the work on the ethnobotanical studies of Sundargarh district of Orissa for Ph.D. Thesis by the junior author.

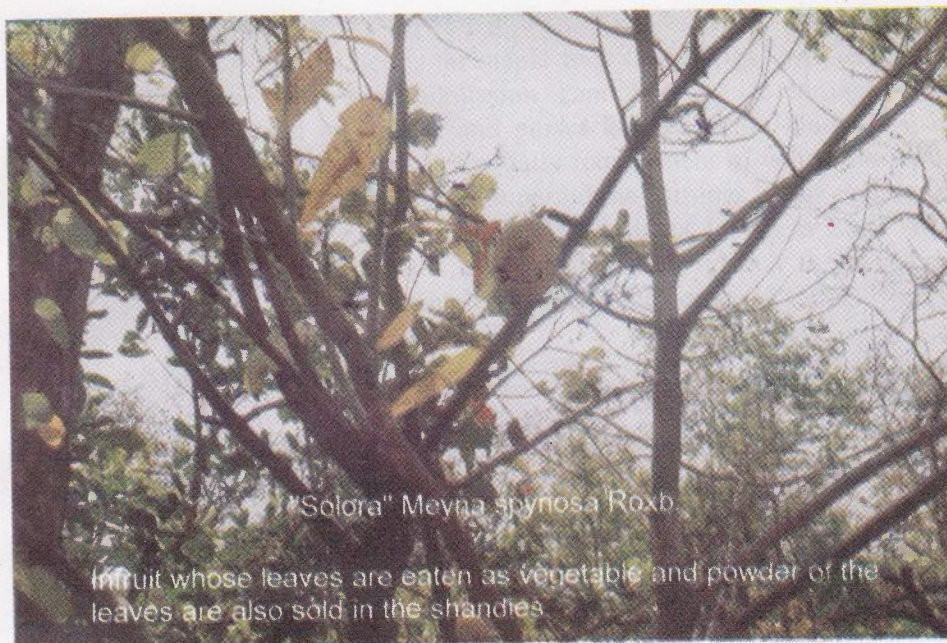
Introduction:

Sundargarh district occupies the North-Western portion of the State and is situated between $21^{\circ} 35' N$ and $22^{\circ} 32' N$ latitudes and $83^{\circ} 32' E$ and $85^{\circ} 22' E$ longitudes. It extends over an area of 9812 sq. kms. It is bounded on the north by Ranchi district of Jharkhand, on the west and northwest by Raigarh district of Chhatisgarh, on the south and southeast by Sambalpur and Dhenkanal district of Orissa. Geographically the district is an undulating table-land of different elevations broken up by rugged hill ranges and cut off by torrential hill streams and the rivers Ib and Brahmani. The general slope of the country is from north to south.

The district is known for its mineral wealth, cave paintings and various tribes of different races. Of the 62 tribes notified as Scheduled tribes of Orissa as many as 40 tribes are found in the district alone which accounts for 60 percent of its total population. The numerically important tribes are Oraon, Munda, Kharia, Kisan, Bhuiyan and Gond. A large number of indigenous and endemic plant species are found in the dense forests of this district.

About 800 plant species are consumed by different tribal communities as food items in India (Singh and Arora 1978). Jain (1964); Pal and Banerjee (1971); Vartak (1981); Girach et al (1988); Krishna Prasad et al (1999); Gupta et al (2004); and few others have studied on wild edible plants used by the tribal communities of India including Orissa.

Botanically and ethnobotanically the district, Sundargarh remains under-explored. Barring a few publications (Mohapatra 1991; Satpathy & Panda 1992; and Girach et al 1998) on ethnobotany of the district the study of wild plants as food and its importance has not been reported.

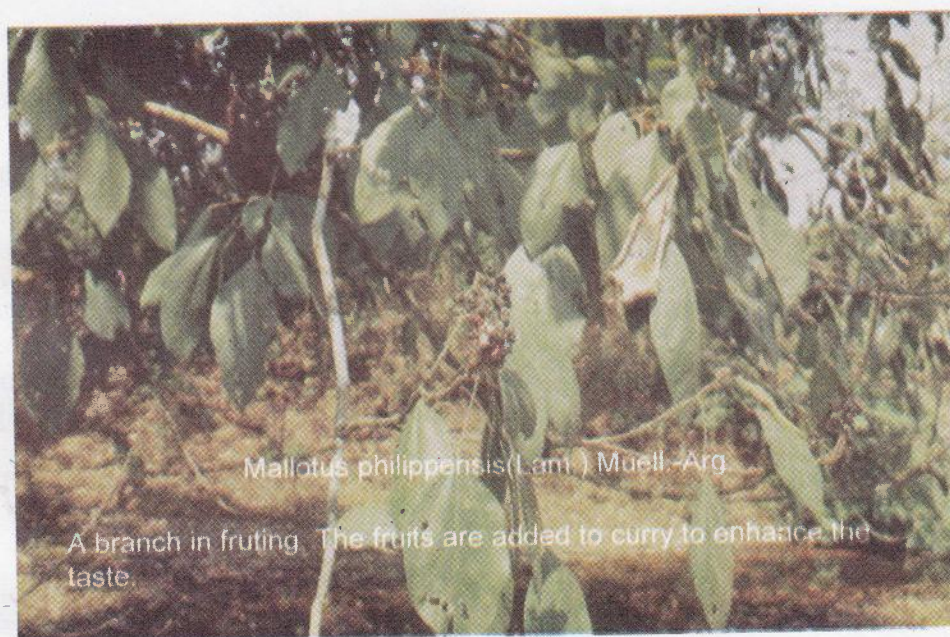


"Solora" Meyna spynosa Roxb

In fruit whose leaves are eaten as vegetable and powder of the leaves are also sold in the shandies

"Solora" Meyna Spynosa Roxb

(In fruit whose leaves are eaten as vegetable & powder of the leaves are also sold in the shandies)



Mallotus philippensis (Lam.) Muell. Arg

A branch in fruiting. The fruits are added to curry to enhance the taste.

Mallotus philippensis (Lam.) Muell. Arg.

(A branch in fruiting. The fruits are added to curry to enhance the taste)

Although rice is the staple food of the tribal people of the district many of them in their own admission cannot enjoy it throughout the year. It is supplemented by millets and pulses besides many kinds of fish and meat. The problem for the tribals is the daily requirement of vegetables and pulses from the shandies. During the monsoon period the earnings of the people fall low for which they resort to use easily available wild plants, leaves as 'sag', seeds of legumes as 'dal', flowers and fruits as vegetables. To quench the thirst during their long innings in the forest throughout the day they eat wild fruits.

Materials & Methods:

Ethnobotanical information, including that on plant food habits, was gathered by interviewing the local tribal people and tribal doctors of remote areas of Bonaigarh, Lahunipada, Gurundia, Koida, Kuanrunda, Bisra, Nuagan, Lathikata, Sundargarh, Subdega, Balisankara, Lefripada, Badgan, Tangarpali. During the extensive ethnobotanical explorations (2000-2005) in the district the junior author has observed many items of forests being used as food by the tribals. Their survey of weekly shandies were also made which yielded hitherto unknown information on the subject in hand. It is not new that the tribals making use of various wild plants as food items. The study reveals amazing use of wild plants by the tribals of the district. The plant specimens were collected in different seasons and identified by using The Flora of Orissa Book (Saxena 1994-96). The voucher specimens were deposited in the Herbarium of Botany Department, P.N.College, Khurda.

In the enumerations of the plants used by the tribals vernacular names, locality, season in which the edible part is available is given under the botanical names followed by names of family in brackets.

Abbreviations used

V = Vernacular name; L = locality; S = season; O = Oriya.

Enumeration:

Bark

[Note: Stem bark of the following plants is soaked in water overnight and grounded to a fine paste. The paste thus obtained is used as a substitute for ' Biri' (black gram) mixed with rice flour and cooked as pan cakes. It is said that this preparation is much tastier than the original.

The stout pieces of the plants are sold in the weekly shandies speaks for itself.]

Cochlospermum religiosum (L.) Alston

(Cochlospermaceae)

V : Koppasia

L : Singardei

S : Throughout the year

Sterculia urens Roxb.

(Sterculiaceae)

V : Dhobini; Genduli (O)

L : Singardei

S : Throughout the year

Flowers

Cassia fistula Linn.

(Caesalpiaceae)

V : Sunnari

L : Jorda

S : April

Flowers, during April only, are cooked into a curry and relished with rice.

Cordia obliqua Willd.

(Ehretiaceae)

V : Gwalo

L : Dhumasara

S : February – March

Flower buds cooked into a curry are relished with rice.

Holarrhena pubescens (Buch.-Ham.) Wall. ex G. Don.

(Apocynaceae)

V : Kurchi

L : Kelloraipuri

S : May – June

Flowers are eaten in the form of 'Pakoda'.

Indigofera cassioides Rottl. ex DC.

(Fabaceae)

V : Girel

L : Kulposh

S : January – February

Flowers are eaten as vegetable cooked.

Fruits

***Cordia obliqua* Willd.**

(Ehretiaceae)

V : Gwalo

L : Dhumasara

S : August – September

a) Ripe fruits are eaten.

b) Mature fruits are pickled and eaten.

***Diospyros malabarica* (Desr.) Kostel.**

(Ebenaceae)

V : Mankadkendu

L : Khandadhara

S : May onwards

Raw fruits are eaten during hot summer days to quench thirst.(Juice is swallowed and the rest thrown out.)

***Erycibe paniculata* Roxb.**

(Convolvulaceae)

V : Kata pengu

L : Kurlokhaman

S : July – August

Fruits when ripe are black and eaten. Some times sold in the shandies.

***Ficus racemosa* Linn.**

(Moraceae)

V : Dumri

L : Bonai

S : April onwards

Raw fruits are eaten as vegetable.(It is said that the curry of immature fruits has the properties to cure stomach cancer in the initial stages.)

***Mallotus philippensis* (Lam.) Muell.- Arg.**

(Euphorbiaceae)

V : Komalagundi

L : Kurlokuaman

S : March – April

Raw immature fruits are added to any vegetable curry to enhance the taste of the curry. (It can be explored the possibility of being a flavouring agent .)

Marsdenia tenacissima Moon (Roxb.)
(Asclepiadaceae)

V : Bona kunduru
L : Singardei
S : February

Immature fruits are eaten to subside thirst.(The juice of the follicles is swallowed and the rest rejected.)

Leaves

Anisochilus carnosus (L.f.) Wall.
(Lamiaceae)

V : Bennia
L : Gurundia
S : June – August

Leaves and tender shoots are eaten as vegetable. Leaves are sold in the weekly shandies.

Note : In some interior areas of Bonai F.D. the tribals cultivate this wild herb for its leaf is something very interesting.

Boerhavia diffusa Linn.
(Nyctaginaceae)

V : Biskopri; Punarnava (O)
L : Biramitrapur
S : Throught the year

Tender leaves are eaten as vegetable for it's diuretic properties.

Celosia argentea Linn.
(Amaranthaceae)

V : Dhola murga
L : Hemgir
S : Throught the year

Leaves are relished as ' sag'.

Cordia obliqua Willd.
(Ehretiaceae)

V : Gwalo
L : Dhumasara
S : Throughout the year

Young foliage is eaten as vegetable.

Gnaphalium luteo-album Linn.

(Asteraceae)

V : Bagchera

L : Bonai

S : Throughout the season

Leaf is eaten as vegetable.

Note : The tribals of the Bonai F.D. collect the leaf in summer and dry in the season and store for use at times of scarcity of vegetables especially during rains.

Leucas lavandulifolia Sm.

(Lamiaceae)

V : Gandha Rasna

L : Gurundia

S : September – December

Leaf is eaten as vegetable. Also recommended as a vegetable for nourishing mothers to act as a galactagogue.

Meyna spinosa Roxb.ex Link

(Rubiaceae)

V : Solora

L : Gurundia

S : September – January

Leaf is dried in the sun, powdered and stored in a dry-container. The powder is cooked as a vegetable.

Note : The powder of the leaf of the plant known as ' Solora gundi' is sold by measure in the weekly shandies at Gurundia.

Seeds

[Note : Seeds of the following plants collected during the season are dried, roasted and dehusked, and substituted for pulses]

Atylosia scarabaeoides (L.) Benth.

(Fabaceae)

V : Ona Kulthia

L : Kurlokhaman

S : Jan – May

Cassia hirsuta Linn.

(Caesalpiniaceae)

V : Chakunda

L : Bonai
S : February onwards

Cassia obtusifolia Linn.
(Caesalpiniaceae)

V : Chakunda

L : Jorda

S : January - May

Cassia occidentalis Linn.
(Caesalpiniaceae)

V : Ghodachakunda

L : Kulposh

S : February - June

Cassia tora Linn.
(Caesalpiniaceae)

V : Chakunda

L : Kelloraipuri

S : January - May

Hibiscus sabdariffa Linn.
(Malvaceae)

V : Kaunria

L : Bonai

S : February - April

Tephrosia purpurea (L.) Pers.
(Fabaceae)

V : Kulathiya

L : Bonai

S : Most part of the year

Tephrosia villosa (L.) Pers.
(Fabaceae)

V : Bona Kulthia

L : San Beura

S : May - July

Conclusion:

The tribals of different communities use wide variety of wild plants and products as their food. The wild roots and tubers, fruits, flowers and seeds, leaves

and stems which they eat for sustenance have good nutritional value. Nutritional evaluation of about 200 wild edible plants used by the tribals have been found to be very promising and can be brought into our modern food culture. Important among them are *Dioscorea* spp., *Shorea robusta*, *Sterculia* spp., *Bahunia* spp. etc. Several of the wild food plants are also of some medicinal value.

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INSTITUTION OF FAMILY AND MARRIAGE AMONG THE LANJIA SAORA: CONTINUITY AND CHANGE

Devdas Mohanty

"Marriage and the family being two aspects of the same social reality, viz., the bio-psychical-cum-social drives(needs) of man, are coeval with each other and with culture, because without the family there could be no preservation of the species and culture; and without marriage there could be no family." (Majumdar and Madan; 1999;67)

Westermarck, "On the basis of a detailed study of the institution of marriage, concluded that the family was the outcome of male possessiveness and jealousy, and a growth in property and of the sense of property. So, man, and not woman, becomes the central figure in the scheme of development here. However, it is also true that Morgan also dated the origin of the family only after man's role in begetting children became known, and the right of passing property to his own, rather than to his sister's or mother's children, had been recognized and accepted." (Majumdar and Madan; 1999; 55). On the contrary, Briffault "roots the institution of the family in yet another institution, viz., the *mother-right*, that is, the supreme authority of the mothers." (Ibid)

The Lanjia Saora community is one of the thirteen primitive tribes of Orissa. They inhabit hilly terrain of Rayagada and Gajapati districts. In the following discussion, the institution of marriage and family among the Lanjia Saoras is discussed in the lines of traditional ethnographic account vis a vis, change, it had undergone in the modern times. Our field observation in the Saora region and day to day conversation with Saora friends, youngsters, elders gradually unfolds the dynamics of the institution.

Family:

A Lanjia Saora family as a basic socio economic unit is by and large nuclear type consisting of a husband, wife and their unmarried off springs. As soon as a daughter marries, she leaves her natal home and lives in her husband's home. A married boy immediately after marriage settles with his wife building a new home. Vitebsky (1993; 69) wrote, "The final 'leaf' of the lineage is the household. Generally it contains a nuclear family of husband, wife (or some more wives) and children. Each son as he marries finds separate household taking with him a complete replica of his father's ancestor cult (later to include his father and mother too when they die) while the youngest son generally brings his wife to his parents house and remains in it after their death".

But instances of joint families are also observed among the Saoras particularly in case of rich village headmen (Gomangs). In Rebjingtal village, Jani Gomang has eleven childrens, from his three wives. Two of the co wives being

own sisters. All of them lived together for a long time in two houses. As his childrens are now grown ups and subsist the family income, he said, "It is comfortable to have three houses, one for each wife, to avoid recurrent quarrels (*rudi*) between them, now a days".

In village Manengul, Gaipana Gomang, heads a joint family consisting of his married sons, their wives and childrens, and unmarried daughters. All of his childrens and grand childrens cook and eat from the same hearth. In our study village Ragaising Kurtam Gomang lives with both of his wives under the same roof and his married son lives next door with his wife. Except the average Saora family, the well to do and rich Gomangs prefer to retain a joint family structure to perpetuate their principal economic activity - i.e. labour intensive shifting cultivation. Collective efforts of more number of family members as a compact working force in the field enables the Gomangs to have better hold over so many of their hill sites, terrace fields and tree resources. "Otherwise, it (land) goes out of hand, due to lack of man power" India Gomang of Ragaising village pointed this out, justifying a joint family structure with more number of family members. This family system enables the Gomangs to add to the wealth of the family. In cases of nuclear families, though they live separately, jointly they own and contribute labour to cultivate, harvest and divide the produce equally from the land. Thus, among the Saoras since the past to the present though the family space is divided after marriage owing to small single roomed houses, the cultivated land space is shared jointly.

In our study villages' viz. Ragaising, 39 percent of households live as joint family. In Aredul village 34 per cent of family retains joint family structure. In Manikpur village the percentage of joint family is the highest in percentage at 52.

As the property is shifted in the male line, a Saora family is patriarchal, patrilineal and patrilocal. According to Piers Vitebsky (1993; Ibid) "No member of the family express any hostility or aggression towards the other as all of them are tied together by the bond of economic relationship and co-operative help. Among the sons no one is considered superior to the other and all sons work together on the fields of their father. Therefore, it is the co-operative system and not the process of ingratiation which forms the dominant technique of adjustment among the members in a Saora family."

Lineage:

An extended family, consisting of a number of families connected among them as descendants from a common male ancestor is the main exogamous unit in the Saora society. It is the patrilineage (*birinda*) "A village usually contains several patrilineages (*birinda*). The imagery of the lineage's internal structure is arboreal, with 'trunks' or 'branches' (*aneb*), 'twigs' (*sipa*) and 'leaves' (*ola*).... The lineage's male core is descended from a single male ancestor who is listed by every member in the rites of their personal ancestor cult, since he is equally the ancestor of all. While this ancestor may be three, four or occasionally more

generations away, more recent ancestors are listed on most occasions only by their own lines, that is by their own direct descendants" (Vitebsky 1993:68)

The male descendants of a patrilineage are related as patrilineage brothers and sisters (*brinda buyangji, tananji*). "Spatially, the lineage is fixed. Each lineage possesses its own cremation-ground (*kintalod*) and group of upright memorial stones (*G-an-a-ar*, 'Stone-planting site') to which a new stone is added at each funeral (*gu-ar*, stone planting') conducted by the lineage. One must marry a member of another lineage and women usually move into their husband's home on marriage, so that the male core of the lineage stays put while women come and go (Vitebsky, 1993:68-9).

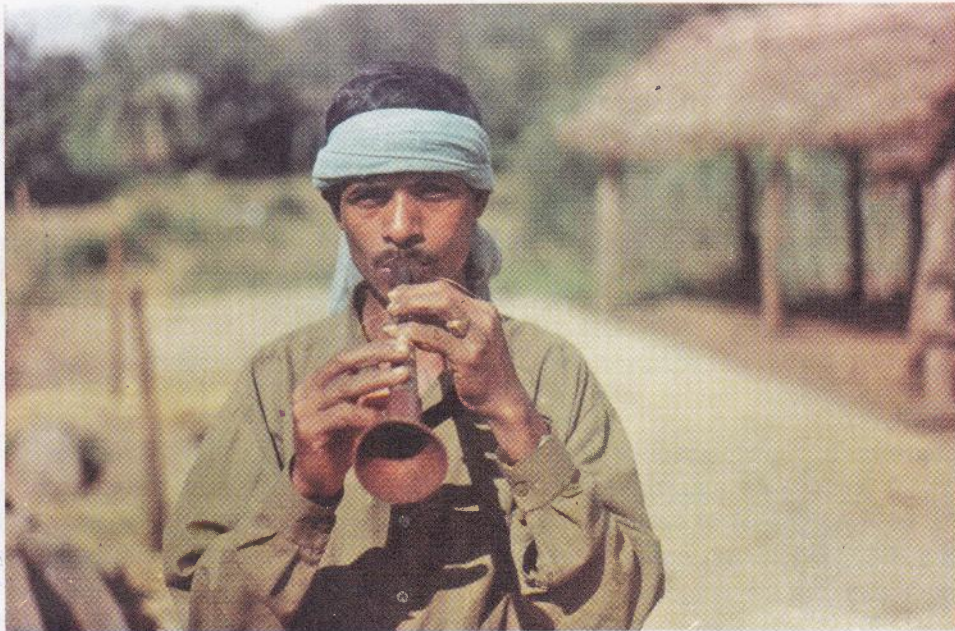
A women's affiliation to her father's lineage (*birinda*) is limited depending on her position in her husband's home. Her membership within the lineage of her father remains in tact until she produces childrens at her husband's home. Until she has grown up childrens, to her credit in her husband's place, her status as member of her in laws lineage (*birinda*) is not legitimized. Till then, her lineage (*birinda*) membership remains in ambiguity. Women, who had returned back to their natal home owing to some family conflicts, barrenness or being widowed are enumerated along with the lineage members of their fathers. Ladies died at their in laws place without producing any offspring are accepted within the lineage fold of their father and brothers. In this case a second stone planting is performed in her father's stone planting site by brining (*pang*) her bones (*Jang*) from her husband's village.

Marriage:

There is no word (in Saora) meaning 'marriage' as such, covering both these ways in which a man and a woman may come to live together (vitebsky 1993:48). During several field visits in the Lanjia Saora countryside, the present author has often encountered passers by marriage parties and kin groups on hill paths with head loads of food-grains. They are on their way to attend the marriage ceremony of relatives. To the question about their destination, the answer comes forth "*sidrung ban*" i.e. to the marriage. '*Drung*' denotes to extend and "*Si*" refers to "hand" in Saora. Marriage is "extending hand" by the partners. People often reply "*Jumdarban*" referring "to attend the (marriage) feast".

Love marriage:

Kinship ties and affinal obligations require coming of delegations from different villages for dancing (*tongseng*) and feasting (*Jumdar*) in mortuary ceremonies like *Guar*, *Karja*, *Lajab* etc. Relationships develop between young men and women on these occasions. "Young people form and develop liaisons especially during reciprocal work parties (*Onsir*), when men and women may suddenly down tools and chase and tickle (*gatarshi*) each other, (vitebsky;1993:48)". Working together since childhood years in adjoining hill sites, youngsters develop intimacy, which often grow into settling as life partners.



A Saora Musician



Lanjia Saora women

"Most people have a history of several affairs (*dari*) before they settle with the partner with whom they raise a family. Setting up house together is recognized as a declaration of intended permanency but in the early years there are many break ups. Most marriages originate in this free choice way. Dari marriage is not marked by any ceremony and need involve no dowry or bride price. But the desire of a girl's parents or brothers to interfere or hold on to her can be intense, especially if the family is wealthy. This tendency is compounded by the simultaneous availability of a pattern or arranged marriage (*Pangsal*, 'taking wine') involving bride-price and favored by the better off (vitebsky;1993:48)

Marriage by Negotiation:

Lanjia Saora villages are tied together with a close network of information and communication. Weekly markets (*Sainta*) at Puttasing and Jaltar, facilitate regular personal contacts between villagers. In the village waterside (*daban*) while collecting water at dawn and dusk ideas and information are exchanged between elderly women about the perspective brides and grooms in the neighboring villages.

Negotiation is made particularly between the families having more or less equal socio-economic standing. The deterrent is otherwise very rarely observed in cases where a rich man's (*gomang*) lineage has affinal relationship with a poor, labour class (*Parja*) lineage.

In the event of an arranged marriage, the proposal always culminates from groom's side. The boy and his family members look for beauty and working capabilities in the would be bride. Information in this regard is sought through indirect sources. The bride should be young enough to toil in the fields of her husband for long years. Integrity of character is sought for as regards to the nature of the would be groom. Most importantly his economic well being is ascertained in terms of cultivable fields and fruit bearing trees, so that the daughter faces no financial or food crisis in her in laws home.

Ritual in marriage negotiation:

Bringing (*Pang*) wine (*sal*) marriage used to be the old customary way of negotiation. In this way, the boy's father with his lineage (*birinda*) members and village elders visit the girl's house with pot full of palm wine (*alisal*) or Mahua liquor (*abasal*) depending on the seasonal availability. In the absence of girl's family members at home, they secretly tuck an arrow (*Ambu*) in the roof of girl's house and hang the wine pot on the doorway. This act is carried out particularly at noon time, when the inmates of the girl's house are out in their fields. Secrecy is maintained to avoid embarrassment (*garoi*) and loss of face due to non-acceptance of the proposal by the girl's family.

Coming back home, from the fields, the family members of the girl become aware of the proposal. In no time, the proposer's identity is ascertained from the fellow villagers. If the proposal is considered to be a perspective option for the girl,

then the wine is shared by the family members and neighbors. In public it is proclaimed that the wine was thrown away and was not accepted. This customary rejection of proposal in public asserts the higher social standing of the girls and their family.

After a gap of several days wine is again brought by the boy's family for the second time and is left hung on the roof of the girl's front verandah without any body's knowledge. This is to express strong intention, eagerness and sincerity of purpose to have marital ties with the girl's family. This time; it is a vital stage in which her brothers and parents ask the girl for her opinion on the matter. In case of getting the positive nod from the girl, the boy's party is invited to arrive with more wine at an appointed day for working out the marriage contract.

The final approval and acceptance of the proposal for marriage rests with the girl. This reflects the position of Saora women and the freedom they are entitled to in the choice of their marriage partners.

Negotiating a marriage contract:

On getting the invitation from the girl's house for working out the marriage contract, the boy's delegation consisting of elderly people of the village come to the girl's house with more wine in the appointed day. Women of the boy's village often accompany the delegation but remained at a distance from the site where discussions and deliberation between the parties are held. On their way to a negotiation, once I asked such a delegation about the purpose of their mission, their reply was "*Garboi irte*" i.e. for begging the bride, we are going.

To make the contract publicly approved and accepted the village elders along with the relatives of the would be spouses held their discussions on the verandah (*Pindang*) of the girl's house with sharing of wine. On this occasion girl's approval is publicly acknowledged and her opinion is sought. Accordingly the boy's party is obliged to bring wine a couple of times prior to the marriage. Thus, the marriage contract henceforth binds both the parties for the marital ties.

During the time lag between the day of contract and marriage, the boy visits the girl's house as a customary obligation to inquire about the wellbeing of the latter's family. He stays in her house for a day or two and is offered good hospitality during these courtesy visits. In between, if the would be son-in-law doesn't turn up to ask for the wellbeing of the girl's family, words will go round that the boy is not of good natured and is not very happy with the proposed girl. During this period, in case the would be life partners happen to meet each other away from the eyes of the elders, at hat , or in common gatherings they exchange pleasantries together. This time lag is best served as getting to know each other more intimately before settling down as life partners for all times to come.

Compensating a broken marriage Contract:

A widow or widower can be remarried in the Saora society and most likely, the former is married to her younger brother in law (*junior levirate*) if any. Sometimes this marriage draws the wrath of the angry *Sonum* (in this case the spirit of her dead husband) who may afflict the partners with recurrent illness. The person who wants to marry the deceased's spouse should make friendship (*gading*) with the departed soul (*Purada*) by performing a religious rite. In this ritual, the sick shares the ritual food with the angry *Sonum* and offer animal sacrifice for his/her dead counterpart in order to avoid any future illness.

In Rebjingtal, the author had observed a friendship (*gading*) rite in 1997 performed by Purna's second wife to get rid of her bone and joint affliction caused by Purna's deceased wife. The sick lady shared eating the cooked rice and meat with the angry *Sonum* who appeared through the shaman in trance. The living wife also made her dead co wife wear a bangle to make a bond in friendship. In Manengul, the dead Sangaita's widow viz. Sundari's second marriage to a lineal brother of her deceased band resulted in family conflicts as the newly married partners dilly-dallied the performance of *gading* (making friendship) rite.

A socially recognized marriage can be broken often as a result of love affairs running to the present between the wife and her former lover. In this case compensation (*Danda*) is given to the husband, who losses her for recovery of the bride price. The compensation is paid by the lady herself or by the new man claiming her. Compensation is given in terms of cash and buffalo for a grand feast participated by the villagers. Prior to her marriage, if the girl wants to break the contract made by her brothers and parents out of her special love for a particular man, she gives compensation (*Danda*) from her personal savings accumulated from the sale proceeds of mahua (*Aba*), red gram(*raga*), and other forest produce.

Marriage Norms:

Lineage exogamy must be abided by be it a love (*Dari*) marriage or an arranged marriage. The patrilineage brotherhood (*birinda*) has still its abiding influence even in case of Christian converts to exercise social control over the institution of marriage. Many descendant families of a common male ancestor are own brothers and sisters. Any marital relationship between them is looked down upon as incestuous. The parties involved in it are separated from the patrilineage (*birinda*) and all the jointly shared household equipments from a pestle to a winnowing fan (*Ayer*) is separated in to two halves symbolizing the gravity of the guilt. The stone planting site (*Ganwar*) of the family is separated from that of the ancestral lineage. This reflects that ancestors even disown the unruly descendant.

Incestuous marriage: Case studies:

Surendra Sabara, a young Christian convert of Ragaising village had to marry one of her lineage sister out of love in 1999. Though this Christian family had no functional stone planting site to be separated from, the social pressure was

so much that the couple had to leave the village to the work sites at Arunachal Pradesh. The author had once observed a recently divided stone-planting site (*Ganwar*) at village Baseng Garjang in the family of Adi, a shaman. It was culminated out of an incestuous marriage by her son who was disowned by the lineage fold for his sin.

The value system provides that one must marry a member of another lineage. Daughters usually shift their affiliation from their own home to their husband's lineage. Whereas the male descentancy of the husband's lineage is kept intact for regeneration, inheritance and continuity of the lineage cult.

A typical Lanjia Saora village consists of several patrilineages (*birinda*). Affinal relatives in many instances belong to one's own village and village exogamy, as a rule doesn't hold well. Marital ties outside the village are equally in vogue as there is always close contact and cooperation between the villages.

"There is an ambiguity about cross-cousins (father's sister's or mother's brother's children) and parallel cousins outside the lineage (i.e. mother's sister's children). All of these are called *mar-onger*, male, *mar-onsel*, female, and often addressed as 'brother' and sister'. People often say that these too are forbidden up to the third generation, but in practice there are many such liaisons and marriages." (Vitebsky, 1993:48). In practice, if there is a strong preference to get mother's sister's son (*man-onger*) or mother's sister daughter (*mar-onsel*) in marriage, the family ties are traced up to third grand father (*yagi Juju*) and beyond that, it is not forbidden.

Tribal exogamy:

"Since around the 1920s many young Sora have gone to pick tea in Assam, some 600-900 miles away, usually for a year at a time, and this is also a common way of escaping for a while from an embarrassing situation at home. In recent years they have also worked on road building projects in North-eastern Frontier Agency (NEFA) area. Here and in Assam they meet members of many other tribes, learn some Hindi as a lingua franca and live, according to their own account, in a strong, casteless frontier society. This migrant labour helps to integrate the Sora into the Indian caste economy (vitebsky; 1993:32).

Staying away from home in an alien land at a young age paved the way to develop social ties and love affairs with persons belonging to several ethnic groups, as they live as neighbors in labour colonies. Many Saora returnees confess openly that attachment with "wine and women" ultimately mars any ambition of bringing home cash. Tribal endogamy could not be preserved as young Saora men returned back from these worksites to their native villages with wives from different tribes such as Mompa, Adi, Saikia etc. In village Ragaising, our informant, Sayintu is living here since three decades with his wife belonging to Mompa community. Mangalu of Aredul is already settled in a worksite at Arunachal Pradesh with his wife from Adi community. Though his family pays

visits to his natal home in Aredul, the Adi wife finds it difficult to cope with this socio cultural environment of Saora country.

Polygyny:

Jani, a wealthy Gomang of Rebjingtal village opined that he had to marry three wives in order to have more childrens for inheriting and looking after his vast resources of land (*Laba*). But how Jani manages peaceful and cooperative relationship between the wives. He answers "If I bring a kilogram of potato from the hat, I equally distribute it between three wives for their childrens." I choose one son from each wife and gets them admitted in the residential school (*Ashram*) at Puttasing" Giving equal treatment to wives underlies Saora character. Inheritance of property is assigned not only on the basis of number of wives but also on the basis of equal division of land according to the number of male off springs.

Apart from well to do persons, poor persons also go for acquiring mates one after the other like our respondent Disamo in Aredul. He has a ready three wives to his credit. It is his individual persona of a fun loving and care free character. The dead Arenchu Sabara of Rebjingtal is much talked about because of his seven wives.

In the changing order, practicing polygyny is no easier as before. Many factors are responsible as a barrier in the desire of having more than a mate. A couple of youngsters have confided that they are very much interested to bring their beloved ones as their second wife but for the fear of social boycott from the Christian community. Catholics and Baptists as well, preaches in strongest terms against the practice of polygyny. Under the laws of Panchayati Raj Act, Jaganta the young man of Manengul was only able to stand for the post of Sarpanch in the election to local bodies only after one of his wife passed away of malaria. The candidature for sarpanch only allows persons with single wife to contest for the election. Implementation of laws of the state and conversion to Christianity have created a barrier in the practice of polygyny.

Capture marriage:

Getting a wife by means of capture (*dingding*) is a practice in remote past, the reminiscences of which is only found in the rarely held dialogues through Saora shamans (*kudan/ kudanboi*). During many trance dialogues attended in villages like, Manengul, Rebjingtal, Aredul, the present author has witnessed formerly deceased's talking through the shaman in trance, reflects on being a member of a bride capture party and the ensuing fight, he had to encountered on the incident. Capture marriage remained only in the from of a cultural memory in the Saora psyche.

Love cum elopement marriage:

There are ample opportunities, for young girls and boys to mix freely and share the friendship as members of a common labour cooperative team, as

members of dancing parties where they dance joke and feast together on numerous occasions. When they fall in love, relationships are developed and nurtured through time up till the marriageable age. If either of the family don't agree to acknowledge the love because of reasons like, unmatched socio-economic standing, long standing family disputes on land, accusation of sorcery or due to lack of bride price then both the boy and the girl together disappear to other village to stay at one of the relatives place. This kind of Dari (love) cum elopement marriage was very common in the past and hardly found at present. Love marriages are particularly not encouraged by girl's family for most of them have already history of giving gifts to their relatives on different occasions and look forward to compensating their own economic loss by receiving gifts in the marriage of their own childrens.. Sampana of Aredul was very unhappy about his daughter Susanti's love affairs with a boy of Dungdungar village for the above reason.

Marriage among converts:

In the present day scenario, under the influence of Christianity, Sago palm (*Ali*) or Mahua (*Aba*) is a beverage of disrepute which can only be shared by a close circle of friends away from the eyes of Christian priests and converts. Thus bringing liquor (*Pangsal*) marriage is now a cultural memory and churches serve as an outlet to develop relationships.

The young entrant of the church acquires knowledge of roman script to read the Saora Bible. Bringing wine for marriage negotiation (*Pangsal*) is being replaced by sending three letters in succession by the groom to the would be wife expressing his desire to marry. The letter is sent either through post or a common friend. Sending the proposal letter thrice is a modern replica of the old custom of Bringing (*Pang*) liquor (*sal*) thrice for marriage negotiation.

In the first letter the bride is addressed as sister (*tanan*) and the boy expresses his desire (*Isum*) to marry her. She is requested to reply back (*abyarai*) immediately (*umeng*) stating her opinion. The first letter is never replied back, to ascertain the intensity of the desire with inner implications of inviting the other two letters.

Getting the second letter in succession the girl discloses the proposal in her family which necessitates the parents to enquire about the integrity of the would be groom and his family. Information is collected regarding his financial and social standing in the village. Sometimes the priest of the church is consulted with the proposal for his suggestion.

Among the Lanjia Saoras, there is an ever growing inclination to have marital ties with the people of villages close to the road that connects the region with Gunupur town by motorable road. Going in marriage to uphill villages in the wild countryside (*jadu desa*) is now looked down as too hard a life in isolation. Giving in marriage to their daughters in villages close to the roadside gives comfort and certain advantages to the parents. At different intervals, when the

family members, friends and relatives of the bride visit the hat, Panchayat office, hospital, church or on their visit to Gunupur town, few hours of rest and hospitality in daughter's house with free meal is availed of at daughter's place and her well being is ascertained.

Considerable independence and free hand is assigned to the girl to have her own choice of the life partner. In this case parents do not interfere. But if the girl goes on denying the incoming proposals then it becomes a mental worry for the parents. It makes the parents apprehensive of elopement and an economic drain due to the loss of bride-price and reciprocal gifts.

When the third and final letter from the boy met with positive response from girl's side, the elder males of both the side gather at girl's place to discuss about the date and bride price for the marriage. Formal talks are held between the would be bride and father in law expressing their desire to enter into the relationship.

The missionary churches serve a noble purpose by conducting marriage classes. In these sessions adolescent boys and girls undergo teachings from the priests and nuns about the appropriate marriageable age, happy post marital life, sex education, period of safe motherhood. These classes enable the new couples to prevent inadvertent miscarriages and post delivery complications. Till the recent past, almost every Saora household had a record of high infant mortality rate due to marriage at a premature age, malnutrition, miscarriage of the foetus, unsafe delivery at home etc. But for the health awareness activities of Christian missionaries, the reproductive and child health care practices among the Saoras have improved considerably.

On the event of a Christian marriage, churches play a pivotal role. All the church goers of the village gather in the church on the day with the presence of priest and other church functionaries. Both the would be spouses wear ceremonial white attire. Religious sermons and prayers are held for the happy and peaceful future life of the marriage partners. A grand feast is given to the villagers and invitees.

Marriage gifts and prestations are offered to the bride by her maternal as well as lineal relatives. Villagers also give gifts. Mother's brother and father's sister's husband always give gifts as a mark of customary obligation and reciprocity. The gift items consist of cash money, brass pots, saree, paddy, steel pots, utensils etc. In this case, there is either positive or neutral reciprocity as the above relatives are obliged to give either equal or more than they had got from the host in their marriage ceremonies.

In case of a well to do Gomango's (rich man) daughter being married, her in laws look forward to have gold ornaments, brass pots, sarees, enough of food grains (Paddy), brought to their home with the daughter in law. For the bride it is a matter of social prestige and economic status to show in pursuance to the expectation of the in laws. On the other hand without much gifts and prestations, it

is shameful (*goroidagi*) for the Gomang's daughter to arrive as a bride in her in laws house. In this case the Gomang's name is discussed in a poor light.

An institution as important as marriage in the social structure of Saora society has gone through so many changes in course of its changing cultural history. When we talk of 'change' in the context of a important life cycle ritual like "Marriage" Saora had witnessed it in the form of three letters (*chiti*) being send as proposals to the bride in place of liquor and gifts. The spirit remains the same as in the olden times.

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PUBLIC DISTRIBUTION SYSTEM IN KASHIPUR BLOCK: ASPECTS OF ORGANISATION AND ADMINISTRATION

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Do we constitute the hungriest country? Perhaps various World Development Reports could enlighten us,¹ but surveys indicate that more than half the women and children in the country are undernourished. Almost half the women in the age group of 15-49 and three fourths the children are anaemic, almost a fifth of all rural households face the prospects of hunger, and 14% of all households do not get two square meals a day. High production of foodgrains, and huge quantities of buffer stocks in the godowns still do not enable access to food to the needy. The inability to buy still affects millions of our population. The Public Distribution System is supposed to insulate the poor families from the impact of rising prices of essential commodities, and help them maintain minimum nutritional standards but the steep hike in issue price of PDS commodities, the largest ever hike in fact, has made the PDS an instrument of pushing up prices of food commodities, rather than an instrument of helping the poor. The decreasing off take from the PDS due to this steep hike, has more than anything else has resulted in the huge stock pile in the FCI godowns and provides an illusion of self-sufficiency and abundance. Given the poor identification of BPL and APL families in the Country, and not the very secure grounds on which such distinctions have been made, this is a criminal betrayal.

Drought, famine and starvation conditions are being reported from many parts of the country.² The Supreme Court in a recent writ on a PIL filed by the PUCL (People's Union for Civil Liberties) has upheld the right to food as a fundamental right. The Supreme Court observed that the central and state governments had the primary responsibility to ensure the foodgrains overflowing in FCI godowns reached starving people and not wasted. The Court's anxiety was that the poor, destitute and weaker sections of the society should not suffer from hunger and die of starvation. Mere schemes without implementation were of no use. Orissa is one of the states where compliance has been sought on this.

This study centres around food security of the tribal communities, which is still an elusive chimera, and it may be concluded with a brief analysis of the same. The study has thrown light on crucial aspects of the socio-economic and socio-political situation of the tribals, which evince the long-term as well as the short-term food security situation of the tribal community.

Taking all the aspects into consideration the food security situation of the tribal community is alarming to say the least. It is the tribal people who with their resilience and their culture are able to survive in the harsh and cynical situation in

¹ Human Development Report, 'Profile of the Indian States in 1990's' NCAER, New Delhi.

² Reddy, Rammanohar, C. (2003) : Editorial, 'Right to Food', The Hindu, January 18, 2003

the southern districts of Orissa, which comprise a major tribal belt in the state. The food security situation in the tribal regions can be summed up in a few words:

The Tribal Situation: The tribal situation, needs to be considered taking into account the following:

a. The Resource Situation:

The degraded condition of natural resources, and the paucity of land, combined with the unskilled human resources within the tribal community bring the tribal economy to the brink. The tribal community on their own initiative seek various options but these give little security or long-term sustainability. The tribal communities have walked a tight rope of subsistence for centuries, and one just takes it for granted that they will continue to do so.

b. The Political Voice:

The tribal communities have a weak political voice, made worse by the lack of education, which deprives them of any measures of confidence in countering the hegemony of the upper-class elite who have entrenched themselves in the tribal regions. Despite the provisions for local governance and despite the opportunities they get because of reservations, the participation of tribal communities in decision making is very poor.

c. Government Intervention:

Government intervention has had little positive or constructive impact on the food security situation of the tribal community. Some innovative schemes and programmes have been thought of but, with imagination running amok at the time of implementation, the innovations during planning are countered by innovations for misappropriation and exploitation. This is a sad state of affairs as much can be done if there would be a real effort on the part of the government.

d. Voluntary Organisations:

Voluntary organisations in the tribal regions are a desparate lot, with no long-term rigour to get something going on the ground. Bound by the compulsions of funding and survival, they have not been able to develop a clear focus in most cases, and their efforts for tribal development are just visible, but the tangible impact on food security is hardly there. In the case of credit, the SHG voluntary organisations have had a clear impact. But, there seems to be little follow-up so that most of the SHGs created have stagnated. A few voluntary organisations have stuck their necks out and tried to ensure that the interests are brought centre stage, and much more importantly, that the rights of the tribal community are not violated. However, the backlash on these voluntary organisations have effectively

subdued the whole range of other groups who were taking up issues of exploitation and social justice.

e. Non-tribal Power Brokers:

These people continue to have a field day, reaping the maximum benefits out of any major interventions for tribal development. The failure of the IFAD Project in the Kashipur block which was supposed to look after the Human Resources Development part of the programme, presents a clear picture of development nexus in the tribal regions, that ensures that benefits of the programme will not go beyond the Block and Panchayat head-quarters.

Methodology:

The methodology of the study is participatory, drawing its information as well as core perceptions from the tribal community while probing the role of different players and stake holders. We sought information, suggestion and advice from government officials, Political leaders, V.O. functionaries and have stayed in Kashipur block listening to the voices of the people. Following the preliminary discussions it was realized that it was more important to take up a micro-study with participatory methods and approaches to get a picture of the situation of the village. The study followed the following steps::

i) Identification of the Study area:

5 villages of Kashipur block have been identified for the study from the southern district of Orissa, based on the recent reports of starvation deaths as also on the backwardness ranking of the Government of Orissa Report, titled, "Report of the Committee on the Constitution of Separate Development Board in Orissa", gave me a good referral point. Preliminary visits and consultations were taken up to identify the villages for micro study. The Local NGO in the block was consulted and also requested for support to help establish rapport. Consultation was also held with local elected representatives. All this helped to finalize the criteria for the selection of the villages.

TABLE - 1
Selection of Villages

Sl. No.	District	Block	Rank	Panchayats	Villages
1.	Rayagada	Kashipur	1	Gorakhpur	Pitajodi
2.	Rayagada	Kashipur	2	Kashipur	Pansguda
3.	Rayagada	Kashipur	3	Tikri	Bilamal
4.	Rayagada	Kashipur	4	Tikri	Jhodiasahi
5.	Rayagada	Kashipur	5	Gorakhpur	Badmribhatta

ii) Participatory Micro Study at Village Level:

Micro studies are important to understand the mechanisms operating at the qualitative level and to decipher any problem which cannot be otherwise studied effectively by large scale survey. A Micro study provides the scope for intensive observation of the factors that are active in a specific context. A large scale study tends to overlook many aspects which are location specific or situation specific. Since specificities are lost out in aggregation and standardization, a micro study gives space for all the specificities and may also give better qualitative information since careful handling of the data is possible. The field study was undertaken in Rayagada Districts of Orissa to understand the various aspects of food security and the PDS. The micro study was undertaken with the following objectives in mind:

- i. To estimate the dietary inadequacies of the household surveyed;
- ii. To estimate the extent of dependence on various sources for meeting the requirement on food grains;
- iii. To bring out the extent to which utilisation of PDS is influenced by factors like employment and earning of households;
- iv. To estimate the subsidy accrued to a household by the PDS;
- v. To assess the performance of the TPDS;
- vi. To evaluate the feasibility of alternatives to the PDS.

The Survey was conducted in October-November 2002. In the rural areas, this is the lean season, just before harvest begins. All the households are³ agricultural Labour households with a marginal amount of land.

Profile of the Habitat:

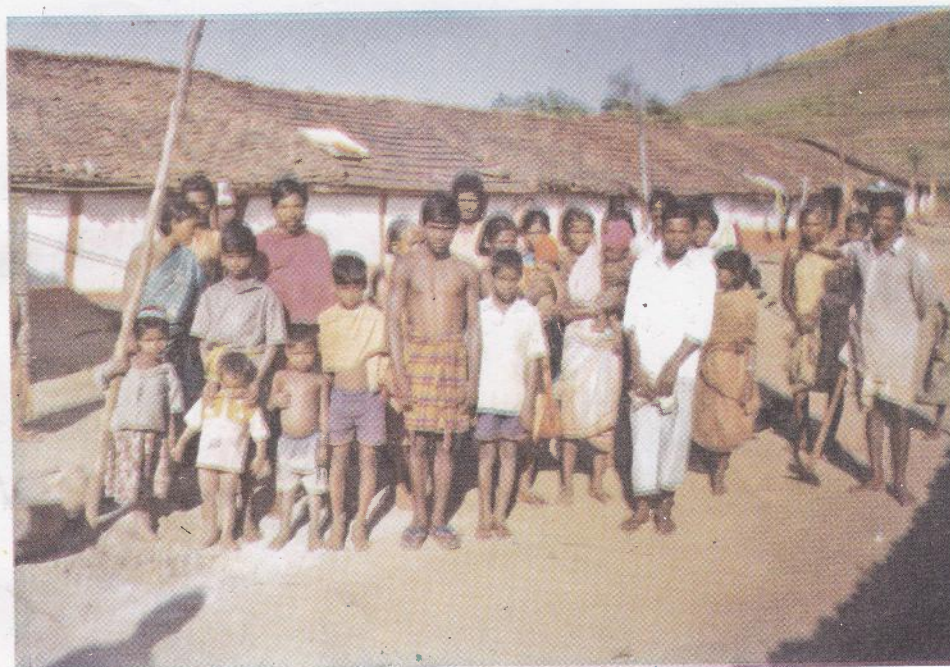
Socio-economic profile of the habitat to which the households belong would be helpful in getting more insights into the related issues.

The first village surveyed, Pansguda is in Kashipur block. Its Panchayat is Kashipur which headed by a lady Sarpanch. It is 80 Kms away from the industrial area in Rayagada. It has a population of 150 persons and 30 households, almost all of them dependent on cultivation directly or indirectly. Many households supplement their income by seeking employment in Food for Work Programme. Majority of the households are small and marginal farmers and agricultural labourers. The Fair Price Shop is in Kashipur 2km away from the village. It is run by the Gram Panchayat of Kashipur and serves the needs of 8,000 people in 15 villages. It has 2500 cards under it, of which 1700 are BPL cards. The school inspector (SI) distributes the grain which comes for the mid-day meal scheme. The

³ Agriculture Labour is a person who sells his/her Labour power to work on another Person's land and wages_ in money, kind or a share of cropin the broader sense it includes all those for whom the sale of Labour Power (in the agricultural sector is a source of livelihood (Jha, P.K; Agricultural Labour in India, 1997).



Paroja women of Pansguda village of Kashipur Block with BPL Card.



Group of Paroja men and women of Bilamal village, Kashipur Block.

Village Bilamal is in Tikri Panchayat. The population of the village is 250 persons with around 50 households. Almost all the people are dependent on agriculture. Agricultural incomes are supplemented by forest resources. The village is covered by the ITDP (Integrated Tribal Development Project). The Fair Price shop is in Tikri. The total number of ration cards under it is 1200 out of which 40 are for Bilamal village.

The village Badmaribhatta is in Gorakhpur Panchayat. It is 68 kms away from the industrial area in Rayagada. It has a population of 1,000 persons and 400 households. The Fair Price shop is in Gorakhpur, 3 kms away from the village. It serves the needs of 5,000 people in 15 villages.

The details of the study villages are shown in Table 2

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TABLE - 2

Details of the surveyed villages

Village	Area of village in Hectares and of Town or wards in sq. Kms.	No. of Households	Total Population (including institutional and Houseless population)			Total Population in age group (0-6)			Scheduled Castes		Scheduled Tribes		Literates		No. of Household cultivators	No. of Household of Agricultural labourers
			P	M	F	P	M	F	M	F	M	F	M	F		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Pansguda	62.73	30	150	90	60	35	20	15	-	-	30	60	35	15	20	10
Bilamal	7.69	50	250	140	110	44	28	16	25	15	115	95	50	30	30	20
Pitajodi	118.98	120	450	240	210	120	65	55	-	-	240	210	40	10	80	40
Badmaribhatta	-----	400	1000	520	480	350	200	150	230	220	290	260	180	70	250	150
Jhodiasahi	-----	60	280	150	130	50	30	20	-	-	150	130	70	30	20	40

Source : District Census Handbook, Rayagada 2001

Table No. 3 shows the distribution of rural households according to land ownership.

TABLE - 3

Distribution of households (rural) according to ownership of Land.

N = 20			
MPCI groups	0 acres	0-2 acres	2.5 acres
Upto 100	2	1	0
100-150	1	4	0
150-200	1	1	0
200-250	0	2	0
250-300	0	1	0
300-350	3	2	2
Total	7	11	2

MPCI- Monthly Per Capita Income Groups.

Source: Field Survey

From the Table it can be inferred that 7 households out of 20 households interviewed are without any land i.e. 35%. Again 55% i.e. 11 out of 20 households have marginal land upto 2 acres. A direct relationship between ownership of land and income cannot be established since income from land depends on other factors, the most important being irrigation. Many households depend on agricultural labour for most parts of the year. In Pansguda the wage rate is Rs. 30-35 per male worker (coolie) and Rs. 20-25 per female worker (reja). The employment days per, year are around 165 days. In all the village interviewed the wages are not fixed, the reason which makes the villagers dependent on market.

Table No. 4 shows the distribution of households according to the Source of purchase.

TABLE - 4

Distribution of households according to source of purchase.

N = 20				
MPCI groups	Only PDS	PDS & Market	Only Market	No Purchase
upto 100	0	2	0	0
100-150	0	4	0	1
150-200	0	2	0	0
200-250	0	2	0	1
250-300	0	4	0	0
300-350	0	4	0	0

MPCI: Monthly per capital income groups.

Source: Field Survey

Table 4 gives details about the distribution of households according to source of purchase. None of the rural households depend only on PDS for their purchase. While 90% depend on PDS and market, 10% of the household do not make any purchase at all.

On the basis of economic pursuit Orissan tribes have been divided into 3 categories:

i) Gatherer- hunters, ii) Gatherer-shifting cultivators and iii) Gatherer –settled agriculturists. The tribals of Kashipur block belong to the third category. As per the interview schedule of 20 individuals including male and female what is derived is that the general standard of the living of the people is very low. Average landholding is very little and avenues of employment too little. There would be only a dozen persons or so with a monthly income of Rs. 500/-. Low caste people and the Adivasis are usually unable to have rice for their food. They mostly depend on Mandia which is much cheaper. Most of them are daily wage earners and have to depend on labour. Infact labour work is the mainstay of the villagers. From 3-6 months in a year they are engaged in labour work and rest 6 months engaged in Dangar cultivation or Podu Cultivation the earnings out of which is quite erratic. Being upland and rainfed areas during excessive rainfall the soil gets eroded and it becomes difficult to do the cultivation. Though hard labour is involved, infact generation after generation they are engaged in the task to make the land ready but the outcome is virtually nothing for in an acre of land only 7 to 8 quintal of rice can be cultivated. They are deprived of an alternative for the ground land is in the hands of non-tribals, the landlord and moneylenders who are exploiting the tribals as tillers in their land. From the survey report it is found that most of the rural households do not possess land and those who have it is less than 2.5 acres. Now as far as labour work is concerned a daily-wage earner is getting a low wage which is about Rs. 30/- for a male and Rs. 25/- for a female. Thus the average land holding being very little and earning out of employment being limited a villager is hit hard from all sides. The Survey in respective villages reveals that for 165 days in a year the inhabitants lack proper food. The protein content in their food is insignificant as they occasionally get protein from jungle or domestic animals and they are unable to supplement their diet with milk or pulses. Their habit of storing dry meat for days reduces the protein content of the meat. Besides they derive very little vitamin from their diet. The male members of the Paroja Community are habitual alcohol drinkers which creates repulsion and irregularity of food habits causing damage to the body system.

The Literacy level of the villagers is responsible for bringing the socio-economic development of the village. It is assumed that if the villagers are well-educated they can be aware of the governmental policies of development, involve themselves in the implementation of the programmes sharing the benefits of the programme. Again they can participate in development administration by putting forth their needs and demands as well as by pointing out the defects of governmental machinery in the block.

In the present sample study of 20 respondents, it is found that even if the rural development policies of the government are being implemented the rural respondents remain unaware for 75% of them are illiterate and 25% of the respondent villagers have been educated upto Primary and Under-matriculate level. Thus people of the villages selected for study in the block are not well educated and Universal Primary education policy of the government has not been fully implemented.

Awareness of Citizens

The association of people with some governmental activity or programme is proclaimed as peoples' / popular participation. People associate themselves with the administration and governmental programmes through expression of opinions on the actions of the government. This type of participation must be based upon knowledge without which it becomes meddlesome. Such participation could be 'convergent' i.e., action by the public may follow the same line as that of the administration and strengthen it, or it may become divergent, i.e, the action by the public may take the form of reaction to the activities of administration attempting to guide it in direction other than those contemplated by the administrators or simply express divergent opinions on the rendering of public services.

If support or criticism is well-informed, it will neither be meddlesome nor harassing to the administrator. For this, however, a pre-requisite is the availability of accessibility to correct and sufficient amount of information to the eager and competent public. Hence, the participation of the people depends upon the level of awareness and magnitude of their interest in administration and government programmes. It is needless to say that awareness of the facilities of the programmes will not only generate an interest in them but also make them to avail benefits to a large extent, and thereby the individual participates. So a study of the awareness of the individual is necessary for the study of participation.

From the field study it is found that majority of the sample respondents 75% of them are unaware of the rural development programmes implemented through the Block. While the question "how can you come to know about the programme" was asked to the 20 villager respondents, most of them were of the opinion that political leaders are responsible for their awareness.

The Political leaders, like Ward Members and Sarpanch play the useful role of communicator to the villagers. Again the Panchayat Samiti organisation play an effective role in Block administration. As it is found that 75% of the villager respondents feel that there is a closer relationship between the political leaders and citizens than the government officials and citizens. Citizens have more trust and confidence upon political leaders. They feel that they will get more help and support from the political leaders. The villagers are still not exposed to mass media like radio, newspapers or television. Thus accessibility of the respondents to mass media is limited and official machinery is not in a position to meet the information demands to the extent desired in order to generate the required feeling that there are varieties of measures implemented by the government for their advantage

through block administration. This is taken advantage by the Sarpanch and the Panchayat secretary. In the name of the Gram Sabha and Poly Sabha in the villages, village workers representatives (VWRs) the Sarpanch or the Mukhia is alluring the benefits. The Food for work programme being one of the rural development programme of the government has not been properly implemented.

Across the villages which were studied the daily wages for agricultural workers do not go beyond Rs. 30/-, even though the minimum wage at the time of study was Rs. 42/-. In most instances even employment in government programmes women received Rs. 25/- and men received Rs. 30/-. For upto 6 months in a year, the poorer families depend on wage labour. The sources of Labour vary from agriculture employment to construction works to government employment. Despite the substantial fund being spent in employment generation programmes in the government, it is found that government employment is hardly a dependable source of income/employment for the people. In all instances that I came across, including food for work, the project was contracted to private persons, who almost inevitably cheated the people of at least half their wages. Oftentimes wage is paid in terms of grain, in which case, the labourer do not even have a means of measuring whether they have received their due or not. Complaints to the BDO hardly brought any response. Contractors have become powerful despots in the tribal regions. With subtle backing from the administration, they deal as they want with the terror stricken tribals and cheat them in the payments for the various government works. As they live in the neighbourhood of the tribal people, they also subdue the tribals with threats of sheer physical violence. There is little recourse for the tribal people in such cases, as the money power of these contractors, is enough to win over any law keeping forces that the region might have. If people do resist, and insist on higher wages than the contractor is ready to give, then, labourers from neighbouring villages are brought in to work. Any aggression on the part of the resisting villagers is efficiently quelled by counter violence.

In an agrarian society, like India, land is the primary productive asset and is the tangible expression of the economic conditions of the people. The landless, the Insecure tenants and those owning marginal plots too small to support a family constitute the poorest of the poor and in this category a large number of villager respondents fall. Thus it is inferred that land distribution in the Panchayats is still not even and because of this there is economic disparity among the villagers which has its impact on extent of participation.

Along with occupation, the income level of the villager respondent is also considered, as during these days cash money is the determinant of the economic standard of living but the economic level of the respondents shows that only 65% of the rural respondents are earning 1 800 rupees annually which shows the low economic condition of the rural people. Moreover, the economic condition of the villagers is affected by the number of family members. It is seen that in the Panchayats under study there is no question of nucleus family and Joint-family system is still in existence. From the survey it is found that the size of the family is

large, whereas 25% of the family have 5 members, 65% of the family have more than 5 members.

The findings with regard to the personal socio-economic characteristics of the rural people under study reveal that by and large they have less education, less landed property, more family members, less savings and less employment opportunity.

Introduction of PDS in Kashipur Block:

The PDS in Kashipur block is run by three bodies such as the civil supplies corporation, the department of food and civil supplies and the District Co-operative Bank.

The mid-day meal scheme and the Food for work programme is managed by the District Rural Development Agency. The distribution of food grains is done through Gram Panchayats. There are 20 Gram Panchayats in Kashipur block. The distribution part was taken over by the Gram Panchayat in 1994 to end corruption through private dealers. The TPDS was introduced in May 1997. Accordingly all households are issued APL and BPL cards. The BPL households are entitled to 16 kg food grains (rice) at half the issue price.

Some of the issues which arise relating to the working of PDS in Kashipur block are:

- i) The system is run by three departments' each independent of the other. This leads to ignorance of some important aspects and shifting of responsibility.
- ii) The enumeration for ration cards is done at the Panchayat and municipality level. There is widespread corruption leading to issue of bogus cards which finally leads to shortage in supplies.
- iii) The allotment is based on the population estimates of 1997. This does not include the increase in population and the number of cards after that. This also leads to shortage in supplies.
- iv) The introduction of TPDS has led to a situation in which the degree of uncertainty is involved in the collection of entitlements. The amount of type I error (inclusion of non-poor) is high.

The Uncertainty involved is in the form of non-availability of stocks when money is at hand and the wastage of time. It involves frequent visits to the shops and reduces the actual amount of subsidy. The probability of type I error is high since there is a general perception that ownership of a BPL card would make the owner eligible for forthcoming governmental programmes. Since the responsibility of enumeration lies with the local bodies, a corrupt local body misuses the system.

- v) The method of identifying the poor is faulty and leads to type II error (exclusion of the poor). The BPL cards are issued to a

household on the basis of a survey conducted in 1997 to identify the beneficiaries.

Some of the remarks made by the households surveyed regarding the working of PDS are given below:

- (a) There is no credit system in distribution of PDS goods. So the households found themselves in situations in which when there was money, there was no stock and vice-versa.
- (b) The PDS goods are distributed only on two days a month which is very inconvenient to the workers.
- (c) There is black marketing in sugar and kerosene which leads to shortage of supplies.
- (d) The consumers had no complaint regarding the quality of the foodgrains supplied.

The study is based on data gathered during the field visit in November 2002 in selected villages in Kashipur Block severely affected during Starvation deaths that took place between July 27 to August 28 2001. The villagers were asked questions designed to elicit information on, among other things, costs of cultivating the main crops, prices at which farmers sold their produce, Profitability of agriculture, wages for agricultural labour, number of days employment in a year, relationship between landlord and the labour force, between the farmers and the traders and between the farmers and government agencies and officials, the relationship between the poverty groups and government officials and agencies, the state of corruption, its level, modes and magnitude, migration, the implementation of anti-poverty programmes as seen from the viewpoint of the target groups: what according to them, are the defects and what did they consider to be the right way of implementing the programmes, how the Public distribution system functions, what a poor rural household consumes by way of various items of food and what they cost. A basic question posed was. How often in a year do the rural poor go hungry? And under what circumstances?

Eighty percent of the rural labour in Kashipur Block eke out a living toiling on the lands of the landlord; the land owners are the primary owners, though in the 'rural 'development' context, the lower level bureaucracy also often assumes the role of the 'ruler'. The mismanagement of PDS is cited to be the basic reason by the rural respondents for their miserable state of affairs today. Apart from it the lack of employment adds to their woes as is evident in Table-5. The total annual earnings of the labour households, for men and women separately in each of the five villages in Kashipur Block are given in Table-5. Those who depend upon wage employment –agricultural labourers, even those with landholdings who have no irrigation facilities remain hungry, sometimes entire households, at other times the female, children and, almost always, the womenfolk in these households.

The number of days when entire households or some of its members go hungry depends upon the number of employment available in the village or outside it and it is very uncertain. It also depends upon the wage levels.

TABLE - 5

Number of person-days of Employment and Average daily wages of Rural Labour Households

State	Village	No of days of wage employment available in a year for men		Average daily wages in rupees		Total no. of days for which wage employment is available in the village and outside in a year for women
		In the village	Outside the village	Men	Women	
1	2	3	4	5	6	7
Orissa	Pansguda	90	80	20	20	150
Orissa	Bilamal	60	90	35	25	150
(Being tribals, they work on other people's land as bonded labourer's except for wages employment in Government work.						
Orissa	Pitajodi	60	90	25	20	90
Orissa	Badmaribhatta	90	80	35	15	150
Orissa	Jhodiasahi	30	30	15	15	30
(Sometimes it could be Rs. 20 for some in the neighbouring market place).						

Source: Field Survey

Depending upon the areas where they live, some of the labour household possesses sheep or goat, cows and chicken. But discussion shows that only a small percentage of the poor really have such assets though at least half the households appear to possess a few hens, other assets such as cows or sheep are owned by a negligible percentage of the poor. For an overwhelming majority of the labour households, income from other assets is therefore very negligible. If it really has to be computed, then the additional income for a minority of households could not be more than Rs. 150 per household per annum on average.

Ninety percent of the households surveyed are perpetually indebted to middlemen who are merchants-cum-moneylenders demanding usurious rates of interest. Card mortgaging is a widespread phenomena. One women said that her present pledge was the fifth or sixth. The most common reason for mortgaging the card is to cover medical costs, hospitalization or tablets. Other reason mentioned was of domestic nature (i.e. to buy food). It may thus be hypothesized that mortgaging of ration cards happens especially (a) among the very poor who are desperate for cash and have nothing else to use as a loan collateral, and (b) when ration cards have some value where the people in command of cards are sure to get the ration and where the amount of food distributed per card is not negligible.

TABLE-6

Card Mortgaging in Kashipur Block, Raygada District

N = 20

		Number of households	Reason.
1.	No Card at the moment	2	Not Identified Under BPL list
2.	Card presently Mortgaged	0	-
3.	Card not Mortgaged now, but at least once during last 5 years	5	to meet the medical costs, hospitalization or tablets.
4.	Card Mortgaged long ago	2	to buy food and to cover, medical costs.
5.	Cards never mortgaged	11	-

*Source : Field Survey***Viability of Fair Price Shops:**

The Fair Price Shops (retail outlets) no longer exist in the Kashipur block and its function has been undertaken by the Gram Panchayat to end Corruption through private dealers. As per the Survey of 20 households there was an evaluation of their opinions on the origin, viability and functioning of Fair Price Shops as it worked in the past. As per the evaluation viability depends on the turnover, which satisfies the needs of consumers without inconvenience. When the Fair Price Shops functioned the two problems cited by the cardholders were: (a) Renewal of cards and (b) Getting new cards. One person interviewed in Bilamal village said that cost of getting a ration card was too high. It required not one, but probably more bus trips to the taluk supply office which is about 15 km from the settlement. Apart from the above delay in service, irregular, and inconvenient timings adulteration of commodities, and illegible writing on the ration card were some of the complaints of the interviewees. The consumers stated that one of the worst features of the functioning of FPS was diversion of supplies to the black market. The sources of diversion were stated to be: (a) Putting up false notices, saying 'Supplies out of stock', (b) under-weighing, (c) manipulating the stock by adding inferior food grains and dirt and fraudulently showing ration being issued on unutilised Cards.

In the light of the above, there was a necessity of creating a responsive administration supported by some form of consumer participation at the grassroots level. The undertaking of task by the Gram Panchayat has to an extent improved the situation in so far as now there is a (a) reduction in the number of administrative stages, (b) convenient timing has been fixed for obtaining, changing or renewing ration cards or getting ration on them, making the PDS available to the

food insecure / vulnerable sections by means of issuing PDS cards based on a door-to-door survey in each village and slum by a team of empowered official, local social/political workers (who issue on-the-spot PDS entitlement cards and supplement the PDS with regular income supplementation programme. This kind of an approach limits the operation of both the market forces and the bureaucracy.

The Panchayats and the local level participatory organizations have been assigned the function of reaching food to the poor. Their responsibility is to identify the poor, monitor their conditions and implement programmes to meet their employment and food needs.

For the effective functioning of grassroot democracy, government functionaries play a very crucial role. The Panchayat Secretary also known as Gram Panchayat Evam Vikas Adhikary (GPVA) is an important functionary and facilitates the process of democratic decentralization at the Panchayat level. The Gram Panchayat and the Panchayat Secretary are Considered as the two sides of a coin because without the support and cooperation of the Panchayat Secretary, it is difficult for the Panchayat to function. The development of the Gram Panchayat is largely dependent on the Panchayat Secretary and their functional relationship. The Panchayat secretary is involved in planning, implementation, monitoring and evaluation of plans and programmes and also provides information and guidelines to the Gram Panchayat besides maintaining various registers and sending resolutions to the Block office. External relationship between the Gram Panchayat and the Block or District administration is mediated through the Panchayat Secretary.

Thus the empirical study undertaken points out following facts:

(a) The retail outlets engaged in the supply of essential consumer goods under the overall supervision of civil supply administration projected an image of "cash-and-carry" type retailers offering the terms of caveat emptor under which need for customer service was reduced to bare minimum.

(b) There has not been any marked improvement in the customer perception of a fair price shop over a period of time. With some exceptions, these shops are viewed as public regulated outlets of essential goods which became active in times of shortages and dormant in times of improved supply.

Overall the FPS failed to establish a more stable relationship with the customers, providing a minimum package of customer service and more comprehensive range of products.

Targeted Public Distribution System in Kashipur Block:

Targeting of PDS implies that (a certain part of) controlled commodities are meant exclusively for a specifically defined target group excluding richer sections of the population as has been proposed by Bhagwati and Srinivasan (1993). The rationale behind targeting is that it would be a mechanism by which the costs of the

PDS can be contained –as only individuals who are deserving or needy are included –while the effectiveness of the intervention would increase. Now Gopalkrishana Kumar and Stewart (1992) have distinguished seven types of targeting namely:-

1. Income, where access is confined to those below a certain income;
2. Nutritional needs, as identified by diet surveys or anthropometric measurements;
3. Commodity subsidizing certain types of food, (e.g. basic or 'inferior' commodities);
4. Geography, location, subsidized food in certain areas;
5. Age, providing subsidies for all those of a certain age or status, (e.g. under five, school –age children, pregnant and lactating women);
6. Employment, through food-for work schemes;
7. Season, providing free or subsidized food at certain times of the year.

Going by the criteria's the income-wise targeting has been adopted in the Kashipur Block. According to⁴ M. Swamiaathan and M.H. Suryanarayana there is a large scope for misidentifying and mistargeting households when an income-Poverty line is used. The task of identifying the poor and selection of beneficiaries has been entrusted to local bodies like the VLWS (Village Local workers), school inspector and Primary teachers. But this has lead to both E-mistakes (excessive Coverage-those who do not deserve are nevertheless included) as well as F-mistakes (failure to include those who deserve to be included) (Cornia and Stewart, 1993). The incidence of type 11 error (exclusion of the poor) has been great due to negligence of local administration and absence of strong public action. The poor people are relatively powerless and depended on more well-to-do land lords, moneylenders or Patrons. Income –wise targeting requires independent local officials who are committed to their tasks and it requires public action and participation of the poorest people in the process of selecting the beneficiaries. But in the villages under study these preconditions do not exist and are not easily generated. In the survey carried out one of the respondent remarked "what can I do; there is no unity in our village. When I make a complaint there will be repercussions for me, so I keep quiet." The lack of public awareness, the local balance of power, bureaucracy's unresponsiveness, lack of officially organised vigilance committees to supervise the dealings, the timings of stock arrival, the quality of goods and possible black-marketing is responsible for the sad state of affairs in the Kashipur Block.

Those rural households who avail the benefits PDS in the respective villages are also at the receiving end. The PDS operating in the region is marked by its mismanagement, bureaucratic tentacles and inaccessibility which are so deeply entrenched in the overall system that it has been rendered useless. I made an effort to have a look at the ration cards of 20 respondents and found that money factor plays an important role. As most of the respondents are daily wage-earners

⁴ Targeting errors arise fundamentally because of imperfect knowledge about households characteristics 'Targeting an efficiency in the PDS; case of Andhra Pradesh and Maharashtra, May 5-11, EPW, Vol. XXXVI, No. 18, pp 1524-32.

earning a paltry sum of Rs 25/- to Rs 40/- a day depending upon the availability of work, it becomes difficult to pay Rs 76/- for basic minimum 16 kg rice for their sustenance. The other essential items of daily use like wheat sugar etc are not available. Moreover people have to go to the respective Panchayats covering a distance of about 5 km, as the goods are not distributed in the village. This causes a lot of strain both in terms of time and money. Again the biggest hurdle for the villagers is food is distributed only 2 days a month and if the villagers are deprived of money as most of them are daily wage-earners and their earnings depends on the availability of work, they are unable to lift their entitlement for that month and have to buy the food from the open market at rate double that available under the PDS. The open market rate differs from place to place. In the Bilamal village in Tikri Panchayat rice is available for Rs 8.50 per kg and Mandia Rs 5 per kg, in Pitajodi Gorakhpur Panchayat, rice is available for Rs 8/- kg and Mandia Rs 5 per kg, in Badmaribhatta Tikri Panchayat rice is Rs 10 per kg and mandia Rs 5 per kg, in Jhudiasahi Tikri Panchayat rice is Rs 6.50 per kg and mandia Rs 8 per kg and in Pansguda Kashipur Panchayat being a Block people avail more goods compared to others. In the open market they get rice for Rs 10 per kg, Sugar Rs 18 per kg, mandia Rs 5 per kg and Kerosene Rs 15 per litre.

So this is the plight of the villagers, if they are not getting the goods under the PDS they have to buy it from the open market at a much higher price. Again interviewing the rural households another fact is revealed that PDS card is given to each head of the family. A family may be large or small each family is entitled to one card. In village Pansguda in Kashipur Panchayat Surendra Majhi has 6 members in his family and he is entitled to only one ration card in which he can lift only 16 kg of rice per month and rest of his requirement he has to fulfill from, the open market. His occupation being Labour work and Dangar (Podu cultivation) his monthly income is not stable. So at the end of the month he somehow manages to accumulate a sum of Rs 76/- to buy 16 kg of rice fulfilling his other needs from the open market. Like Surendra Majhi many other respondents in other villages remarked that PDS cards to be distributed depending upon number of family members. Like, if 6 members, both husband and wife to be entitled to a ration card. Another suggestion on their part is that previous prices should be restored. Rice which was available for Rs 2/- has now increased to Rs 4.75/- and Kerosene which was available for Rs 3.75/- per litre has increased to Rs 10/- per litre. If mobile van facility can be provided it can be an added advantage.

In the Kashipur Block of Rayagada District improving food security at the household level is an important issue where a major part of the population suffers from persistent hunger and malnutrition. The PDS is bereft of fulfilling a vital role in providing food Security to the poor. This is mainly attributed to food prices and reduced maneuverability of government action in tackling the same⁵

The PDS in the Block remains universal for the salaried employees in government, registered shop owners, telephone-owning families etc. are not

⁵ Suresh D. Tendulkar, and L.R. Jain 'Economic Reforms and Poverty', EPW 30 (23), 10 June 1995.

excluded from the benefits of PDS. Again lack of proper targeting, as ration cards are issued to those households who have proper registered residential addresses and a large number of poor who are homeless and others without proper residential addresses are automatically left out of the food security system. Again the share of PDS purchases in the total purchase are very low. This implies that not only does the PDS fail to meet the requirements of the poor, it is actually operating against their interest by raising the open market prices. The casual labourers on daily wages and those without proper residential addresses, are either not using, or are not covered by the PDS. They are the worst victims of PDS, doubly disadvantaged who end up paying higher prices for their purchases in the open market. The open market price varies depending upon the quality of rice from Rs 8/- to Rs 10/- per Kg.

Another problem regarding the operation of PDS in the area is the leakage of food grains and other commodities in the form of losses in transport, storage and diversion to the free market. As per study findings, a little more than a third of the food grains and half of the edible oil does not reach the actual users of the PDS.⁶

Successful distribution of grains is also linked to public awareness.⁷ Public awareness cum local organization is missing by its absence in virtually every village of the Block I covered. Complaints by the cardholders are not taken seriously by the officials and local organizations are also ineffective in pursuing the matter and approaching the higher authorities. The lack of political commitment is further responsible for the sorry state of affairs. Gram Sabhas are not held and Political leaders like Ward Members and Sarpanchs do not play the role of Communicator to the villagers. Moreover the villagers are still not exposed to mass-media, like newspapers, radio or television. Thus the official machinery is not in a position to meet the information demands to the extent desired in order to generate the required feeling among them that there are varieties of measures implemented by the government for their advantage through Block administration. Infrastructure is a major problem in the area. The villages are not adequately serviced. Lack of political and administrative reforms have led to an ineffective and inefficient distribution network because of which PDS is unable to reach the poor and the needy. Moreover the prospects of the state in providing the safety nets to the poor on the basis of spending from its own resources seems to be bleak since it is facing a severe fiscal crunch.

The problems revealed by the rural respondents in Pitajodi village in the Gorakhpur Panchayat was that the PDS Commodities arrive late and irregular at the Panchayat. They are poorly informed, and certainly not in advance. This means that when food grains arrive poorest among the poor do not have sufficient cash readily available to purchase them. The PDS authorities transport only the

⁶ I. Ahluwalia, 'Public Distribution of food in India: Coverage, targeting and leakages; Food Policy 8(1), 1993.

II. Administrative problems with PDS have shown that in many states there is large-scale diversion of grain, wastage, low quality and unreliable provisioning [see, for ex, Mooij.]

⁷ Jos E. Mooij, 'Public Distribution as a safety Net: Who is saved? EPW 29 (3), 1994.

amount he expects to sell within one or two days. In short there is both Physical access problem and also problem of economic access, as the commodities come up at irregular intervals or not at all, and the poorest people do not have cash ready at the moment stocks arrive.⁸ Sometimes it so happens that they repeatedly visit the PDS outlet only to be told, "Stocks have not Yet arrived, "supply is inadequate". One can well understand the plight of the villagers who have to cover a distance of 6 km to reach the Panchayat to collect PDS Commodities for their survival.

An Evaluation of Alternatives

What are the alternatives that one can consider, and how would they be carried out, once they are translated into policy, the best way would perhaps be to begin with some of the stories of success, and find out their replicability in other areas. Amidst the widespread reports of hunger and migration in the underdeveloped tribal regions of Orissa, one of the districts that rarely found mention was Kondhmals, formerly part of the undivided Phulbani. In Phulbani, the forests have been, by and large, preserved and minor forests products including leaves, mahua flowers, mahua seeds, brooms, tamarind, to name only a few, provide income for the tribals for four to six months in a year. Lard Settlement in the past has ensured that each tribal cultivator gets ownership over at least one acre of land. This perhaps more than anything else has helped preserve the forests, as settled cultivation reduced the dependence on forests.

The other example is of an intervention for grain banks. In the annual calendar of the tribal economic activities, the post-harvest period is the time of much abundance, and there is a lot of expenditure on non-essential consumer items. An attempt to encourage the tribal family to save part of the harvest produce at this time, taken up in more than 1000 villages across the tribal districts of Orissa, may help village communities to develop a sustainable system of generating grain stocks which could be used by anybody within the community at the time of need. The decentralised structure of this system has effectively minimised overhead costs, and ushered in a situation, whereby the village community has taken responsibility for ensuring food security to each and every member within the village.

There is a growing feeling that without market intervention, there can be no agricultural development. But, the linkages with the market are mostly to facilitate the farmer as a buyer. Few efforts have been made to facilitate the farmer to sell his produce, and the State is increasingly trying to withdraw from its role in ensuring MSP (Minimum Support Price) for even the essential agricultural products. It needs to be noted, however, that wherever direct market interventions have been taken up to facilitate selling of produce of farmers, farm prices have stabilised, and production incentives have increased. Supporting women's groups for micro-enterprise in a constructive way also helps in improving the economy of

⁸ Jos Mooij, "Food and Power in Bihar and Jharkhand: PDS and its functioning," EPW, August 25, 2001, p. 3291.

the producers in the region as also enabling profits to be channelised back to the producer community.

Land to the tribal and other marginalised sections who are the real cultivators results in an immediate and visible improvement in quality of life. This has been the experience of Agragamme as well as other grass root NGOs. It also improves the land value as the marginalised groups have much stake in maximizing returns from their land. This is a challenge that the State must need to look into if long term food security is to be envisaged for a country.

The alternatives that we need to look at then could be listed as follows:

- 1) Decentralisation of storage, and procurement of surplus,
- 2) Subsidies in the form of godowns, local transport, and losses in storage, marketing etc, and to maintain prices at the affordable rates,
- 3) Support to women's group in the form of training and subsidies to facilitate decentralised PDS and
- 4) Ensuring entitlement and resources to the landless and the marginal and small farmers.

Food security has become a new strategy for development planners. There are formula, scheme and calculations for food security. But in the tribal regions it is important to understand the real causes behind the food insecurity. There is a substantial difference between what the State has to offer, and what local people might actually need, and more than five decades after independence, food security is still an elusive chimera that dangles far away for the millions in this country, even as food stocks rot in over stocked godowns, and spill over to the outside to be covered by black plastic, resembling mounds of the dead!

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