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EDITORIAL

This is the 55th Volume of ADIVASI. With this volume the bi annual research journal of the institute becomes 61 years old. Soon after the independence, the Institute took birth in 1952 named as Tribal Research Bureau (T.R.B.) and its research journal took birth in 1955 when its inaugural number saw the light of the day bearing the name "Orissa Tribes Research Journal". The First Editor and Assistant Editor were Shri Gananth Das, I. A. S. and Shri Ajit Kishore Ray, an Anthropologist of the institute. Thereafter, the journal has marched ahead for six decades and currently, it is considered as one of the oldest of its kind in our country. The Editors, the Editorial Board and the Scholars who laid its foundation on which present super-structure rests deserve our sincerest obligations. To keep a journal alive and to publish its numbers regularly are only possible with the goodwill of all concerned.

Though we have every reason to be confident, we cannot afford to be complacent, for in spite of some achievement, much more remains to be done. We call upon our contributors, both actual and potential, to take note of the fact that though it might have been difficult to launch "Adivasi " upon its arduous course it is still more difficult to keep it on as a going concern. It will be possible to sustain the venture only with their continued support and interest which we solicit through these lines.

In the editorial of the 33rd volume (No.1, March, 1993), Prof. K.K. Mohanti, Director of the institute wrote, "The journal which primarily devotes its attention to unraveling the society and culture of the Scheduled Tribes and Scheduled Caste communities has assumed a crucial status in the context of development intervention in these communities during the post-independence period. If the journal would cater to the needs of the policy-makers, planners, development practitioners, evaluators and scholars, the purpose would be served. The Editor sincerely wishes to receive unstinted co-operation from all concerned to cherish a better academic status in this intellectual endeavour. As our country is determined to integrate the weaker sections of the communities in the national mainstream of culture the journal of this kind is bound to play an essential role in documenting the fading outlines of their rich cultures and in providing clues for future policy implications." The journal lives cherishing the fulfillment of these objectives.

In the present issue of Adivasi (Vol. 54, No. 2, December 2015), we are presenting 09 empirical papers based on the rich experience and sincere efforts of eminent and emerging research scholars.

The first paper contributed by Prof. Jagannath Dash and Dr. Laxman Kumar Sahoo discusses the “Cognitive Aspects of Indigenous Knowledge System: An Anthropological Study of the Bhunjias in Odisha” focusing on the Bhunjias who live in and around Sunabeda Wildlife Sanctuary located in Nuapada district of Odisha underscoring the fact that Bhunjia indigenous knowledge system has had a cognitive structure to conceptualize and perceive nature and culture at cognitive and empirical level.

The second one titled “Ethno-Veterinary uses of Medicinal Plants: A Study among the Tribal Communities of Jajpur District of Odisha” comes from Dr. Kedarnath Dash. It presents the findings of an ethno-veterinary study carried out for documentation of 46 species of medicinal plants used by the tribal communities of Jajpur district for the treatment of various diseases and disorders of their livestock. It emphasizes that their traditional healers possess tremendous knowledge in preparing herbal formulation of medicinal plants and that traditional ethno-veterinary healthcare costs very low that helps the poor tribals. Considering the fact that the useful plant species and the dependent ethno-medicinal system is declining under the impact of deforestation and modernization, there emerges an urgent need for documentation of ethno-veterinary practices for the conservation of such precious indigenous knowledge before its extinction and for comprehensive analysis for validation of these plant preparations for veterinary treatment.

The third paper i.e., “Family Life Cycle Mileposts and Associated Rituals among the Paudi-Bhuyans: An Empirical Study in West Odisha” is authored by Dr. Harapriya Samantaraya. This empirical paper gives an account of the traditional family life cycle mile posts and the associated rituals of the Paudi Bhuyans in order to understand such events and the associated beliefs and rituals and their social recognition. It describes how these events are laden with many cultural transactions and assume differential importance in renewing group solidarity mostly confined to their respective kin groups. It infers that these traditional events are ritualized in presence of the kin groups to renew the normative behavior. However, due to external influence including that of modernization the social solidarity of the tribe is weakening and there is a gradual erosion of ritual importance of family life cycle events.

Next comes the analytical paper i.e. the fourth one titled “PVTG Habitat, Habitation and Habitat Rights: A Contextual Analysis” contributed by Dr. Mihir Kumar Jena, Dr. Padmini Pathi and Prof. (Dr.) A.B. Ota. It discusses important issues and concerns relating to the habitat rights of the Particularly Vulnerable Tribal Groups (PVTGs) in the context of the historical Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (FRA) in view of the ambiguities and gaps in understanding of the purview of habitat rights as enshrined in the Act. The authors have made an attempt to build a contextual logic on the broader understanding of the term ‘habitat’ and its

implications on determining the habitat rights of the PVTGs. They have tried a cross referencing to lay out the purview and domain of an anthropological understanding of habitat and habitations for its applicability in determining habitat rights of PVTGs with the view that the term 'habitat' has a broader social, cultural, political, ecological and spiritual context and that the folklore and ethnographic accounts of PVTGs should be important instruments to be used while delineating the customary habitat and the concept of ancestral domain may also appear relevant in this regard.

The fifth paper on the documentation and analysis oral folk traditions of a fascinating tribe, Juang styled as "A Poetic Evaluation of Juang Riddles: Preservation of the Intangible Culture" is produced by Shri Ranjan Pradhan. According to the author the Juang riddles being unique manifestations of their rich cultural heritage are always new and lively enriched with the element of competition, not enmity. There exists only love and friendship in their songs.

The sixth paper named "SIDU-KANHU: The Santal Freedom Fighters" authored by Shyam Hembram narrates the historic event of the stiff resistance of the Santal tribe which they call "Santal Hul" against the tyranny, injustice and exploitation of the colonial rulers i.e., the East India Company and their agents under the captainship of youthful, dynamic and charismatic leaders known as Sidu Murmu and Kanhu Murmu of Jharkhand. They fought bravely and valiantly till the last man and laid down their lives forcing the rulers to change their policy for the tribals.

"Shifting Cultivation : Looking for an Alternative in the case of the Lanjia Saora of Serango" is the seventh paper based upon empirical research contributed by Shri S.C. Mohanty. He has emphasized that this mode of cultivation that is said to cause environmental degradation is being resorted to by the hill folks i.e., mostly the tribals, dwelling in the interior mountainous and forest tracts, in India and elsewhere in the world where enough plain lands are not available for settled cultivation. It's continuation across generations since time immemorial has made it a way of life for them. Whatever may be the attachment of the tribals to this enterprise, the magnitude of damage caused by it to the environments and ecosystem don't justify its continuation. The search for a viable alternative is going on and experiments have been made and are being made. In this regard, he has cited the case of the Lanjia Saora of Serango in Gajapati district of Odisha.

Dr. Padmini Pathi's paper titled "Biodiversity in Crops and Heritage Agriculture Systems of Koya" is the eighth paper reflecting upon the traditional agriculture of the Koya tribe of Malkangiri in a perspective of biodiversity in crops. It presents the unique and distinct aspects of Koya agriculture with precise documentation of traditional crop varieties, especially that of paddy varieties, those are still preserved by the community through ages.

It argues that there are elements in Koya agriculture that set standards for being considered for documentation under Tribal Heritage Agriculture Systems.

The ninth paper named "Indigenous Knowledge and Medicinal Practices among the Santals of Dhenkisal Hamlet of Kalinganagar, Jajpur District, Odisha" has been contributed by Ms. Gulsan Khatoon, a young Anthropologist. It presents the empirical study findings reflecting the indigenous healing system of the Santal tribe, by exploration of different indigenous methods of diagnosis and treatment of diseases, identification of specific plants used in medicine and cure of diseases, emphasizing to document their perception of illness and disease by probing through their system of disease classification.

I sincerely thank the contributors of articles to this issue of the Adivasi. At the same time, I thank the colleagues and staff of the Institute for their ungrudging help and cooperation in bringing out the volume. My sincere and heartfelt thanks are due to Shri S.C. Mohanty, OSD (Research) and the Associate Editor of Adivasi who, like the previous years, has worked hard for bringing out this volume. Without his dedicated efforts this issue would not have seen the light of the day.

We shall be happy if these papers cater to the need of its esteemed readers with their varied interests in ethnic groups and several aspects of their society, culture and development. I earnestly request all our readers to enlighten us with their valuable suggestions for bringing further improvements to this age old research journal.

31st December 2015,
BHUBANESWAR.



(Prof. A.B. Ota)

Cognitive Aspects of Indigenous Knowledge System: An Anthropological Study of the Bhunjias in Odisha

Jagannath Dash ¹
Laxman Kumar Sahoo ²

ABSTRACT

Indigenous knowledge system has several dimensions of study. It is very much connected with the human culture, surroundings, environment, material culture, technology and all most all socio-cultural institutions of the community. Therefore, knowing indigenous knowledge system of a culture is equivalent to the understanding of the total culture which in the next step may help us to plan appropriately for the development of the concerned community. Here in this paper, besides several aspects of indigenous knowledge system, attempts have been made only to document and understand the cognitive aspects of indigenous knowledge system of the Bhunjia community live in and around Sunabeda Wildlife Sanctuary located in Nuapada district of Odisha. The paper underscores that Bhunjia indigenous knowledge system has had a cognitive structure to conceptualize and perceive nature and culture at cognitive and empirical level.

Key Words: Bhunjia, Cognitive Anthropology, Indigenous knowledge System, Sunabeda

Introduction

Cognitive anthropology has several dimensions with specific reference to traditional and modern society. As Barfield (1997 : 67) has mentioned “cognitive anthropology is the study of the relationship between mind and society”. Further he has classified that, “traditionally, cognitive anthropology examines cultural knowledge in terms of its organization and application in everyday activities such as classification and

¹ Professor (Retd.), Department of Anthropology, Utkal University, Bhubaneswar

² Lecturer, Department of Anthropology, MPC Autonomous College, Baripada, Mayurbhanj, Odisha. Email: laxman.sahoo2@gmail.com

making inferences" (ibid). In nutshell, cognitive anthropology is connected with ethno science or ethno semantics where a detail classification along with meanings of various socio-cultural activities, celebrations is focused. Such a type of folk conceptualization in its analysis, project the folk conceptual category for a clear and better understanding of the society, culture and environment. Common people in a traditional society are not so much aware of the modern science; they need to understand each and every aspect of the surrounding otherwise the maintenance of livelihood is impossible. For such traditional people tradition is most powerful and knowledge is the power. People without any scientific knowledge can tell about the surrounding world in no less scientific manner. They see the surrounding with an ethnic vision which is set by the culture and interpret them in a socio-cultural manner so that their cognitive aspects are popularly denoted as ethno linguistics, ethno semantics, ethno botany, ethno zoology which all together tell about people's scientific perception know as ethno science. However, the basic ingredient of cognition is knowledge which all preliterate people achieve by virtue of enculturation and socialization.

Objectives

The paper has the following objectives:

- i. To examine the concept cognitive anthropology and the studies relating to the cognitive aspects of indigenous knowledge system in the domain of anthropology.
- ii. To highlight a least known Particularly Vulnerable Tribal Group (PTG) of Odisha uniquely dominated the entire Sunabeda Wildlife Sanctuary.
- iii. The paper from empirical finding from Bhunjias of Sunabeda Wildlife Sanctuary of Odisha documented and explains the cognitive aspects of indigenous knowledge system from anthropological point of view.

Methods and Techniques of Data Collection

The data for the paper have been collected from primary sources. In order to collect primary data from different categories of informants like knowledge specialists, key-informants and elderly persons, the paper adopted observation, synchronic and diachronic approaches in which the socio-cultural background and importance of the cognitive aspects of indigenous knowledge system of Bhunjia community have been reflected. Sets of interview guidelines were developed to collect in-depth qualitative data from different knowledge specialists and other knowledgeable persons of the Bhunjia society. The villages covered under primary data collection from the Chuktias are Sunabeda, Salepada, Junapani and for cross checking from Chindas in the villages namely Deodara, Sirli and Majhagaon.

Study Area and People

For the sake of documenting and understanding cognitive aspects of indigenous knowledge system the authors have selected a PTG (formerly called Primitive Tribal Group and now Particularly Vulnerable Tribal Group) of Odisha, mainly Chuktia Bhunjia living in the Sunabeda plateau of Nuapada district. Besides their primitiveness, Bhunjias are also known for the preservation of their traditional culture which has been possible due to the absence of a fair weather road to this area from the district headquarters. On one side they belong to a remote corner of Odisha and on the other they live adjacent to Chhattisgarh border. The area of study, Sunabeda plateau is also declared a Wildlife Sanctuary and is about 50 km. from the district headquarters at Nuapada. The Sunabeda Wildlife Sanctuary named after Sunabeda, a well known tribal village situated more or less at the centre of the plateau. The area includes the entire plateau along with the adjoining forest for which it is named as Sunabeda Wildlife Sanctuary.

Sunabeda Wildlife Sanctuary is located in the North-West corner of Nuapada district (Ex-Kalahandi district), adjoining the interstate boundary between Odisha and Chhattisgarh and situated within 20-24'-00" to 20-44'-00" latitudes North of equator and 82-20'-0" to 82-34'-42" longitude East. The entire Sanctuary area is constituted of only one division that is Sunabeda Wildlife Division with its headquarters at Nuapada and comes under Bhawanipatna Circle. The Division has three Ranges i.e. Komna Wildlife Range with headquarters at Komna, Nuapada Wildlife Range with headquarters at Nuapada and Sunabeda Wildlife Range headquarters at Sunabeda (Sahu & Dutta, 2010:4).

The Bhunjias are socially grouped in to two major sections namely, Chinda and Chuktia. Whereas the Chindas are confined to the plains and found to be acculturated by the local people, the Chuktias on the other hand are living in the remote forest areas having little contact with the outside world. However they are well connected with the neighbouring tribal communities like Gond, Kamar and some other backward people. Though they are not so much acculturated, the people through market, Government officials, and business people and due to the impact of mass media have changed to some extent. In this respect it is emphasized that when the state of Indigenous knowledge is least or little affected, it should be properly documented through research. Thus, the Bhunjias are the right choice for the present research.

Anthropological Studies on Cognitive Aspects of Indigenous Knowledge System

As regards the importance as well as relevance of cognitive aspects of indigenous knowledge system, several eminent scholars and authorities have also created ground long ago by their critical discussion and in-depth vision and have made certain substantial contributions on the issues of indigenous knowledge studies. Some such scholarly works are *Savage Mind* (1962) by Levi-Strauss, *The Mind of Primitive Man* (1938, 1955) by Franz

Boas, *Primitive Man as Philosopher* (1957) by Paul Radin, *Primitive Classification* (1963) by Emile Durkheim, *Cognitive Anthropology* (1969) edited by Stephen A Tyler, *Local knowledge* (1983) by Clifford Geertz. Franz Boas has very clearly explained the progressive mind of the primitive man which from time to time contributes the progress of the technique and intellectual work as he continued to explain “every new technical invention is an addition to earlier achievements” (1938:199). Taking examples from Eskimo, Bushmen, Australians and Veddas he has given ample citations about the perfection of the technique and progress of intellectual work. Boas has also given the importance of society and language which play dominating roles to develop primitive thought along with the cultural tradition. He mainly justified the need based knowledge through the development of primitive thought in a primitive mind. The implications of primitive are very much practical and directly connected with the natural environment. On the ground of Franz Boas, Paul Radin developed the basic approach in his work i.e. “*Primitive Man as Philosopher*” in 1957. He designed his total work with regard to the primitive views on the philosophy of life in conservation, plasticity, the context of gender, tragic sense of life, mysticism, symbolism, human personality, analysis of reality, the nature of god and the ultimate tendencies of man in a very critical way. Though the purpose was never to explain indigenous knowledge system exclusively, he has utilized all possible ideas (empirical) to define the philosophical ability of man in a socio-cultural context. The thought and tendencies of man have been very much crucial from the view point of his socio-cultural existence. All such philosophical nature of man, as discussed earlier, greatly contributed to the indigenous knowledge system.

In the book “*Savage Mind*” (1962), Levi-Strauss has attempted to reach into human mind at the structural aspects of unconscious mind and very appropriately as an anthropologist he took a linguistic approach than psychological. It is extremely note worthy that, to him, the basic property of human mind is to think and resulting systems are by no means simple. He also considered that the dichotomizing of human mind is of structural nature. He further said that “the most important activity of human mind is to organize the raw materials of experience provided by history and environment, but the laws of organization are common to all human beings” (Upadhyay and Pandey, 1997:294). In the overall assessment it is learnt that why in the discussion about “*Savage Mind*” Levi-Strauss has not considered the primitive mind rather the universal mind of human beings. Durkheim and Mauss in “*Primitive Classification*” (1963) have gone a little further to the cultural classification of the surrounding, universe, as an essential social phenomenon where the efficiency of primitive mind has been spelt out very rigorously. Their discussions about primitive classifications are directly connected to the knowledge formation in a traditional or indigenous society. Classification as such requires thorough understanding of a situation or matter and in this classic work both Durkheim and Mauss has taken up a seminal approach to express the understanding of Eskimo, Bushmen and Australians’

acquaintance with their respective cultural as well as natural system in order to present their respective indigenous system of classification. In cognitive anthropology edited by Stephen A. Tyler (1969) various accounts on cognitive system, folk taxonomy, structural analysis, semantics, social relations, cognition and componential analysis of kinship terms by several celebrated authorities out of which the context and variation by Tyler and "A little knowledge" by Moer Man are quite note worthy for the context of this research. Such valuable presentations mostly explored the knowledge and tradition of the primitive man through componential as well as structural analysis; their intrinsic values for various applications in anthropological research have been established.

The approach of Clifford Geertz (1983) under the title "Local knowledge" has been the most recent and original thinking in the field of knowledge research. Emphasizing on the natives' point of view, common sense as well as art as cultural systems and ethnography of modern thought, Geertz has discussed the contribution of local knowledge to the knowledge system of culture which he has called local knowledge. He has mostly based his thought and work on the Indonesian data.

Cognitive Dimension of Time and Space

Like all other human groups around the world Bhunjias have their own system of conceptualizing self and surroundings. On normal occasions people talk in a loose voice, but when we analyse peoples thought, action and behavior together with specific reference to a critical issue and query, then comes something as a cognitive explanation. All common Bhunjia persons even though use cognitive factors unknowingly or unconsciously, most of the time the specialists talk in a conscious language with reference to cognitive and socio-cultural dimensions. Therefore, in all societies common people may use cognitive languages but only the specialist can interpret them very well. First of all, let us start with the dimension of time and space as explained in Bhunjia culture.

1. In a Bhunjia village and its surrounding, all the used and unused spaces are categorized into two categories, namely (a) Sacred (*sudh*) and (b) Profane (*asudh*). Under the first category usually village shrine, kitchen, all hills, water sources and sky (*saragpur* and *bhagabanpur*) come. Under the second category (*asudh*) living room of the house, unused land, *yamapur* and *patalpur* come. Bhunjias very strictly maintain the sense of purity and pollution and accordingly they distribute as well as classify their space within the family and outside. Besides this they also classify the Bhunjia girls and women as pure beings in comparison to the males.
2. In their day to day living conditions, though the time factor is considered with specific reference to natural time, it has socio-cultural expressions as found below.
 - (a) The Bhunjia time starts with sunrise. It has several symptoms (*janatri*) as mentioned below:

- i. When the cock crows (*basato*)
 - ii. When porcupine sounds (*Jhinkaria*)
 - iii. When the sparrows chatter
 - iv. When the cow sounds and allow the calf to take milk
 - v. The crow crows
- (b) During summer when the sun sets
- i. The reddish rays of the sun directly signify it.
 - ii. Birds return to their nests.
 - iii. Domestic animals return to their shed.
 - iv. During the rainy season around the setting sun the frogs make sounds.
 - v. The leaves of the *amla* tree get closed.
 - vi. The leaves of the *chakunda* also similarly closed.
 - vii. The flowers of ridge guard blossom.
 - viii. As in summer the birds and domestic animal return home.
 - ix. But in winter the porcupine makes sound throughout night and as usual the birds and domestic animals return home.

The Bhunjias has conceptualized the day and night very critically and systematically as mentioned below.

- i. Pagur phuta - The twilight in the sky before the sun rise.
- ii. Dina Ningati - When the sun rises completely.
- iii. Dina Tutarek - When the sun rays fell up on the front veranda of the house (up to the height of cultivator's stick).
- iv. Lai Thek - Sun rays from the sky above 30 feet high on the ground.
- v. Basi Khaya - When the people take their morning food around 9 a.m.
- vi. Sig Najan - the noon.
- vii. Tarka Tarki - Afternoon when sun comes down from the mid position.
- viii. Din Basati - End of the day marked by setting of the sun.
- ix. Jhum Jhum Andhar - Dawn of the evening when one can identify a person nearby.
- x. Cherati Rait - Around 9 p.m the night, when everybody has gone to bed.
- xi. Barabar Rait - Mid night.
- xii. Uttarti Rait - After the mid night around 1 a.mt.
- xiii. Golehaa Jhinkiria (*porcupine sounds*) - around 2-3 a.m night.
- xiv. Kukuda Basati (*fowls crows*) - Around 4-5 a.m. morning.
- xv. Jhum Jhum Andhar - Around 5 a.m morning when one can recognize faces from close distance.

Besides the above classification of time and space, there are some individual terms used for day to day conversation among the Bhunjias. They are mentioned below

- i. Kulup - Pitch dark, when once cannot see anything.
- ii. Ukia - Light; also refers to torch, lamp, etc.

- iii. Ujud – Specially refers to the lights of sun and moon.
- iv. Andhar – Darkness.
- v. Bihinia – Morning.
- vi. Rait - Night.
- vii. Din – Day.
- viii. Saanj – Evening.
- ix. Majhangn – Midday.
- x. Ek Pahar – Afternoon.

Bhunjia classify their day time as well as night time into two categories as mentioned below.

Day

- i. Bininia Pahar – Morning time from 6 a.m to noon.
- ii. Ek Pahar – Afternoon, up to sun setting.

Night

- i. Rait – From 6 p.m. to mid night (12 hours).
- ii. Utarti Rait – Midnight to 5 a.m morning.

There are few words in Bhunjia daily usage which refer to days and seasons and some crisis situation. Bhunjia divide the year into three seasons whereas in Odia culture we consider six seasons in a year. In the following manner they may be discussed.

Time (*ber*)

- i. Day – Din, ii. Week – Hapta, iii. Month – Mahina, iv. Year – Bachhar,
- v. Bright Fortnight – Ujjal pak, vi. Dark Fortnight – Aandhar pak

Seven Days of a Week

- i. Moonday – Sambar
- ii. Tuesday – Mangalbar
- iii. Wednesday – Budhwar
- iv. Thursday – Girnar / Laxmibar
- v. Friday – Sukhbar
- vi. Saturday – Sanichar
- vii. Sunday – Etwar

Season (*rit*)

- i. Rainy Season – Pani din / mahina
- ii. Summer Season – Gham din / mahina
- iii. Winter Season – Sit din / mahina

Other Related Terms

- i. Cloudy Weather – Mus Musuri din

- ii. Rainy Day - Badrahi
- iii. Rain with Storm - Jhed pani
- iv. Thunder - Badar garjata
- v. Lightning - Ij
- vi. Rainbow - Inglaet
- vii. Cloud - Badar
- viii. Dew - Osh
- ix. Fog - Dhundukura
- x. Air - Batas
- xi. Famine - Makar
- xii. Flood - Boaed
- xiii. Dry River - Sukha
- xiv. Season - Rit

Indigenous Methods of Measurement

In Bhunjia indigenous knowledge system all kinds of measurements take a very interesting dimension.

Measurement of Distance

- i. Measurement - Nap
- ii. Distance - Dhuria
- iii. A person at a distance of listening to ones Voice - Haink.
- iv. At a double distance of hearing a Voice - Dui haink
- v. Accordingly Dui haink - One Ap
- vi. Two Aps - One Kosh

Other Forms of Measurement

- i. One Meter - Ek Harei
- ii. Height - Deng
- iii. Approximate - Surta
- iv. Depth - Gahir
- v. Thickness - Mot
- vi. Thinness - Pattal
- vii. Length - Lamb
- viii. Breadth - Chakar
- ix. One Arm - Bahali elak
- x. Thick as Finger - Angthi elak
- xi. Thick as a Blade of Grass - Sirra elak
- xii. Thick as a Stick (*used for stitching leaf plates*) - Sink elak
- xiii. Thick as a Leg Bone (*Tibia & Fibula*) - Pindra
- xiv. Thick as a knee joint Bone - Jang elak
- xv. Thick as a Body - Gagad elak

- xvi. Thickness from Elbow to Elbow at the time of folding Hand – Anoaka elak
- xvii. Girth of twelve Hands – Ek nahana elak
- xviii. From Thumb finger tip to Little finger Tip – Ek bhithaik
- xix. Height up to two joints of Heel – Ghon ntha had
- xx. Height up to Mid part of Knee Joint – Pindara ek
- xxi. Height up to Knee Joint – Mandla ek
- xxii. Height up to Thigh – Jaanghak ek
- xxiii. Height up to Waist – Kanhia ek
- xxiv. Height up to Abdomen – Potla ek
- xxv. Height up to Chest – Chhayi tek
- xxvi. Height up to Neck – Tondara ek
- xxvii. Height up to Mouth – Muhun Puchaka ek
- xxviii. Height up o Head – Mudak / Mund
- xxix. Height up to tip of raised Hand – Hantha chapad
- xxx. Height up to the tip of a Bamboo (*Approximately 30 feet*) – Lai thek
- xxxi. Length of a foot – Ek paon
- xxxii. A Bunch of Fruits / Flower – Jhompa

Measurement of Grains

- i. One Handful of Paddy Stalk – Ek mutha
- ii. Ten Mutha – Ek kadpa
- iii. Three Kadpa – Ek onga
- iv. Six Onga – Ek penda
- v. Handful of Grain – Ek muthe
- vi. Grains on the Palm – Tho van
- vii. Grains on the Two joint palms – Anjra
- viii. One bunch of Sticks – Peta
- ix. One bunch of Greens / paddy stuffs – Bail
- x. One bunch of Fruits (*banana*) – Ghada
- xi. Of less Amount – Itki
- xii. Of more amount – Khubyea
- xiii. Distribution of share – Banta
- xiv. Of some Amount – Duthun
- xv. One Shaft full of materials – Ek kawed
- xvi. One bunch of materials if lifted by one hand – Chhot pendi
- xvii. One bunch of materials if lifted by two hands – Badka penda
- xviii. Food grains equivalent to 75 grams – Ek boda
- xix. Two Bodas – Ek Gidha (*also for liquid*)
- xx. Two Gidhas – Ek shoal
- xxi. Two Sholas – Ek Ada (*also for liquid*)

- xxii. Four Adas – Ek katha
- xxiii. Twenty Katha – Ek khaandi
- xxiv. Twenty Khaandis – Ek gada

Measurement of Counting

Always Bhujias count up to 20 after which they count as multiplication of 20s.

- i. Counting – Ganati
- ii. One – Gotak
- iii. Two – Duthan
- iv. Three – Tin than
- v. Four – Chan thun
- vi. Five – Panch thun
- vii. Six – Chhae thun
- viii. Seven – Saat thun
- ix. Eight – Ath thun
- x. Nine – Na thun
- xi. Ten – Das thun
- xii. Eleven – Gyara thun
- xiii. Twelve – Bara thun
- xiv. Thirteen – Tera thun
- xv. Fourteen – Chauda thun
- xvi. Fifteen – Pandara thun
- xvii. Sixteen – Sola thun
- xviii. Seventeen – Satra thun
- xix. Eighteen – Athra thun
- xx. Nineteen – Anaish thun
- xxi. Twenty – Bis thun
- xxii. Twenty Numerals – Kodi

Bhunjias after counting up to 20 make it a single unit and there from every unit which includes 20 numbers are counted unit wise. They usually keep one small stone for each unit of 20s (*kodi*) and it continues in 20s or *kodis* till the counting of all numbers are completed. In this way the number of cattle and other material belonging are counted. For counting various units of food grains they also adopt similar counting method. A family or household living room, cowshed and kitchen are counted as one unit. Thus, the knowledge of numeral counting among the Bhunjia go up to 20 and never beyond it.

Folk Astrology

Bhunjia as a traditional community and Chuktia Bhunjias are accorded primitive status which speaks of their adherence to various traditions, customs and beliefs. Mainly because they live in nature and depend on supernatural entities for their day to day

activities, for achieving any success or averting any misfortune, foreseeable danger and failure, they maintain several folk astrological procedures. Very substantially such folk astrological practices influence their daily and special activities throughout the year. All such folk astrological practices add to their indigenous knowledge system greatly. Mentioning below are some of the folk astrological beliefs which Bhunjias apply with great emphasis.

1. For all kinds of ritual and economic activities if they are started new, always the priests are consulted to find out a suitable date for starting the activity. Usually they consider the period of dark fortnight (*aandhar pak*) as inauspicious. If one starts any important activity during this period it is believed to meet with failure. Similarly doing any activity during bright fortnight (*ujjal pak*) one experiences success. Similar beliefs are also there among the neighbouring tribal and nontribal communities in and around Sunabeda plateau.
2. In Bhunjia society, people always prefer solar and lunar eclipse days for the starting of the important learning processes like hunting, magical practices, collection of herbal medicines, singing of songs etc. This belief has a folk tale behind it. According to the tale, one day a Bhunjia male went to a very rich cobbler in order to borrow some money for the marriage ceremony of his son. As the cobbler did not know him he refused to give him the loan. Then his wife went to same cobbler for getting a loan. The lady was very uncomfortable for the foul smell of the hides the cobbler was using. Because of her repeated appeal lastly the cobbler lent her some money keeping sun and moon as the witness. But after the marriage of the son, the Bhunjia couple can't pay back the loan. Therefore, the cobbler cut sun and moon who are the witness to the incidence. When sun and moon were unable to effect the repayment of the loan the cobbler covered both of them by cow hide. Consequently, the whole universe suffered due to the absence of light. As a result, it is customary practice that all the Bhunjias on the solar and lunar eclipse days bring out some costly utensils like brass, pots and offer them to sun and moon towards the repayment of loan amount, so that he cobbler will remove the hide cover from them and the universe will be brightened by light. All Bhunjias strongly believe that mainly because they repay the loan amount through brass utensils, the eclipse time period gets over within a little span of time. For this reason both the eclipse days are considered to be auspicious days and all the Bhunjias prefer to start new activities on these two days only.
3. While planning for starting any new work Bhunjias always consider a good or auspicious day to begin with. All the seven days in a week are not considered auspicious for all purposes. Starting from Monday to Sunday all the seven days are having different status position. This may be cited in the following.

- i. Monday (*Sambar*) – A good day for starting all kinds of activities.
 - ii. Tuesday (*Mangalbar*) – A very powerful day, therefore people worship goddess on this day to get power.
 - iii. Wednesday (*Budhwar*) – Considered to be a day of getting intelligence, therefore people prefer to start learning process on this day.
 - iv. Thursday (*Gurbar*) – Considered to be the day of goddess Laxmi, therefore people never sacrifice animals on this day.
 - v. Friday (*Sukurbar*) – Believed to bring all kinds of happiness and pleasure.
 - vi. Saturday (*Sanichar*) – Considered inauspicious for all kinds of activities.
 - vii. Sunday (*Etwar*) – Considered to be a good day for the collection of herbal medicine from the forest.
4. Bhunjias are very much serious about omens and other incidents for starting a new activity. In some way it is found to be superstitious, but the Bhunjias strongly believe them and conduct their activities accordingly. Such omens are of different varieties, namely by knowing about them in the dreams. Some dreams are known to be quite auspicious and others, inauspicious for any achievement. Besides the witting of good or bad omen in the dream there are also other varieties of good/bad omen in the matter of starting for journey. By observing various good or bad omens while starting from the home, people forecast their degree of success or failure. Even though people are quite emotional while following them accurately, they maintain a belief on such folk astrological beliefs. Some of them are presented below for reference.

Beliefs Related to Dreams

- i. If someone dreams fire and burning of house, it is believed to be a sign of noise.
- ii. If someone dreams breaking of iron, it is believed to hear death news.
- iii. If someone is dreams a mountain, it is believed to meet an officer.
- iv. If anyone dreams pure water, it indicates arrival of some relatives to house.
- v. If someone dreams the muddy water of rainy season, it is believed there will be crowd of people.
- vi. If someone dreams ripe mango, banana, it is believed that meat and fish will be available to eat.
- vii. If someone dreams cutting of bamboo, the family may face any kind of danger.
- viii. If someone dreams of lying down upward to downward, it is believed that there will be fever or any health problems.
- ix. If someone dreams hiding of iron, it is believed, he will bury a dead person.
- x. If someone dreams the pouring of oil, it is believed to see blood.
- xi. If someone dreams the marriage of any one, it is believed to get sad news and fever will come to family.

- xii. Dreams in the midnight are believed to happen in reality.
- xiii. If someone dreams a dead body, it is believed that he will eat meat.
- xiv. If someone dreams blood, it is believed that he will eat milk.
- xv. If someone dreams a tiger, it is believed that he will get rice.

Beliefs Related to Tradition

- i. Most of the ladies in the tribal society tattoo their bodies with a belief that it is a symbol of their parents, when they die it will go with them.
- ii. With an intention to satisfy the deities and for the welfare of the family, tribal people sacrifice birds and animals.
- iii. In Bhunjia society the married ladies do not take the meal in others' families.
- iv. The ladies do not participate in the religious activities.

Beliefs Related to Magic and Religion

- i. In Bhunjia society, whenever somebody suffers from illness, people believe it has happened due to wrath of the deities. Instead of going for the modern treatment they prefer to satisfy the concerned deity as prescribed by the sorcerer or shaman.
- ii. In case of snake bite too, the Bhunjia first go to a sorcerer for cure by magic spells.
- iii. Starting from the life cycle rituals (birth, marriage and death) to all magical rites, the Bhunjias satisfy the deities mostly by animal sacrifice with the blind belief that the deities cherish the blood most.

Beliefs related to Travel

- i. While starting on journey, if one sees an empty pot, it indicates failure.
- ii. While starting for journey, if one sees a person defecating, it indicates success.
- iii. While starting on journey, if you see a *taunsa* bird on the way it is good omen.
- iv. While starting for journey, if you see a cobra in the left side it is auspicious.
- v. If you see a widow then your journey is inauspicious for you.
- vi. While starting a journey if you see a pitcher full of water success is predicted.
- vii. While starting a journey, if one calls him from his back then it is bad for him.
- viii. While starting a journey, if you see a child is crying then it is bad for you
- ix. If there is a dog barking continuously for two to three days, a bad news comes.
- x. If on the way a calf is milking and both are of the same colour it is good.
- xi. If the dogs are fighting on the way it is a bad omen for your journey.
- xii. While starting on a journey, if you see a jackal then it indicates failure.
- xiii. While starting on a journey, if you see a barber then it is bad for your journey.
- xiv. While starting on a journey, if you see a bald man then it is harmful.
- xv. If you see a baby suckling his/her mother , then it is good for your journey.
- xvi. While starting on a journey if you saw a clamor then it is harmful.
- xvii. While starting on a journey, if you see a beggar then it is harmful.

- xviii. If one sees an animal sacrifice on the way it is believed to be good.
- xix. If a crow crows on the house it indicates that somebody will die in the family.
- xx. While starting on a journey, if you saw a Ghughua bird on the way then you will suffer from fever.
- xxi. If the right eye jumps then it indicates that a family member will fall ill.
- xxii. If the left eye jumps, it indicates that you will suffer from any disease.

Conclusion

In view of the above discussed cognitive aspects of indigenous knowledge system of the Bhunjias it has been directly emphasized and observed that their perception of nature and culture has a direct impact on their daily life and that occupy the core area of their indigenous knowledge system. On the whole the cognitive aspect of indigenous knowledge which has dealt with cognitive dimension of time and space, indigenous method of measurement and folk astrology are very much emphasized in all the spheres of Bhunjia culture by virtue of which Bhunjia indigenous knowledge system has been acclaimed as quite essential as well as substantial for the maintenance of the livelihood in the habitat of Sunabeda plateau in the district of Nuapada of Odisha.

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Ethno-Veterinary uses of Medicinal Plants: A Study among the Tribal Communities of Jajpur District of Odisha

Kedarnath Dash ¹

ABSTRACT

An ethno-veterinary study was carried out for documentation of medicinal plants used by the tribal communities of Jajpur district of Odisha. A total of 46 species of ethno-veterinary medicinal plants belongs to 31 families, 46 genera were also identified as being used for preparing remedies. Ethno-veterinary information was gathered through interviews and observations among the tribals of the study area. Their traditional healers possess tremendous knowledge in preparing herbal formulation of medicinal plants. They utilize many local plants from their periphery vegetation for the treatment of various diseases and disorders of their livestock. An alphabetical list of these plants with their family, local name, preparation of medicine, doses and mode of administration has been discussed in this paper. Traditional ethno-veterinary healthcare involves low economic expenditure and this system helps the poor tribals. Due to deforestation and the consequent environmental degradation caused by rapid industrialization of the study area, traditional ethno-veterinary plant medicine is declining among the tribal communities of the study area. Therefore, documentation of ethno-veterinary practices is essential for the conservation of such precious indigenous knowledge before its extinction. There is an urgent need for comprehensive analysis for validation of these plant preparations for veterinary treatment.

Key Words: Ethno-veterinary medicine, livestock diseases, ailment, remedies, conservation

Introduction

Human groups are not only concerned with their bio-social well-being, they are equally concerned with the well-being of their domesticated animals, birds and crops, because their food security depends on them. In order to facilitate their livelihood resources, the members of different tribal communities domesticate animals and birds, which are useful to them in various ways. Majority of the households of the tribal

¹ Reader in Anthropology, B.B. Mahavidyalaya, Chandikhole, Dist-Jajpur, Odisha- 755 044,
E-mail ID: dash.kn@gmail.com, Tel No. 9437315262(M) / 06725-226288(O)

communities in India domesticate the animals such as buffalo, cow, sheep, goat, pig and poultry birds as they are useful for living. India with 3029 million hectares of landmass and 17 million hectares of forest cover is a veritable nursery of different tribals belonging to over 550 tribal communities with 227 linguistic groups (Puspagadan, 1994), which survived with their specified traits, beliefs and myths through the rigors of time.

The tribal livestock owners in India have been using traditional medications based on plant formulations since time immemorial. They have traditional ways of classifying, diagnosing, preventing and treating common animal disease. Tribals interact with their immediate environment very closely. They have also names for the different animal diseases and know which age and sex of their animals are most commonly affected. Over centuries, through trial and error and deliberate experimentation, tribal communities have developed a wide range of prevention and treatment methods. Traditional knowledge of medicinal plants is now considered to play a vital role in addressing the health care needs of developing countries and indigenous people (Patrick, 2002). Many of these ethno-veterinary practices offer valuable alternatives or compliments to western style veterinary medicine especially where the latter is unavailable or inappropriate. Ethno-veterinary medicine generally means the folk beliefs, knowledge, skills, methods and practices pertaining to the health of animals, which plays a vital role in tribal areas as chief source of medicine being used to cure livestock. Ethno-veterinary medicine is a systematic attempt to document the indigenous traditional knowledge pertaining to animal health and production. Ethno-veterinary medicines are as old as the domestication of various animal species. These herbal preparations, drawing upon centuries of traditional belief and use, are in practice overtime by tribals for the treatment of diseases of livestock. The tribal communities of Odisha too have developed such knowledge about the diseases which affect the health of their animals and birds. As a result they have developed their indigenous methods of treatment of diseases. Plants are the most commonly used ingredients in the preparation of ethno-veterinary medicine. They use some herbal plants for healing the common diseases of animals from time immemorial (Satpathy, 2010). All parts of the plants, including leaves, barks, fruits, flowers, seeds are used in medicinal preparations. Tribals believe in the capabilities of herbal medicines administered by the healers in their communities. This curative healthcare system was invented by them in order to adjust themselves with their ecological niche for their survival. Indigenous plant based medicines are often favored as they are inexpensive, culturally familiar and readily available. Ethno-veterinary medicines are cost effective and also dynamic in nature (Warren, 1991). Tribals have traditional knowledge about the medicinal value of the plants and use that knowledge to control sufferings and eliminate disease of their domesticated animals. They frequently depend on their traditional knowledge for the management of animals health problems and to improve their productivity.

The tribals have developed their indigenous methods of treatment through enculturation process from their ascending generation. According to their perception, all the diseases are not seen in all animals and birds. Some of the diseases are seen in specific animals and birds. Some of the diseases are whether specific as well as season specific in nature and some other break out sporadically as epidemic (Behura and Mohanti, 2006). Tribal people use their traditional ecological knowledge specially the plant medicine in their primary health care as well as the health care of their domesticated animals.

Objectives

The objectives of this study were to identify, collect and document the ethno-veterinary medicinal plants used by the tribals of Jajpur district of Odisha and their utilization for primary health care of different animals and to provide baseline information to phytochemists, pharmacologists and conservationists for further research.

Area of the Study

The Jajpur district is located in the eastern region of Odisha. The district Jajpur extends from 85° 40' east longitudes to 86° 44' east longitudes and from 20° 43' north latitudes to 21° 10' north latitudes covering an area of 2887.69 sq. km (Fig-1). The total forest area is 7711 hectares. The annual rainfall varies between 1200 mm to 1600 mm and the mean temperature ranges in-between 25° C and 27.5° C. The district is famous for rich minerals such as iron, chromites, lateritic and granites. The total tribal population is 1,25,989 in number out of which males are 64,198 and females are 61,719. The tribal people constitute 7.76 percent of the total population of the district. The tribal communities such as Shabar Munda, Kolha, Ho, Bhumij, Bathudi, Juang, Kondh, and Santal live in different parts of the district from time immemorial. According to Census-2011, the Mundas are 35,685, Shabars are 31,840 and Kolhas are 18,569 in number. In this district, four MADA pockets are operating for the development of the tribal communities. The live stock populations are 23.06 million. There are 632,808 cattle, 11,996 buffaloes, 38,301 sheep, 273,291 goats, 5,285 pigs, and 5,354,666 fowls with 20 veterinary health centers in different parts of the district.

Methodology

The study was undertaken in between August, 2014 and December, 2014 in order to collect data on different ethno-veterinary medicinal plant species which are used for curing animal ailments by the Shabar community of Gunduchipashi and Tallangi villages in Sukinda block and Khandiabandi and Mahakhala villages in Badachana block; by the Kolha community of Balagia and Balligotha villages in Dharmasala block and by Munda community of Bahalisahi and Khandara villages in Sukinda block of Jajpur district of Odisha. Both participant and non-participant observation with interview technique were followed by the investigator. Extensive field visits were made to local medicine-man for collection of information and for identification of places of occurrence of medicinal plants

in the study area. The study was conducted with the helps in informants from tribal communities who are familiar with the plants and the mode of utility of the plants by interviewing them. The details about the ethno-veterinary medicinal plants such as local name, parts used for the treatment, name of the disease for which plant is used, preparation, mode of administration, dosage etc are provided by medicine man and elderly persons of the concerned villages. In additional to this, Focused Group Discussions (FGD) were conducted with different age group of people of tribal communities. Data has been collected from a total number of 175 respondents (110 males and 65 females) as a primary source and supplemented by secondary source. Plant specimens were identified following 'Flora of Orissa' (Saxena and Brahmam, 1994).

Results and Discussions

The present study showed that the local people in Jajpur district of Odisha use several ethno-veterinary plants for curing animal ailments. A total of 46 species of ethno -veterinary medicinal plants were recorded belonging to 31 families with 46 genera. Out of 46 plant species, four belong to Fabaceae, three each to Solanaceae, Apocynaceae, Gramineae/Poaceae and Myrtaceae and two each to Annonaceae, Zingiberaceae, Euphorbiaceae, and one each to Liliaceae, Malvaceae, Mimosaceae, Amaranthaceae, Rutaceae, Papaveraceae, Meliaceae, Bombacaceae, Asclepiadaceae, Capparaceae, Moraceae, Lythraceae, Guttiferae/ Clusiaceae, Moringaceae, Musaceae, Oleaceae, Piperaceae, Sapindaceae, Loganiaceae, Combretaceae, Apiceae, Asteraceae, Linaceae and Verbenaceae family (Table – 1). Most of these plants grow wild in nature. Out of 46 plants, the majority of the species are herbs (36.95%), followed by trees (34.78%), shrubs (23.91%) and climbers (4.34%). Traditional healers of the district mostly use the herbs for treatment of their domestic animals because herbs are abundantly found in the region that could be collected easily. Further the frequent usage might also be related to its strong efficacy in comparison to other types of plants. The mostly used medicines are derived from leaf (45.65%), followed by fruit (17.39%), root (13.04%), seed (10.86%), flower (8.69%), stem (6.52%), bark (6.52%), spine (2.17%), pods (2.17%). Preferred use of leaves might be associated with ease collection as compared to other plant parts and likeness of the domesticated animals to eat leaves. The tribals of the district use these ethno-veterinary medicines to different types of livestock such as buffaloes, cattle, goat, sheep and fowls like hen and cock due to their socio-economic importance. Most of the plants were found to be used for treatment of ailments of cattle. The species used to treat cattle are also used to treat other livestock as well as some human ailments.

The method of preparation varies from person to person as the ethno-veterinary healers prepare the herbal medicine in a different way from each other although the plant parts and ailment remain constant. In the district Jajpur, the plant parts mostly used for treatment of livestock are in grinded/crushed and boiled form. Medicinal plant parts

were reported mostly to be grinded (56.34%), smashed (15.32%), smeared and mixed (12.48%), Preparations of remedies of study area involved single medicinal plants. It is evident that sometimes, certain plants become more effective to certain ailments when administered in combination with some other plants. It is also believed that the potency of plant remedies could be enhanced when they are used to concoction form. There are certain plants such as *Abrus precatorious*, *Aegle marmelos*, *Azadirachta indica*, *Calotropis gigantea*, *Carissa spinarum*, *Curcuma longa*, *Datura stramonium* in the study area which is used multipurpose for different ailments. The most common way of administration of herbal medicine was oral (82%), followed by dermal (18%). Recovery time of the majority of the recipes was three to four days. Gastritis problems, wounds and injuries, foot and mouth diseases, fever, cough and cold, lactation problem and maternity related problems were the most common ailments treated with ethno-veterinary medicinal plants. The largest numbers of plants (32.60%) was used to treat for wound and injuries, 10.86 % plants for bronchitis, 8.69% plants for foot and mouth diseases, 6.52% of plants were used to increase lactation. Other diseases were treated to a lesser extent by plant medicine. External application as well as oral consumption is involved in the treatment of different diseases.

Table:-1

List of Medicinal Plants with their Scientific Name, Family, Local Name and Tribe that uses the plant and their mode of uses

Sl. No	Binomial Name/ Family Name/ Voucher Specimen No.	Local name in Odia	Mode of Uses
1.	<i>Abelmoschus esculentus</i> L. Malvaceae (BBM-228)	Bhendi	The juice of the root is administered thrice daily for proper urination of buffalo and cow by Kolha tribe.
2.	<i>Abrus precatorius</i> L. Fabaceae (BBM-61)	Dhala Kaincha	(1)Root paste is administered with boiled rice to check blood dysentery of cattle of Kolha tribe. (2)Leaf paste is applied on affected area to treat swellings of cattle by Kolha tribe.
3.	<i>Acacia nilotica</i> L. Mimosaceae (BBM-177)	Baburi	The decoction of spine is given twice daily for relief of pain in abdomen of buffalo and cattle by Kolha tribe.
4.	<i>Achyranthes aspera</i> L.Amaranthaceae (BBM-137)	Apara- maranga	Paste of the roots with Hengu (<i>Ferula asafoepida</i>) and two matured leaves of Arakha (<i>Calotropis procera</i>) are administered against bronchitis of cattle by Munda tribe.

5.	<i>Aegle marmelos</i> L. Rutaceae (BBM-218)	Bela	(1) 01 kg of Bela pulp extract and mango kernel (<i>Mangifera indica</i> L.) is drenched for 2-3 days to cure diarrhea of the cattle by Shabar tribe. (2)The matured fruit pulp paste is applied twice daily to cure the burn injury of cattle of Shabar.
6.	<i>Alstonia scholaris</i> (L.) R. Br. Apocynaceae (BBM-197)	Chhan-chhana	Paste of fresh bark mixed with common salt is administered to oxen once in a month for invigoration of Oxen by Kolha tribe.
7.	<i>Aloe vera</i> L. (Burm.) Liliaceae (BBM-146)	Ghee kuanri	The leaf pulp is made into a paste and given to cattle to come from unconscious condition to conscious condition of cow by Munda tribe.
8.	<i>Annona squamosa</i> L. Annonaceae (BBM-158)	Raikata	Leaf paste is applied on wound to expel maggot of cattle by Shabar tribe.
9.	<i>Argemone mexicana</i> L. Papaveraceae (BBM-172)	Odasmari/ Kanta kusuma	The dried flowers are powdered and are applied on the affected part of the body to cure wounds and injuries of cattle by Shabar tribe.
10.	<i>Atylosia scarabaeoides</i> L. Fabaceae (BBM-62)	Nipania Bana-kolatha	Leaf paste is administered twice daily to cure Diarrhea of cattle of Kolha tribe.
11.	<i>Azadirachta indica</i> A. Juss Meliaceae (BBM-123)	Nimba	(1)Oil extracted from the seeds is used to cure parasitic skin disease of cattle by Shabar tribe. (2)Fruit paste is given twice daily to cure from fever of cattle by Shabar tribe. (3)The mixture of leaf paste and molasses is given to kill intestinal worms of cattle by Shabar tribe.
12.	<i>Bambusa tulda</i> (Roxb.)Gramineae /Poaceae (BBM-132)	Baunsa	Young leaves are fed to cattle for retention of placenta during the delivery of calf of cattle by Munda & Kolha tribes.
13.	<i>Bombax ceiba</i> L. Bombacaceae (BBM-146)	Simili	The stem bark paste mixed with turmeric powder (<i>Curcuma longa</i>) is applied on the fractured bones of cattle by Kolha tribe.
14	<i>Cajanus cajan</i> L. Fabaceae (BBM-63)	Harada	Green pods crushed and mixed with water are administered twice daily to check dysentery of the cattle by Kolha tribe.
15.	<i>Calotropis gigantea</i> R.Br. Asclepiadaceae (BBM-214)	Arakha	(1)Flowers (500 gm.) are dried and boiled in five liters of water. The decoction of 10-15 ml is given orally thrice daily for cough and cold till cured for cattle by Munda tribe. (2)The paste of fresh leaves is applied on the swelling part of the body of cattle by Munda tribe.

16.	<i>Carissa spinarum</i> L. Apocynaceae (BBM-198)	Khira -koli	(1)Fruit paste is applied on the affected part of the body to heal the wounds and injuries of cattle by Shabar tribe. (2)The crushed roots are given to cattle twice daily in the condition of swollen mouth of cattle by Shabar tribe.
17.	<i>Cleome gynandra</i> L. Capparaceae (BBM-203)	Arakha- saga	Leaf paste is applied on the affected part of the body to heal the wound of goats by Kolha tribe.
18.	<i>Curcuma longa</i> L. Zingiberaceae (BBM-172)	Haladi	(1)The powder of rhizome of the plant is locally applied on the wounds for leach sucking. It helps to coagulate the blood and stop bleeding of cattle by Shabar tribe. (2)The powder of the rhizome is given to the cattle with moist food to cure from arthritis of cattle by Shabar tribe.
19.	<i>Cymbopogon flexuosus</i> (Nees ex steud.) Poaceae/ Gramineae (BBM-133)	Dhanw-antari	The leaves are fed to increase the milk production of cow by Shabar tribe.
20.	<i>Datura stramonium</i> L. Solanaceae (BBM-158)	Dudura	(1)Paste of immature fruits are baked and given once daily to treat cough and cold of cattle by Munda tribe. (2)Paste of roasted unripe fruits is given twice daily to get cure from dysentery and diarrhea of cattle by Munda tribe.
21.	<i>Eucalyptus citriodora</i> Hook Myrtaceae (BBM-193)	Nilagiri	Fresh leaves along with turmeric powder are grinded to form a paste and are applied over the affected area to get cure from bacterial infection of cattle and goat by Shabar tribe.
22.	<i>Ficus racemosa</i> L. Moraceae (BBM-266)	Dimri	Prop root paste mixed with honey is fed to cattle to cure the blood dysentery of cattle by Shabar tribe.
23.	<i>Holarrhena pubescens</i> (Buch.-Ham.) Apocynaceae (BBM-199)	Koruan	The dried flowers are boiled in water and the decoction (10-15 ml.) is given orally for few days to cure dysentery and dyspepsia of cattle by Shabar tribe.
24.	<i>Lawsonia inermis</i> L. Lythraceae (BBM-181)	Manju-ati	The leaf paste is applied on the affected part to cure foot and mouth diseases of cattle by Shabar tribe.

25.	<i>Linum usitatissimum</i> L. Linaceae (BBM-178)	Alashi/Atashi	(1)The linseed oil is drenched with a mixture of ginger (<i>Zingiber officianale</i>), turmeric (<i>Curcuma longa</i>) and asafetida (<i>Fercula asafetida</i>) and the cattle mouth is kept open by tying a piece of wood into it, the tympani is cured by Shabar tribe. (2)The animals are taken into the mud and thereafter the linseed oil and turmeric (<i>Curcuma longa</i> L.) paste is applied externally. Sometimes kerosene is applied, if the wounds are infested with maggots, to cure foot and mouth ulcers of cattle by Shabar tribe.
26.	<i>Mallotus philippensis</i> L. Euphorbiaceae (BBM-185)	Kapil-gundi/ Kamala-gundi/	Roasted fruits are given once daily to cure worm infection of cattle by Munda tribe.
27.	<i>Mesua ferrea</i> L. Guttiferaceae (BBM-281)	Nagarjun/ Nageswar	The goat is fed with mixture of leaves, molasses and fermented rice to cure the loose motion of goats by Munda tribe.
28.	<i>Moringa oleifera</i> Lam.Moriagaceae (BBM-161)	Sajana	The warm extract of boiled leaves in water is applied on the swelling of injury of cattle by Munda tribe.
29.	<i>Musa paradisiaca</i> L. Musaceae (BBM-114)	Kadali	Roasted fruits are given once daily to cure worm infection of cattle by Munda tribe.
30.	<i>Nyctanthes arbortristis</i> L. Oleaceae (BBM-121)	Singadahara/ Gangasiuli	The goat is fed with mixture of leaves, molasses and fermented rice to cure the loose motion by Munda tribe.
31.	<i>Piper longum</i> L. Piperaceae (BBM-127)	Pipalli	The warm extract of boiled leaves in water is applied on the swelling of injury of cattle by Munda tribe.
32.	<i>Polyalthia longifolia</i> (Sonn.) Annonaceae (BBM-157)	Champati/ Panjan	Roasted fruits are given once daily to cure worm infection of cattle by Munda tribe.
33.	<i>Psidium guajava</i> L. Myrtaceae (BBM-194)	Pijuli	500 gm of fresh leaves are boiled in 200ml of water and the decoction is drenched twice daily for five days to cure cattle diarrhea by Shabar.
34.	<i>Ricinus communis</i> L. Euphorbiaceae (BBM-184)	Jada/ gaba	The seed is mixed with water and ground into paste and applied externally to cure arthritis problem of cow & goat by Shabar tribe.

35.	Schleichera oleosa (Lour.) Sapindaceae (BBM-333)	Kusuma	A paste made from the seed of Kusum tree is applied on the affected hoof to cure from infection of cow by Munda tribe.
36.	Solanum melangena L. Solanceae (BBM-159)	Baigan	50gm extract of the leaves, 50gm of ginger (Zingiber officinale) juice and 3-4 numbers of black pepper powders in mixed form is fed to cure from cough and cold of cattle and goat by Shabar tribe.
37.	Strychnos nux-vomica L. Longaniaceae (BBM-273)	Kochila	Tender leaves and boiled with water mixed with butter and applied externally over fractured bone of cattle by Shabar tribe.
38.	Syzygium cumini L. Myrtaceae (BBM-246)	Jamun	(1)The cow is fed with the of Jamun root boiled with rice to improve the lactation by Munda tribe. (2)Equal amount of bark juice and leaf juice of the tree is given thrice daily to cure dysentery and diarrhea of cow by Munda tribe.
39.	Tephros purpurea L. Fabaceae (BBM-64)	Bana-kulathi	Leaf paste is applied on the wounded parts of goat and sheep by Kolha and Munda tribes
40.	Terminalia chebula Retz. Combretaceae (BBM-232)	Harida	Stem bark is grinded with pepper & garlic (Allium sativum), fed to cure fever of goat among the Shabar tribe.
41.	Trachyspermium roxburghianum (D.C.) Crib. Apiceae (BBM-241)	Savitri	Fruits are powdered and given twice daily to cure from diarrhea and dyspepsia of cow and goat by Shabar tribe.
42.	Tridax procumbens L. Asteraceae (BBM-247)	Bisalyakarani	The leaf paste is applied on the affected part to heal e wounds of cattle and goat by Shabar tribe.
43.	Vitex negundo L. Verbenaceae (BBM-266)	Begunia/ Nirgundi	(1)The leaf paste with water is fed twice daily for respiratory problems of cattle by Kolha tribe (2)Leaves with turmeric and salt is administered for flatulence of cattle by Kolha tribe
44.	Withania somnifera L. Solanceae (BBM-160)	Aswagandha	Roasted fruits are given once daily to treat dysentery of cattle by Kolha and Munda tribe.

45.	Zea mays L. Gramineae (BBM-134)	Makka	The seeds are backed and given twice daily to cure constipation and udder edema of cattle by Munda and Kolha tribe.
46.	Zingiber officianale Rossc.Zingiber- aceae (BBM-173)	Ada	50gm of dry rhizome and Foeniculum vulgare powder, molasses and 25gm of black salt are mixed together. One t.s.f. of mixture is rubbed over the tongue to increase the appetite of cattle by Shabar tribe.

The findings of this study reveal that the young generation had little knowledge about the traditional medicine while the elder people know much more about the traditional plant medicines to treat livestock ailments. The knowledge is passed on verbally from generation to generation. The cultures of the tribal communities support the efficacy of the remedy. Cost inaccessibility and other problems like side effects of modern health care system encouraged the local people to rely on traditional plant medicines which are based on local resources and strengths. The observation of the present study showed that plant medicine plays a significant role among the tribal people of Jajpur district of Odisha. But in course of time, the traditional knowledge system is fast eroding due to steady decline in human expertise capable of recognizing various medicinal plants and ethno-veterinary medicinal plants are under threat due to mining, deforestation, over-grazing and their reckless utilization. Much of this wealth of knowledge is totally becoming lost as traditional culture is gradually disappearing because it is mostly oral (Hamilton, 2001).

Conclusion

Ethno-veterinary knowledge is an integral part of traditional medical practices among many tribal communities of Jajpur district of Odisha. The present study has documented 46 ethno-veterinary medicinal plants traditionally used by them. Tribal traditional healers possess tremendous knowledge in preparing herbal formulations of medicinal plants. The wealth of this tribal knowledge of medicinal plants points to a great potential for research the discovery of new drugs. Ethno-medicinal knowledge is under severe threat due to industrialization and acculturating trend of tribal people in this district. There is an urgent need of comprehensive analysis and documentation of indigenous knowledge of curing animal ailments among the tribal communities of Jajpur district of Odisha. The documentation of medicinal plants and associated indigenous knowledge can be used for conservation and sustainable use of medicinal plants in the area and for validation of this plant preparation for veterinary treatment. Ethno-veterinary plants and remedies documented here need photochemical and pharmacological screening and clinical trials for therapeutic actions.

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Family Life Cycle Mileposts and Associated Rituals among the Paudi-Bhuyans: An Empirical Study in West Odisha

Harapriya Samantaraya ¹

ABSTRACT

The paper is based on the fieldwork conducted in village Khuntoan of Lahunipada Block of Sundargarh district intermittently during 2010. Both primary and secondary data have been used to offer an account of the traditional family life cycle mile posts and the associated rituals among the Paudi Bhuyans- a Particularly Vulnerable Tribal Group (PTG) of Odisha. The purpose is to understand family life cycle events like birth, childhood, puberty, marriage, pregnancy, parenthood and death and beyond and the associated beliefs and rituals for social recognition of these events. It describes how family life cycle events are laden with many cultural transactions and assume differential importance in renewing group solidarity mostly confined to their respective kin groups. It infers that the family life cycle traditional events are ritualized in presence of the kin groups to renew the normative behavior. However, under the impact of the process of external influence, Government and Non-Government development interventions and modernization, the social solidarity among them is weakening and there is a gradual erosion of ritual importance of family life cycle events.

Introduction:

Tribal people are nature worshippers and they live in the lap of nature. Their social environment, technology and size of population depend very much on support they derive from natural habitat. The natural resources ultimately contribute in shaping their economic life and socio-cultural order. Thus, the structure and function of their social institutions and cultural activities remain commensurate with the available resources. The ritual activities associated with the family life cycle mileposts among the small scale societies mostly manifest in the context of social groupings like the extended family, lineage

¹ Faculty Home Science I. G. Women's College, Cuttack, Odisha; email:drharapriya@yahoo.co.in

clan, clan-cluster and tribe. They are tradition bound and hardly they question the relevance of their customs and traditions. Life cycle rituals remind the importance of the mileposts in their lifetime. Students of tribal studies refer to the mileposts as rites-de-passages.

Arnold van Gennep was first to write scientifically about the rituals in ceremonies of birth, childhood, social puberty, betrothal, marriage, pregnancy, fatherhood, initiation into religious societies and funerals" (1969). All these were rites of passage and consisted of three distinct phases: separation, transition, and incorporation. Almost fifty years later Victor Turner (1967) examined the transitional or "liminal" stage in the well-developed initiation rituals of the Ndembu of Zambia. He analyzed the momentous reordering of the neophyte's world that occurs as he is in limbo between his childhood and adulthood. Turner observes that similar rituals are being found in all societies. However, these rituals tend to reach their maximal expression in the small-scale, relatively stable and cyclical societies, where change is bound up with biological and meteorological rhythms and reoccurrences rather than with technological innovations. While comparing them with the modern society he further said that certainly, our rituals and rites are not nearly so complex or of such magnitude as the Ndembu's (ibid).

The above reference indicates that small scale societies follow the principle of cyclical order in inviting the new-comer through ritual, integrate social actors during life time and parting them to other world so as to reintegrate them again into the fold of life cycle in the form of new comer through ritual invitation. In this process, mother remains as an intermediate agent who bears, begets feeds, weans and socializes the child to assume adulthood through the short span of adolescent. In the small scale societies the puberty is publicized through women-network in community. Adolescent loves freedom and therefore needs guidance. In youth dormitories they are socialized to honor the societal values. Adulthood is a shifted phase of maturity of an individual on whom society expects to take-up social responsibilities.

One of the main purposes of marriage is to procreate and continue the family line. In almost all tribal societies, a woman who gives birth to many children has pride and prestige. The unfortunates who fail to pass through important steps of life cycle are looked down upon. They become non-achiever of social roles the society assigned to them. Abnormal biological phenomena like late puberty or no puberty, becoming transgender, impotency in man and infertility in woman are culturally viewed as the result of the annoyance of ancestral spirits. In many tribal societies where either of the spouses fails to fulfill the basic objectives of marriage is socially permitted to remarry. However, in such an event, the scope for a potent man is greater than a potent woman. In many such transparent small scale societies, for reasons of progeny, the wife's consent becomes obligatory, although such consent might be conditioned by built-in social mechanism through ritual process. Van Gennep, a noted structure-functionalist, who coined the term 'rite-de-passage'

to explain theoretically the human life cycle, said that birth, puberty, marriage, death and reintegration is a cyclical process in human organization. The function of each phase of life contributes to the maintenance of order in social transaction.

In non-hierarchical society like the Paudi Bhuyan, the gender discrimination is not as sharp as that of the Indian rural peasant society where man leads over woman in accruing benefits. The Bhuyan society has been extensively studied by many earlier administrators, ethnographers and anthropologists (Russell and Hiralal 1916 and 1935, Vyas 1951, Mahapatra 1959, Satpathy, 1964 and many others) Similarly, the concept of child and rituals associated with child birth among the Binjhals of Bargarh district, the unisexual dormitory locally known as Dhangrighar among the Kondhs of Kondhamal, traditional Mandaghar of the Juangas of Keonjhar and of the reverence to sacred groove locally known as Jahira among the Santals of Mayurbhanj, the disposal of the dead among the Bhuyans of Keonjhar are some of the examples of life way processes that have attracted the attention of many earlier ethnologists of India and abroad.

Objectives:

The purpose is to understand the family life cycle events like birth, childhood, puberty, marriage, pregnancy, parenthood and death and beyond and the associated beliefs and rituals for social recognition. It intends to describe how family life cycle events are laden with many cultural transactions and assume differential importance in renewing group solidarity mostly confined to their respective kin groups.

Methods Adopted:

The village selection was made from micro project area with an assumption that these villages due to backwardness would be the retainers of the traditional features. The micro-project area namely Paudi Bhuyan Development Agency (PBDA) is treated as our universe and the household as unit of analysis. For qualitative data, however, village Khuntagoan of Lahunipada Block of Sundargarh District was covered and few neighboring villages were also touched. To elicit primary data from individual households, survey method was adopted with the help of an interview guide and a pretested schedule. Informal interview technique, observation and case study methods were adhered to. One handy camera was used to tap the events in situ. Due to temporal constraints, a minimum of 50 households of the universe was chosen on the basis of random sampling method covering the village Khuntagaon and three of its neighboring settlements.

Secondary data have been obtained from available official records/documents, earlier reports and relevant published literatures, journals and periodicals. The data collected through schedules have been arranged in tabulated form for easy references although the qualitative data leads over the other forms of data for purpose of this paper. A few genealogies were taken to establish the kinship network. To know the variation in

socio-cultural practices across the villages, informal interaction with the aged was made. Often, the subject divulged their own rituals and practices were observed over enthused. Similar problem arose when the subjects were under the spell of liquor. Therefore, through cross verification the romanticized data have been filtered.

The data collection started only after the rapport establishment with the subjects was made to a considerable extent. Interpersonal interactions in informal way frequently addressing the subjects with amicable familial kin terms of reference and occasionally using the native words, the data were collected. Wherever necessary, the unisexual and as well as bisexual group interviews were conducted. Being a woman researcher itself is a limiting factor for fieldwork. Certain limitations prevailed while in field and whatever amicable interactions advanced with the natives the researcher remained as an outsider. In the eyes of the natives obviously, the outsiders are being distinguished in dress pattern, body gesture, language, socio-cultural activities and biological markers. Thus, outsiders (researchers) and insiders (the natives) remain as a bone of contention to claim the investigation as scientific and unbiased. It has been realized that it is very difficult to say that any empirical social research is completely bias free.

Area and People:

The Paudi Bhunyas are found in states like Assam, Bihar, Odisha and West Bengal. In Odisha state mostly they are distributed in hill and forest areas in Pallahada of Angul, Barkote block in Deogarh and Lahunipada of Sundargarh district (Ota and Mohanty, 2010). The total population of Paudi Bhuyan in the three micro project areas of Odisha comes to 1 37 799 (this includes 3853 in Rugudakudar of Deogarh and 5823 in Jamardihi in Angul and 4126 in Khuntagoan of Sundargarh district in Odisha (Panda, Mohanty and Mahapatra, 2012). They mostly depend on forest and forest products. They believe that their land, forest, water, cattle and kin are being watched by their ancestral spirits. They eat different fruits, tubers, leaves and seasonal foods like varieties of mushroom grown in forest. They also grow crops like millets, small cereals, pulses and some paddy if the monsoon is favorable. Traditionally being practitioners of shifting cultivation, most of them have now settled down in permanent habitats. However, the lack of irrigation, uncertain rainfall and depleting forest and natural resources have resulted in acute shortage of food since a few decades. As a result, incidence of malnourishment among women and children in the villages are reported. An incidence of poor health status has been reported recently by Balgir (2007). The other major hurdle is that few families have any rights over the land; after the Forest Rights Act, 2005 (FRA), many Paudi Bhuyan families filed individual and community claims. From among the claimants a few got land titles. However, the land they have got was far less than their legitimate claim as per the forest right act. The other socio-economic and income generating development interventions extended by Government of Odisha and Government of India are surfaced only in a few villages.

The field area of study is a part of the Micro Project area covering 22 villages extended around 175 Sq Kms. At the centre of each village they have a curved wooden pole believed to be the guardian spirit and it is locally known as Gaisiri Khunta. The abode of many deities lies in the adjacent forest and streams. Of many deities, the important ones are Dharam Debta – the Sun God and Basuki Mata –the Earth Goddess. The village ritual head is called Dehury whose prime responsibility is to please the deities and spirits and obtain their blessings for the wellbeing of the community and community resources. His post is hereditary, however, if the villagers are not satisfied with his works and mishaps occur frequently they can call for a meeting represented by the lineage heads of the village and replace him by another senior knowledgeable male member. The village political head is known as Gauntia. In Some villages he is also called as Padhan or Naik who settles the internal disputes, negotiates between the aggrieved and liaisons with the outsiders including the Government officials and informs the villagers about the proposed activities.

Social Organization:

The social organization of the Paudi Bhuyan is characterized by patrilineal, patrilocal and patriarchal kinship features. The family is the smallest social organization. Birth of a child is always a welcome event in Bhuyan society; however, a male child is preferred to a female child in spite of the fact that the parents face acute economic pressure to meet the financial burden to pay the bride price in son's marriage. On the contrary, the bride's parents are honored with articles like clothes, cattle, money, grains and other consumable items including liquor as a part of bride-wealth in daughter's marriage. Unlike the caste society, gender discriminations among Bhuyans are manifested differently in number of socio-cultural transactions. Thus, Bhuyan parents continue craving for the boy in the family as the son is likely to remain as a constant source of support while the girls desert natal home after marriage causing the loss of human resource.

Paudi Bhuyan Family:

It is the smallest social unit comprising of both consanguinal and affinal kins. The extended lineage is known as Killi. The Killi is an exogamous unit. A daughter belongs to her father's Killi (extended lineage group) so long as she is unmarried and after marriage she becomes a member of her husband's Killi. The family is mostly nuclear consisting of husband, wife and their unmarried children. In some cases, dependents like parents or unmarried brothers and sisters are also found living with the nuclear family. Typical Hindu joint family types are not noticed.

The next larger social unit is the lineage (kutum) formed by a group of agnatically related families. The relationship between the lineage groups is based on mutual help, co-operation and resources sharing. Exchanges of labor at the time of the construction of the house and agricultural operations, exchanges of food during festivals and the organization of joint functions and observance of birth and death pollution jointly are some of the

striking features. These express the social solidarity and govern the activities of the lineage members. Several kutums form an exogamous unit called a killi or bansa (clan). All the members of a killi are believed to have descended from a common ancestor. The next biggest unit is the territorial unit -'village' which may comprise of the members of one or several killi. If the village is composed of members of a single killi, they practice village exogamy. Beyond the village is the larger social organization called 'Bar' or 'Pirh'. For socio-political purposes, the Paudi Bhuyan villages are grouped into number of Bars/Pirhs.

Life Cycle Mileposts:

Birth:

The birth of a child is considered as gift of god and ancestral spirits; the parents are only the instruments to invite the new born through their married life. The childless couple observes many magico-religious practices to become parents and escape from anticipatory humiliation of being childless. Thus, birth of a child is a happy event to the kindred. The expectant mother observes certain taboos locally known as janam bithu. In tribal society the taboos have a few cultural regulatory functions (Samntaraya and Panda 1990).

From conception to the final purificatory rites of child birth, the mother observes number of taboos. The birth of a child is always a welcome event. The socially recognized father and the expectant mother do not eat meat of any sacrificed animal or bird since conception till the birth pollution period is over. Traditional beliefs restrict the parents to go to any place of worship. They are not even permitted to witness any auspicious community rituals. The woman does not eat curd or anything that tastes sour because it is believed that consuming any sour food hinders easy delivery.

She is culturally tabooed to go to the forest or to any lonely spot and distant place due to the fear of evil spirits that might get into the body of the expectant mother and injure the fetus. At the time of eclipse, the expectant mother should either confine herself inside the house and if she is outside she should not come home. Violation of taboo is believed to harm the baby in the womb. A woman is also tabooed not to offer cooked-rice gruel (Jau) either to the ancestral spirits or to the family deities installed at a corner inside the house. She should not touch a corpse or notice the smoke coming from cremation of a corpse.

The father of the child takes pride of his fatherhood. A sacrificial chicken is offered by him to the fertility cult through the village Dehury. An expectant mother is powerful and respected because she is guarded by many ancestral spirits to protect the fetus.

As the labor pain starts, to help the expectant mother, the midwife or any senior experienced woman may be called in who comes with a twig of 'baruni' plant to anoint the head of the 'mother' for easy delivery and also to keep the malevolent spirits away from the area. The midwife while anointing the twig on the head of the expectant mother by her right hand also puts pressure by left hand sliding from sternum towards lower abdomen so

that the placenta can come out with least difficulty along with the new born. The baby is detached from mother by cutting the umbilical cord by a small iron blade put into the flame of kitchen fire a few hours before. After delivery, the child is bathed in warm water and then basked while shaping the head and cleaning the ears. The mother is also bathed in lukewarm water while being advised the course of action by the midwife. The belief is that both the mother and the child were in dark and after giving birth the duo came to light. A few food taboos are observed by the mother. She is tabooed not to consume black mung, biri, a cereal locally known as kangu, banana, fish, crab and meat. She is allowed to take rice in warm water with boiled papaya for better lactation. After three weeks the restrictions imposed on the mother since birth of the child is lifted. Barren women are not allowed to have interaction with the expectant as well as the locating mother for about a month starting from days of labor pain till the end of third week of child birth.

Child birth is forbidden inside Mulaghar where the sacred family shrine is installed. The birth pollution continues for about two to three months that is removed phase by phase. On the fifth or seventh day of the child birth, the baby and the mother take their first purificatory bath. The clothes are given to the washer man to wash for purification.

This day the mother ties a piece of new thread being smeared with turmeric powder around her own neck and that of the baby. From this day, other members of the family may take water from her hands, but she is not allowed to enter into the kitchen or cook food. Name giving ceremony may be observed on this day or may be deferred to the seventh day or to a later date to pay thanks to the fertility cult.

The ritual associated with birth pollution keeps the family segregated from their kins and forbid exchange of water and fire till the clothes are washed on the 8th day of child birth. This is followed by a ritual called Uthiari. The birth of a son pollutes the mother for more days than the birth of a daughter. Thus, among them the gender discrimination in birth ritual practice is marked. The name giving ceremony is called nam tula is elaborate. The lineage members put rice and biri (black gram) into a tumbler filled with turmeric water and utter the name of ancestors starting from grandparents in ascending order till both the rice and the biri float together. The assembled kins keenly observe the tumbler and approve the name when both the grains float attached to one another. No child is beaten till they reach to the age of eight years. Beating the child and making the child sick is believed to dishonor the ancestors as the child carries not only the names of ancestors but also the bear blessed souls for community welfare. Similar is the case found among the Binjhals of West Odisha (Panda, 2005).

Puberty:

At the age of around 13 the girls get puberty and boys get puberty a year after. The traditional process of making puberty a cultural proclamation is no more in practice. However, the message is circulated through women networks mostly through gossip. The

girl observes pollution and restricts her inside house for six days and obeys the instructions of the elderly women, mostly the mother. They are expected to remain away from the sight of the boys. She is subjected to movement taboo and a few food taboos. On the seventh day she smears her body with turmeric paste and takes bath being guarded by mother or an elderly woman. They have a belief that if the puberty falls on Thursday it is auspicious, however, if the immediate next menstruation falls on the same day it is inauspicious. To overcome anticipatory evils that might fall on the daughter, the father offers a sacrificial chicken to the Dharani Mata. Similar observance is noticed among the Ho families of Orissa (Mishra, 1987). There is no special ritual observed.

Dormitory:

Bachelor's dormitory, a traditional educational institution was once in existence in many tribal communities. But it is fast disappearing as a result of the impact of modern forces. The tribes such as the Juangs and the Paudi Bhuyans are singular exceptions who have maintained the bachelor's dormitory in all its fullness and originality. The youth organization and bachelor's dormitory as prevalent among the Paudi Bhuyans have been described below.

The unmarried boys above 14 years of age and the unmarried girls above 12 years of age constitute the formal members of the youth dormitory. The boys are called Dhangda and the girls as, Dhangdi. The unmarried boys and girls taken together as a group are called Sunderphul (lit, red flowers), and their association centers around the Mandaghar as it is called in Keonjhar and Darbaghar in Sundargarh. The Mandaghar is by far the most commodious hut preferably constructed in a central position of the village. The boys sleep in this dormitory house, where as the girls do not have any such special hut to serve as the girl's dormitory. They usually sleep in the house of a widow of the village or in different houses according to their convenience. But for other purposes their activities are associated with the main dormitory house of the village. The boys take care of thatching and repairing of the dormitory whereas the girls do the cleaning, plastering its walls and floor and sweeping the plaza. A fire is kept burning day and night in the centre of the house for which the logs are brought by the boys. On its four walls hung changu or the tambourines played on by the boys during dance. In a portion of the dormitory are kept bundles of grains and cereals on a raised wooden platform. The boys sleep around the fire keeping their feet towards the flame to drive out cold during winter.

Association of Bandhu Boys and Girls:

The boys and the girls of a village are supposed to belong to the same Killi (clan) and therefore they observe village exogamy and between them joking, fun making and exchange of gifts are forbidden. The boys and girls, therefore, exchange gifts with the girls and boys of Bandhu villages. In fairs or market places the boys offer presents of Gurakhu (tobacco-paste), fried rice, comb, mirror and ribbon to the girls of Bandhu village who

reciprocate with gifts of cakes, sweets, bitten rice and tobacco leaves to the boys. They at times exchange brewed liquor.

Dancing Groups:

After the exchange of gifts for a couple of times, the boys and girls invite each other to visit their villages for Changu dance. During the visit Changu dance goes on days and nights and the boys try to chide the girls through the songs and the girls respond to it by rhythm and stepping of their dance. A lot of fun and jokes are thus exchanged between them to make the dance more attractive. As the night falls, the village elders retire for sleep, the boys and girls may pair off and go to some secluded places where the girls lure the boys. The dance partners are provided with food. The expenditure is met from common dormitory fund raised through contribution by members of the dormitory.

During the visit of the girls, incidences of girls being captured for marriage occur and the intimation is sent to their parents afterwards. In such a situation they maintain ethnic boundary. An outsider is never entertained into this fold. However, with the changed circumstances this practice is becoming rare. Acculturation process, between the Paudi Bhuyans and others, increasing movement of natives to urban centers for socio-economic transactions and interventions, infrastructure development facilities like road connectivity, frequent entry of outside business men into the remote villages for economic reasons, interaction of the NGO and GO personnel, the declining trend of the educated youth to participate in traditional cultural practices like folklores, folkdance, folk music, the political interventions, and the like have combined influence on the erosion of dormitory organization. The pull and push factors of cultural transactions crumbled of the Changu dance and associated music..The informal group processes have changed their composition and as a result their traditional social solidarity has been diluted.

Invalidation of Dormitory Membership (Sang Chhada):

Membership in a dormitory terminates with marriage. After marriage a boy or a girl ceases to be a member of the dormitory. After the marriage proposal is finalized and before the commencement of marriage, the dormitory members offer a contributory sumptuous feast to bid farewell to prospective bride / groom and wish good luck for the next phases of life. The ritual is called Sang Chhada (i.e. parting of companionship). In the case of a boy he offers puffed rice, sweets, combs, mirrors and tobacco-paste to his dormitory friends on the occasion of his farewell ceremony. Likewise, a girl offers cakes, tobacco, flower and a new self prepared knitted mat for the boys. Some elderly Mahataris (married women) act as intermediaries between them when the gifts are exchanged.

Marriage:

The Paudi Bhuyan villages were homogeneous in past. All the households in a village are related to one another through kin bond. As the family expands and its resources become scarce, a section of the village migrates to new forest site to have its

establishment and gradually it expands and plants their culture, install their deities and observe the family life cycle rituals. Thus, the new settlement is an off shoot of the traditional village. Therefore, offshoot village settlements along with the traditional village maintain exogamy. Broadly speaking, Paudi Bhuyan villages are divided into two groups, 'bandhu' villages (affines) where marriage is possible and 'kutuma' villages (consanguines) where marriage is tabooed. Recently, due flow of people, the composition of villages has undergone a change. Now, village with only consanguine kin inhabitants has become rare. Cross-cousin marriage is not a common practice and no preference was indicated for sorrorate marriage. Likewise, marriage by exchange is very rare.

There are many ways of acquiring mates prevalent among the Paudi Bhuyans such as; marriage by elopement locally known as Dharipala. There is a ritual to legitimize such marriage called Hanri-Sara wherein parents and a few elders of both the parties sit together to discuss the matter over a bowl of liquor and decide the bride price. A small feast is offered by the father of the boy. They also practice marriage by capture to what they name in their own dialect as Jhika or Ghicha. This is followed by a ritual known as 'Juhar Pani' ceremony. The love marriage that takes the shape of marriage by negotiation is locally known as Phulkhusi. In joke they also name such marriages as Am-Lesera or Kada-Lesera. Marriage by negotiation is known as Mangi Bibha. Widow Remarriage is popularly known as Randi bibha. Such a marriage is least preferred. Parenthood is a joyful event. The divorce among Paudi Bhuyan Society is common. It is normally initiated by husband. There are also cases of women deserting their husbands for reasons of family dispute. Separation is socially recognized and marrying a divorcee is not looked down upon.

Death Rites:

The Paudi Bhuyans believe that death occurs due to ill temper of hostile spirits, displeasure of Gods and Goddesses and also due to the evil effects of black magic. The fact that nobody can escape death is well known to them, and when death occurs the Paudis make necessary preparations for proper disposal of the dead. When a person dies his kinsmen and near relative start wailing loudly, till the corpse is taken to the burial ground. The wailing signifies the heartfelt sorrow of the relatives for whom the death of their near and dear one was extremely frustrating. It is also believed that if the relatives do not lament for the dead, the latter may feel offended in the other world. Both affine (bandhus) and agnatic kins (kutumas) carry the corpse to the burial ground. A pit of about seven feet long and five feet deep is dug and the corpse is laid down on its left with the head facing north. The eldest son and in his absence the brother of the deceased puts the first handful of earth on the corpse following which others fill up the pit with clods of earth. The burial ground has been culturally divided among the extended lineages. Looking at the size of the stones kept on buried spot in burial ground, one can very well determine the sex and approximate age of the dead at the time of death.

Stones and thorny branches are put on the grave so that wolves and dogs do not open it and disturb the corpse. Some of the possessions of the deceased like a mat, one or two pieces of clothes, a pitcher or a gourd, an axe, a bow and an arrow are left with the deceased in the pit. If the deceased is a woman all her jewellery except the gold and silver ones are all buried with the dead body. It is believed that the dead needs all the things of daily use in the other world and if these things are not given, the spirit of the dead might visit its descendants and press for such things. When a pregnant woman dies, special ritual is performed for her burial. To prevent the sorcerers practicing black magic through the medium of foetus, the Paudis draw seven lines on the womb of the deceased before she is buried. Such cases of death amount to serious social offence called Stri Hatya - meaning woman-slaughter and the family members remain socially ostracized until they can afford to summon the Bar / Pirh (wider tribal organization) council to perform necessary ritual purification. The course of actions is being decided by a council of elders. Persons killed by bear and tiger are believed to turn into malevolent spirits. Especially the tiger spirit known as Baghia Bhuta creates great havoc and kills human beings in the disguise of tigers. When somebody is killed by a tiger, the Raulia is called on to perform special rites in the burial ground while burying the dead body. Idols of the tiger and the dead are made of earth and the Raulia propitiates them by slaughtering a castrated male goat Buka. The heads of both the idols are cut and these along with the head of the slaughtered animals are thrown into the flowing stream. This prevents further attack of the Baghia Bhuta.

The pollution period lasts for two to three days. At the end the villagers are entertained with a small feast. During the pollution period all the families of the deceased's lineage and also members of Bandhu families throw away their old and used earthen cooking pots. Mats and other household articles are all washed in water. The clothes are also properly washed or given to a washer man for washing. On the final purification day, all the members of the lineage clip their hair and shave their beard and pare their nails. During the period of pollution they refrain from eating any non-vegetarian dishes and anointing their bodies with oil.

Calling back Soul Home (Jiba Anba):

The Paudi Bhuyans believe that life does not come to an end with death. It only separates a person physically from his kin temporarily. The deceased continues to move around their habitat and lives in the form of a spirit and always watch over the activities of the family members, whom he left behind. With the passing away from the mortal world, the spirit of the dead takes seat in the sacred spot locally known as Bhitari and is duly propitiated during festive occasions. By virtue of its higher position as a supernatural and more powerful than the living kin, the ancestral spirit commands respect and reverence from the living descendants who try to maintain a harmonious relationship with their ancestral spirits. This belief is comparable with the belief system on the concept of ancestral

souls (Masan) who are represented through the children under 12 years of age among the Binjahls of West Odisha (Samantaraya and Panda, 1990).

The spirit of all the dead persons cannot attain the status of ancestral spirits (pitru) and therefore cannot have a seat in the scared Bhitari. A person killed by tiger, bears or died by snake-bite or died of serious diseases like cholera, small-pox and leprosy, a woman dying with the baby in her womb; a person committed suicide; and persons died unmarried do not become the ancestral spirits of the Paudi Bhuyans. Afterwards the spirits of these dead persons float in the air or become malevolent spirits having their abode in forests. These spirits are believed to cause illness in the villagers and bring bad omen to the innocents. On the other hand, the souls of the persons who have a normal death are ceremonially invited to the Bhitari and are propitiated periodically. Such ancestral spirits are benevolent in nature. Unless they are offended they keep on safeguarding the interest of their descendants and their land, forest and livestock in good health and give them prosperity and happiness.

Conclusion:

Traditionally the life cycle rituals among the Paudi Bhuyan had cultural regulatory functions in renewing the normative behavior. The traditional life cycle of Paudi Bhuyan has many taboos. There are peculiar social restrictions inflicted upon the concerned person or group in events of birth, puberty, menstruation, marriage and death in Paudi Bhuyan family. The dormitory system also represents very peculiar features. The youth association of boys and girls, Changu dance and Sang Chhada ceremony are some of the unique characteristics of the community. The internal demands and the external pressures and influences have brought a change in their life cycle rituals. However, with the development intervention process, their cultural heritage has been affected. Due to their constant and continuous interactions with neighboring non-tribals to whom a few of their native elites treat as reference groups, the life cycle rituals have undergone a change. The social organization that once remained almost egalitarian is sliding towards a type of differentiation in the community structure. This is mostly attributed to ownership and access to the resources like land and forest. The kin based social solidarity among the Paudi Bhuyan has been weakened. People attribute it to the economic reasons. Traditional gift exchange items in terms of goods and services, among the kin have undergone a change.

For the Paudi Bhuyan children the first scheduled ritual is more of biological rather than cultural. The subsequent transitions from breast milk to weaning food and then adult food habit during childhood are marked with ritual seeking the blessing from fertility cult. On the first day of entry to dormitory, a whole new body of folklore opens up to the adolescent. For example, adolescence ushers in a new body of folklore. Puberty, menstruation, and losing one's virginity may be celebrated secretly and informally among friends as there are few cultural rites. Many commencement customs emphasize separation

and are rituals of nostalgia. While barrenness is condemned in most of the societies, birth and death are the equalizing events. Only during the life cycle process between birth and death a person is made to realized his/ her position as subject of differentiation.

Similarly, most of our life cycle events are folk customs abound. In fact the rituals are a kind of language that communicates the messages to the kin, ancestral spirits and the deities'. It also communicated the messages of threat to the malevolent spirits. Among the Paudi Bhuyans due to modernization one can imagine that Van Gennep's rites of birth, puberty, marriage and death may have lost some of their significance, but the ritual urge still engenders a plethora of customs and simplified rituals celebrating the growing number of transitions in an increasingly complex society. There are parallel life cycle rituals in many contemporary small scale societies like Juang of Odisha (Patnaik, 1989) Binjhal (Panda, 2005) and Dimasa of Assam (Danda, 1978). They have started adhering to the modern way of life due to acculturation to the outsiders way of life, enforcement of new friendly Acts like PESA and FRA, Government development interventions in the sphere communication, health, sanitation, education, housing, Public distribution system, employment guarantee scheme, income generation activities, and increasing awareness on protection and promotion of tribal communities due to mass media, the traditional rituals have been dwarfed and often replaced by the rituals of main streaming societies. In terms of observance of life cycle rituals, the tribal folk in Odisha are not far different from rest of the indigenous people. The special care for the expectant, greeting of a new born, exciting cultural activities of the adolescents in dormitories, romance of the young, struggled life of the adults, aspiration and apprehensions of the separated, the anecdote and dependent syndrome of the aged, rituals associated with the dead, belief of the souls after life, homage to ancestral souls are the passages of life of the tribal people. Sharing cultural components is the manifestation of social solidity among the tribal people. The life cycle mileposts having social transactions associated with ritual practices die hard.

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PVTG Habitat, Habitation and Habitat Rights: A Contextual Analysis

Mihir Kumar Jena¹
Padmini Pathi²
Akhila Bihari Ota³

ABSTRACT

The enactment of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (FRA) is an important watershed in the history of tribal empowerment in India especially relating to tenure security on forests and forest land. The recognition of habitat rights of the Primitive and Vulnerable Tribal Groups has remained a matter of great concern with very little progress because of ambiguities and gaps in understanding of the purview of habitat rights as enshrined in the Act. The authors have made an attempt to build a contextual logic on the broader understanding of the term 'habitat' and its implications on determining the habitat rights of the PVTGs. The paper has taken to a cross referencing to lay out the purview and domain of an anthropological understanding of habitat and habitations for its applicability in determining habitat rights of PVTGs. The authors are of the view that the term 'habitat' has a broader social, cultural, political, ecological and spiritual context and that the folklore and ethnographic account of PVTGs sound to be important instruments that should be used while delineating the customary habitat and the concept of ancestral domain may also appear relevant. The authors conclude that the habitat may thus be seen as a socio-ecological-cultural space with composite interactions and interrelations; utilitarian and cognitive; tangible and intangible. Habitat rights should be ethnographically portrayed and culturally appropriated. The habitat right should stand on a foundation of customary behavior, institutions, norms and networks. In no way the recognition of habitat rights should contribute to fragmentation of the endowed social capital of PVTGs. The recognition of PVTG habitat rights should well consider the viewpoints of ethnographers, scholars, academia and existing tribal advisory bodies.

Key words: Habitat, Habitat Right, FRA, PVTG, Customary Habitat

¹ Manager, Foundation for Ecological Security, Bhubaneswar (drmihirkumar@yahoo.co.in)

² Consultant, SC & ST RTI, Bhubaneswar (ppathi.ssa@gmail.com)

³ Commissioner-cum-Director, SC & ST RTI, Bhubaneswar (akhilabihariota@gmail.com)

The enactment of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (FRA) is an important watershed in the history of tribal empowerment in India especially relating to tenure security on forests and forest land. The Act became operational through notification of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Rules on January 1, 2008 which marked a historic journey to recognize and vest Forest Rights to the marginalized and vulnerable who are dependent on forests for their sustenance and their existence.

Over a period since enactment of the Act, in the context of Odisha, the implementation process has been continuously confronted with technical and procedural problems. While there has been remarkable progress in settling Individual Forest Rights under the provisions contained in FRA, the settlement of claims under Community Forest Rights has been facing compounded difficulties. The recognition of habitat rights of the Primitive and Vulnerable Tribal Groups has remained a matter of great concern with very little progress. In matter of fact, sporadic attempts have been made by NGOs and local bodies to delineate the arena of habitat rights in the context of PVTGs in Odisha but due to ambiguities and gaps in understanding of the purview of habitat rights as enshrined in the Act progress in implementation of the provisions have not reached the desired level.

The PVTGs: Subject of Habitat Right

In India there are as many as 75 PTGs who are distributed in 14 undivided States and 1 (one) Union Territory of Andaman and Nicobar Islands. Orissa has the distinction of having 13 such Primitive Tribal Communities (which is the highest number in the entire country) namely the Bonda, Chuktia Bhunjia, Didayi, Dongria Kondh, Hill Kharia, Mankirdia, Birhor, Juang, Kutia Kondh, Lanjia Saora, Lodha, Paudi Bhuyan and the Saora. In general terms, it is essential to note some basic characteristic features of primitive tribal groups. They constitute simple and small scale societies. A primitive tribal group may be a tribal community (Birhor, Bonda, Didayi, Juang, Kharia, Lodha, Mankirdia and Saora); a sub-tribe or a segment or a part of tribal communities (Chuktia Bhunjia, Dongria Kandha, Kutia Kandha, Lanjia Saora and Paudi Bhuyan). They are culturally homogenous and have simple social organisation. Each group in its lifestyle exhibits uniqueness and distinctiveness. Their economy is simple and generally subsistence-oriented. Through simple economic pursuits, they struggle hard for basic survival. They live mostly in relatively isolated and inaccessible tracts which are eco-inhospitable. They usually inhabit in the areas full of mountains, hills, forests, terrains and undulating plateaus. In terms of their economic status, they are regarded as the weakest of the weaker section of communities. But they maintain a high profile in so far as their rich heritage, tradition and

culture are concerned. They have their own ethos, ideologies, world view, value orientations etc. which guide them for sustenance amidst challenging situations and various oddities (Mohanti, 2007).

The Northern Plateau and Eastern Ghat Regions occupying 59% of the total area of the state are highly concentrated with tribal population including the 13 PTGs. The Northern Plateau houses 6 PTGs, namely, Juang, Paudi Bhuyan, Lodha, Mankirdia, Birhor, Hill-Kharia; and the Eastern Ghats Region is home to 7 PTGs, namely, Saora, Kutia Kondh, Dongria Kondh, Lanjia Saora, Bonda, Didayi, Chuktia Bhunjia. All these PTGs belong to four techno-economic stages of development. While the Birhor, Mankirdia, Hill Kharia are in the hunter-gatherer stage, the Bonda, Didayi, Juang, Dongria Kondh, Kutia Kondh, Lanjia Saora, Paudi Bhuyan are at the Shifting Cultivation stage. While the Saora and Lanjia Saora are Terrace Cultivators, only two communities i.e. Lodha and Chuktia Bhunjia are known Settled Cultivators. The geographical, socio-cultural, techno-economic diversities existing among the 13 PVTGs in the State throws a challenging context for determination and recognition of their habitat rights.

All the PVTGs mentioned above can be geographically traced in the forested, hilly and mountainous regions of the State. Most of these groups are small in number, have attained different levels of social and economic progress and generally, live in remote habitats and isolated habitations. The historic Forest Rights Act of 2006 has given justice to these PVTGs by providing legal space and scope for the recognition of their forest and habitat rights. However, there has been no significant achievement in determining the habitat rights of these communities; one of the many reasons in this regard being the fact that the understanding of 'habitat rights' as provided in the Act is diversely interpreted and remains abstract and ambiguous. There is still a search for a rational explanation regarding understanding of 'habitat' and 'habitation' in a PVTG context, and more importantly, there is apparently no anthropological and ethnological explanation on the terms although they are understood implicitly in the context of the locations where these communities reside.

Understanding of Habitat: Confusions and Correlations

Although in literary sense and by spirit one is able to understand the terms 'habitat' and 'habitation', the ecological understanding overweighs the ethnological or ethnographical understanding. In ecological understanding 'habitat' is a space for living. Merriam-Webster dictionary describe habitat as 'place or environment where a plant or animal naturally or normally lives and grows' or 'the typical place of residence of a person or a group'. As per another explanation the word 'habitat' goes back to the Latin *habitare* meaning "to live or dwell," which itself goes back to *habere* meaning "to have or own." It seems logical that if you own a place, it is your home. Habitat is usually used with animals and plants that live in and are adapted to a specific environment

(www.vocabulary.com). Similarly, the dictionary meaning of habitation is a 'dwelling place' (Merriam-Webster dictionary); or 'the act of inhabiting; occupancy by inhabitants', or 'a colony or settlement; community' (www.dictionary.reference.com); or more comprehensively, 'place of abode; settled dwelling; residence; house' (www.definitions.net). All these meanings are by and large ecological explanations of a space as habitable and where certain interactions happen. The way it differs from an ethnological point of view is that none of these explanations overtly express the overtone of a culture. Anthropological dictionary describes habitat as 'a geographical area in which a person or group can take care of the key activities of living' (Tylor, 1991). Although still abstract, this holds to be a logical explanation as it talks of geographical area, the population, key activities and living. In the tribal notion of 'living' there is always an overtone of culture which can never be looked down upon in the context of describing the habitat and habitation of an ethnic community. Cultural boundary can transgress any official or political boundary and hence while talking of tribal habitat it is difficult to limit oneself to any given political boundary. Although political boundary is referred for extending development activities to the tribal areas and habitations, yet in the context of determining habitat rights of PVTGs the cultural and customary boundary of the communities is must to be considered. The Act has provided space for that.

It becomes contextually relevant here to examine how the habitat has been defined under the Forest Rights Act. Section 2 (h) of the FRA defines habitat as, 'Habitat' includes the area comprising the customary habitat and such other habitats in reserved forests and protected forests of primitive tribal groups and pre-agricultural communities and other forest dwelling Scheduled Tribes. Further, FRA under Section 3(1)(e) gives forest dwellers "rights including community tenures of habitat and habitation for primitive tribal groups and pre-agricultural communities".

The definition of 'Habitat' provided in the Act thus explicitly covers the anthropological understanding of habitat. However, in the context of implementation of the Act, the term 'habitat' has been misunderstood and or misconstrued in many cases for which MoTA clarified in a letter addressed to All State Governments vide letter No. 23011 dated 23 April 2015. According to the letter in certain cases, in the Hindi version of the Act, the word 'habitat' under section 3(1) (e) has been translated as "aawas" which is commonly understood as house or homestead. This has created confusion and due to misinterpretation, many states have equated the term 'Habitat' to mean providing housing facilities as under Indira Awas Yojana and other such housing schemes, the letter states.

The Act provided procedural steps for recognition of the habitat rights but did not provide an appropriate guideline to prepare the claim. Lack of clarity about the procedure for the recognition of the habitat rights specifically given that their claims may extend

across multiple settlements over a large geographical area remained as the most important impeding factor. Adding to that it has been marked that there is a pronounced priority laid upon or there is a tendency to rely on forest records during rights recognition process. Requiring or relying on forest records seems irrelevant in the context of PVTGs as their rights and activities have hardly been recorded or properly studied and hence no comprehensive database is available to that effect.

In the initial phase of implementation of the Act for recognition of habitat rights there was apparent lack of clarity about the status of other category of land except forest land coming within their habitat. And in the same manner there was absolutely no clarity over the process of recognition in case if the habitat of a PVTG extends beyond administrative and political boundaries which are still prevalent in many ways. At the top of everything the definition of habitat was very inclusive and extended to the recognition of habitat rights to other STs in addition to PVTGs and pre-agricultural communities.

A new provision inserted in the amended rules of 2012 created further confusions along with the pre-existing ones about settlement of rights under Forest Rights Act (FRA). The amended rules provides, "...ensure that all PVTGs (particularly vulnerable tribal groups) receive habitat rights, in consultation with the traditional institutions of PVTGs and their claims for habitat rights are filed before the Gram Sabha, wherever necessary by recognizing floating nature of their Gram Sabhas". The MoTA forwarded some clarification in its FAQ to the question 'How will the claims on rights of PTG groups and habitat rights be facilitated particularly in view of the habitat involving more than one Gram Sabha? The clarification stated that the definition of habitat under Section 2(h) and the right to such habitat has been clearly laid down in the law under section 3(1)(e) of the Act. Rule 12(1) (d) further directs Forest rights Committee to ensure that the claims from PTGs are verified when such communities or their representatives are present. Further, the right to community tenures of habitat and habitation may be recognized over customary territories used by the PTG for habitation, livelihoods, social, economic, spiritual, cultural and other purposes. In some cases the habitats of PTGs may overlap with forest and other rights of other people / communities. Further, it has now been provided in the Amendment Rules, 2012 notified by the Ministry on 6.9.2012 that, in view of the differential vulnerability of Particularly Vulnerable Tribal Groups (PTGs), the DLC shall ensure that all Particularly Vulnerable Tribal Groups receive habitat rights, in consultation with the concerned traditional institutions of Particularly Vulnerable Tribal Groups and that their claims for habitat rights are filed before the concerned Gram Sabhas wherever necessary by recognizing floating nature of their Gram Sabhas. In view of the above provisions in the Act and the Forest Rights Rules, the DLCs should play a proactive role by initiating the process of recognition of rights of the PTGs in consultation with their traditional institutions and

ensure that their claims for habitat rights are filed before the concerned Gram Sabhas. (<http://tribal.nic.in>)

The problem is the absence of clarity in the definition of 'habitat' (Bera, 2013). According to the list of FAQs published by MoTA, habitat rights "may be recognised over customary territories used by the PTG for habitation, livelihood, social, economic, spiritual, and cultural and other purposes". Confused over granting habitat rights to particularly vulnerable tribal groups under Forest Rights Act, the State Government requested the Ministry of Tribal Affairs, in July 2013, to clarify the parameters for deciding claims to such rights. Talking to press the then Secretary SC and ST Development Department articulated that it was difficult to ascertain the scope and extent of habitat rights where such rights are being claimed beyond the geographical area of a particular tribe under the given definition and scope as above. He made his observation citing the case of Juangs that the PVTG is confined to the geographical area of Gonasika in Keonjhar district. However, the habitat rights claimed by the Juang tribes extend much beyond the Gonasika area. Further, there are instances of claims of habitat rights on areas which are neither frequented by the PVTGs nor used for accessing minor forest produces or grazing animals; in most cases, revenue land also form part of the habitat right claim which does not come under the purview of Forest Rights Act, (FRA); by definition, any forest area can become a habitat for Scheduled Tribes and other traditional forest dwellers irrespective of where they stay; it can also encompass revenue land depending on the interpretation of traditional institutions of primitive tribal groups pertaining to their habitat; the Government recognized the community rights, but the habitat right will lead to unnecessary claims over forest and non-forest land; and, the new rules will make more difficult in settling claims of habitat rights of tribes nomadic in nature unless some parameters are fixed. The Secretary articulated the concerns as above in his letter to Union Secretary in the Ministry of Tribal Affairs. (<http://www.newindianexpress.com>)

Concerns have also been expressed from other quarters through consultative processes. In a National consultation on the Habitat Rights of Particularly Vulnerable Tribal Groups (PTG) organized jointly by the National Committee on Forest Rights Act, Government of India and Vidarbha Livelihood Forum at Nagpur on the 4th of October, 2010, doubt was raised on the process of staking claims over habitat rights for PTGs, such as the lack of clarity on the definitions/ interpretation of Habitat – whether habitat would be defined as per the traditional rules of the community – if yes then what happens to the rights of the other resident or user groups involved like other non-PTG communities sharing the same habitat, various forest users, government departments, companies etc. In the consultation it was also raised that there are traditional systems of demarcation of habitats amongst the communities; traditional rules and regulations regarding use and management of natural resources. However these traditional institutions are not

recognized officially for the FRA or other processes, even though the FRA has some space for them in making claims. Further, at some places where these traditional boundaries have clashed with the district and state boundaries, how would the State solve these issues? A wide range of issues, concerns and queries were raised in the consultation represented by many PVTG community members, local bodies and NGOs. The consultation attempted to draw upon the definition of habitat and habitation in respect of PVTGs taking some indicative geographical, social, cultural and institutional attributes. The parameters identified in the examples for determining/identifying the customary habitats are as follows.

- Distinct geographic location
- Socio-Cultural or Political landscapes
- Traditional rights of the communities over the habitats include the right to decide on ownership and resource interaction of the communities living in the habitat areas
- Habitat is also ecological landscapes in the sense that there are examples of communities organizing around the natural resources and means of livelihood, and defining their habitat according to major natural/physical features such as river basins, mountain ranges, etc.
- Community organizations and institutional system for exercising the traditional rights over habitat and socio-economic interactions (marriage, land ownership etc)
- Sharing and co-existence in the habitat areas Example was also shared how Verrier Elwin identified Baiga chak as habitat or territory of the Baiga tribe. It was stressed that habitat or community territory should not bound by political state and administrative boundaries

Further, as regards to laying down process for claiming the habitat right of PTGs important steps, as suggested by the consultation proceedings, could be

- Defining and mapping boundaries
- Finding evidence of customary/traditional occupation and use
- Mobilizing the entire tribe or a substantial section of it to understand the claims, agree to make them, and discuss the follow up planning or actions. Most PTGs continue to have traditional institutions of governance intact, operational in some form or the other; these will need to be activated for the claims process. Clearly also in many or possibly all areas, PTGs will require help civil society and /or government agencies to access documents, carry out mapping, mobilize opinion and capacity and make the claims. (<http://kalpavriksh.org>)

Tribal Habitat: Scope, Nature and Characteristics of village and aggregations

Habitat rights, in spirit and by appropriateness, are therefore to be considered at aggregation of habitations for a given PVTG. How would one be able to decide the appropriate aggregate of the habitations? Here the lifestyle traits, socio-cultural behavior,

norms and networks in the community and the geographical contiguity are to be seen as the guiding indicators. In this context, it is important to examine how scholarly works implicitly and explicitly narrate the scope, nature and characteristics of villages and village aggregations from which, possibly, the broader arena of understanding the tribal habitat may be conceived and conceptualized.

Man's habitations arrange themselves in a stratification of services and institutions which becomes an enduring pattern of the region. Social mobility brings about the rise and fall of individuals in the hierarchy of the community. Ecological mobility i.e. the physical movement of the competing stream of human populations, goods and utilities brings about denomination- subordination or the hierarchy of hamlets, villages, towns and cities in a system of interrelated services within the region or periphery of a region (Mukerjee, 2014: 86).

Maine (1861, Cf. Nulkar and Muthumani, 2013, vol.4) while studying the land system in India put forth the argument that land was held in common by a group of people which reflected the importance of the village and the common habitations of a group of people (pp. 218). Tribal villages differ from non-tribal villages both in composition and character. The major factors of the differences are ecological set up of forest and hills, tribal economy, culture bound features, institutions of secular and religious heads of the village, tribal Panchayats, etc (pp. 219).

A gigantic task was taken up by the census operation 1961 of the Government of India, for studying about 800 villages including several tribal villages from various parts of the country. One of the monographs by Vidyarthi (1966, Cf. Nulkar and Muthumani, 2013, vol.4) on Ghaghra: a village in Chotnagpur opens up the theoretical and methodological ideas and concepts. On the methodological level, Vidyarthi comments "that in tribal studies, the tribe as such, and not its villagers, has usually been the unit of study". He further suggested 'such empirical and specific studies of tribal villages of the various types, if adopted, will lead to effective comparisons of the culture of the villages in tribal and non-tribal areas, and will also help the applied anthropologists and administrators in identifying the problems of tribal villages of different levels of ecological, economic, technological and cultural developments against the background of concrete qualitative data' (pp. 220). Villages in tribal India have natural environment of hill and forest, poor economy, and specific traditions which are ideal for a tribal village to come up. The most obvious way to grasp a tribal village in India is to consider its geographical setting, settlement pattern, and size on the one hand and the social setting including ethnic composition, on the other.

While the tribal villages exist as a unit in themselves, it need not be taken that each village is an isolated administrative, social, political, economic and ritual unit or an island

and has kept itself aloof from the neighborhood. Village institutions put the villagers in a wider network of social, economic, political and ritualistic interaction with the neighboring population (pp. 269).

Dube (1958:4, Cf. Nulkar and Muthumani, 2013, vol.4) opines that any effort to understand the village without reference to its extensions in time and space in the spatial, cultural and ideological context is bound to be partial and incomplete. Sachchidananda (1968:123) states that 'the isolation and self suffering of the tribal village even in the remote age was never absolute. It always maintained lively social, economic, ritual and political relations with other villages around it'.

The custom of village exogamy, the practice of regional fairs, communal hunts and rituals, inter-village visits or festive and economic occasions ... have given rise to social, political, economic and ritual relations with other villages specially those within the radius of 20-50 km. The people in a cluster of villages tend to respond in a uniform way. The network of relations among the villages found in different tribal regions of the country is remarkable (Roy Burman, 1968: 35 Cf. Cf. Nulkar and Muthumani, 2013, vol.4). In many tribal communities it is seen that members of tribal villages are frequently found linked with one another through the traditions of ceremonial friendship or living in hostility. Their relations are sometimes reinforced by beliefs about common origin or membership of the same clan. There are number of clans under a common chief, number of villages united under a common head for performance of community rituals and for deciding matters of social and political interest; or number of villages are linked politically be a traditional regional Panchayat; or a large number of villages united under a feudal chief. Cultural unit of a village extends a group of villages.

Political bond of different villages are also common. The organization of the regional Panchayats, for example, the Parha with Parharaja, as head among the Mundas and Orans; the Pirh with Manki as head among the Hos; the Paragana with Paraganait as head among the Santhals; the Bhira with Dandia as head among the Kharias; the Parha or Kutumb sabha with Kartah as head among the Dhelki and Dudh Kharias; the paragana headed by Paragana Manjhi among the Gonds; the Pirh headed by Sardar with 7-10 Padhans (village heads) under him among the Juangs; etc (Nulkar and Muthumani, 2013, vol.4: 275-276).

Folklore as a tool to delineate Customary Habitat

Folklore of PVTGs provides very important hints as regards to delineation of the customary habitat boundaries and also depicts the sort of social life and interactions happening over the space. Nulkar and Muthumani (2013:4, vol.10) states 'it is true that the picture of social life of a people derived from their folklore is not exhaustive and proportionate. But the tribal ways of life lie in the state of verbal communication and here the folklore reflects their ecological and cultural setting more faithfully". In the tribal

communities of India myths, folk-tales and folk-songs in general are not an idle speculation about the origin of things or institutions, nor are they the outcome of the contemplation of nature and rhapsodical interpretation of its laws. The function of myth is neither explanatory nor symbolic. It is a statement of an extraordinary event, the occurrence of which had once and for all established the social order of a tribe or some of its economic pursuits.

The folklore of a particular tribal community is part of the entire culture of the people. It reflects the culture of the people and also brings solidarity, continuity and consistency in a cultural group (Nulkar and Muthumani (2013:10, vol. 10). For the tribals, the functions of folklore are more important than its form. There are diverse functions of folklore, some of the most important of which includes aiding in the education, promoting a group's feeling of solidarity, providing socially sanctioned ways for individual act superior to or to censure other individuals serving as a vehicle for social protest.

It thus appears that folklore provides a very important platform and connects the customary territories used by the PTG for habitation, livelihood, social, economic, spiritual, and cultural elements into one. It is therefore important that the folklore of a community should be given due attention, at least, even for the purpose of a rough sketch in the first attempt, to draw upon the boundary of customary habitat of a PVTG and examine whether each of the elements of habitat right as clarified in the Act are surfaced in the sketch or not. In a manner, the folklore may also bring about many other attributes which could have been lost sight of while delineating the habitat rights.

Ethnographical accounts as a tool to delineate Customary Habitat

Ethnographical accounts provide conceptual and contextual explanations on habitat in different cultures. Ethnographic accounts on a community provide a web of relations and interactions of the community with its surrounding which may be comprehended in the context of understanding of habitat. Jena, et.al. (2006) have provided an account of Kuttia Kondh which may be taken as an example of how a particular community characterizes its environ and habitat in an ecological context, in a socio-cultural context and in a spiritual context.

The Environmental and Spatial Concept of the Kuttia Kondh offer a comprehensive understanding of habitat. An important term that characterizes the environmental concept of Kuttia Kondh is *basa* which literally means environ. Ordinarily *basa* is the term used for place, particularly where many people gather for some social reason, such as for instance, a festival or any other cultural event. It can also refer to community feast in the forest. *Basa* denotes the place and the event and it can also refer to many places or situations surrounding (*gunjare*) one and other. Thus, *basa* can be divided into various categories or layers with different names. In terms of Kuttia Kondh understanding of the living space,

the first basa is his or her house (elu). The house is located within the borders of the village settlement, known as naju, which is the second basa. The surrounding of the house are known as ilu gunjare and the surrounding of the village as tedi gunjare. Both the terms can be differentiated by the size of the space, and the type of living and non-living things occupying that space (Jena, et.al. 2006: 101). This explanation aptly summarizes an idea of habitat and habitation of Kuttia Kondh.

Further, the names of particular places often end in basa, i.e., madang basa, naju basa, penu basa, maju basa, etc. the madang basa is a place where people sit and converse, gossip, and exchange thoughts and ideas while drinking toddy (palm wine). Mada is the Kui name for the sago palm, tapped for toddy. Hence a place is only defined as madang basa if it is used for the consumption of toddy. It is an environment shaped by the behavior and interaction of people and plants. The components of madang basa are a group of people, a sago palm tree, the material item needed for toddy consumption, animals, rocks, etc. Naju basa refers to an area of land on which village settlement (naju) stands. Thus, naju basa refers to all the components that makes a village: human beings, animals, houses, kitchen garden and ancestral spirits. The livestock buildings are: kadi basa (cattle), karu basa (buffalo), paji basa (pigs).

The term basa does not always refer to a locally fixed space, but rather describes what a place is used for, so that kadi basa, for example, is a place where cattle are kept, and a madang basa refers to a place where toddy is consumed at social gatherings. Outside the village are the Penu basa, the abodes of deities (Penu) and these include all hills, forests, trees and rocks. The term Penu basa is particularly applied to hill tops because they are said to be the dwelling place and meeting points of the Penus. The Naju basa lies at the bottom of a hill whereas the Penu basa is at the top of the hill. A madang basa can be anywhere in between these two basa. A Maju basa is the name given to an area of forest inhabited or frequented by the Sambar (maju: *Cervus unicolor*). Although the Maju basa is commonly associated with the Sambar, it can also be inhabited by any other animals (ibid:102). The above description provides to understand the Kuttia Kondh habitat which is an aggregate or collective of all the basa. In the same manner, as for a village, the entire customary boundary of the Kuttia Kondhs should be seen as an aggregate of all the basa in all the villages. Thus the 'habitat' of the Kuttia Kondhs would be possible to be delineated.

Folklore also provides important hints to delineate the customary habitat boundary of Kuttia Kondhs. The chanting of hymns is a common feature of the Acts of Worship. In a performance, the Kuttia priest invokes the deities while chanting the names of different gods and goddesses in sequence, covering a geographical space where the gods and goddesses are believed to be residing, inviting them from the four corners of their customary world to attend the worship and accept the offerings. In the process he covers all

the known gods and goddesses and ancestral spirits in the spiritual boundary of his habitat.

Ancestral Domain in Context

Ancestral domain or ancestral lands refers to the lands, territories and resources of indigenous peoples, particularly in the Asia-Pacific region. The term differs from indigenous land rights, Aboriginal title or Native Title by directly indicating relationship to land based on ancestry, while domain indicates relationships beyond material lands and territories, including spiritual and cultural aspects that may not be acknowledged in land titles and legal doctrine about trading ownership (<https://en.wikipedia.org>). Ancestral domain is a type of property designation. It covers the resources, territories, and lands of indigenous people, and is especially common around the Asia-Pacific (<http://www.answers.com>).

In this context the understanding of PVTG habitat relates to the understanding of ancestral domain. The ancestral domain of a community can be constructed on the basis of understanding the groups and sub groups of the community and their ancestral space which is nevertheless confined to villages only. The relationship among groups and sub-groups, say clans and lineages, domain of ancestral spirits and supernatural powers like gods and goddesses, the cultural and religious attributes of defining an area as physical and spiritual domain of community members and their fore fathers may also provide important indicators in delineating the customary habitat of PVTGs.

Conclusion

Delineation of PVTG habitat in the context of habitat Rights under FRA is no easy task. In a simple understanding, the habitat rights should be attempted community wise comprising their social, economic, cultural, aesthetic and spiritual world and has to be authenticated with drawing relations and correlations with regard to every space and attributes. It is so because; all the elements of their ethnic culture may not be seen in a village or a cluster of villages which may be very organized or scattered. The customary habitat boundary may transgress any political boundary. The traditional use zones, cultural landscapes specific to the community, kinship relations, socio-political relations and affinities may happen to be important references in this regard. The habitat may thus be seen as a socio-ecological-cultural space with composite interactions and interrelations; utilitarian and cognitive; tangible and intangible.

Habitat rights should be ethnographically portrayed and culturally appropriated and thus each PVTG may offer a unique instance. Working with a template for claiming habitat rights in respect of PVTGs can never be free from criticism. Folklore of the ethnic PVTGs should be considered as an important tool or as hints for delineation of customary

habitat boundary. The habitat right should stand on a foundation of customary behavior, institutions, norms and networks. In no way the recognition of habitat rights should contribute to fragmentation of the endowed social capital of PVTGs. The recognition of PVTG habitat rights should well consider the viewpoints of ethnographers, scholars, academia and existing tribal advisory bodies.

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A Poetic Evaluation of Juang Riddles: Preservation of the Intangible Culture

Ranjan Pradhan ¹

The folklore of the Juang tribe is very rich. The lores they recite contain serene and beautiful literature. Especially 'the riddle' of the Juang community is quite unique and most fascinating having great attraction. In this tradition we find rich literature, their own culture and the sweet experiences of their day-to-day lives. Their lyrics are both juicy and extempore. The songs are always new and lively. Always we find an element of competition, not enmity. There exists only love and friendship in their songs.

As we understand, we don't find any written document of folklore in their community. The tradition passes orally from one to another. Folklore has always played an important role in Juang folk literature. The lovesick youngman (Kanger) and the young woman (Selan) express the secrets of their heart through such songs, idioms and riddles. Even though the Juang people don't have any written scripts, yet they could keep their folk literature alive through generations through oral tradition only. Their folklores and folk stories have always enriched tribal literature; besides their idioms and phrases are extremely sweet and memorable.

The tradition of the riddle of the Juang expresses their community intelligence. The basic purpose of a riddle is to expect answer for an esoteric question which is presented in a lyrical form. Riddles play a vital role in Juang folk literature.

Riddles are unique manifestations of our rich cultural heritage. These have been used plentifully and it occupies a special place in our oral traditions. The basic purpose of these riddles is to test intelligence, to entertain and educate children. Hence, an exclusive discussion on the riddles of the primitive tribal groups like the Juang is required.

¹ Eminent Tribal Researcher & Senior Journalist Sambad, Sambad Bhaban, Rasulgarh, Bhubaneswar, Phone: 9437213854, E-Mail : ranjan_pragyan@rediffmail.com

The Juangs are one of the most ancient Scheduled Tribes of Odisha. They belong to the Munda ethnic stock and found mainly in the Gonsaika hill range of Kendujhar district of Odisha. Some Juangs, however have migrated to neighboring plains of undivided Dhenkanal district of Odisha during the Bhuiyan revolt in the late 19th century.

The Gonasika plateau of Kendujhar district is believed to be the place of origin of the Juangs. They are mostly concentrated in Banspal, Telkoi, Ghatagan and Harichandanpur Blocks in Kendujhar district. They claim themselves to be the autochthons of the area from where they have migrated to other parts of the state. They classify themselves into two sections, the Thaniya (those who dwell in their original habitation) and the Bhagudiya (those who have moved away to other places like Dhenkanal and Pallalahada of Anugul district). The Juangs living in the Gonasika area are accepted as the original Juangs.

The Juangs believe that in ancient times their tribe emerged from earth on the hills of Gonasika where the river Baitarani has its origin. In their language the word "Juang" means man. In other words, man emerged from the earth at the same place where the river Baitarani emerged. They have got their own dialect which has been described by Col. Dalton as Kolarian. They have acquired many Odia words by coming in contact with the Odia speaking people. Now, most of them know and speak Odia.

There are 62 Scheduled Tribes in Odisha. Those tribals who are relatively backward and vulnerable in terms of economic condition, education, health and living in the difficult terrains of mountains and forests are specially treated as Particularly Vulnerable Tribal Group (PTG). Previously they were called as Primitive Tribal Groups. In the whole country, a total number of 75 tribal groups are identified as PTGs. Out of these, in Odisha 13 tribal groups have been brought under this category. Among them, the Juang is one.

In the Juang society, the village is the largest corporate group with formally recognized territory. Within the delineated land boundaries they possess their land both for settled and shifting cultivation and the village forests for exploitation. They shift their village sites frequently as they consider it inauspicious to live at a particular place for a long period. This has been stopped now-a-days.

Each Juang village is marked by the presence of a youth dormitory known as 'Majang' (also called Manda Ghara) in front of which their traditional dances and songs take place. The Majang plays an important role in the village life of the Juangs. The traditional village panchayat sits here. It also serves as a guest-house for the visitors to the village. It serves as the village club house for the Juang young men.

The Padhan - the secular headman, the Nagam or Buita or Dehuri - the village priest, the Dakua - the village messenger and the village elders (Barabhai) constitute the

traditional village panchayat of the tribe. A group of neighbouring villages constitute a 'pirh' which is headed by a 'Sardar' who decides inter-village disputes.

The Juangs are patrilineal and their society is marked by the existence of totemistic clans which are divided into two distinct groups known as "Bandhu clans" and "Kutumba clans". The totemic object is never destroyed or injured by its members. The clans are exogamous and marriage within the same clan is considered incestuous. Monogamy is commonly prevalent while polygamy is not ruled out. Levirate and sororate type of marriage is permitted in the Juang society.

A Juang husband generally worships the 'Sajana' (drum stick) tree if his wife turns out barren and gives her a paste made of 'Sajana' flowers and seeds to eat or he ties a seven fold cotton string with seven knots round his wife's neck, believing this to be a kind of talisman which will cause conception. The Juangs do not allow their pregnant women to go to the seat of village deity and also they must not tie up anything, must not weave mat or plaster a house with mud.

The funeral rites of the Juangs is quite conventional. They cremate their dead. The corpse is laid on the pyre with the head facing the south. The ashes may be left on the spot of cremation, or alternatively these may be thrown into a stream.

For their livelihood they depend mainly on shifting cultivation and collection of minor forest products. There are so many rituals and traditions in Juang society and these all are reflected in their dance and songs. When the Juang girls and women collect Sal leaves and seeds from the forest, they sing many fascinating songs. The Juang life is marked by the celebration of a number of religious festivals in honour of their gods and goddesses. For them 'Dharam Devta' (Sun God) and 'Basumata' (Earth Goddess) are the supreme deities. 'Gramashiree' (village deity) is the presiding deity of the village. There are also a number of hills, forest, river and spring deities in the Juang pantheon. They believe in the existence of spirits and ghosts.

The Juangs observe Pus Purnima (magha podi) festival to mark of the beginning of the agricultural cycle, 'Amba Nuakhia' for the first eating of mango fruits, Akhani (hunting festival), Akhaya Trutiya for the ceremonial sowing of paddy, 'Bangur Aba' (Asadi festival) marking the beginning of transplanting and weeding, 'Dhana Nuakhia' (new eating of new paddy after offering it their gods and ancestors), 'Pirha Puja' for the protection of crops, 'Gahma Purnima' for the welfare of cattle and other auspicious days for the ceremonial eating of different seasonal crops harvested from different types of lands. All these occasions are marked by dancing and singing. They use a kind of drum known as changu at the time of dancing.

Their folk literature and culture is very sweet and juicy. The Juangs, in their lighter moments express their thoughts and emotions through riddles and idioms. Especially,

they recite riddles during community festivals, agricultural works, marriage functions etc. During these occasions, they sing songs, dance and recite riddles. But one can notice the special artistic expressions from these riddles.

Their riddles are created by taking into account various natural forces like the sun, the moon, the sky, the springs, the rivers, the trees, fruits, vegetables, birds and animals etc. In the riddles one can trace varieties of things beginning from the sun, moon and stars to pigs, trees, oven, umbrella handle, broom, doors, bows and arrows, cocoon, grinding stone, cobweb, scissors, bell, dog tail, insects, frogs, snakes and the Juang woman.

The riddles are expressed in simple sentences and presented directly. In many cases the riddles are also descriptive and they depict a wide and clear-cut picture. Again some riddles are highly symbolic and rhetorical.

The Juang riddles are full of variations. Some riddles are monometric and some are diametric. Sometimes the metrical order extends to three and four. The riddles are very much artistic and rich in terms of their form and structure.

Characteristically, the riddles of the Juang can be divided into six categories. They are as follows:

1. Relating to Celestial Bodies
2. Relating to animals and birds
3. Relating to Plants
4. Relating to Material CultureGeneral instruments
5. Relating to food and drinks
6. Verbal expressions

1. Relating to Celestial Bodies

Celestial objects like the planets, stars, sun, moon and galaxy occupy a special place in the religious belief and imagination of the Juangs. They do have a special religious connection with the sun, moon, thunder, rain, wind, day, night, dawn and evening. Thus these natural objects influence the Juangs to a great extent.

The life of the Juangs is closely knitted to the natural world of the forest. They worship the natural forces like the forest, trees, birds, animals, rivers, mountains, springs, the sun, the moon, the earth etc. They believe that their gods and goddesses live in the forest, the mountains, the rivers and the streams. They celebrate many festivals in a year. They get the opportunity to meet each other through these social events so that their community lives become more and more strong.

During the festivals, they join together in their Majang i.e. their village club house and celebrate by dancing and singing. Through these festivals their community life and cultural flow blooms.

The Juangs believe that their life is controlled or regulated by some unseen forces that dwell in the mountains, forests, rivers and springs. As they are the worshippers of the nature, they worship varieties of trees, timbers and rocks.

The Sun God is the supreme god of the Juangs. The Earth Goddess is also one of their premier gods. They believe that the earth is the wife of the sun. They can't begin any work without worshipping the Sun God and Earth Goddess. In every village there exists a village deity. The village deity manifests in the form of an elongated and sharp granite stone in the middle of the village or on either side of the terminal points. In general, the village deity (Gramashiri) is worshipped in front of the Majang i.e youth dormitory of the village. The village deity saves the villages from all sorts of diseases and dangers.

There is another village deity in the Juang villages known as 'Thanapati'. The Thanapati is worshipped on the hilltop. There is no fixed idol for the deity. He is worshipped in different names in different villages. 'Bhima Badamma' and 'Kanchuri' are the two other village deities. They are known as 'Changu Gods' (the gods of music) and are worshipped in the Majang. In relation, they are husband-wife. The Juangs believe that these gods exist in the changu, the musical instrument. During the 'mango eating festival', the unmarried young men and women worship these gods who in return take care of the health of the young men and women. They also help release of good music from the Changu. The Juangs believe that when these gods are angry, one can't get good music from the instruments. During marriage and other occasions of dance and song competitions, young men and women worship these gods so as to be successful. They worship and sacrifice chickens before 'Bhima Badamma' and 'Kanchuri'.

The Juangs believe that their gods and goddesses dwell in the nearby hilltop, forest, rivers and springs. They believe them to be staying on the mountains of Malyagiri, Gandhamardan, Gonasika, Bhimagiri, Guptaganga, Ramagiri etc. They have many deities named after the nearby forests and mountains. They simply add 'pata' as a suffix or prefix to the presiding deity. The deities of the river and mountains are known as Gutipata, Rangapata, Kalapata, Baitaraneepata, Kuteisuni, Kendeisuni, Nua thakurani, Duarasuni, Baunsatalia, Bisnupata, Sarupata, Muchuri thakurani, Katamudia thakurani, Bandirimulia etc. They believe that the river gods always save them from danger whereas the spring deities always put them in trouble.

There are many riddles like the following.

"Mamuan inyara muinto alez
Mesaroz muin jena" (in Juang language)

"Mamu ghare gothe gai
Rati pahile mote nahin" (in Odia)

Answer: Stars

Explanation:

It is already said that sun god is the principal deity of the Juangs. The entire universe gets light and energy from him. The plant kingdom receives light and energy from the sun god and provides food to other living beings. Animals live on the food from the plants. Because of the sun god there is rain in the world. Summer, autumn, dewy, winter, spring and rainy seasons are created by him also. Likewise the moon is the source of bright, cool and clear light. The bright light of the moon drives out the darkness of night. The moon light makes the earth and sky more attractive and beautiful. The stars vanish through the day as if they have all escaped to their maternal uncle's home from the heat of the sun. In the evening, after the emergence of darkness the stars come one after another. The scattering of the stars in the dark night gets expression in the riddles of the Juangs.

"Khuntuaa dokasere terez" (Juang)

"Kuntare basichhi tiki chadei" (Odia)

Answer: Mid Day (the sun is over head)

Explanation:

The sun is over our head at noon. It seems like a bird sitting on a pillar. At that time the Juangs collect fruits in the forest. In the mid day they come back to their village.

"Nuansini chaudagota alez
Tana gokseraki tirisjana" (Juang)

"Naa nangala chauda balada
Bhata neuthile tiris jana
Khai basila jane" (Odia)

Answer: Solar family

Explanation:

The Juangs also sing riddles on the solar system. All the planets live encircling the sun as if for one servant there are nine pieces of plough, fourteen oxen and one person to consume it i.e. the sun.

2. Relating to Animals, Birds (Living being)

The Juangs dwell in the natural environment of mountains and forests. Even if they live among wild animals, their sense of friendship and love relationship is really great. They keep many types of domestic animals. We find riddles on the domestic animals like the cattle (alez), buffalo, pig (butae), sheep (gadra), goat (merom), dog (selok), fowl (senkoe) and the wild animals like the tiger (kilak), monkey (sakoe), lion (jata kilak), bear (banae), wolf (sardul), snake (babung), deer, wild cat (kataksar), cockroach (suanli), wasp (usurubanga) etc.

There are many riddles on the animals. Some of them are on domestic animals and some are on wild animals and insects which are discussed below.

“Rajaa sinkudi atezte tezte” (Juang)

“Rajaara mala chhinde nahin” (Odia)

Answer: Ant Chain

Explanation:

A chain is lying stretched on the ground. Generally the chain is an ornament of the Juangs. Juang male and female both wear this on their necks. This enhances their beauty. This chain belongs to none but the king. The Juangs have composed a very interesting riddle observing this chain. The answer to the riddle is the Ant Chain.

“Daka sena lo kuji budi

Aaing ande sarag buli” (Juang)

“Basithalo kuji budhi, mun jaauchhi saraga buli” (Odia)

Answer: Winged Ant (kalei)

Explanation:

Winged ant (Kalei in Juang, Jhadi poka in Odia) is known to be an important dish of the Juang. It also influences the Juang life. Especially in the rainy or winter season these insects constitute an important food item. When the Juangs are in the village community house (majang) or in the forest, they spend time by reciting riddles. One such riddle is one - the insect winged ant. When it wings and flies it creates a pride in its mind. The Kalei (winged ant) taunts the termites this way.

“Aleza ju keera jena

Kantanga ising jena

Keera urke dabate dabate” (Juang)

“Gaaeera khira nahin

Bachhurira gada nahin

Khira pie dhain dhain” (Odia)

Answer: a snake swallowing the frog

Explanation:

The Juangs also recite riddles on frog and snake. One such riddle is on the scene when the snake is swallowing the frog.

“Inyara aasike, baera jaate” (Juang)

“Ghara achhi duara naahin” (Odia)

Answer: the structure of the cocoon

Explanation:

The structure of the cocoon is very wonderful. The silkworm creates cocoons by its saliva after eating the leaves of castor (jada) plant. The cocoon looks like a house but it has no doors. That's why it is said that there is house but no door.

“Aagilata sini, achata alez” (Juang)
“Aagare langala pachhare gae” (Odia)
Answer: Pig (swine)

Explanation:

The face of the pig is sharp and like the plough. It collects food from mud by using this pointed face. It creates the hallucination of ploughing the land. The Juangs compare the face of the pig with a plough and its body with cattle. It is a wonderful riddle. The Juang tells the plough is on the face of pig and the cow is the huge body of pig.

“Aauta uli, nieeta uli, mujia inya” (Juang)
“Sepate pahada, epate pahada, shunyare ghara” (Odia)
Answer: Spider Web

Explanation:

The spider normally creates its web in between the space of two different branches of a tree. The web exists on an empty space. Seeing the scene of a spider web, the Juang women sing this riddle.

3. Relating to Plants

There are many riddles on the plants. Beginning from sal, salap, mahul, ambada (hogplum), black berry, jack fruit, mango etc. to mushroom, potato, sweet potato, bitter potato etc are placed in riddles. The Juangs recite many riddles where many plants and their characteristics are well explained. Some riddles of this category are given below.

“Muinto kila sathiegota mainsail” (Juang)
“Gotie kilare sathie mainsi” (Odia)
Answer: Jackfruit Tree

Explanation:

Jackfruit tree is one of the most useful trees of the Juang. The structure of this tree is unique. No one can predict on what point the fruit would come up. Fruits come up from the bottom to top of the tree and even from the root. It is like sixty buffalos knotted together to one pole.

“Raja sedakde aakukde kukde” (Juang)
“Rajara kabata khole nahin’ (Odia)
Answer: Siali Fruit

Explanation:

The siali fruit is one of the most favorite foods of the Juang. The structure of the fruit is such that it is very difficult to take out the kernel from the nut. The internal essence comes out after it is burnt in fire. When broken, we find the seed inside. It is just like the Odia folk tale; the deep sea, seven layered mud, the magic box inside and within the box lays the life of old demon. This mystery takes expression in a riddle.

4. Relating to Material Culture

The Juangs use varieties of household objects, musical instruments, agricultural and hunting implements. This is called the material culture of the Juang. There are riddles on household, village, utensils, agricultural items, cloth, necklace, weapons, basket, broom etc.

The life style of the Juangs is very simple. They normally live in hilly and forest areas. They dwell in small thatched houses made of mud and wood. On the wooden and bamboo walls they put layers of mud and cow dung. The cottages don't have windows. There is only one door at the front. Their cottages are very small and single roomed. The single room cottage is normally divided into the following-

1. Store room
2. Bed room
3. Drawing room
4. Kitchen

The interesting thing is that the Juangs divide the only single and small room into four different compartments where they do everything from cooking, cutting vegetable, grinding spice, eating, sleeping and storing etc. In one side of the room, they make a shelf of bamboo or wood where they store paddy, mustard, maize, ragi, horsegram, blackgram, pulses, til etc. This is their store room. In another corner they keep the oven and cooking utensils. This part is considered as kitchen. The middle portion is called the drawing room and bedroom. Just in front of the house or a little away they have a shed for pigs, goats, sheep and cattle. They also have sheds for hen and dog.

Let us observe the following riddle on an item of material culture of the Juangs.

"Muinto selanki nunu egota" (Juang)

"Jhia gotie, stana tinoti" (Odia)

Answer: Oven

Explanation:

The riddle on the oven is very interesting. The three pillars of the oven are compared with the three breasts of a young woman. What a wonderful use of metaphors and images! The aesthetic and literary evaluation is possible with the Juangs only.

"Bae bo ande jajansun
Alung bo ande jajansun" (Juang)

"Baharaku jaauchu chati chati
Bhitaraku aasuchu chati chati" (Odia)

Answer: Broom

Explanation:

The Juang woman always keeps the house clean. How the broom cleans the dust is described in the riddle where the broom goes out licking the dust and comes in licking the dust.

"Aalung bo ande baing baing
Baai bo ande baing baing" (Juang)

"Bhitaraku jaauchu man man
Baharaku aasuchu man man" (Odia)

Answer: Door

Explanation:

It is already said that the Juang cottage has only one single piece door and no window. The sound of the door is also a source of poetry in the Juang community. Just one can see the beautiful riddle based on the closing and the opening of the door.

"Bana bo anaj itibad busure
Inya bo' dunj latop ke' (Juang)

"Banaku gale peta phulae
Gharaku aasile peta sukhae" (Odia)

Answer: Bow and arrows

Explanation:

Bow and arrow (kagak-kakam) is the principal weapon of the Juangs. Previously it was used to hunt birds and animals. With the bow there was a quiver. They keep the arrows in the quiver. The bow is made with crescent bamboo or wood with a string. Arrows are made with thick sticks. The terminal point is attached with a sharp iron piece. Sometimes they paste some poison on the tip of the arrow. When the poisoned arrow penetrates the wild animal, it dies due to poisoning. Then the Juangs return home carrying the dead animal. But unfortunately now a days we don't find any wild animal in the forest. Thus the use of bow and arrow has decreased. Yet the Juangs have some interesting riddles on the bow and arrows.

During hunting, the Juang youth sets the arrow on the bow and stretches it up to his ear with all his might. The bow looks swelling at that time. Once the string of the bow is released, the arrow moves with high speed and the bow again becomes flat.

“Urke belak ke” (Juang)

“Khauchi banti karuchi” (Odia)

Answer: Measuring Bowl of paddy (Mana, Pai)

Explanation:

The Juangs use mana or pai for the measurement of paddy, rice etc. It is normally made of wood or iron or bronze. Sometimes the sal trunk is used to make this measuring bowl. The tip is covered with a metallic plate. The lower part is flat whereas the upper part is crescent. Earlier the Juangs were using it to measure agricultural produce like paddy, rice, maize, ragi, green gram, black gram etc. But now it has become rare. Now-a-days they use modern weighing instruments. Slowly the mana measurement system has disappeared. But some riddles on the mana are still alive. It has been said in this riddle that, the mana is eating the paddy and then vomiting. Paddy is put inside and after measuring it is taken out. What a wonderful simile!

“Buir a guchag sere, Kananda aabuj ke” (Juang)

“Maa soichhi, pua cheinchhi” (Odia)

Answer: grinding stone and slab

Explanation:

The Juangs use grinding slab (aatar) and stone (kanechang). With these household objects they grind rice, spices and other cereals. The grinding slab is called sila and the stone which runs over the slab for grinding is called silapua in Odia. The Juangs have riddles for these instruments.

The grinding slab is compared with a mother sleeping. The stone is compared with her son who is dancing on his mother’s breasts. A mind-blowing simile is used here.

“Selog aatar gendalang” (Juang)

“Kukura lanja banka” (Odia)

Answer: Umbrella Handle

Explanation:

This is a beautiful riddle on umbrella handle. It is compared with the tail of a dog which is always curvy.

“Banaba ande jeksun, Inyab dende jeksun” (Juang)

“Banaku jae kandi kandi, Gharaku aase kandi kandi” (Odia)

Answer: Cow Bell

Explanation:

The Juangs put cow bells around the necks of their domestic animals especially on the cattle and buffalos to locate them outdoors from the sound of the bell. They also do it to drive away the wild animals like tiger, lion, bear, wolf etc. from their cattle. Normally,

they leave their cattle in the forest for grazing. The sound of the bell creates a fear in the wild animals and they don't attack the cattle. The bell is made of bronze or iron.

In the Juang riddle the bell in the neck of the cow is depicted as crying. The cow bell in the cow's neck goes to the forest crying and return crying.

"Khuntua belaie belaie re" (Juang)
"Khuntare buluchhi bela bela" (Odia)
Answer: Scissors

Explanation:

This riddle is created on the movement of scissor at the time of hair cutting.

5. Relating to Food and Drinks

Rice is the principal diet of the Juangs. They cultivate pumpkin, papaya, drumstick, maize, corns, ladyfinger, tobacco etc in their kitchen garden. In their swiddens (taila) they cultivate paddy (dhana or bua), til ((ramatila), dal, maize (juani), horse gram (kalat), ragi (kudu), black gram (sulir), green gram (muga), runner beans (ruma or kalar), millet (jinjari or gangei), jail, kasada, kathia, grass seeds (kangu or suaan), kantala, suture and varieties of corns. All these crops are consumed as their food.

Besides, they take different edible items collected from the forest such as varieties of yams, wild berries, worms, insects, wild meat, wild ants, termites, mangoes and jackfruits, leaves (saga) of different plant like sorisa saga (mustard leaves), kuilari saga, pitabali, chakunda saga, kurusuni saga, sankhua saga, lainga saga, boitalu-latak (a type of sour leaf), silim phula, varieties of jungle mushrooms that includes rutuka chhatu - a peculiar mushroom found in the Juang areas. The Juang women collect jungle fruits and plums like black berry (jamukoli), chaarakoli, kendu, bangur (kusum koli), kusai-tena (dudha koli), lankanai, pudhei koli, jujube (barakoli), guava (pijuli), hogplum (ambada) wood apple (kaitha) etc from the forest which add variety to their food items.

In the winter season the Juangs move in the forest with their spade, crowbar, hatchets and other digging instruments to collect different roots, yams and potatoes. They catch fish, crab etc. from rivers and springs. Their process of fish collection is very interesting. They sometimes collect the bark of a very bitter plant and after boiling the bark they throw this bitter water to the river. The bitterness of the water either makes the fish senseless or kills them. Then the Juangs collect the dead or senseless fishes from the river and eat those after either boiling or burning.

Millet is another principal diet of the Juangs. The Juangs drink the millet gruel in the morning. They relish different types of cakes prepared out of millet flour.

Oats and maize are also important food of the Juang people. They eat maize after burning or boiling. They prepare soup and gruel out of cornflour which is known as 'Juana peg'. They eat the gruel by adding salt and green chilly. They also eat mango seeds, salap juice, wild roots and wild plums.

The Juangs prepare 'black gram rice' (biri bhata) using black gram and rice. First they boil the rice and then they add black gram to it and again boil the mixture. They add salt and chilly with it and eat.

Green gram is also another important food of the Juangs. It is also prepared in the same way. Rice and green gram are put together and boiled in a container. Cake made of mango seed kernel is popular among the Juangs.

"Satapura kambala danchere" (Juang)

"Sata parasta kambala ghodi hoichhi" (Odia)

Answer: Maize

Explanation:

Maize, ragi, millet, oat, wheat, grams, paddy etc. occupy important position in the formation of riddles among the Juang. Maize plant normally grows tall and remains covered with its leaves. It is just like an old man covered with a blanket.

One can't think of the Juang life without liquor. The Juangs forget all their pains of hard labour after consuming country liquor in the evening. Country liquor is the principal drink of the Juangs during the festival like marriage, community functions. In the evening both young men and women drink, dance and enjoy. The Juangs prepare different types of liquor from the vegetations of their natural surroundings. These are mahuli, handia, juani, jinjari, salap, palm, datepalm liquors etc.

Besides liquors, they use tobacco for intoxication. They cultivate tobacco and prepare tobacco pipes (bidi) by using kendu leaf or sal leaf. Whenever a guest comes, they treat the guest by offering some kendu and tobacco leaves. Both Juang men and women smoke tobacco pipes.

"Aalinga ayak do laka susur" (Juang)

"Upare basa tale andaa" (Odia)

Answer: Mahua flower (mahula phula)

Explanation:

One cannot think of the Juang life without the mahul tree, its seeds and flowers. This plant is just like god to them and they worship it. The oil extracted from its seed is used as hair oil for the Juang women. The Juang young women make their hairball with this oil through which they express their love to the young men. The liquor produced from mahul flowers (mahuli mada) is a principal and godly drink of the Juang. In every religious and socio-cultural function, they offer mahuli mada to their deities and ancestors.

They perform a ritual called 'juripaka' (offering of mahuli mada to their supernaturals) in all communal events.

6. Riddles on Verbal Expressions

Their day to day activities like sweeping, sleeping, dancing, playing, climbing tree and hills, etc. are expressed in their riddles some examples of which are given below.

"Kalia raae doko sere, Bilim dae kizke' (Juang)

"Kali basichhi, Gori naachuchhi" (Odia)

Answer: Oven with cooking bowl

Explanation:

The black earthen cooking pot is sitting on the burning oven. It looks like a black woman (black earthen cooking pot) sitting and a fair woman (burning oven) dancing.

"Kuntua terez dokosere" (Juang)

"Khuntare basichhi niti chadei" (Odia)

Answer: A Juang girl carrying water vessel on her head.

Explanation:

A water vessel being carried on her head by a Juang girl from the nearby spring is compared with a small bird sitting on the top of a pole.

"Raja barara uinde uinde" (Juang)

"Rajara bhara dohaluthaae" (Odia)

Answer: The swinging tail of a dog

Explanation:

A Juang boy carrying the marriage gifts hung from a carrying pole (bahungi) on his shoulders from the king's palace is lost in his imagination. The bahungi shivers upon the heavy weight of loads like a dog's tail.

The Literary Significance of the Juang Riddle

The language of the Juang riddles is very simple and attractive. The sentences are very witty and short. In most cases they are expressed very directly. Sometimes they invoke deep thought. The use of similes and metaphors makes the riddles more lyrical and beautiful. The form and structure of different things, their colour, taste, nature and behaviour are depicted in these riddles.

Through these riddles many rare incidents and scenarios of the Juang life is reflected. For example

"Muinto selanki, nunu egota" (Juang)

"Jhia gotie, stana tinoti" (Odia)

Answer: Oven

Through these riddles we find the depiction of day to day life, events and experiences of the Juang community. As the characters of the riddles we find the organic and inorganic elements of their environment. There is uniqueness in the application of simile, metaphor, images and symbols in the riddles. For example-

“Kalia raae doko sere, Bilim dae kizke’ (Juang)

“Kali basichhi, Gori naachuchhi” (Odia)

Answer: Oven with cooking bowl

Here the earthen vessel is compared with the black skinned girl where as the fire is compared with a fair complexioned girl. And look the following riddle.

“Mamuan inyara muinto alez

Mesaroz muin jena” (Juang)

“Mamu ghare gothe gai

Rati phaile mote nahin: (Odia)

Answer: Stars

The universe is compared with the cattle herd of the maternal uncle. The stars are the cows. In the morning when the cows are released from the fetter, they vanish into the grass land. Likewise the stars also vanish at the day break. The similarity between the stars and the cows is unique. But, unfortunately such a folk culture and tradition is now in danger. During marriage and social festivals the Juang men and women were singing and dancing on the beats of the changu. They were reciting riddles and idioms. But this is rarely evident in these days as the younger generation due to the impact of modernity is reluctant to carry forward such age old folk traditions.

Necessity of Preservation of this Intangible Folk Culture

The Juang riddles and songs are integral parts of their Intangible Cultural Heritage. Generally, tangible culture is that part of culture which is tangible or touchable, whereas intangible culture includes song, music, drama, skills, cuisine, riddle, annual festivals, crafts, and the other part of culture that can be recorded but cannot be touched and interacted with, without a vehicle for the culture. These cultural vehicles are called “Human Treasures”. This intangible cultural heritage, transmitted from generation to generation, is constantly recreated by communities and groups in response to their environment, their interaction with nature and their history, and provides them with a sense of identity and continuity, thus promoting respect for cultural diversity and human creativity (UNESCO).

In the present era, the Juang riddles and folk culture are in danger. Now a days, there are few among them to recite or sing these riddles in Juang villages. Under the impact of modernism, these folk cultures are losing their glory. It is the time for to protect and preserve this dying folk culture.

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4. Jaii Juang, At: Bayapandadara, Block: Banspal, Kendujhar
5. Srikant Juang, Teacher, Education Complex, Gonasika, Block: Banspal, Kendujhar
6. Ramachandra Juang, Teacher, Education Complex, Gonasika, Block: Banspal, Kendujhar
7. Shridhar Juang, Prafulla Juang, At: Barhagada, Block: Banspal, Kendujhar
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of an indigent Santal family had to work as slaves. This dispossession and exploitation turned the Santals into rebels and finally they took an oath to launch an attack on the most visible symbol of authority, i.e., the British rulers.

Sidu Murmu and Kanhu Murmu, hailing from the village Bhognadih in Sahibganj district, now in Jharkhand, had long been proceeding over the injustices perpetrated by the oppressors over hundreds and hundreds of their tribesmen. The situation finally reached a flash point and, not surprisingly, a small episode that took place in July 1855 triggered one of the fiercest uprisings that the British administration ever faced in India. The emergence of Sidu and Kanhu, the youthful, dynamic and charismatic leaders, provided a rallying point for the Santals to revolt against the oppressors. On the 30th June 1855, a large number of Santals assembled in a field in Bhagnadihi village of Santal Paraganah. They declared themselves as free and took oath under the leadership of Sidu Murmu and Kanhu Murmu to fight unto the last against the dishonest British rulers as well as their unscrupulous agents. The militant mood of the Santals frightened the authority. A Police Agent confronted them on the 7th July and tried to put the Murmu brothers under arrest. The angry and determined Santals killed the Police Agent. This incident in the States of Jharkhand, West Bengal, Bihar, Orissa and Assam in the Eastern Ganges region. The Santals subsequently reached the state of a full-fledged rebellion. At the time, Orissa, Santal Pargana, Bihar and Kanhu, made engaged in the gains and a part of the gains during the forest and also by the quantity seasonal forest. Raptam, Birbhum, Subis, Bagulpur, the districts of Birbhum, district. For the rights being British of the Santals, they were treated as completely part of Rajmahal. A large number of native agents of the Company were killed. native counterparts, so to say, their upper caste landlords and zamindars jointly started claiming their rights in this new land as well. The Santals felt cheated. Taking the advantage of their innocence and ignorance many Santals were made bonded labourers. Zamindars and the money lenders who first appeared to them as businessmen and traders allured them first by goods and lending goods and money to them on loans. However, when a Santal tried to repay these loans, but was never settled. In fact through the corrupt practices of the money lenders, the compound interest accumulated on the principal amount of the loan which multiplied to large sums. For repaying the entire accumulated amount an entire generation

nim to throw away arms, but instead he rushed on him and killed him with his battle axe. It is believed that Sidu was captured by the British forces through treachery and Kanhu through an encounter at Uparbanda and was subsequently killed in captivity.

The Santal Hul, however, did not end in vain. It had a long-lasting impact. British administrators took shelter in the Pakur Fort to save their lives. The Santals initially achieved some success but soon the British found out a new way to tackle these rebels.

When the battle began, the British officer ordered the troops to fire without loading their guns. The Santals, who did not suspect this trap set by the British, were angry and the duty of keeping peace and order and arresting criminals was vested in the hands of the Santal traditional leaders, the gramatik and the village headman.

Although the revolution was brutally suppressed, it marked a great change in the colonial rule and policy. The day is still celebrated among the Santals with great respect for the thousands of the Santal martyrs, who sacrificed their lives, along with their two celebrated leaders to win independence from the oppressive rule of the zamindars and the British operatives.

Were countered by the rulers with veritable butchery. Out of 50,000 Santal rebels, 15,000 and 20,000 were killed at different locations. The Company was finally able to suppress the rebellion in 1856, though some outbreaks continued till 1857. The Santals showed great bravery and incredible courage in the struggle against the foreign rulers. In the memory of the two legendary fighter of the Santal tribe, Sidu and Kanhu Murmu a University is named upon them. Indian Post has also issued a Rs 4/- stamp in 2002 honouring them.

The Santal bravery in those crucial times is exemplified by the fact that as long as their battle drums continued beating, the whole party would stand up and allow themselves to be shot down. There was no sign of yielding. Once forty Santals refused to surrender and took shelter inside a mud house. The troops surrounded the mud house and fired at them but Santals replied with their arrows. Then the soldiers made big hole through muddy wall, and the Captain ordered them surrender but they again shot a volley of arrows through the hole and Captain again asked them to surrender but they continued shooting arrows. Some of the soldiers were wounded. At last when the discharge of arrows from the door slackened, the Captain went inside the room with soldiers. He found only one old man grievously wounded, standing erect among the dead bodies. The soldier asked

Shifting Cultivation : Looking for an Alternative in the case of the Lanjia Saora of Serango

Sarat Ch. Mohanty ¹

Environmental degradation and ecological imbalance caused by deforestation is a matter of serious concern all over the world. Depletion of the forest cover leads to several problems such as soil erosion, silting up of reservoirs, declining or erratic rainfall etc. Among several ways and means of destruction of forest, shifting cultivation is one.

A Relic of the Old Stone Age

Shifting or swidden cultivation represents an archaic stage of agriculture, i.e., a crude form of agriculture inherited from the prehistoric man of the lower Paleolithic period. In the history of human civilization during the course of metamorphosis from the stage of domestication of animals to domestication of plants, the beginning seems to have been made with shifting cultivation in some form or other. Though its genesis has been lost in the antiquity, it still exists as the world's oldest and simplest form of agriculture. "It is a stage in the evolution of agricultural technique and precedes plough cultivation" (Mohanty, 1986:7). Now shifting cultivation persists in the areas where climatic, topographic and people's socio-economic condition don't favour settled cultivation and technological progress in agriculture.

Shifting cultivation can be defined "as any agricultural system in which forests are cleared by felling and subsequent burning and are cropped discontinuously by employing a period of fallow larger than the period of cropping. Frequently, it implies an aimless, unplanned, nomadic movement or an abrupt change in location either of the cropping area

¹ Officer on Special Duty (Research) & Former Joint Director, SCSTRTI, Bhubaneswar

or the cultivation or both" (Bohidar, 1973:29). Hence, it is also called 'cultivation by rotation' or rotating cultivation, as several plots are cultivated in rotation.

The salient characteristic features of shifting cultivation are (i) rotation of plots (ii) slash and burn of vegetation before cropping (iii) use of family and cooperative labour as chief input (iv) application of crude technology by use of simple implements such as hoe, digging stick, knife, axe, sickle etc (v) non-use of modern agricultural technology and draught animals (vi) abandoning the site for a couple of years for regeneration.

It is a well-known fact that this mode of cultivation is resorted to by the folks dwelling in the interior mountainous and forest tracts, i.e., mostly tribals, in India and elsewhere in the world where enough plain lands are not available for settled cultivation. They continue with the practice, as they have no other alternative. "Notwithstanding the meager yield...the most remarkable feature of this mode of cultivation is that almost all varieties of cereals, pulses, millets, oil seeds and vegetables are grown in one plot which is well nigh impossible in the plain wet land cultivation" (Behura, 1990:2). These folks who struggle hard to survive "...without any assets other than their own labour have found a natural answer in shifting cultivation to the physiographical characteristics of land from which they have to eke out their precarious livelihood." (Chandrasekharan, 1983:20).

The existence of this primitive agriculture since the hoary past is a proof of its deep impact on the tribals mind and psychology. It's continuation across generations since time immemorial has made it a way of life for them. "It has undoubtedly evolved as a reflex to the physiographical character of their habitat. People who lack emic perspective condemn it as pernicious and detrimental to ecosystem. In common prevalence it has acquired disparaging connotations. Nevertheless, it is a type of farming technology based on specific adaptation to forest and hilly environments" (Behura, 1990:2). The most important factor in tribals continued love for shifting cultivation is that it forms part of his cultural milieu in which he is brought up." (Rao, 1989:2).

Present Scene

"Shifting cultivation is practiced with some variations, through out the tropical and subtropical regions of the world"(Mohanty, 1986:17), "... especially in the regions of high rainfall and temperature where conditions are favourable for quick growth of plant species. There is no reliable information about the coverage ... Yet approximately 200 million people carry on this practice covering a land area of 36 million sq. km" (Banerjee, 1972).

In India though shifting cultivation is practiced in different interior tribal areas, there is no authentic data on the coverage of area and population. According to an estimate made in 1959, 26.44 lakhs of people comprising 5.29 lakh households are engaged in this subsistence agriculture covering an area of 5.42 lakh acres (Chandrasekharan, 1983:20). The

report of the National Commission on Agriculture (1976) has put the figures on coverage of area at 13,55,300 acres or 5,42,100 hectares. "But the actual area under direct use as real or potential... would be indeed five times more that is approximately seven million acres... One estimate puts it that 109 tribal communities, 5,28,940 households and 26,44,200 population depend on it for their partial existence" (Behura, 1990:1).

The practice of shifting cultivation goes in 15 states of India viz, Andhra Pradesh, Arunachal, Assam, Bihar, Jharkhand, Karnataka, Kerla, Madhya Pradesh, Maharashtra, Manipur, Meghalaya, Nagaland, Odisha, Tamilnadu and Tripura. It is said that about 24 percent of tribal farmers are engaged in this pursuit in different parts of this country. In states like Odisha, Andhra Pradesh, Manipur and Tripura, the percentage of tribal shifting cultivators varies from 51 percent to 74 percent (Rao, 1989:1). As reported by Mahapatra, among these 15 states, Odisha has the 4th highest percentage of shifting cultivators (66.60%), the highest being in Mizoram (80.74%) and the lowest, in Karnataka (32%) (1988).

Coming to the situation in Odisha, Dr. Mooney's estimate (1951) that, about 1 million tribesmen (25%) were practicing shifting cultivation covering 12,770 sq. miles (8,17,280 acres) or 1/5th of the state's land area appears to be exaggerated. Later in 1958, the ICAR reported lower figures i.e. among 20 tribal communities, 2 lakhs households numbering 10 lakh persons were taking up shifting cultivation in an area of 4 lakh acres. Measuring the patches of shifting cultivation in vegetation maps prepared by the Institute of Forests, Pondichery, the Tribal and Harijan Research-cum-Training Institute (T.H.R.T.I), Odisha, has estimated that about 17 percent of total land area of Odisha i.e. 25.8 lakh hectares is affected by this practice. Major chunk of this area i.e., 23.23 lakh hectares come within the Tribal Sub Plan (TSP) area of the state. Thus the data varies with the source and accurate information is wanted.

Magnitude of the Problem

Shifting cultivation, by and large, has been condemned as ruinous, wasteful and a pernicious mode of land utilization. Whatever may be the attachment of the tribals to this enterprise, the magnitude of damage caused by it to the environments and ecosystem don't justify its continuation. It causes many hazards like drying up of springs, soil erosion, deforestation and ecological imbalance affecting the atmosphere and rainfall.

So long as the land man ratio remained favourable, this practice did not pose so much of a problem. However with the growth of population over period of time, the equilibrium between the people and forest area has been disturbed. This has affected the reduction of fallow period in between two cropping cycles leading to rapid depletion of soil fertility and permanent damage to land, which again led to extension of its coverage to larger tracts of forestland. Such a situation is posing a serious problem in states like Odisha.

In Odisha almost, every 14th tribal person is a shifting cultivator. "This emphasizes not only the acuteness of the problem but also to the extent to which it is resorted." (Mohanty, 1986; 19-20). The soil and climatic condition in Odisha with average annual rainfall of 60 inches, is not conducive to quick growth of vegetations. Due to pressure of population leading to shortening of fallow period, the crop yield is low. It does not help the tribals to get a good return and therefore, to attain a standard of life beyond the subsistence level. Studies made by T.H.R.T.I, show that this practice is uneconomic as the requirement of seed and labour is high and the returns are low as compared to the settled cultivation.

Facing the Challenge

The need for tackling the problem of shifting cultivation has been felt even before independence. In 1940, the Partially Excluded Area Committee had recommended for rehabilitation of the tribal shifting cultivators upon plain valley bottom lands with the assistance of required modern inputs. After independence colonization programme has been implemented for diverting the shifting cultivators to settled agriculture. During the last decade "podu prevention scheme" sponsored by the Ministry of Agriculture, Govt. of India, has been undertaken in certain tribal areas of the state where podu is practised extensively. But so far these programmes have achieved limited success due to tardy implementation and inadequate coverage of the area and people. Further attempts to check shifting cultivation through legal ban and prosecution evoked resistance from the tribesmen. They became more adamant to continue this practice. As a result, it was difficult to enforce the legislation.

Prof Behura observed, "shifting cultivation persists, through an interplay of the ecosystem, social structure and economy of the primitive tribes and this is bolstered up by the economic interests of encysting complex societies and lack of an appropriate state policy...It is a complex socio-cultural relationship between the ecosystem and historico-economic relationship with encysting communities" (1990:3). According to Roy Burman (1988:87), it "...has a certain degree of autonomous existence of its own in the cognitive framework of the concerned communities" and so "any attempt to interfere with them by taking recourse to its regulation" for "better environmental management is bound to meet with strong resistance." However the majority opinion goes for checking this harmful practice. To achieve this objective, viable alternatives have to be found out and provided to the people who depend on it for their survival.

Looking for an Alternative

The search for a viable alternative is going on and experiments have been made and are being made. The rational approach to handle the problem should be multi-pronged aiming at bringing about the holistic development of the target area and people. This calls for formulation and implementation of two major programmes for (i) infrastructure development (ii) economic development for the rehabilitation of tribal shifting cultivators.

The infrastructure development programme should cover sector like education, housing, road communication, drinking water, health care, marketing, electrification, cooperation etc. Spread of education must be accorded priority as propaganda can be made and awareness can be generated in favour of transition from primitive agriculture to modern modes of food production. The programme for economic development must focus at promotion of modern agriculture and allied sectors as more profitable alternative to shifting cultivation. Since enough plain lands suitable for settled cultivation are not available in the undulating terrain of the tribal habitats, steps should be taken to increase the productivity of the existing farm lands by developing these through scientific soil conservation measures and providing irrigation facilities. This will make way for introduction of scientific methods of agriculture, horticulture, animal husbandry etc supported by training, extension services and supply of required modern inputs to the tribal farmers ensuring optimum utilization of available resources.

In the context it is a widely accepted proposal that a comprehensive programme of soil conservation, agriculture and horticulture to cover and conserve the podu ravaged hill slopes by raising fruit plants or by agro-forestry combined with the development the valley bottom lands by terracing is expected to produce good results. An experiment of this kind is running among the Lanjia Saora of Serango area in Gajapati District of Odisha. Its impact is analyzed in this paper.

A MICRO LEVEL EXPERIMENT: The Case of the Lanjia Saora of Serango

The Lanjia Saora a primitive section of the Saora tribe inhabit a contiguous mountainous territory stretched across Rayagada and Gajapati districts of Southern Odisha. They are shifting cultivators and at the same time expert terrace cultivators. As they thrive upon a land and forest based economy, they supplement their earnings by occasional hunting, fishing, wage earning and round the year forest collections. They exhibit a high degree of indigenous skill, ingenuity and technological outfit for preparing the terraces with inbuilt water management system. Mainly they grow rice in terraced fields and a variety of minor millets, cereals, and pulses in the swiddens. Among many remarkable features of their socio-economic life is their traditional system of labour cooperative called Ansir, which ensures supply of labour for labour intensive operations like swidden cultivation, house construction, terrace making and cultivation and infrastructure works in the village. Prof. Naik's precise account of the tribe's way of life with reference to swidden and terrace cultivation deserves mention here.

"The Saora since generations living in hill slopes and mountain terrains have been driving nourishment from the resource bases of the hills and forests in multiple of such ways satiating small needs and making a bare minimum living. One of the main mode of living devised and adopted by them is swidden cultivation...A variety of crops...are grown in the swidden fields with the help of a small number of implements, the methods employed being crude, the

process being labour intensive, and the productivity being low... Up until the time the hilltops and hill slopes were having verdant forest growth, the Saora were exploiting the hills and swiddens with mirth and furry. Swidden cultivation was their way of life. Establishing small settlements nearer to the swidden fields was the practice; and moving the settlement site alongside moving into virgin swidden plots was the norm... With the depletion of forest growth and the underwoods, swidden cultivation did not pay dividends and the Saora started preparing terraced fields by stone bunding method in an ingenious way" (1992: 36).

After independence the Lanjia Saora were exposed to tribal development programmes. During the 5th Plan, Tribal Sub Plan (TSP) approach was adopted and in due course the Lanjia Saora was identified as one among 13 Primitive Tribal Groups (PTG) now redesignated as Particularly Vulnerable Tribal Group (PTG) in Odisha. For their all round progress two Micro Projects, one located at Puttasing in Rayagada district and another at Serango in Gajapati district started functioning.

One of the Micro Projects, the Lanjia Saora Development Agency (LSDA) of Serango has been grounded since 1979. It has executed some income generating and infrastructure development schemes for the Lanjia Saora of 21 settlements of the Agency area primarily aiming at reducing the incidence of shifting cultivation and restoring the degraded hill slopes as well as the natural environment by way of providing alternatives in shape of modern agriculture, profitable horticulture and allied pursuits along with land development, input assistance, irrigation facilities etc. It has also tried, within its limited means to develop critical and essential infrastructures and services those are incidental to income generation, like road communication, education, health care, drinking water, housing etc. in this remote tribal pocket in order to improve the general living standards of the people. Many of these schemes, especially those on agriculture, soil conservation, irrigation, horticulture, drinking water, and housing have fared well and yielded good results because of popular acceptance.

Besides the Micro Project, other development agencies such as, the T.D. (later C.D.) Block of Gumma, TDA (later I.T.D.A) and D.R.D.A. of Parlakhemundi have undertaken some development works in sectors like road communication, drinking water, agriculture, horticulture, irrigation etc. The overall impact of the exercise undertaken by all these agencies is conspicuous in the process transition started in the area and the way of life of the people. This change has affected their dependence on traditional archaic mode of subsistence derived from shifting cultivation and forest collection in favour of better gainful economic pursuits. Though they have not totally stopped shifting cultivation, they have found a profitable alternative in accepting modern agricultural and horticultural practices and more particularly in cashew plantations introduced by the Micro Project raised in their unproductive waste lands, high and dry lands and denuded hill slopes. Of course the Lanjia Saora beneficiaries deserve major part of the credit, as they, shedding

their ignorance, initial suspicions and inhibitions have come forward to accept and derive benefit out of these schemes for their own betterment

ECONOMIC DEVELOPMENT

Agriculture, in its age-old form, has been the mainstay of the Saora's subsistence economy in the area. It is going to remain as such for days to come. As their life and culture is intimately linked with this enterprise, economic development of the tribe cannot be feasible ignoring agriculture and its related fields. That is why, modernisation of agriculture supported by land development, irrigation, modernization and technology upgradation of farming practices, horticulture and agro-forestry, have been kept in the center stage as core programs for their economic development with due emphasis on allied sectors like animal husbandry and cottage industry.

The basic objectives of these infrastructure and economic development programmes is to wean the PTG away from their archaic forest based subsistence activities like the slash and burn cultivation and rehabilitate them through settled agriculture, horticulture, agro-forestry and such other practices ensuring the best utilisation of the available natural and human resources and by providing them productive assets envisaging adequate income generation, a dependable livelihood and better living conditions. Undoubtedly, the development intervention has made a cumulative impact on the life and culture of the Saora. In order to assess the extent progress made in various sectors the data of the recently undertaken socio economic survey (2002) has been matched with that of 1980 and 1982 (as the case may be depending upon availability of the data) that is the starting phase of the Micro Project. The Salient findings which have a bearing on the practice of shifting cultivation is presented below.

■ Development of Settled Agriculture vis a vis Shifting Cultivation

Between 1980 and 2002 the implementation of soil conservation and land development programmes has effected the expansion of farmland area. This growth rate (322.75%) is more than two times higher than the shifting cultivation area, which is 175.46 percent. The growth in this permanent asset of settled cultivation has affected the pursuit of swidden cultivation; the growth rate of shifting cultivator households has been much slower (45.89%) during this time.

■ Provision of Irrigation

The Lanjia Saora is already endowed with the indigenous skill of water management associated with land terracing in their difficult terrain. As they are fully aware of the value of water for settled agriculture, the irrigation facilities created by the development agencies have gained high level of popularity among them. In most of cases, the Saora farmers have come forward to demand construction of irrigation structures with definite proposals suggesting the location, source and type of structure feasible.

To meet their needs a number of irrigation structures have been built covering a total ayacut of 307.15 acres i.e. 16.78 percent of the total farmland area in 13 villages. The growth rate in terms of ayacut is a whopping 708.78 percent.

- **Development of Horticulture**

The Lanjia Saora are plant lovers. They take all care to preserve the fruit plants in their villages, hills and swiddens. Because of this the horticulture programme introduced as an alternative to swidden cultivation has become very popular. Among all horticulture programmes, especially the cashew plantation drive has received overwhelming popular response for its low maintenance and high profitability. It has turned into a people's programme and gathered momentum. They are now growing cashew in wastelands and hill slopes often covering parts of swiddens on their own initiative without depending on external assistance that they received in the initial phases. Presently more than 80 percent families own cashew orchards from which comes a large part of their income. Helping them to enhance their level of income, it has emerged as a major economic pursuit. The largest number of Saora households (52%) depends on it as their primary source of livelihood and another 15 percent, as their secondary source. As a result, shifting cultivation is gradually being pushed to the back stage.

The data shows that, horticulture plantations in shape of kitchen gardens, backyard plantations and orchards now cover 11.48 percent (1036.59 acres) of the total land area and almost all the households i.e. 1240 (99.92%) own plantations of one kind or other. The average area of plantation per household and per capita comes to 0.83 Ac and 0.20 Ac respectively. The average number of trees per household is as high as 97 and bulk of it are cashew plants.

- **Occupational Diversification**

The occupational pattern of the Lanjia Saora during 1980 shows their exclusive dependence on traditional economic pursuits. The largest number of households (95.74%) pursued shifting cultivation (78.4% as primary occupation and 17.34 percent as secondary occupation) followed by wet cultivation (73.9%), forest collection (60.7%), wage earning (48.7%) and animal husbandry (19.9%).

The development intervention has effected diversification and mobility in their occupational structure. In the traditional sectors, shifting cultivation has gone down to the third position with 91.45 percent households pursuing it, majority of whom (87.55%), as secondary occupation and only 3.62 percent, as primary occupation. Forest collection has taken the first position engaging 97.1 percent households but only as a secondary means of livelihood. In the second rank comes settled cultivation taken up by 93.63 percent of households (41%, as primary and 52%, as secondary).

Occupational diffusion has taken place with the emergence of new sources of livelihood like horticulture (66.56%) and a host of skilled and semi-skilled trades and services in the secondary sectors such as small business, mason job, carpentry, black smithy, auto-rickshaw driving, tailoring and salaried jobs. The Saora by now have understood that, engagement in horticulture is a paying job. In the agricultural season, they remain engaged in cultivation dividing their time within agriculture, horticulture, and forest collection activities. In the lean season and spare time, they take up wage earning.

The Saora are an enterprising folk. Since the past, they have been temporarily migrating to far off places outside the state, like Assam, Arunachal, Maharashtra etc to earn higher wages working as contractual labourers in construction works, tea estates and other establishments. Now this trend has picked up with many of them going out in search of better wages during lean months and returning home in busy agricultural season bringing new skills, ideas and extra money. Very prudently, they spend their savings out of all sources of income viz agriculture, horticulture and wage for acquisition of permanent, productive and personal assets like farmland, draught animals, modern implements, articles, dress, ornaments and furniture, and also for raising pucca houses and plantations.

■ Growth of Population & Literacy

With the intensification of development activities the target population rose from 4182 to 5114 between 1980- 2002 at the rate of 22.28 per cent whereas the growth rate of the Saora tribe between 1981 and 1991 Censuses was only 8 percent. But the average household size came down from 5.14 to 4.12 tending to smaller nuclear families.

The progress made in the fields of literacy and education is remarkable. Till the late seventies the project area had a very low level of literacy i.e., a miserable 1.9 per cent. With the proliferation of educational institutions and exposure to the agencies of change during the eighties and nineties, the people's level of awareness about the benefits of education have risen. Now it is 23.89 per cent that is higher than that for all tribes in the state (22.31%) and in Gajapati district (18.54%) as per 1991 census.

To look at an important indicator of development that is women's literacy, in 1982 there are only 23 female literates against 215 male literates. By 2002 the number of female literates rose to 377 accounting for 14.43 per cent of the total females (higher than 5.48% tribal female literacy recorded in 1991 census for Gajapati district) as against 845 males (33.77%) and registering a phenomenal growth at the rate of 1539.13 per cent.

CONCLUSION

For the Lanjia Saora of the Serango area the process of socio-economic transformation has started. The signs of change are visible. Yet there is still a long way to go. The level of literacy and education, health care and such other essential facilities needs

to be raised further. To provide at least 2 Acs of farmland to each family has not been possible for the pressure of growing population and the fixed land area as well as the undulating physiography of the land limiting the scope for expansion. Of course by adoption of soil conservation and land development measures, modern agricultural and horticultural techniques and practices, the productivity has increased. Horticulture in form of cashew plantation has emerged as a profitable enterprise. But there is a note of caution. Plantation of Cashew is monoculture. The eco system maintains itself upon interdependence of a variety of species. The impact of growing a single plant species in large scale in the area on the natural environment and ecology needs to be studied to ward off calamities, if any, in future.

However in the brighter side the initiation to "the settled agricultural way of life" has marked "the beginning of a new Chapter in the socio-economic and culture history of the people ...The alien but innovative traits, particularly the skill and technique of agriculture have diffused into the community and there is greater acceptance of these even at the level of individual cultivators...The spread of innovative ideas in the interior villages has been effected on their own initiative under the economic development programme" (Nayak, 1992;37). Whatever tangible achievements made has been possible due to the people's interest and participation in the programmes.

Here comes the most important question about the impact of this development intervention on shifting cultivation. The data analysed in this paper indicate that (i) over these two decades the shifting cultivator households have grown at a slower pace than all the households and the land holding households reducing their proportion from 99 to 91 per cent in the total composition, (ii) similarly the swidden cultivation area have expanded at a rate that is less than half of that of farmland area, (iii) parts of the swiddens are now coming under the cover of cashew plantation, (iv) the extent of dependency on shifting cultivation as a source of livelihood is also coming down with the majority of shifting cultivator households (87.55% out of total 91.45%) taking it up as a secondary means of livelihood and (iv) the average household size has declined too; all of it indicating change of preference from this labour intensive primitive mode of subsistence to greener pastures. Particularly, the enhanced income from settled agriculture, horticulture and other new pursuits has helped to weaken the stronghold of shifting cultivation on the people. " At the same time of course, the depletion of natural resources in general and the forest growth in particular surely has been the limiting factors to their propensity for all those exercises in swiddens" (Nayak, 1992; 37)

It is not an easy task to make the tribesmen give up overnight this age-old pursuits, which is deeply rooted in their culture and psychology. It will take some time to wean them away from this practice. For them shifting cultivation is an old habit and people say, "Old habits die hard".

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Biodiversity in Crops and Heritage Agriculture Systems of Koya

Padmini Pathi¹

ABSTRACT

In recent years the tribal agriculture and traditional systems of natural resources management has posed to be an important subject to be studied. The traditional agriculture and management systems of tribal communities in sustaining production systems is still relevant today and continue to justify its relevance in future. In this context, the author has reflected upon the traditional agriculture of Koya tribal community in Malkangiri in a perspective of biodiversity in crops. The paper presents the unique and distinct aspects of Koya agriculture with precise documentation of traditional crop varieties, especially that of paddy varieties, that are still preserved by the community through ages. The author further argues that there are elements in Koya agriculture that set standards for being considered for documentation under Tribal Heritage Agriculture Systems.

Key words: Koya, biodiversity in crops, traditional agriculture, shifting cultivation, traditional knowledge

The traditional agriculture and land use patterns in tribal areas have come under direct influence of climate change. The innovations in agriculture popular as improved and scientific models are by and large oriented towards maximizing productivity and yield from unit area of land and also depict a clear shift from subsistence agriculture to cash crops or a mix of the two often with inappropriate proportions. In recent years the tribal agriculture and traditional systems of natural resources management has posed to be an important subject to be studied. Although literature in this regard, especially in the context of traditional tribal agriculture and climate change impacts, are very sporadic, yet what is

¹ Consultant at SC & ST RTI (ppathi.ssa@gmail.com)

emerging that the local practitioners know better and have reflexive coping mechanisms. This reaffirms the notion that the traditional management systems in sustaining production systems is still relevant today and continue to justify its relevance in future.

At an International level trends are emerging indicating efforts for reestablishing trust on traditional agriculture and natural resources management practices in the context of current climate change impacts worldwide. Realization is emerging that the connection of indigenous communities to their land is an important source of resilience, but this resilience depends on an ability to nurture and manage this relationship. In this context, an effort has been made in this paper to reflect upon the traditional agricultural systems of the Koya tribal communities in a perspective of indigenous management of biodiversity in crops.

The Koya Community

The Koya tribal community has been of considerable interest from point of view of their society and culture. The Koyas are distributed in Malkangiri district of Odisha, and the neighboring states - Andhra Pradesh and Chhatisgarh. The Malkangiri district is inhabited by 13 tribal groups, out of which two communities Bonda and Didayi are designated as Particularly Vulnerable Tribal Groups (PVTGs). These tribal falls under the category of hunter gatherers and shifting cultivators. The Koyas are spread over five blocks of the district and are having the largest population share in the ST category.

The Census 2011 enumerates that there are 56 nos. of ST communities residing in Malkangiri district. Out of them the 'Koya' tribe has the highest population and the second highest population is that of 'Bhumia' Tribe. Bonda and Didayi are autochthonous communities in the area. The Gadabas live permanently in large villages mixed with other tribes and castes. Media, Lodha, Kulis, Koli, Malher, Kolah, Loharas, Kol, Baiga are some of the tribes migrated from other districts of the state.

The Koya language of Malkangiri district is said to be a dialect of Gondi, which is Dravidian in origin. Gonds and Koyas belong to the great Gond family and it is natural that their tongues preserve many resemblances. The language has no separate script.

Koya Agriculture

The Koyas are mainly shifting cultivators. Shifting cultivation in their terminology is known as Lankapodsend. After years of cultivation on a particular patch of land or hill slopes when they realize reduced yield from the fields, usually they shift to some other place both for setting a settlement and taking up cultivation on the new site. However, over the years, as on now, they are not generally shifting from place to place, rather have settled down permanently in a habitation (Mohapatra, 1992-93).

In the current scenario, Koyas practice both shifting cultivation and settled cultivation. While settled cultivation seems to be a recent development spanning over last two to three decades, the shifting cultivation is very ancient and has been deeply ingrained in their culture. Shifting cultivation in their terminology is called Yelka Chaas which is much different than the settled agriculture.

The Koya agricultural land use practice is unique and distinct. The community has identified four different kinds of lands on which different types of crops are grown in different combinations and compositions as well as pure cultures. The agriculture practice is sort of coded in respect of crops specific to land use units. They identify four kinds of lands suitable for agriculture. They are: Lamta Bhoom or wet lands; Yelka Bhoom or moderate to gentle slopes; Gop Bhoom or uplands; and Khaal Gundke Bhoom or stony and pebble lands. The different lands are characterized by slope mainly. While the wet lands are suitable for paddy and jute, the moderate to gentle slopes are suitable for pulses and vegetables. While cereals including hill paddy and millets along with tree crops are cultivated on the uplands, in the stony-pebble lands certain millets and oil seeds are cultivated. Vegetables are cultivated where they are suitable. Koyas do not eat a wide range of vegetables and hence only such vegetables are cultivated which suits to their traditional food habit. Hence a small diversity of vegetables are grown, most of which are grown in kitchen gardens. That apart, the kitchen garden or back yard of house favours cultivation of any kind of vegetables, root and tuber crops, fruit trees, and mainly vegetables that are by habit creepers such as pumpkin, carpet legumes and such.

Land and Water Management in Paddy Lands

The paddy lands of Koya are relatively bigger in size and rectangular in shape. Most of the fields extend beyond one acre in size. The lands lie on a gentle slope and they are not terraced. They lay field bunds only on the downstream side of the field. The Koyas have their own explanations in favour of big sized fields. According to them they decide size of fields in relation to the upper catchments and the runoff from the catchments. If the lands are fragmented into small fields then there are chances that due to surface run off soil erosion becomes a regular problem. In many places where lands have been fragmented to smaller size the soil erosion starts with rill erosion and, if unattended, may lead to create gullies through which massive soil erosion occurs. With a bigger size land the runoff is distributed all through the fields and across the bunds so that the bunds are not damaged and moisture is well distributed. On the downstream side of the field they dig out small channels before the field bunds which catch the runoff and store water in the channel by which less pressure is exerted on the bunds. The water stored in the channels spread moisture in the field and also becomes available for critical irrigation to save the standing crops in the field under conditions of erratic rainfall and dry spells even in the rainy season. Even if the water stored in the channels is not sufficient for critical irrigation, yet because of

the storage the crops around the water channels survive. This prevents a complete crop loss. In the Koya area irrigation facilities are of very rare occurrence and hence the traditional practice of water management saves them from a complete crop failure. The downstream field bunds are made strong with stones and mud and in many places such plants which have good soil anchorage are planted on the bunds. Vegetation on bunds provides better stability to the bunds. In the wet lands paddy is cultivated as pure crop. The Koya cultivates a wide range of traditional paddy varieties in different types of land. Detailed lists of varieties in respect of upland, medium land and low lands have been listed below.

Varieties of Paddy grown on up lands

The traditional paddy varieties grown on uplands under rain fed conditions have varied duration between planting and harvesting. The duration of harvest ranges between two months to four months. There are tall and dwarf varieties with varied yield quantity. Irrespective of the yield the Koya love to cultivate the varieties. The upland varieties are not transplanted.

Variety	Duration
Basana Kaveri	100 days
Dayabuti	90 days
Govinda	100 days
Kandiribali	100 days
Kakudimanji	120 days
Kata chudi	90 days
Mahulkochi	90 days
Matidhan	100 days
Siklakali	90 days
Satka	60 days
Telkasu	90 days

Varieties of Paddy grown on Medium –Up lands

The paddy varieties grown on medium up lands count more in number as compared to those grown on uplands. The varieties grown on these lands are usually long duration crops that take about four months and more between planting and reaping. These varieties are grown under rain fed conditions and relatively yield better compared to the upland varieties. The upland varieties are transplanted under certain conditions but by and large they are not transplanted.

Variety	Duration
Badamanji	120 days
Benda	120 days

Budma	120 days
Chudi	150 days
Dhega Chinamali	120 days
Godabanda	120 days
Gatia	120 days
Kania	120 days
Kaniangabuda	120 days
Kaparbela	120 days
Kandamali	120 days
Lal Dhana	130 days
Muliapati	120 days
Nadia rasa	120 days
Sana Bayagonda	130 days
Saguri	120 days
Sindur	120 days
Telatia	120 days

Varieties of Paddy grown on Medium –Up lands

The largest numbers of traditional paddy varieties are grown on low lands. They are usually tall varieties and grown under irrigated and waterlogged conditions. There are varieties that grow up to 6 to 8 ft height. These varieties not only yield better but also they provide quantitative fodders in shape of straw. They are very long duration crops ranging between five to six months. These varieties are transplanted.

Variety	Duration
Bagura	150 days
Asamchudi	150 days
Barengi	150 days
Batachudi	150 days
Bayaganda	150 days
Buda Chenamali	150 days
Baiganmanji	150 days
Bagudi	150 days
Tikilikata	150 days
Dulardei	100 days
Gudman	150 days
Guruji	150 days
Gatasaria	150 days
Ghalaka	150 days
Kalakas	150 days

Kinuri	150 days
Kalajira	150 days
Kalakhadika	150 days
Kaliapalsi	150 days
Khajurikoli	150 days
Lalkhadika	150 days
Maguramundi	150 days
Mandiamanji	150 days
Methi	150 days
Memalmatu	150 days
Machhakanta	150 days
Mahipal	150 days
Nageni	150 days
Osabal	150 days
Pande	150 days
Poda	150 days
Punjidhana	150 days
Ratanchudi	150 days
Renga	150 days
Suru	150 days
Suruja	150 days
Sikanhirate	150 days
Singapuria	180 days

Cultivation on the Slopes

On the slope lands mixed cropping system is usually followed. This is sort of very typical to the shifting cultivators elsewhere in Odisha. The multiple cropping in a shifting cultivation system is very important in the context of food security, crop harvest security, and above all in a larger context helps preservation of crop germplasm that are specific to the terrain and conditions. Koyas take up mixed cropping in all slope lands except the somewhat leveled paddy lands. Crops ranging up to 30 varieties are cultivated on the slope lands under rain fed conditions. The Koya, by dint of their age old experiences and by suitably employing their traditional wisdom have been able to plan out different combinations of crops in respect of specific land use units for assured production. The various combinations of crops are like: Hill paddy and black gram; Hill paddy, finger millet and arhar; Hill paddy and finger millet; little millet, sorghum, maize and arhar; little millet, sorghum, black gram or green gram; Maize and cow pea; little millets (suan and kangu), sesamum and sorghum, etc. With these combinations they have further improved their package of practices for better productivity and sustainability.

On the slopes a wide range of cereals, pulses, oil seeds, vegetables, and spices are cultivated. In a typical Koya shifting cultivation fields one would find hill paddy, little millets like suan, koda, kangu, finger millet or ragi (tall and dwarf varieties), maize, sorghum, fox tail millet, etc among cereals; arhar, horsegram, black gram, green gram, varieties of cow pea, bargudi, other legumes like varieties of carpet legume, etc among pulses; niger, sesame, castor etc among oil seeds; tubers like Nangelmati (yam), Pandemati (sweet potato), hema (colocacia), tapioca, etc; vegetables like appa (brinjal), wanga (tomato), sukar bhenda (ladies finger), wekum (cucumber), burkha (Lau), gumad (pumpkin), nirgumad (ash gourd), vira (ribbed gourd), kankad (spine gourd), benda (small ladies finger like fruit, sour in taste), etc.

Crops grown in Kitchen Gardens

In the kitchen gardens Koya cultivates brinjal, tomato, chilli and carpet legumes. They are also very traditional varieties. Amongst these crops the carpet legume (samba/sembi) has many varieties. The varieties are named as Bami Semi (long, slender with twisted ends), Bariha semi (medium length, flat, looks like ear of wild boar), Goti semi (appear as singlets, small but with compact seeds), Aat semi (its seeds are only eaten), Jhata semi (clustered fruiting, common type), Ganthi semi (fruits at nodes and internodes, yields well), Ranga semi (purple colored legumes, yields well). Semi is the most common vegetable in the backyard and kitchen garden of Koya. Semi is part of their every day diet. Similarly, a type of traditional tomato variety is raised by the Koya which is locally called Bhejiri which in mainstreams is known as cherry tomato. The Koyas are very fond of this vegetable. Along with that a variety of chilli, of the bird chilli type, is grown by them which is very hot. The chilli is very much a part of Koya food habit.

Preservation and Conservation of Crop Germplasm

The Koyas carefully preserve the seeds of their traditional crop varieties. They employ their traditional wisdom and traditional technology for conservation of seeds. Usually they stock the paddy seeds in large sized bamboo containers. The containers made with bamboo splits are called Doli whose inner and outer side is smeared with cow dung. After storing paddy in the containers they are sealed with bamboo split made lids whose inner and outer side is properly smeared with cow dung. The containers are stored in moisture free places and are usually kept on a stage or platform at a height of about two to three feet from the ground.

The cow pea, bargudi, semi and other legume type seeds are dried and bundled with the pods and are stored in a basket above the hearth so that the smoke emanating from the hearth keeps the seeds safe from the insect and pest infestations. The Koya understand that if the seeds are kept away from moisture then they remain in perfect condition and when cropped they germinate well. Similarly they store the maize seeds without peeling the maize and without dislodging the seeds from the cob. The vegetable seeds are removed

from the ripe vegetables, washed properly, mixed with ash, dried properly and stored in better conditions away from moisture.

Other types of cereals and pulses seeds are dried properly, stored in containers; some herbal insect repellents are mixed with the seeds in the containers that keep them free from any damage from pests and insects. Ash and cow dung are considered very important as insect repellents.

Koya Women in Agriculture

Koya women are very adept to their traditional agriculture. They have good knowledge of the crops suitable to different types of land units such as upland, medium-up lands, low lands, backyards and kitchen gardens. They play a very important role starting from land preparation to harvesting and storing through mid-term agricultural processes like seeding, transplanting, weeding, manuring, plucking and reaping etc. women particularly play the most important role in storing and maintaining seeds in storage conditions for cropping in subsequent years. The Koya women have a very strong and conservative stance on preservation of traditional crops in field and at home. They have a profound knowledge on the biological and climatic indicators through which they forecast the productivity and yield of the field crops.

Tribal Heritage Agriculture Systems in Context

The Koya agriculture has the merit and essence to be called heritage agriculture especially for the vast crop diversity that they have preserved since generations. The Koya agriculture has many elements that make it relevant to be studied in the context of Tribal Heritage Agriculture Systems (THAS) under the initiative towards GIAHS (Globally Important Agricultural Heritage Systems) that was started in the year 2002 by Food and Agriculture Organization (FAO), intended to create public awareness and safeguard world agricultural heritage sites. The elements that qualify Koya for THAS are:

- The nature friendly agricultural practices
- The vast body of traditional knowledge and technology applied in sustaining agriculture
- High levels of agricultural biodiversity and associated biological diversity
- The conservation and preservation of germplasm in traditional crops
- Climate resilient practices

Conclusion

The Koya community has evolved their indigenous agricultural system for subsistence livelihood, which maintains ecological balance, and ensures food security, and perpetuates economic returns. This system is a three-tier agriculture system: where the

terrain is divided into different land use classes based on the elevation, slope and ecological considerations. In their traditional agricultural practice they depict great deal of local indigenous knowledge applied to the management of the resources like land, water, biodiversity and in a larger context of the ecosystem services. The main feature of the Koya traditional system of agriculture is the maintenance of bio-diversity in crops. Different local varieties of crops are grown suiting the climate conditions and depending on their needs.

The traditional agriculture and land use patterns in tribal areas have come under direct influence of climate change. In such a context, the Koya agriculture system has a lot to offer as solutions for maintaining climate resilience through traditional crops by employing traditional knowledge and technology. In the changing scenario when agriculture scenario is changing fast and there is growing appreciation for high yielding varieties to maximize production from unit area of land, there is a growing apprehension that these traditional biodiversity in crops might lose importance and as a consequence may be lost forever. In this context, it is important that the conservation of traditional germplasm in crops be incentivized or encouraged so that these germplasms are not lost forever in the better interest of the tribals, their culture and preservation of the traditional germplasm in crops.

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Indigenous Knowledge and Medicinal Practices among the Santals of Dhenkisal Hamlet of Kalinganagar, Jajpur District, Odisha

Gulsan Khatoon ¹

ABSTRACT

Odisha is home to 62 tribal communities. These tribal communities are at various stages of development. They have a vast repository of Indigenous Knowledge reflected in their every day aspects of life and living. Indigenous knowledge has been referred as the unique, traditional, local knowledge existing within and developed around the specific conditions of women and men indigenous to a particular geographic area. This knowledge system is transferred across generations through oral traditions, processes and practices.

This paper outlines an attempt to study Indigenous Knowledge related to medicinal practices among the Santal tribe of Odisha. The study has been undertaken among the Santals of Dhenkisal hamlet of, Jajpur district in Odisha. The paper presents findings from an exploration of different indigenous methods of diagnosis and treatment of diseases, identification of specific plants used in medicine and cure of diseases, and to document their perception of illness and disease by probing through their system of disease classification. This study reflects the Indigenous healing system of Santals, as well, builds a body of information on Indigenous Knowledge systems in the context of Tribes in Odisha.

Key Words: Shaman, Ethno-medicine, Indigenous knowledge, witch doctor, Anganwadi, ASHA

Introduction

Indigenous peoples throughout the world, occupying different agro-ecological zones have generated vast bodies of knowledge related to the management of their environment. This store of knowledge is known by many names. It is termed "indigenous knowledge", "traditional knowledge", "indigenous technical knowledge" (Howes & Chambers 1980), "local knowledge", "traditional cultural knowledge", traditional ecological knowledge" and "traditional

¹ Research Scholar, P.G.Department of Anthropology, Utkal University, Bhubaneswar, Odisha.

environmental knowledge" (Johnson 1992) denoting slightly different meanings to different users of the concept. There is, however, consensus amongst scientists using various terms that such knowledge that: they are linked to a specific place, culture or society; is dynamic in nature; belongs to groups of people who live in close contact with natural systems; and contrasts with "modern" or "Western formal scientific" knowledge.

Ethno-medicine is a sub-field of medical anthropology and deal with the study of traditional medicines, not only those that have relevant written sources (e.g. Traditional Chinese medicine, Ayurveda) but especially those knowledge and practices which have been orally transmitted over the centuries. The term traditional medicine describes medical knowledge systems developed over centuries within various societies before the era of modern medicine; traditional medicines include practices such as herbal medicine, Ayurvedic medicine, Unani medicine, acupuncture, traditional Chinese medicine, South African Muti, Yoruba Ifá, as well as other medical knowledge and practices all over the globe. In the scientific area no ethno medical studies are generally characterized by a strong anthropological approach more than bio-medical one. The focus of these studies is the perception and contest of use of traditional medicines and not their bio-evolution (Chakrabarty et.al 2012). Traditional knowledge of ethno-medicine generally refers to the long standing traditions and practices of the indigenous community. This knowledge has been orally passed down through generations, and from person to person.

Health is man's most precious wealth; therefore, it has always been a major concern of community development. It is not only an individual concern but also the problem of social as well as national importance. According to World Health Organization (1946) "Health is a state of complete physical, mental and social well being and not merely the absence of disease or infirmity. Health is not just a biomedical problem, but it is influenced by various social, cultural, psychological and political factors. Disease is a universal problem with mankind. It is fact that health and disease are directly interrelated and their concepts vary from culture to culture especially in tribal and other backward community.

World Health Organization (WHO) defines Traditional Medicine as "the health practices, approaches, knowledge and beliefs incorporating plant, animal and mineral based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to treat, diagnose and prevent illnesses or maintain well-being". Countries in Africa, Asia and Latin America use traditional medicine to help meet some of their primary health care needs, as for example, in Africa, up to 80 per cent of the population uses traditional medicine for primary health care. WHO, however, also notes that its use is spreading in popularity in industrialized countries. For example, in the United States, 158 million adults use complementary medicine (a field which incorporates traditional medicine but is broader in scope). WHO also notes, that "inappropriate use of traditional medicines or practices can have negative or dangerous effects" and that "further research is needed to ascertain the efficacy and safety" of several of the practices and medicinal plants used by traditional medicine systems.

Core disciplines which study traditional medicine include ethno-medicine, ethno-botany, and medical anthropology. The ethno-medicinal system or traditional medicine has two universal categories of disease etiology natural and un-natural (supernatural) causes. Natural illness explains illness in impersonal systematic terms.

Thus, disease is thought to stem from natural forces or conditions such as cold, heat and possibly by an imbalance in the basic bodily elements. Un-natural illness is caused by two major types of supernatural forces. Occult causes which are the result of the evil spirits or human agents using sorcery and spiritual causes which are the results of penalties incurred for sins, breaking taboos or caused by God. In the scientific arena, ethno medical studies are generally characterized by a strong anthropological approach, more than a bio-medical one. The focus of these studies is then the perception and context of use of traditional medicines, and not their bio-evaluation. Ethno medicine refers to the study of traditional medical practice. It can encompass methods of diagnosis and treatment. In some cases it is associated with professional medicine men and women, in others with lay persons who have acquired knowledge from parents or relatives.

Materials and Methods:

To obtain the empirical data for the objectives of this purposed study, key anthropological tools and techniques have been used. Extensive and intensive fieldwork was conducted among the target community for primary first hand information. The data collection also employed participant observation, interviews, case study, key informant and focus group discussion as techniques.

The study has adopted ethnographic field work approach. More particularly it has followed in-depth interviews, group interviews, life histories and illness stories, participant observation, photography. The study has also used various methods to collect secondary data from District Medical Office, PHCs, Additional PHC and related organizations. The study also adopted in-depth interviews with the help of check lists, from dhais i.e. Traditional Birth Attendants (TBAs), Ojha or traditional healers, Multi-Purpose Health Workers (both male and female), Anganwadi workers of Integrated Child Development Service (ICDS), etc. The household survey schedule collected data on village social demography, livelihood sources, infrastructure facilities, household disease pattern, treatment sources, and sufferings by different members of the family. The interview notes and field notes were expanded in the same day as initially made.

Study Area and People:

Kalinganagar is situated in Jajpur district of Odisha, India. It comprises Byasnagar municipality, Danagadi block. It is located at latitude: 20° 45' N and longitude: 85° 50' E. It has an average elevation of 51m above mean sea level. The nearest railway station is Jajpur-Keonjhar road and Jakhapura and nearest airport is Bhubaneswar. Duburi, the place famous for number of steel plants is at a distance of 38km from Chandikhol towards the Daitari mines on

the Express highway. The study village Dhenkisala is located in Sukinda Tehsil of Jajpur district in Odisha, India.

The people covered under the study belong to Santal community who speak their own language and have own script known as Olchiki. The Santals primarily eke out their living from agriculture. However, where they live within or very close to the forest, a significant amount of their cash income is earned by way of selling of Non-Timber Forest Produces (NTFP). In the recent years, with the intrusion of heavy and ancillary industries, many of them have switched to the secondary sectors of employment and earning. Very few of them have secured government jobs or have good jobs in the private sector. A large number of them are found to work as seasonal migrant laborers, especially as agriculture labourers.

The Santals are an exogamous clan based group. The clans are regarded as equal to another clan and there is no class distinction either in status or occupation. Thus, their society is characterized by democratic equality. The Santals have their own religion replete with the notion of supreme God, Marangburu deity and a number of other subsidiary deities and spiritual forces -- both benevolent and malevolent. Many of these deities are linked to natural elements like trees, animals, forests, stones, hills, water, stream, river etc. Sometimes they are also found to worship the Hindu Gods and Goddesses. A large section of them claim that they have separate religion which they call Sari-dharam (Das and Basu, 1982).

Discussion and Analysis

To understand the knowledge, belief and practices of traditional medicine system it is necessary for us to review the main types of methods of diagnosis and healing. Like other tribes of Odisha, the Santals have their own methods and practices to cure the diseases. Health, hygiene, sickness, diagnosis and disease-treatment comprise a vital aspect of human society everywhere. They assert that most diseases are caused by supernatural beings. In this connection, the Santal perception and understanding of causes of disease constituted a very important aspect of the study, presented as below.

Causes of Disease

Super Natural Causes:

The people of this area believe in supernatural power and disease or illness caused due to super natural entities. The Santal have strong belief in supernatural being as seen in their socio-cultural life. They also believe that various cosmic forces like sun, moon, rahu, ketu, and others maintain human life and well-being. According to them, the diseases are caused due to:

- Wrath of some village deities
- Ancestral spirits
- Evil spirits
- Evil eye
- Breach of taboo

- Curse and illness.
- Sorcery

Natural Causes:

The people of the study village also have beliefs that all diseases and sickness do not occur be supernatural causes and human agencies. There are also natural causes of diseases. There are some common diseases like fever, headache, cough, stomach pain, etc. that are caused due to some natural causes. Natural causes of diseases are divided into 2 categories:

- Environmental and climatic causes
- Nutritional causes

Sources of Medicine

Plants, animals, vegetables and minerals with known medicinal properties are found in every eco-climatic region, from rain forests to desert. They provide the basic ingredients not only for traditional medicines, but also for climatic derivatives for modern allopathic medicine (Tribhuvan Robin and Peters Pretthi, 1992:20). The same is also true for the Santals who trace their medicines from their locality.

Preparation of Medicine

Preparation of medicine also has a lot of typical behavior associated with it. The medicine specialist prepares his medicine facing east. It is marked as holy direction. Santal tribe of studied village believe that medicinal plants have certain intrinsic qualities such as hot, cold, bitter, sweet, sour, pungent which are the effective active principles for healing diseases. For instance, cold and cough is believed to be caused due to entry to cold air/water in the body. This imbalance is then corrected by administering medicinal plants having hot qualities or hot diet is recommended. Certain plants are interpreted among the Santals to have supernatural powers to cleanse impurity and remove evil effect. For instance, Chillies are used to ward off evil eye effect. Chilly in this situation symbolizes fire (hotness) which destroys the evil effect caused on the patient.

Preparation methods of medicine include decoction/drying, and extraction. Plant infusion/smoke, juice, latex, oil, paste, powder etc. were used/ applied. Plant juice was most commonly used, followed by decoction, paste etc.

There are many forms in which herbs can be administered, the most common of which is in the form of a liquid; infusions or decoctions, that is drunk by the patient either an herbal tea or a (possibly diluted) plant extract. Whole herb consumption is also practiced either fresh, in dried form or as fresh juice. Infusions are hot water extracts of herbs, such as mint or chamomile, through steeping. Decoctions are the long-term boiled extracts, usually of hard or substances like roots or bark.

Many herbs are applied topically to the skin in a variety of forms. Essential oil extracts can be applied to the skin, usually diluted in carrier oil.

Diagnosis and Treatment of Disease:

The most important aspect of the health care system is the treatment. The treatment of illness is primarily a product of socio-cultural phenomenon rather belief about casually influence how the people decide to treat illness.

Santal of Dhenkisala, Kalinganagar area usually go for the treatment of the disease by 3 methods. But they give more importance to the first two methods to cure disease.

- (1) Herbal method of treatment
- (2) Magico-religious treatment
- (3) Modern method of treatment.

Diagnosis:

Methods of diagnosing diseases differ from culture to culture. Santals identify the disease through different symptoms. And the medicine man/ Kabiraj diagnose the disease using different methods. Specialists among them such as Raudia (Sorcerer), Priest (Pujari), Medicine man/ Sharman (Kabiraj), do the diagnosis and treatment as per their own traditional methods.

A detailed enquiry of the type of sickness or suffering of the patient is done by the "Kabiraj". The Kabiraj may use one or many of the following during diagnosis:

- Checking pulse rate
- Checking body temperature
- Colour of the eye and body
- Urine test
- Stick method
- Oil method

The medicine man diagnoses the patient by checking pulse rate. If the pulse rate is normal then the patient is not suffering from disease, but if it is not normal then the patient is suffering from certain disease. In case of fever, he checks the body temperature either by touching fore head or neck. If the colour of the eye and body varies then the patient is ill.

Urine test: Diagnosis through urine test is a very interesting feature of Santal diagnosis of disease. For a urine test, the medicine man takes the urine of the patient and put it in a piece of earthen pot and then adds mustard oil drop by drop to the urine. If the oil spread in the urine then it is diagnosed that the patient is ill, and if it does not spread then it is taken as indication that the patient is healthy and normal. He also checks the colour of the urine, if the colour is pale yellow then the patient is suffering from jaundice and if the colour is reddish yellow then the patient is suffering from some other type of disease.

Diagnosis of diseases includes the culturally prescribed symbolic and normative forms of behavior and stylized bodily actions, gestures, trance states, chants, prayers, words and use

of certain holy objects by the healers to diagnose the origin and cause of illness and then to employ the necessary therapies in order to rest or know about the health of the patient.

Sticks method: The Raudia possess two sticks when he touches the stick to the body of the victims/patients. If the stick expands in length then it is believed that the patient has been inflicted with some disease. The treatment follows accordingly.

Oil method: Raudia puts oil drop on a sal leaf or in a pot full of water and applies his magical power to know the evil spirit who inflicted the disease. It is believed that, after chanting the mantras, he can see the picture of the malevolent spirit on the drop of oil put either on sal leaf or in water. Based on the observation the Raudia decides the course of treatment.

Diagnosis of the diseases is either psychometric or physical in nature and always involves some of magical performances or rituals. The examination of the patients is not done if sickness is prolonged or severe; the service of the mystic person called Diouan or Raudia is sought. The Diouan with the help of concerned spirit determine whether the patient is under spell of enemy sorceries or has some sort of actual physical illness. In serious sickness like epilepsy or distress the cultural spirits are called in. There are several processes by which a Raudia performs the ritual based treatment practice.

Diseases, Medicine and Healing Practices

Sl. No.	Name of the Medicine	Part of the Plant Root/ Stem/ Leaf Fruits, etc.	Used for the Disease	Practice to use the medicine
1.	Bhuru hada + Dhanua lanka	Shrub (Root)	Rheumatism (pain in the joints and legs)	Paste of bhuru hada and dhanua lanka is applied on the affected part at night
2.	Bahada and (+) Amla	Fruit	Cold and headache	Bahada and amla are ground to a fine paste and its juice is taken twice a day.
3.	Karanja	Bark	To clear the blood flow after child birth.	Paste of Karanja bark is taken for 8 days. It also keeps body warm and healthy.
4.	Bhalia	Fruit	Payo derma (skin disease)	Bhalia fruits are grinded and applied on the affected area.
5.	Jhaun Phala	Fruit	Evil eye	Jhaun Fruit is tied in a thread around either in neck or arm.
6.	Gangasiuli + Bela patra	Leaf	Malaria	Juice of Gangasiuli and Bela patra are grinded to extract the juice that is taken in empty stomach in the morning to cure malaria.

7.	Sunthi + Pimpada + Black pepper + Amla + Harida + Bahada	Fruit	Cough and cold	Paste of all is taken and a ball shaped pill is made and taken to cure the disease.
8.	Chilly + Lemon	lemon-peel	Diarrhoea	Paste of all these is made and taken.
9.	Gangasiuli	Leaf	Malaria	Leaf is grinded and juice is extracted from it.
10.	Sunthi + Pimpada + Black pepper + Rasa sindura + 64 gunda+ Sapt bhasma	-	Rheumatism	Take once a day. - If very serious then twice a day. -Paste of all are taken as medicine to cure rheumatism
11.	Maha Sindhu + Pureihi + Phenphena + Asalua chera cheli	root	Rheumatism (Batta)	Boil and grind – take out juice and make oil out of it and apply on the body to get relief.

Magico-Religious Treatment

Traditional medicines of India although based on herbalism, are largely depended on incantation of magical verses and sacrificial rites. The magico-religious practice in treating physical and mental ailments were widespread among the tribal community. Magical rites, divinations incantations, etc. in treating human ailments are very common practice among all the tribal communities. A careful study on the efficacy of these magical practices in treating human ailments reveals that the people who believe in this system get really cured.

It is the power of auto suggestions that knowingly or unknowingly happens with the patients who have faith in the magico-religious medicine. They believe that the diseases are due to action evil eye or the wrath of evil spirits or the wrath of Gods and therefore, firmly believe that the priest and magico-religious practitioners (Raudia) of the clan or tribe have the power and knowledge to ward off these evil effects or appease the Gods and thereby affect curse to them. This faith knowingly works in their subconscious mind which they give them a confidence and finally get cured.

The power of auto-suggestions was perhaps understood well by the ancient man and this probably has led to the origin and evolution of magico-medicine, incantation and use of “charms” or “amulets” etc. for healing diseases. This practice still exists in almost all traditional medicines of the primitive societies.

Such practices of healing by magical incantations or divine interventions are probably nothing but the applications of man’s psychic energy over his body various functions including self-resistance and natural healing. It might have been started as isolated individual achievements among the ancient people but later they found that they can exercise the psychic

power and influence the mental conditions of others. This later evolved into the magico-religious medicine and the priest physicians among the primitive communities. Later, it might have been combined with the herbal medicine and evolved the faith or magic healing along with the administration of herbal medicine as practiced by most of the primitive tribals in the world.

But must be pointed out here that the faith that the common man had in the powers of their priest, shaman and sorcerer has yielded good results and they are able to carry out effective psychic treatments through incantations of "Charms" etc. This is also true in the power of prayers of faith healing advocated by many religious sects as well as tribal society of the world.

Case Studies

Tinu Hembram, a 31 years old male of village Dhenkisala was suffering from jaundice for quite some time. His body and eyes turned yellow and he had lost his appetite. His loss of appetite, nausea, vomiting, yellow colour of veins and itching of body made his family concerned. The witch doctor did some puja and tried to exorcise the evil spirit from his body. That did not work. Then he went to the shaman (Kabiraj) for the treatment of the disease. He gave the patient, roots of bendili plant and asked him to grind the root and extract the juice and take early in the morning before food for 3 days, and avoid oily and spicy food. The patient did the same and his condition improved.

Hemant, a 42 years old male of village Dhenkisala was suffering from T.B for quite some time. He applied many magico-religious practices to cure his disease, but nothing worked. Then he went to the shaman (Kabiraj) for the treatment of the disease. The Kabiraj gave him medicine made out of the mixture of Amla + Bahada + Harida + Cloves + Cinnamon + Cardamom + Duck egg. He grinded all these into a paste, boiled it and added ghee to it. And then he asked the patient to take it twice daily with warm water for 15-30 days. He did the same but the condition remained the same. Then he was advised by one of the villager to go to the ASHA for the treatment of the disease. He went to the ASHA, who took the patient to the hospital for sputum test. The result was positive. So she gave him TB medicine, which was of 6 months course. After completing the course he went to the hospital for sputum test again and then the result was negative, which means his disease was cured by the allopathic medicine. This shows that they give importance to their indigenous method of treatment of disease, but when this fails they opt for the modern medicine as well.

Preservation Techniques

The Santals have certain methods of preservation of their indigenous medicine, which are discussed below:

Juice – Juice should be always prepared fresh. Once prepared, it is generally used within two to three days.

Paste – The dried materials after cleansing from dirt and insects are washed and made into paste. The paste is used fresh. It is preserved for 24 hours adding honey or common salt.

Mixture – The raw materials after cleansing are separately powdered. The powders are mixed with liquor and stored in dry shell containers.

Powder – The dried materials are cut into pieces and powdered with the help of grinding stones. The powders are preserved for a longer period. It is believed that the medicine gets more potency if stored for a longer period.

Pills – It is practically the tablet forms of powder. Sun dried pills and small cakes are preserved for future.

Fomentation – Fresh leaves after heating on fire are applied externally.

Some medicinal plants are preserved or stored after drying it. The parts of plants used as medicines are roots, barks, seeds, etc., are stored in a separate room and periodically they are kept under the sun to avoid fungus and moisture. All the medicinal things like root, fruits, leaf, bark, etc. are kept in separate containers.

The Santals have certain beliefs and taboos about medicinal plants. They are as follows:

- Plants with latex have medicinal value.
- Green plants before flowering are more effective curative agents than the dried parts of the plant.
- Roots are considered as more effective medicine than the aerial parts of the plant.
- Plants for the uses of medicinal purpose in various diseases should be collected in different times in the morning, mid-day or in the afternoon.
- The Santals believed that in combination with the fruits of black pepper, the medicine shows more efficiency. The number of pepper in various forms added in the medicine has great significances in the tribal mind. The Santals prepare medicine in combination of black peppers.
- The tribal have a belief that the violation of any taboo makes the medicine ineffective.

Conclusion:

Tribal health has been widely discussed topic in development research. The social pattern of the tribal population, their community's traditional approach to treatment of disease, ignorance of modern means of treatment and their food habits are among the many reasons of the cause of spread of disease among them. Beside their superstitious belief that god and spirit inflict suffering with disease and by satisfying them the disease can be cured are among the major obstacles in convincing the tribal people about the usefulness of modern methods of treatment. The adverse effect caused thereof can be eradicated by implementation of

comprehensive health care program which can also create situation for prevention of the disease, restoration of health condition of tribal's.

The Santals are highly superstitious in nature like other tribal communities. Normally when they fall ill they try to get well by their indigenous method of treatment. But now-a-days, due to impact of modernization they are adopting the modern medicines. This has led to the adoption of multiple health care practices. The government is also taking steps for popularization of modern allopathic system of medicine.

The health status of tribal people is marked by poverty, illiteracy, malnutrition, lack of personal hygiene, poor mother and child health services, absence of health education, lack of modern health care services. To understand tribal health, well-being, knowledge and belief and practices, it requires one to probe into the people's perception of disease, diagnosis and cure under existing social, economic and cultural settings.

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OUR CONTRIBUTORS

Name	Address
A.B. Ota	Commissioner-cum-Director, SC & ST RTI, Bhubaneswar (akhilabihariota@gmail.com)
Gulsan Khatoon	Research Scholar, P.G. Department of Anthropology, Utkal University, Bhubaneswar, (gulsan.khatoon141@gmail.com)
Harapriya Samantaraya	Faculty Home Science, I. G. Women's College, Cuttack, Odisha; email: drharapriya@yahoo.co.in
Jagannath Dash	Professor (Retd.), Department of Anthropology, Utkal University, Bhubaneswar
Kedarnath Dash	Reader in Anthropology, B.B. Mahavidyalaya, Chandikhole, Dist-Jajpur, Odisha- 755 044, E-mail ID: dash.kn@gmail.com , Tel No. 9437315262(M) / 06725-226288(O)
Laxman Kumar Sahoo	Lecturer, Department of Anthropology, MPC Autonomous College, Baripada, Mayurbhanj, Odisha. Email: laxman.sahoo2@gmail.com
Mihir Kumar Jena	Manager, Foundation for Ecological Security, Gautam Nagar, Koraput Mobile: 9437851991 Email: drmihirkumar@yahoo.co.in
Padmini Pathi	Consultant, SC & ST RTI, Bhubaneswar (ppathi.ssa@gmail.com)
Ranjan Pradhan	Eminent Tribal Researcher & Senior Journalist Sambad, Sambad Bhaban, Rasulgarh, Bhubaneswar, Phone: 9437213854, E-Mail : ranjan_pragyan@rediffmail.com
Sarat Ch. Mohanty	Officer on Special Duty (Research) & Former Joint Director, SCSTRTI, Bhubaneswar, Mobile: 9438009367, Email; scmohanty1@gmail.com
Shyam Hembram	AFA-cum-Under Secretary, ST & SC Development Department, Govt. of Odisha. (shyamhembram66@gmail.com)

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