

**MANAGEMENT OF COMMON PROPERTY
RESOURCES AND THE DIMENSIONS OF
DEVELOPMENT IN A JUANG *PIRAH*
OF KEONJHAR DISTRICT OF ORISSA**

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DECLARATION

I hereby declare that the work embodied in this thesis entitled “**Management of Common Property Resources and the Dimensions of Development in a Juang Pirah of Keonjhar District of Orissa**” is carried out by me under the supervision of Professor. R. Siva Prasad, Department of Anthropology, University of Hyderabad, Hyderabad, and has not been submitted for any degree in part or in full to this University or to any other University

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CERTIFICATE

This is to certify that Mr. **Satya Ranjan Mahakul (Reg. No. 03SAPH04)**, Department of Anthropology has carried out the research embodied in the present thesis entitled “**Management of Common Property Resources and the Dimensions of Development in a Juang Pirah of Keonjhar District of Orissa**” under the supervision of Professor. R. Siva Prasad, Department of Anthropology, University of Hyderabad. The dissertation represents his independent work and has not been submitted for any research degree of this University or any other University.

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CHAPTER I

INTRODUCTION

The role of natural resources in the development of rural poor was largely neglected by the development planners. It is pertinent to note that 65 to 75 per cent people in the world's poorest regions live in rural areas. Social scientists widely recognize the importance of natural resource base, including agricultural land, threshing grounds, grazing fields, tanks and ponds, woodlands and forests, rivers and streams, and mangroves, in the lives of the rural poor. However, it is pointed out by scholars that except for communal agricultural land all the other natural resources have been absent from the mainstream development planning and in policy recommendations. Many surveys and texts dealing with development ignore the local natural resources and the wide variety of institutions that have evolved for managing them (Stern 1989; Dreze and Sen 1990, 1995; Ray 1998).

I

Scholars (Stern 1989; Dreze and Sen 1990, 1995; Ray 1998) observed that, other than agricultural land, the local natural resources are often communally owned. They point out that access is restricted to people who have historical / traditional rights, which are most prudently and purposefully used by the villagers in the locality. These local natural resources are of more social, cultural and economic value to the dependent population, and are vital assets for the community. These are known as common properties and they are not openly accessible and outside communities are not allowed to use these resources.

Commenting on open access resources, Gordon (1954) noted that an asset that is every body's property is in fact nobody's property. He argued that resources to which access is open are over used and it is in the common interest to restrict their use with positive social value, because they are limited in size, but open access resource is free for all who use it. Garret Hardin (1969: 1243-1248) later called that overuse 'the tragedy of the commons', insisting that 'freedom in the commons brings ruin to all.'

A “common” is any resource that belongs to the public domain and is used by all those who depend on it. Put differently, when anyone uses a shared resource one is using a common. Commons can be better managed when its management responsibilities can be shared by a geographically localized community or communities. Hardin’s study was on European rural areas which is not applicable to the Indian context. Scholars rightly criticized him for his failure to recognize that geographically localized commons are most often common property resources (CPRs), not open access, and local institutions have evolved to anticipate the tragedy of the commons (Dasgupta, 1982). CPRs are neither public nor private property, but are communal property and geographically confined where access is not open to all. Its survival depends upon the character of the communities and the institutions that have evolved around CPRs.

Various communities across the world have evolved their own social institutions and cultural mechanisms of utilizing these natural resources. Very often these resources form an integral part of their culture, for example, Sacred Groves. Anthropologists are in a privileged position to study the social and cultural mechanisms by which communities have managed their commons. In order to explain the interaction of community and ecology in terms of sustainable resource utilization, Fredrik Bath (1956 and 1971) introduced the concept of *niche*. He noticed that multiple communities used the same resources in a geographically localized area, without competing with each other.

“Common Property Resources(CPRs), broadly speaking are the resources accessible to the whole community of a village and to which no individual has exclusive property rights in the dry regions of India, they include village pastures, community forests, wastelands, common threshing grounds, waste dumping places, watershed, drainage, village ponds, tanks, rivers/rivulets, and river beds, etc.” (Jodha, 1986: 1169). Variety of essential items are gathered by rural households from the village commons and the forests for personal use and sale: food, fuel, fodder, fibre, small timber, manure, bamboo, medicinal herbs, oils, materials for house building and handicrafts, resin, gum, honey, spices, and so on. Out of the total area in India only about 140 to 147 million hectares are cultivated and the remaining 190 million hectares, consisting of forests, woodlands, grasslands, deserts, marshes, lakes and

other forms of common properties support many activities like forestry, fishery, and livestock rearing which provide daily requirements, like food, fuel, fodder and medicines (Agarwal, 1995).

Forest, for example, is geographically non-homogeneous ecosystem. In some year one group of plants bear fruit in one part of a forest, in another year some other group yields in some other part. Relating to the production, fluctuations could be assumed larger in arid regions, mountain regions, and in un-irrigated areas. If the forest were to be divided into private ownerships, each household would face a risk than it would under communal ownership. If forests are communally owned, average household benefits from such communal ownership are large (Dasgupta, 2005). Our study focuses on communal ownership of resources, especially lands under shifting cultivation, and it attempts to understand their management aspects. One aspect of management is based on communal rights to resource access, utilization and ownership and another one is the way the resources are communally conserved by the native people. The present study is conducted in a Tribal village situated in a North-West mountain region of Odisha in India.

II

Review of Literature

The importance of CPRs varies widely across different ecological zones. In India they are mostly found in arid regions, mountain ranges and un-irrigated areas; they are least prominent in humid regions and river valleys (Agarwal and Narain 1989). CPRs have the potential to meet many basic needs, i.e., fuel wood, fodder and green manure, food, fencing, timber, etc., of the rural economy outside the market framework without adding to direct costs of cultivation, animal husbandry and personal consumption (Nadkarni, 1999). Forests as CPRs provide minor forest produce for sale, food during lean periods, medicinal plants and other products of local use and locations for shifting cultivation. In a field study of four villages in Uttar Kannada district it was observed that the qualitative value of forest produce used by the people as a proportion of their total income amounted to 15.5 per cent for all households on an average, and 11.9 per cent in case of landless labour (Nadkarni et. al, 1989). In another study of three selected villages in Karnataka, it was noticed that

6.2 per cent of the income of poor and non-poor households, respectively, comes from CPRs (Pasha, 1992). Another study of fifteen villages in Karnataka by Dadibhavi revealed that the proportion of income derived from CPRs to rural poor households varies from 4 per cent to 18 per cent of their gross income (Dadibhavi, 1998).

In a comprehensive study of CPRs (covering 82 villages from seven States in the dry regions) Jodha (1990) observed that the rural poor receive bulk of their fuel supplies and fodder from CPRs. Collection of CPR products is an important source of employment and income, especially during the periods when other opportunities are not there.

The studies carried out by Gadgil and Vartak (1976), Guha (1985), Wade (1987), Nadkarni et al (1989), and Nadkarni (1990) highlight the socio-economic aspects of CPR management. However, there are three factors which are most significant in the context of traditional management of CPRs in India (Chopra, 1990). First, community organizations, second, community set norms and, thirdly, various forms of community management functions at different levels which declined due to population pressure, State intervention and operation of market forces.

In spite of environmental conditions supporting the need for CPRs and quantifiable evidence on their contributions to rural economy, since early 1950s CPRs are on the decline in every part of dry tropical regions of India (Jodha, 1986). Jodha's study covering 82 villages from seven States in the dry regions indicates that CPR area has declined by 31 to 55 per cent in the study villages of different States during the early 1950s to early 1980s. A study of 25 villages in Gujarat showed that there was a decline of CPRs, both in quantity and quality, mainly due to encroachments as well as through legal privatization (Iyengar, 1988). Many other studies have also pointed out the depletion of common property land resource in their study regions (Blackie et.al. 1985; Barara, 1987; Chopra et.al., 1990; Damodaran, 1988; Dadibhavi 1996, 1998; Nadakarni and Pasha, 1991).

The depletion of natural resources and its impact on the local communities were highlighted in the works of Jodha (1986), Fernandes and Menon (1987), Chambers (1989), Guha (1989), Nadkarni (1989), Gadgil (1993), Agarwal (1999), and Siva

Prasad (2002). They clearly pointed out that development of a uniform process of reduction in diversity leads to resource depletion and decline in traditional management systems of resources. It ultimately is leading to destruction of traditional institutional arrangements, which facilitated the sustainable use of resources earlier (Karanth, 1992).

One reason for deterioration is outsider's intervention in the local CPRs. Increased uncertainty in the property rights is another reason. Suppose a community thinks that they together own the forest which their forefathers passed on to them, but if the community does not possess any legal document regarding the forest, its rights to the resources are insecure. When people are uncertain of their rights to a piece of property, they hesitate to make the investments to protect and improve it. If the security of CPRs is uncertain then the collective responsibility of the people and its management system may collapse.

A further reason for the degradation of CPRs is that management practices at the local level are sometimes reversed by Governing authority. It is found that a number of States in the Sahel, Western Africa, for example, imposed rules, that in effect destroyed communal management practices in the forests. Villagers stopped operating their authority to punish those who violated locally instituted rules (Thomson et. al 1986; Somonathan 1991; Baland and Platteau 1996).

Social norms of behaviour, established on reciprocity, can be breakable. Institutions based on reciprocity are especially fragile in the face of growing opportunities for private investment in substitute resources (Dasgupta, 1993 and 2003; Campbell et. al. 2001). This is a case where institutions deteriorate when traditional systems of management collapse and are not replaced by institutions that can act as substitutes, the users of CPRs become neglected. Balasubramanian and Selvaraj (2003) have found that one of the oldest sources of irrigation, 'village tank', deteriorated over the years in a sample village in southern India due to a gradual decline in collective investment in their maintenance.

History tells us that CPRs can be expected to decline in importance in tandem with economic development (North and Thomas 1973). Ensminger's (1990) study of the

privatization of the common grazing lands among the Orma in north-eastern Kenya established that the transformation took place with the consent of the elders of the tribe. She attributed this to cheaper transportation and widening markets, which made private ownership of land more profitable. The elders were from the economically stronger families. She found that privatization brought out inequality within the tribe. In view of this, designing and adopting new institutions to solve CPR problems are a difficult task, no matter how homogeneous the group is, how well informed that members are about the conditions of their CPR, and how deep-rooted are the generalized norms of reciprocity.

The question arises as to how to prevent their over exploitation in view of the population growth. The rapid population growth can trigger resource depletion, if institutional practices are unable to adapt to the increased pressure on resources. The growth in rural population has been accompanied by the increased deforestation and reduced fallows.

III

While examining the new sources of pressure on CPRs, Jodha (1995) pointed out that the key factor which is adversely affecting the status of CPRs is the overall pattern of rural transformation. According to him, the State's undeclared attack on CPRs, specific opportunities created by the market forces, land hunger accentuated by the population growth, collapse of the traditional forms of rural cooperation, and reorientation of the farming system, are the key factors that have led to the marginalization of CPRs' role. Thus, CPR degradation is leading to reduced benefits to the rural poor and environmental disaster. However, the ecological imperatives (supporting CPRs) and the sustenance of the rural poor are quite important factors, which may not be ignored unless substitute options to CPRs that meet these two concerns are evolved. Therefore, the management or regulated use of CPRs is as important as any measure directed to raise their productivity. In this regard, our study proposes to analyse the management of CPRs in general and its sustainable utilisation, in the context of expansive tribal development of the Juang in Odisha¹.

¹ The name of the State was officially changed from Orissa to Odisha from November 04, 2011. Hence, in the entire text Odisha was used instead of Orissa. Similarly the name of the language was also changed from Oriya to Odia.

Juang tribe is one of the thirteen most Particularly Vulnerable Tribal Groups (PVTGs) only found in the State of Odisha. Previous studies on Juang are largely descriptive ethnographic kind with little focus on the ecological and CPR management. Juang are studied for the first time by Samuells in 1856. He had given an account of their dress pattern and distinguishes the females as wearing long branches of leaves covering only the lower parts of the body, where the upper parts were covered with necklaces of earthen beads. According to him, hunting was their main source of subsistence.

In 1872, Dalton's study on Juang settlement was published and he mentioned that Juang "in habit and customs were the most primitive people" and considered them to be the survivors of the "Stone Age in Situ" (Dalton 1872 cited in Elwin 1948). According to him, their huts were "almost the smallest that human beings ever deliberately constructed as dwellings". In Hunters report (1877), the Juang are described as 'wandering freaks' that roam around in the woods, collecting wild products which they barter for food.

After a long period, the Juang were again studied by N. K. Bose. Between 1920 and 1930 his descriptive notes on marriage, kinship organization and rituals were published. Most of his fieldwork was confined to Pal Lahara region, which is now a part of Dhenkanal district, the neighbouring district of Keonjhar. He described that Juang women were wearing leaf-aprons in that region. He also observed that of the clans in Pal Lahara that he studied, three were totemic. Two belong to plants, such as *bangrur* and *kiring*, and one to the animal, *banae* (bear).

Further Juang kinship terms are analyzed in detail by J. Dash (1988) who pointed out that segregation of Juang villages into two effective exogamous groups such as *kutumba* (agnates) and *bandhu* (affinal) villages were mainly due to the practice of shifting cultivation which required co-operative labour. He also pointed out that kinship terms categorize the kin members, guide their inter-personal relations, and assign reciprocal rights, duties and privileges as well as obligations to them.

However, it was Elwin after Bose, who carried out extensive fieldwork among the Juang of Keonjhar in Pal Lahara and Dhenkanal (V. Elwin, 1948). Like Bose, he also

mentioned that the Juang of Keonjhar and the adjacent Pal Lahara are the original settlers (*thaniyas*) and the Juang of Dhenkanal is *bagudias* who have fled from the hill region to the plain region. The leaf dress pattern is distinctively described by him. On the other hand, Bose (1973) in his book 'Some Indian Tribes' expressed his doubts over the prevalence of leaf dress during 1940's, as reported by Elwin. Elwin discussed in detail the Juang world-view based on their oral tradition, such as dance, song, and folklore. From his studies, it is clear that Juang have a broad understanding of their surrounding physical and metaphysical world. Their aesthetic sense is also reflected in their craft of bamboo comb making and also wood carvings on pillars of the dormitory (*majang*). That the oral traditions have a functional role in Juang life is reflected in the study of K .C. Mishra, (1982). He mentions that folklore in Juang society performs important functions, such as promoting education, providing an enjoyable escape from the hard day's work.

Elwin, in his later publication (1954) deals with the myth trend in the Juang society. The myth speaks of a wide based knowledge of the Juang about the cosmic bodies and many other natural or biological phenomena. It is from the myths that the origin of the Juang is traced to *Rusi* and *Rusiani*, their supreme ancestors. In a similar manner myths are also studied by K.K. Mohanty (1992).

An interesting aspect of the Juang was brought to light by Patnaik (1964). In Dhenkanal area he observed that the immigrant Juang are in the process of changing their tribal status to that of a caste as a result of their close contact with their neighbouring Hindu castes. The gradual change was also due to the plain Juang tendency to get rid of their hill culture.

In 1960 several other works were carried out by Anthropologists like Saradindu Bose who did a study on the carrying capacity in the Kadalibadi (present study village) and two other neighbouring villages in Keonjhar. It shows that the population has exceeded the carrying capacity of the land under shifting cultivation. He states that undernourishment affects the health of Juang to great extent.

Later, Rout (1969) and Charles McDougal (1963) carried out fieldwork in the Juang villages of Keonjhar area. McDougal has studied the social structure of the Juang.

According to his findings, relationships are defined by local kinship usages and age or sex. He says that the agnatic kinship bond is not strong among the Juang because of the emphasis on individualism, divergent interests among close agnates, a negative disposition toward the acceptance of authority in interpersonal relations and a high degree of opposition, and conflict between adjacent generations. However, the agnatic cohesiveness at the village level is maintained over time by the integrative mechanism of the *majang*, which symbolizes community stability and continuity. Rout provided an elaborative account of features of youth dormitory and organization and the life cycle of the Juang. The youth dormitory is central to the Juang life in its socio-economic, political, religious and aesthetic spheres. He has discussed the status-role paradigm in the age-grade system. In an occasion of celebration and observance, all the agnates (all the villagers) strictly follow the social norms.

Choudhury (1964) did some work on the ethno medicinal practices among the plain Juang of Dhenkanal. He has shown that, although the Juang in Dhenkanal are in frequent communication with caste groups around them, they still have an indigenous mode of disease treatment through supernatural power.

Narrating about the Juang, Patnaik (1986) in his work '*The Juang of Orissa*' has deeply presented their daily as well as calendric work structure, their food habits and fertility status. Taking samples from the villages, he has shown that the dietary aspects of the Juang of Keonjhar, both in quantity and quality, are fairly healthy and are contrary to the common view of malnutrition. He also says that fertility, which has a direct relation with nutritional status, is quite high among the hill Juang. He, however, concludes that the broader sample would certainly be needed to examine such a problem more reliably.

Behera (1992) points out in his case study among the Juang of Khajuribani village in Keonjhar district that "the Juang are in direction of change". According to him, development programmes, such as schooling, housing, providing medicinal facilities, etc., have brought profound changes at the psychological, intellectual and material level. The Juang are convinced that a change in the society is desirable. He suggests that the programmes need to be followed more deeply in order to bring about the desired socio-economic development in Juang society. In their work on micro level

planning based on the growth centre concept in Keonjhar district, Patnaik and Bose (1976) have indicated how eager the Juang are in giving up shifting cultivation and taking up paddy in valley bottom lands; their backwardness is claimed largely due to inadequate facilities necessary for growth and development. On similar lines, Dr. Nayak emphasizes the need to pursue development programmes in order to bring about an all-round development of Juang. They, however, point out to various drawbacks in the implementations of the programmes and suggest that the socio-cultural and religious setting of the Juang need to be understood and recognized while formulating any development measures that would be sustainable.

Smita Mishra (1994) in this regard points out that traditional knowledge of the Juang in their common property resource management practices would be handy. Although, in her work Mishra highlighted the value of indigenous knowledge, she does not deal with the management aspects in detail. She, however, puts forth the viewpoint that the Juang do have an intimate knowledge of their surroundings and that is an invaluable asset in formulating ecologically suitable programmes for development.

Number of studies on the Juang reveals that a great deal of attention, both academic and administrative, has been given to the Juang over the last century. Though a significant amount of information is available regarding the Juang and their lifestyle and livelihood, symbiotic relation between the Juang and their natural environment, especially common property resources, like land, water and forest and traditional knowledge in managing those resources, is less emphasized in the available literature. The present study is a step in this direction and focuses on these aspects in a holistic way.

IV

What the available literature reveals is that in spite of their contributions CPRs are faced with a serious crisis, as reflected in the reduction of its area, depletion of resources, and decline of management. The significant outcome of these studies is that for the development of CPRs participation of the local people is required. Management in this context implies human intervention in a common property resource system with a view to restore it, conserve it, or to augment or sustaining its

productivity, and regulating its use. The intervention could be in the form of application of labour and material inputs, creation of institutions or modification of existing institutions, enhancement of laws and so on (Katar Singh, 1996).

Research problem

One of the important issues that concerns scholars is the prevention and decline of community resources by the encroachment and privatization by outsiders. A few scholars suggest the establishment of full private rights over the commons as a basic condition for avoiding such tragedy (Demtez, 1967; Johnson, 1972). Hardin is in favour of giving full authority to an external agency - usually the State to regulate the commons. This actually negates the practices of resource management by traditional communities like the rural and the tribal. If we accept their argument, Panchayat Extension to Scheduled Areas (PESA) Act of 1996 would not be useful for regulating the natural resources. This Act gives the Gram Sabha (Village Council) the sole authority to ownership, control and management of natural resources in Schedule V areas. Empowering the people over natural resources leads to its better access and management. In situations where the State became inefficient, there is a case for strengthening community organizations by creating institutions that can manage common property.

Today we can find sufficient literature on CPRs from the management point of view. However, socio-cultural aspects related to CPRs have been missing from those literatures. Studies on these above aspects are required to understand the CPRs management, its use, institutions that govern them or policies that need to be formulated, etc. It is also essential to understand the socio-cultural and religious barriers related to CPR management.

Theoretical Framework

The study assumes that the people who utilize common property resources have an internal logic in utilization of the resources. The logic behind this perception of resources depends upon its use and management pattern. People see common property as one that needs to be shared by all the members of the community. The logic

respects nature in the form of super natural beings. They seek the sanction of supernatural permission in resource utilization. These beings have to be appeased before resources can be used. By doing so, resource are utilized and managed in a sustainable way.

The resources defined by people through their cultural process are much more important for people rather than the way outsiders define resources, as people directly depend on the resources for their livelihood. The logic of utilization is misunderstood by the State that tries regulating and controlling people's use of resources. In order to grasp how people perceive, utilize and manage natural resources and understanding of the user's logic becomes essential to prevent further depletion of resources.

The people whose livelihood is dependent on natural resources, the state claims as its own property, the community perceive these resources as common property that belongs to them based on their utilization and management. In other words, people see the property of the State as common property as they have been using it for generations. The Government does not recognize the people's perception and methods of utilization of resources. Also, Government does not accept the people's management practices and their understanding of resources as communal that are different from individual resources.

The study further assumes that outside interventions in common property resource affects the people's ownership and utilization of them. Hence, people have to negotiate with the changing circumstances to utilize the common property. In the process they redefine their relationship with natural resources by perceiving the States property as common property. Government proposes that they have lost their ownership over natural resources but people feel the moral responsibility to take care of their resources available within their reach, as they eke out their livelihood from them. Hence, they have an interest in their upkeep and conservation.

Objectives of the Study

1. To examine the changing pattern of utilization and management of CPRs in the study village.
2. To explore the socio-economic impact of CPRs management in terms of livelihood support and the problems faced by various sections of the village communities.
3. To understand the change in the cultural aspects in the context of CPRs management in the study village.
4. To understand the impact of development programmes on the Juang livelihoods
5. To understand the role of institutions and their implications in CPRs management.

Methodology

Selection of the Village

The main purpose of the study is to understand the present status and utilization of CPRs in a Juang Pirah village which comes under the Scheduled V Area. Keonjhar district has extensive forest cover and consists of 46 Scheduled Tribes which constitutes 12 per cent of the total tribal population of Odisha. Juang population is 51 per cent in relation to the total tribal population of Keonjhar district. In the district, maximum 40.1 per cent Juang are concentrated in Banspal in comparison to Telkoi, Ghatagaon and Harichandanpur Blocks.

A pilot study was undertaken to identify the study area and the study village. As a part of this endeavour, the researcher collected secondary information from the Juang Development Agency and also held discussions with officials and NGOs to identify the *Pirah* for undertaking the field study in a village. In order to select the *Pirah* and the study village the following criteria were adopted: 1. Presence of wider forest cover, 2. Implementation of development programmes, 3. Forest conservation and development programmes, 4. Presence of plain land cultivation, and 5. Presence of

traditional institutions that are playing an important role in resource management, utilisation and conservation.

As a part of the pilot study, the researcher visited four *Pirah* villages where the *Pirah* sardar lived. In the process, it was observed that *Satkhandia Pirah* that comes under Gonasika Gram Panchayat², Banspal Block, was more suitable for the research than the other three *Pirahs*. In order to identify the study village, the researcher visited all the seven villages of the *Pirah* before zeroing on the study village Kadalibadi that is found more suitable and satisfying all the above criteria.

The major criterion for selection of the village is the presence of forest, CPR land and traditional institutions, like *kutumba* (kinship organisation), *majang* (community house), *barabhaika* (village council), etc., relating to CPR management. Common properties like village forest, stream, well, tube well, open land, fruit bearing trees, cultivable waste lands and degraded forest, un-demarcated forest, hilly areas, irrigated and un-irrigated land, grazing land and wastelands are found in the study village. It has 23.3 hectares of forest, including 2.05 hectares of village forest. State has undertaken different developmental interventions, like Vana Surakya Samiti (VSS), Juang Development Agency (JDA), and other Constitutional measures to strengthen community institutions, like *gram sabha*. Juang have community forest protection committee named *Kadalibadi Jangal Surakya Samiti*, which comes under Community Forest Management system (CFM).

Tools and Techniques

In order to fulfil the objectives of this qualitative micro-level study, anthropological fieldwork for twelve months in two phases (September 2006 - January 2007 and February 2008 – August 2008) was carried out. Techniques, like participant observation, resource mapping, social mapping, structured and unstructured interviews, key informant interviews, informal interviews, were used in collecting primary data. The study employed detailed checklist (interview guide), census schedule, recording of oral histories and case studies in data collection. Secondary

² Incidentally, Juang claim that Gonasika was the place of their origin.

data were also collected through sources like books, periodicals, magazines, articles from journals gathered from different libraries and institutes, online journals and internet websites, Census records, official government documents, land and forest records, etc.

The village has Juang, the Scheduled Tribe, who constitute 80 per cent and Gauda, a Backward Caste. More focus was accorded to the tribal community, Juang, having exclusive use rights or traditional attachment to specific type of CPRs. As a preliminary step a detailed household census survey was carried out, which provided the particulars of members, their landholding, economic status, social background and occupational pattern in the village. The village has fifty households, forty are Juang and the rest are Gauda. This has provided a framework for identifying the quantum of CPR availability to the village community and also helped in rapport building. The data were collected from the respondents through personal interviews, informal discussions, key informant interviews and case study method. On the basis of landholdings, the number of households in the village was categorized into five groups: (i) landless, (ii) 0.1 to 1 acres, (iii) 1.1 to 2.5 acres, (iv) 2.6 to 5 acres and (v) more than 5.1 acres.

The estimation of CPRs contribution in terms of money income is based on activities, such as cash crop cultivation, NTFP collection and timber collection, money deposited in particular institution by the SHGs and net family income was taken into consideration. And for those CPR products like edible roots, tubers, wild fruits which are not yet brought into the cash transactions and do not possess market price as such, local barter arrangements are taken into consideration in imputing market values.

Information on the extent of land under various heads of land-use, including village CPRs, is collected from district, block and village records. Due to the ambiguity in the records, we have verified community access to various types of land-use – viz., forestlands, community cultivated land, wastelands, village grazing lands, water bodies, croplands, open village site, cremation ground, etc., with the people to understand the existence of CPRs in the village. Besides this, group and personal discussions were held with a cross section of the local people and government

officials. Quantitative information with regard to demographic aspects, economic aspects and utilization pattern of resources are gathered.

Data Collection

Through participant observation, a better understanding of cultural process involved in the resources use and distribution patterns are gathered. Observation is an important method to understand the factors responsible for management of resources and help in cross checking the informants. Key informants provided the link between the researcher and the village community in the field.

Detailed census schedules were used to collect data regarding their socio-cultural and economic life, land holdings, occupational patterns, etc. Intensive discussions with the villagers helped us to draw resource map of the village. Formal interviews were held with the officials, NGOs, and other functionaries to understand the present resource use, utilization and conservation pattern, impact of external interventions and developmental programmes, etc. Informal discussions and group discussions were carried out to gather the understandings of people regarding resource use.

Case study method is used to gain insights into the cultural perceptions of resource use and management practices as well as associated beliefs, conceptions and taboos and conflicts over CPRs. Visual aid such as camera is used for taking photographs of various natural resources, cultural and religious festivals. Tape recorder is used for recording the interviews of government officials and villagers.

Significance of the Study

The significance of the study lies in understanding the Juang cultural perceptions and social institutions for managing access to and use of CPRs. The study aims at understanding the reason in utilizing and managing natural resources by the Juang. This understanding can contribute to better strategies for sustainable development. The study focuses on the impact of external interventions, including developmental activities, on the traditional ways of life and livelihood systems and on the existing resources in the village. In order to incorporate cultural and environmental

considerations in developmental planning, there is a need for formulating a comprehensive strategy for CPR based development planning and management. This study would provide a broad normative framework for resource planning and development based on the proactive participation of the community and by taking into consideration their cultural perceptions and values.

Limitations

No study is free from limitations and this study is no exception to this rule. One of the problems faced by the researcher is the language barrier. The Juang, though understand Odia, speak in their dialect among themselves. The researcher has made efforts to learn the language while doing fieldwork in order to understand their cultural and other processes of resources utilisation, management and other aspects dealing with their livelihood. Since they have no written tradition, one could only access their history and changes that have taken place over time through recording oral histories and traditions from the old people of the village, who were reluctant to talk or discuss things with the researcher.

The district is currently a part of the Red Corridor (The Red Corridor is a region in the east of India that experiences considerable Maoist insurgency). During middle of the field work (in January 2007), two Maoists came to the village to exterminate the contractor of Baitarani village who was undertaking the road construction in that village. They enquired about the identity and background of the researcher, as they also suspected the researcher to be a police informer. The researcher explained the purpose of his visit to the village to the Maoists and due to the tensions prevailing in the village and in the neighbouring village, Tala Baruda, between the Maoists and the Police, the researcher left the field area for a few months for reasons of security and returned in February 2008.

V

Structure of the Thesis

The first chapter 'Introduction' deals with the study and its introduction to the reader. It presents a broad review about the study out of which problems and hypothesis are drawn to examine. This chapter outlines a theoretical framework for this study.

Objectives of the study are stated in this chapter followed by methods, tools and techniques of data collection, and criteria of selecting the field village, etc. At last the significance, utility, limitations of the study and the organisation of the study into different chapters are mentioned in this chapter.

Detailed information about the study village, demographic and geographic aspects, symbiotic relation between Juang and other communities with the ecosystem are given in the second chapter 'Village Profile'. Socio-economic aspects in relation to the forest land, agricultural practices, habitation, social organisation, annual working calendar, religious beliefs and practices are described to understand the clear picture of natural resources in general and common property resources in particular.

The third chapter 'Different dimensions of CPRs in the study village' tries to identify the Juang perception of property in traditional and present context. It discusses the classification and types of property in the context of common property land resources (CPLRs) and its management in the study village. It further discusses the use and management of common properties within the village territory like grazing land, open land, waste land, shifting cultivated land, cremation ground, mountain land and stream land. In addition to this water and water bodies associated with settled cultivation and its management is also discussed. Traditional practices and its cultural relevance in the context of CPLRs management are analysed. The existing CPLRs are in the threatened state due to privatization and intervention of outsiders. Hence, its degradation is described from the Juang point of view.

The fourth chapter 'Utilization of CPRs in the study village' is an analysis of the forest and other resources and their utilisation in relation to cultural practices of the Juang. Forest and forest produces are additional valuable source of livelihood. Along with shifting cultivation forest produces as CPRs are major support to the community during lean period. Forest categorization, ecological classification, cultural ecology, NTFP and its impact on Juang livelihood are discussed here. We are trying to find out the cultural aspects of forest CPRs, sacred grove, and fuel wood management practices.

The fifth chapter ‘Status and management of CPRs in the study village’ deals with the structure and function of traditional and modern institutions in CPRs management in the study village. It comprises the role of traditional organizations in which every organization has a specific place and role to play in decision making process. The study analysed the importance of village level institutions, like kinship organization (*kutumba*), village common fund, *majang*, *barabhaika* (village council), Community Forest Management institution (Kadalibadi Jangala Surakhya Samiti) in CPRs management. Further the chapter discusses on the emergence, need and role of modern institutions in the regulation of natural resource management. Present rules and regulations related to resource management and its implications on Juang community are regulated by State as an outsider force. In the name of Juang development the institutions like Forest Department, revenue department, Juang Development Agency (JDA), Panchayati Raj system, Vana Surakhya Samiti (VSS) and non-governmental organizations plays a supportive role to the community. To empower the community, recent developmental measures like Panchayat Extension to Scheduled Area 1996 Act, Forest Rights Act 2006 are introduced.

The sixth chapter concludes the study findings and attempts validate the theoretical framework adopted in the study.

CHAPTER II

SOCIO-ECONOMIC PROFILE OF THE VILLAGE

Tribal population of the country, as per the 2001 census, is 8.43 crores, which is 8.2% of the total population. There are over 700 Scheduled Tribes notified under Article 342 of the Constitution of India, spread over different States and Union Territories of the country (Union Ministry tribal Affairs, 2010-11). Odisha is the homeland of largest numbers of Scheduled Tribes, i.e., 62 communities constituting more than 70 lakh population (10.4 % of the total tribal population of the country) spread over 12 districts. There are 75 particularly vulnerable tribal groups (PVTGs) found in India, out of which 13 are found in Odisha. These 13 tribes represent 22.2 percentage of the total population of the State (Census, 1991). They are Chuktia Bhunjia, Birhor, Bondo, Didayi, Dongria Khond, Juang, Kharia, Kutia Khond, Lanjia Saura, Lodha, Mankirdia, Paudi Bhuyan and Saura (Ministry of tribal Affairs, GoI). As per 1991 census there are 46 Scheduled Tribes in Keonjhar district, which constitute 11.9 per cent of the total tribal population of Odisha. Out of these, some major tribes are Bathudi, Bhuyan, Bhumij, Gond, Ho, Juang, Kharwar, Kisan, Kolha (Kol), Kora, Oraon, Santal, Saura, and Sounti.

Distribution Pattern

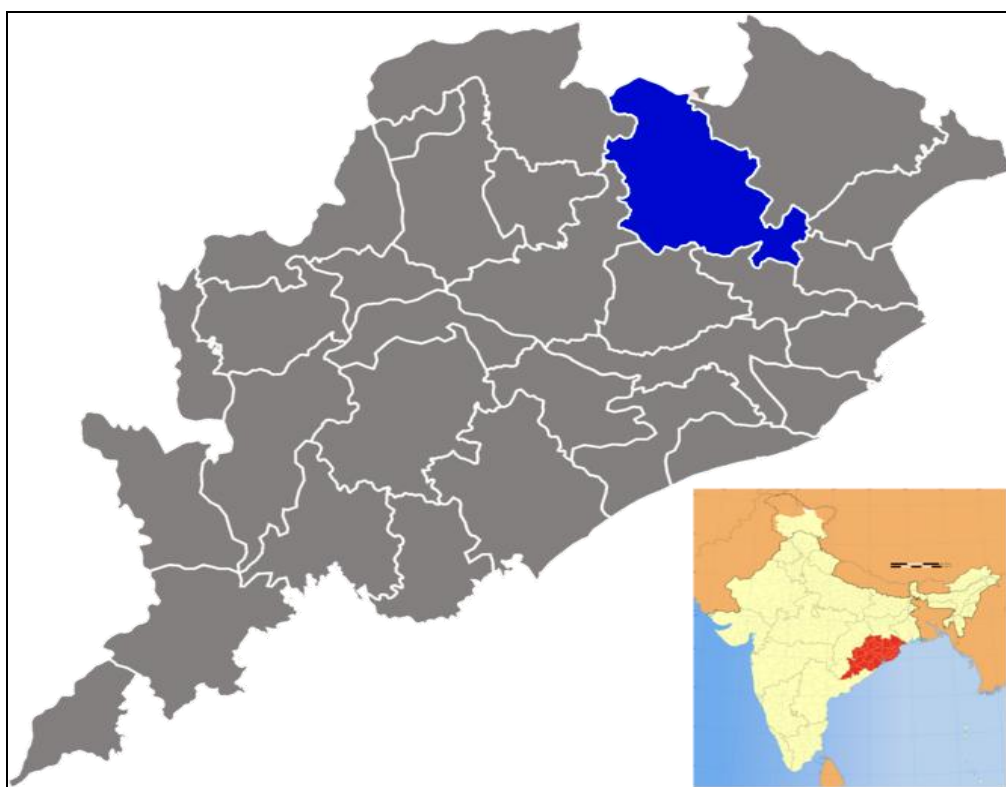
Total Juang population was 35,665 in Odisha (Census 1991), which is 01.26 per cent of total Particularly Vulnerable Tribal Groups (PVTGs) population in India. Juang are distributed in different district of Odisha, but they are densely found in Keonjhar, Dhenkanal, Sambalpur, Mayurbhanj, Cuttack and Sundargarh districts. A small number have also migrated to different areas in search of livelihood. The following table indicates their migration to different districts of Odisha. According to Census 2001, Odisha is having Juang population of about 41,349, which is 0.50 per cent of the total population of Odisha.

Table 2.1: Distribution of Juang Population in the State

Districts	Male	Female	Total
Keonjhar	10342	10825	21167(51.19%)
Sundargarh	296	182	478(1.15%)
Sambalpur	126	112	238(0.55%)
Mayurbhanj	278	217	495(1.19%)
Balesore	17	22	39(0.09%)
Cuttack	764	636	1400(3.38%)
Dhenkanal	8411	8512	16923(41%)
Balangir	32	12	44(0.10%)
Kalahandi	42	34	76(0.18%)
Koraput	197	130	327(0.79%)
Ganjam	12	7	19(0.04%)
Puri	84	59	143(0.34%)
Total	20601(49.8%)	20748(50.2%)	41349

Source: Juang Development Agency Annual Report, 2001

Map 2.1: Odisha Map Showing Keonjhar District



Keonjhar district is located in the northern part of Odisha between 21° 01' and 22° 10' North and 84° 10' and 86° 22' East. It has an area of 8,330 square kilometers, and is surrounded by Singhbhum district (Jharkhand) to the North, Dhenkanal and Sundargarh districts to the West, and Mayurbhanj and Balasore districts to the East.

Keonjhar district consists of two physiographic units: a) Lower Keonjhar, consisting of a fertile and thickly populated plains and b) Upper Keonjhar consisting of a thickly forested hilly tract intercepted by narrow valleys. The latter zone is the habitat of the Juang.

Map 2.2: Banspal Block in the District



In Keonjhar, Juang are mostly concentrated in Banspal, Telkoi, Ghatagaon and Harichandanpur blocks. The study village comes under Banspal block. Juang claim themselves to be the autochthons of the area from where they have migrated to the other parts of the State. The word ‘Juang’ means ‘Sons of Man’. They claim themselves to be the first humans on the earth, originating at the sacred Gonasika hills as descendants of their legendary ancestors, the *risi* couple. They classify themselves into two sub-groups, that is (1) *Thantias*, claim themselves as “hill Juang” and those who dwell in original place who come under *Sathkhandia Pidha*¹, and they live near to the source of Baitarani River; and the (2) *Bhagudias*, who have fled from the original place. They migrated to the places like Pallahara, Dhenkanal, Kamkshyanagar. Basically, they are egalitarian in nature. The distribution of Juang population in Keonjhar district is presented in the following table.

Table 2.2: Juang Population in Keonjhar District

Sl. No	Block	Village	Household	Population
1	Harichandanapur	50(34%)	1590(35%)	7081(33.5%)
2	Banspal	47(32%)	1757(38.3%)	8484(40.1%)
3	Telkoi	38(25.5%)	869(19%)	4073(19.3%)
4	Ghatagaon	12(8%)	352(7.6%)	1487(7%)
5	Keonjhargarh	1(0.5%)	5(0.1%)	21(0.1 %)
Total		148	4575	21146

Source: Juang Development Agency Annual Report, 1998-99

I

Common Property Resources

Juang consider every natural resource available within their village territory as the property of the community. CPRs are utilised and managed by the community. They are pasture land, open land, waste land, shifting cultivation land, orchards, forest, cremation ground, and stream land etc.,.

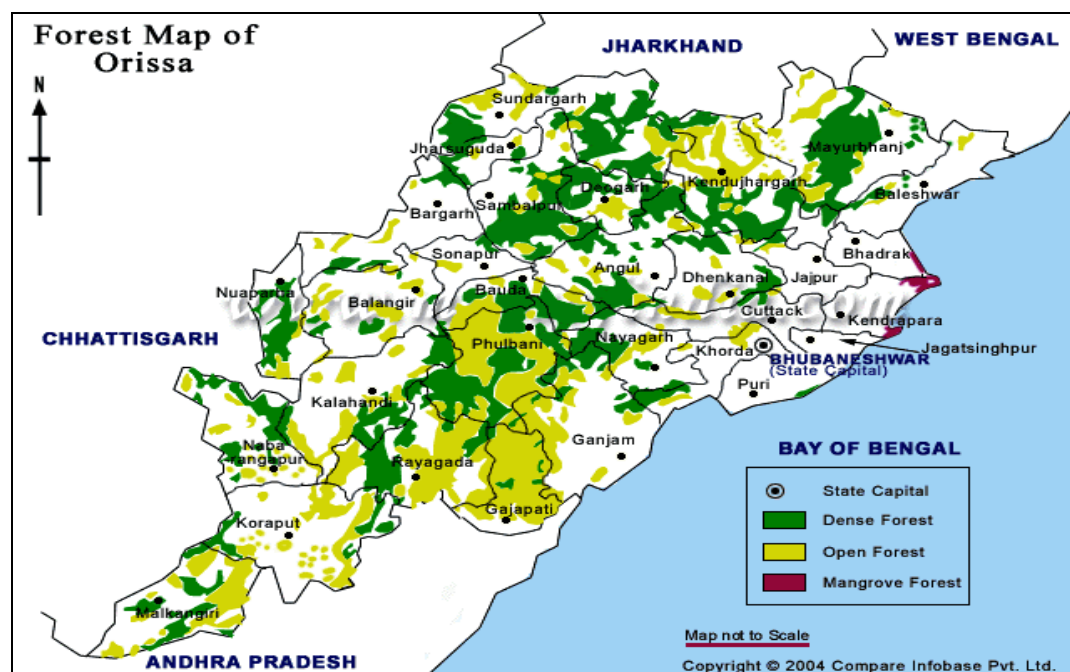
Forest

Keonjhar has large tracts of forest area and the study village is located in the forested region of the district on top of a hill. The village has 23.3 hectares of forest area demarcated by Revenue Department. Forest is used for *podu* cultivating in the study village which is 79.57 Hectares. Except this Forest Department has taken 89.2428 hectares (28 percent) of land in the patches of *khandiapidha*, *hatikana*, *chhatamba*, and *doboladiha* for plantation purpose (see Table 3.4 in chapter III). In 2005, 43.89 hectares out of 89.2428 hectares have been leased out to Rungta Mining Company by Forest Department for compensatory afforestation (see plate 5.7).

The forests are divided into reserves forest, protected forest, un-demarcated forest and *khesara* forest. The important species of flora found in the forest are *Kendu* (*Diospyrus melanoxylon*), *Arjun* (*Terminalia arjuna*), *cashew* (*Anacardium occidentale*) *Amba* (*Mangifera indica*), *Panasa* (*Artocarpus heperphyllus*), *Gambhari* (*Gomelina arborea*), *Kusum* (*Schleichera trijuga*), *Sal* (*Shorea robusta*), *Karanja* (*Pongmia Golbra*), *Jamun* (*Eugenia jambolana*), *Mahua* (*Bassia latifolia*), *Tentuli* (*Tamarindus indica*) and bamboo (*Bambusa stricta*). A kind of tall grass known as *Sinkunda* grows around the villages, which is used as thatch for the houses. *Siali*

creeper, whose stem is used for rope making and leaves are used for making cups and Plates, is also found in abundance.

Map 2.3: Forest Map of Odisha



Due to deforestation, the population of wild animals has come down substantially and became scarce in the area. However, the fauna found in the district are different types of deer, wild boar, elephant, bear, sambar and monkey. Leopards are also found in small numbers. The wild birds include peacock, wild fowl and pigeon.

Land

It's the most important natural resource of Juang. According to the pattern of use, it is divided in to 4 categories.

1. *Toila* or *kamana* or *bagada*: fields on top of the hills, mostly use for cultivation of dry crops;
2. *Guda*: flat fields below the hill slopes used for the cultivation of dry crops ;
3. *Bilaw* and *beda* : Plain wet small paddy land besides the streams are called *bilaw* and big land is called *beda*;
4. *Badi* or *bakadi* : Land adjacent to settlement used for kitchen garden.

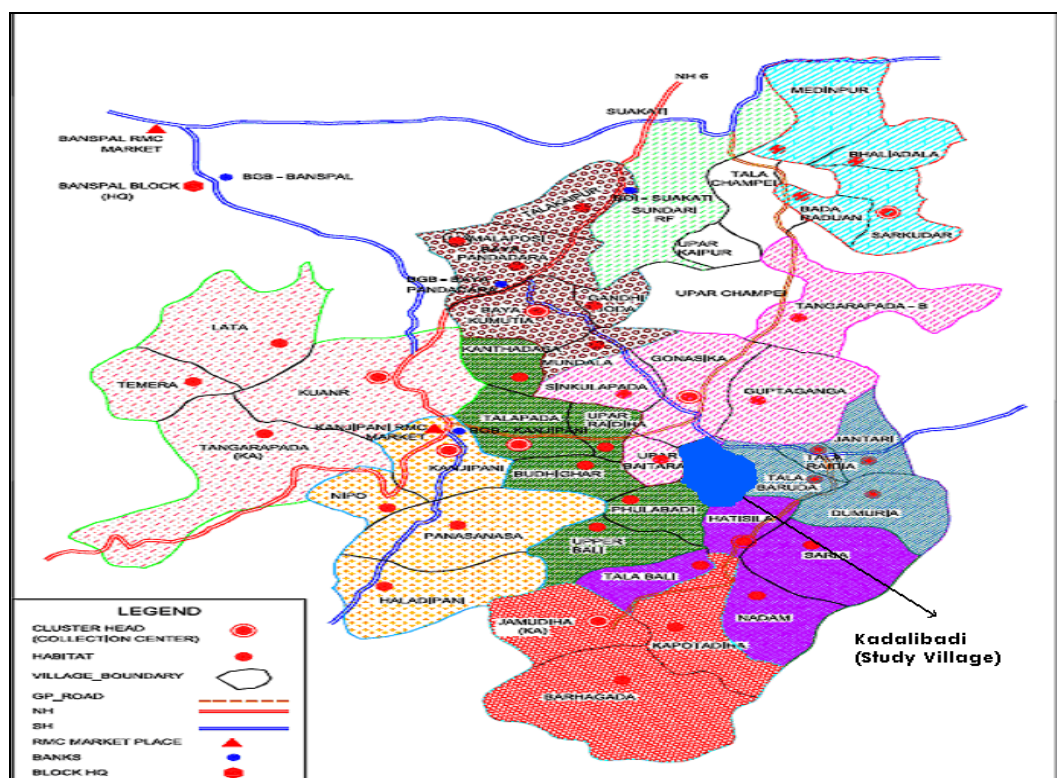
Climate and Rain fall

The climate is generally cool from November to February. December and January are the coldest months. In December the daily minimum temperature is about 12°C. During the occasional chilly spells when the winds blow from the far North, it drops below 5°C. Humidity is high both during the monsoon and the post-monsoon months. The summer season in this area commences by the beginning of March when temperature starts to rise rapidly. May and June are the hottest months with a maximum temperature at 40° C, and the minimum at 25° C. The monsoon breaks out about the beginning of June and continues until the middle of October. The average rainfall of the district is 1712–1740 mm per year. The average rainfall in Keonjhar was estimated 153.45 centimeters in the 1970s, but it has declined since then. In fact, in 1981 it was only 127.7 centimeters. About 75 per cent of the annual rainfall occurs during the season of the South-West monsoon and is slightly heavier in Northern Keonjhar than in the Southern.

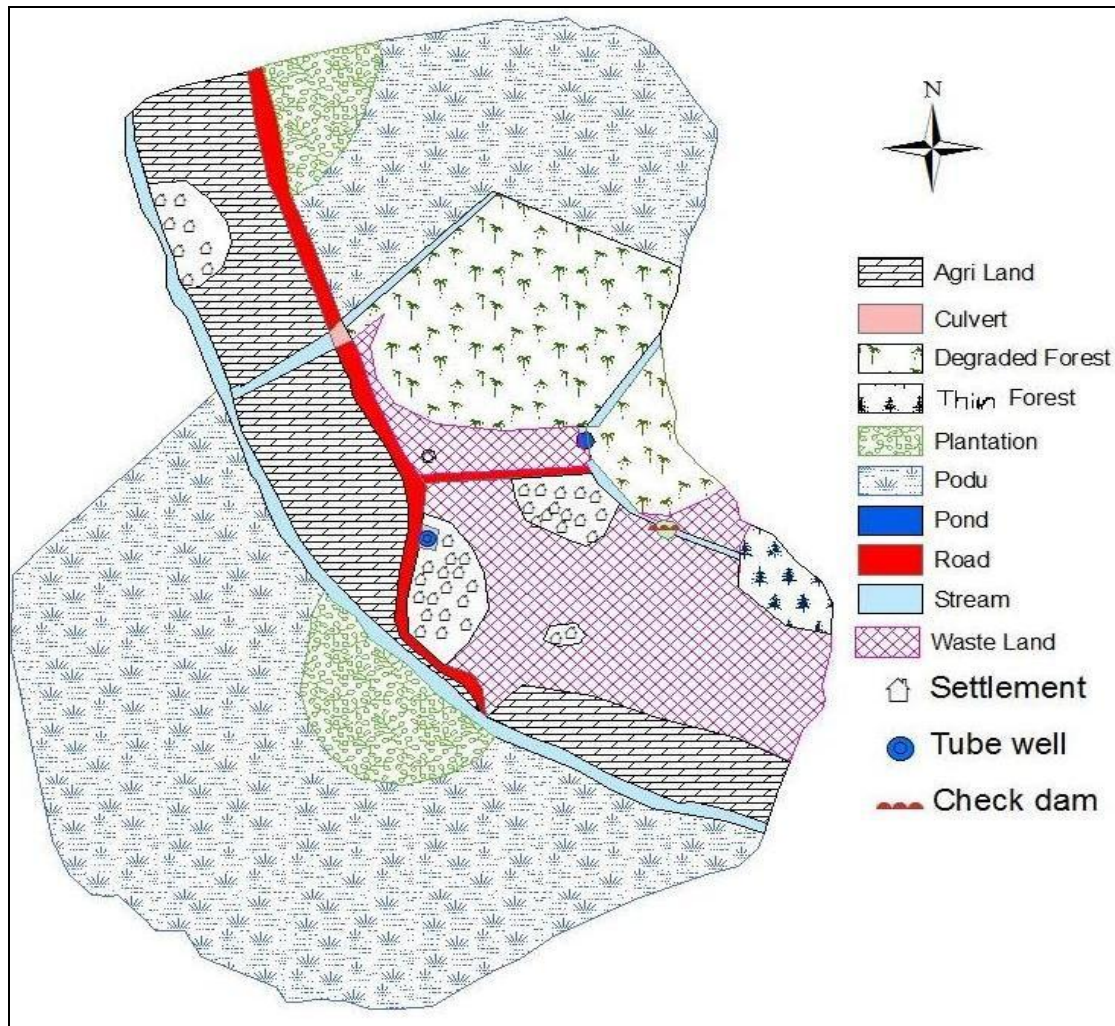
II

Habitation and Settlement

Map 2.4: Banspal block, Gonasika Gram Panchayat and Kadalibadi village



Map 2.5: Resource Map of the Kadalibadi Village



The study village is situated in the foot hill close to a stream (*balijharana*) surrounded by mountains and forest. According to Juang they don't have any term for village in their language and refer it by using the Odia or Hindi term *gaon*. The village is the minimal territorial unit and may consist of one or more wards in a definite locality. The traditional or old Juang settlement used to be uni-clan village but at present Juang villages are inhabited by members of different clans. As their clans are exogamous, the uni-clan villages are exogamous and categorized as *kutumba* (agnatic) villages distinguished from *bandhu* villages (relatives through marital alliance). These are Odia terms and they are adopted by Juang from the caste Hindu neighbours.

The study village has a cluster of traditional houses and semi-pucca houses provided by the Government. The houses are generally constructed near the hill streams or rivers to ensure supply of drinking water for the inhabitants. According to Juang,

suitability of a village is largely dependent upon the availability of forestland for shifting cultivation and drinking water facilities. After the selection of a site is finalized, the religious head (*nagam*) undertakes certain divination and determines whether the gods and ancestors have approved the site for habitation. In recent times, they were given *patta* (record of right) to the plain lands (*bilaw*) being cultivated by them in the valley (see Plate 3.12).

The layout of the village is generally compact and the settlements are closer to their *bilaw* and *badi* lands. The Juang houses are scattered around the *majang*, which is located in the centre of the village, and the houses of the individual Juang families encircle it (see Plate 3.3). The houses of Gauda can be found in the beginning and end of the village (see Plate 3.2). Cremation or burial ground is located in the forest to the west side of the village.

The village goddess *Gramasiri*, represented by stone column, is located adjoining to *majang*. There is dancing area in front of the *majang*. It is bigger in size than the ordinary houses. It has walls on three sides and is open in the front with a high veranda. It is the biggest house in the village. Wooden pillars of the *majang* are carved with human and animal figures. The interior of the *majang* has wooden platform and at the back where communal paddy and utensils are stored. At the middle, the sacred fire is kept lit day and night through out the year. The musical instruments (*changu*) are kept hanging from deer horns, which are fixed to the walls, with paintings (see Plate 5.1). These paintings and carvings are not found in individual houses. In front of the dormitory the open space can be found where the youth perform *changu* dances (see Plate 3.3).

The houses are small in size varying between 15' by 8' as small as 6' by 3'. The walls are raised with wooden poles stuck into the ground vertically close to each other and plastered with a mixture of mud and cow dung. Most of the houses today are made of cement walls that are built with the support of Juang Development Agency (JDA), Odisha. Cows and goats are kept in separate sheds made of wooden planks and poles, which are adjacent to the house.

Ethnic composition

The Juang in Kadalibadi live side by side with Gauda in separate settlements with whom they have a symbiotic relationship. Both practice shifting cultivation as major livelihood. However, comparatively, Gauda are economically better off than the Juang because of the practice of settled agriculture, which was later adopted by Juang. However, Juang are the original inhabitants of the village, and the Gauda are migrants from different places to settle there.

In the study village Juang constitute the majority of households (80 per cent), and the rest belong to Gauda (20 per cent). Among Juang population, females (52.5 %) outnumber the males, where as among Gauda males (55.8%) outnumber the females. A significant feature is that overall female population i.e. 51 per cent is higher than male 49 per cent. In general, females are more than the males in the study village.

Table 2.3: Community wise Households and Population

Sl No	Name of the Community	House Holds	Population		
			Male	Female	Total
1	Juang (T)	40	103(47.5)	114(52.5)	217 (100) (83%)
2	Gauda (C)	10	24(55.8)	19(44.2)	43 (100) (17%)
	Total	50	127(49%)	133(51%)	260

According to the Juang Development Agency (JDA) and Integrated Tribal Development Agency (ITDA), about 46.6 per cent of the Juang migrated to Pallahara and Dhenkanal areas of neighbouring Dhenkanal district. Juang regard themselves as original inhabitants of Gonasika and those who still live in Keonjhar district distinguish them as “*Thaniya*” and refer to those who have migrated to Dhenkanal district as “*Bhagudiya*” (deserters), as mentioned above. Thus, the Juang are divided into two groups according to their geographical location. The *Thaniya* who live in Keonjhar district consider themselves as the true representative of Juang and regard the *Bhagudiya* as impure. Intermarriage between these two groups is prohibited.

Age and Sex-wise distribution

Among all the age groups children below 14 years are higher in comparison to other age groups, where as a substantial proportion belong to the early adolescent and adolescent age, i.e., 15-29 (26 per cent) and 30-44 (15.5 per cent) categories. Among the others, those in the age group of 45-59 (10.5 per cent) predominate over the 60+ age group (3 per cent). It is pertinent to note that among the 60+ age group the proportion of male and female is equal and also stands lowest compared to the other age groups. It is observed that more number of household have dependent age groups under 0-14 (45 per cent) and 60+ (3 per cent) age groups (Table 2.4).

Table 2.4: Distribution of Age Groups by Gender

Communit ity	0-14		15-29		30-44		45-59		60+		Total
	M	F	M	F	M	F	M	F	M	F	
Juang	48	54	29	32	11	17	13	7	2	4	217(83%)
Gauda	8	6	3	4	6	7	5	2	2	0	43(17%)
Total	56 (22 (%)	60 (23 (%)	32 (12 (%)	36 (14 (%)	17 (6.5 (%)	24 (9 (%)	18 (7 (%)	9 (3.5 (%)	4 (1.5 (%)	4 (1.5 (%)	260
Grand Total	116(45%)		68(26%)		41(15.5%)		27(10.5%)		8(3%)		

The Language

The Juang are grouped with the Kolarian family on the basis of linguistic affinity and the spoken language is also known as “Juang”. E. T. Dalton discovered as early as in 1872 that this language was closer to the Kharia language than Kol tongues like Ho, Mundari or Santhali. The Juang have no written script of their language, but it is still alive and spoken. However, due to constant contact with the Odias and the location of schools where Odia is the only medium of instruction, the Juang are in danger of losing their language. In fact, now the number of those who speak Juang has declined considerably.

Marital Status

A significant proportion of the population is married (33 per cent), while the proportion of the divorced and separated is nil as compared to widows and widowers

(8 per cent). In general, the proportions of unmarried appear to be high as it included a number of children who are below the age of marriage (Table 2.5).

Table 2.5: Marital Status by Gender

Community	Unmarried		Married		Widow and Widower		Divorce/ Separated		Total
	M	F	M	F	M	F	M	F	
Juang	57	72	38	32	8	10	0	0	217 (83%)
Gauda	13	11	9	8	2	0	0	0	43 (17%)
Total	70 (27%)	83 (32%)	47 (18%)	40 (15%)	10 (4%)	10 (4%)	0	0	260
Grand Total	153(59%)		87(33%)		20(8%)		0		

Educational Status

In the village 59.36 per cent population among above 5 years age group are illiterate. Among the illiterates as well as literates we notice clear gender disparity. While 35 per cent female in the village are illiterates, males have a lower illiteracy level (24.36 %). Literates up to fifth class show that there are more males (14.2 %) who have attained education up to fifth class than the females (6.5 %). Three per cent each literate among male and female are found between sixth to eighth classes. However, it is encouraging to note that there is an intermediate and 2 matric literate males found in the village. In general, male literacy is higher than the female literacy in the village.

Table 2.6: Education by Gender

Category	Community		Juang	Gauda	Total	Grand Total
Illiterate	<5 Age	M	16	5	21(8%)	41(16.5%)
		F	19	3	22(8.5%)	
	5> Age	M	54	9	63(24.36%)	154(59.36%)
		F	79	12	91(35%)	
Literate	1-5 th Class	M	32	5	37(14.2%)	54(20.7%)
		F	16	1	17(6.5%)	
	6-8 th Class	M	1	2	3(1.15%)	6(2.3%)
		F	0	3	3(1.15%)	
	9-10 th Class	M	0	2	2(0.76%)	2(0.76%)
		F	0	0	0	
	Inter	M	0	1	1(0.38%)	1(0.38%)
		F	0	0	0	
Total			217(83%)	43(17%)	260	

Communication and Infrastructure

The Kadalibadi village is located in the hilly terrain area which is 30 kilometres away from the district headquarter, Keonjhar. Kadalibadi village is 14 kilometres away from the 43 National Highway (NH). In this road vehicle conveyance from the NH to Kadalibadi village is hardly possible because of its high altitude. A footpath road connects the study village to the Panchayat Office in Gonasika, which is at a distance of three kilometres. Villagers go by walk trekking 10 kilometres to sell NTFP in the weekly market held in Kanjipani. Most of the time villagers visit Gonasika weekly market to purchase their household and daily requirements. The village has a primary school and an anganwadi centre. In case of serious health problems, villagers go to Gonasika Primary health Centre.

III

Units of Social Organisation

Village or territorial (*pirah*) exogamy plays a more important role than clan organization. Earlier they were from one clan (village) but population growth and migration led to the emergence of multi-clan. According to them marriage is the primary source of this development of multi-clan villages. It also developed through marriage by exchange and established a relation with *bandhu* villages. Genealogical connections are traced only within local descent groups and lineages. Clans (*kutumba*) are identifiable only through totems (Patnaik, 1986). When marriage is being discussed, the totems of the partners are compared. If the partners (couples) are from different clans then marriage among them can be possible. The village councils take the decision of pre-marriage matters. Mostly a bride is selected from a brother-in-law or sister-in-law's family or their siblings. The Juang are divided into a number of clans known as *Bak*. Clan exogamy in Juang society is accompanied with village exogamy, where no marital unions take place among the people of the same village since every village is composed of a single clan and the member of which form an agnatic group called *kutumba*. For them the whole village is a *kutumba*, hence it's a taboo in their culture. Members of study village belong to *Baningbak* clan and Juang of Guptaganga (neighbouring village) village belong to *Banurmbak* clan and Juang of Gonasika (neighbouring village) belong to *Temrembak* clan. According to them,

earlier they were uni-clan, but over the period of time, people from outside clan settled in these villages. Hence, these villages turned in to multi-clan, which are (1) *Gungibak*, (2) *Samanabak* and (3) *Raduanbak*. The people of these villages can marry from outside their village who are related to them as cognates, called *bandhu*.

Family is a primary unit in the Juang society and it is patrilineal, patrilocal and patriarchal. Simple nuclear type of family consisting of father, mother and unmarried children is the usual form. The son immediately after marriage may not get separated from his parent but such separation becomes necessary after some time when the second son gets married. The son always inherits property after the death of the father. In a Juang family, the authority is bestowed upon the senior male member. When the father is alive, he normally exerts his power and authority in family affairs, though he does not totally ignore the views of his wife and other adult members of the family.

Women in the Juang family enjoy better status than their counterparts from the local non-tribal communities. They are usually consulted over the matters related to household. Women usually work alongside with men in cultivation, collection of Minor Forest Products, etc. They are hard-working and contribute immensely for the family upkeep.

The Juang family is a co-operative entity for economic, social and religious purposes. The major economic and social activities revolve around the family. All the earnings of the individual members go to the common economic pool of the family. It is also a ritual unit where ancestral spirits are worshipped, by different life cycle rituals.

Economic Organisation

Juang economic life revolves around settled cultivation, shifting cultivation and NTFP collection. Major crops they produce are paddy, Niger, mandia, kangu, etc., (see Table 4.4), which sustains them up to 6 to 7 months in a year and rest of the year they survive on selling NTFP collection in the market held in Gonasika and Kanjipani (see Table 4.5). People from different villages sell vegetables and other day-to-day household commodities in this market. This is also the occasion when Juang from the neighbouring villages exchange information, meet their relatives, etc., besides

purchasing or selling goods. They also sell *sal* leaf plate to *kuchia* (middle man) who collects from the village itself, with a lower price than the market rate. Juang women run three self help groups which were formed with the help of Forest Department to help the families to save money in household level. It also helps them to get loans from Gramya Baitarani bank, which is in Bayapandadhar.

Leadership Pattern

Traditional Juang council consists of *Pradhan* as secular head, *Nagam* as religious head and *Raulia* as divine-healer. *Nagam* is the oldest man of the senior descent group in the village. He plays a part in the re-distribution of *Podu* land to households for their cultivation. Along with other elders he settles disputes among the villagers. Before independence, during the Raja's period *Pradhan* acted as a tax collector. He has a wider judicial role than the priest in settling inter-village quarrels. He also plays an important part in community rituals by sacrificing animal or bird and gives the sacrificed animal's head to the priest to make necessary offerings. During the Raja's time, the *Dangua* and *Nayak* acted as assistants to the priest and *Pradhan* in village matters.

The Elder Council, known as *barabhaika*, literally known as Twelve Elder Brothers, is made up of all the household heads in the village. They are the authority that decides all village or inter-family matters of the local Juang community. *Pradhan* consults them before taking any decision regarding disputes resolution. The priest has a certain amount of authority in village matters in religious spheres.

The role of *Raulia* or divine-healer is required in identifying the causes of sickness, accidents and misfortunes, sorcery, evil eye or witchcraft. He is always a married man with children. According to them, if there is no such person eligible for this position from their community, they may choose from the neighbouring Bhuiyans, who, they believe, are their brothers. At present *Raulia* and *Dangua* belong to Gauda community, as there are no Bhuiyan in the study village, but they are not a part of *barabhaika*.

Table No 2.7: Village Traditional Leaders

Sl. No.	Type of Leader	S.C/S.T	Age	Sex	Educational Qualification
1	Secular Head (<i>Pradhan</i>)	Juang	70	M	Class iii
2	Religious Head (<i>Nagam</i>)	Juang	25	M	Class vi
3	Sorcerer\Magician (<i>Raulia</i>)	Gauda	52	M	Illiterate
4	Messenger (<i>Dangua</i>)	Gauda	30	M	Illiterate

Majang/ Mandaghar (Youth Dormitory/Community house)

The institution of *mandaghar/ majang* plays an important role in the Juang society. Unmarried boys are formally admitted into the dormitory after undergoing "*ambanua*" ceremony (initiation of mango eating ceremony). Rout (1969) observed a similar process among the Juang of Pallahara at Dhenkanal district, formerly part of Keonjhar. *Majang* has different functions:

1. It serves as a community centre for the youth;
2. A court house for the village elders;
3. A rest house for the guests and visitors; and
4. A store house of seeds and food grains of the common fund for the people.

Majang (see Plate 3.3) is a symbol of Juang art and artefacts. Educative role of the dormitory is immense. Here the young boys and girls learn from their elders the traditional customs and manners of their life and values and norms of their society. The main objective of this organization is to perpetuate the tribal solidarity (Rout, 1966). To achieve this end, provision is made for socializing youth for fostering participation in group activities. Unless one becomes a member of this youth organization, he is debarred from participation in such collective activities in which the Juang youths are engaged in the day-to-day life. Unmarried boys of the village repair the dormitory building, located at the central place of the village, while the unmarried girls lend a helping hand in plastering the dormitory once in a week. The *changu* and other drums and food grains of the village common fund are kept in the dormitory and a sacred fire is kept burning day and night at the centre of the dormitory. The unmarried boys sleep during night encircling the fire keeping their feet towards the fire to ward off the biting cold prevailing most of the time in the year. The village council (*barabhaika*) sits in the dormitory to discuss the village affairs (see Plate 5.1). Besides, it serves as a recreational centre for all.

The duties of the inmates of the dormitory are multifarious, involving participation in most of the socio-economic activities of the village. The members bring firewood for the sacred fire kept burning in the dormitory through out the year and attend to its repair works. They contribute sacrificial goats, pigs or sheep for important village rituals besides collection of rice and other foodstuff from every house for the guests and visitors that come to the village. They also help in cooking and fetching water and firewood for the communal feasts during festivals and marriage ceremonies and storing grains and seeds in straw bundles in the dormitory, which are the common fund of the village (Rout, 1966).

Similarly, girls help in plastering and cleaning the dormitory throughout the year and supply leaf-cups and plates to be used in communal feasts. They also help in husking paddy and grinding rice for preparation of pancakes on the occasions of village rituals. They also dance overnight along with the boys on festival and ritual days. All these functions are the collective responsibility of youth organization of the village and the failure in performing these duties are seriously viewed and punished by the *barabhaika* (council of elders).

The supervision of the activities and duties of the youth organization rests in the hands of a married man who mediates between the youth organization and village council. He has to give explanation to the village council if the youth have violated any social norm or have neglected any of their duties. The village council may punish him if the explanation is not satisfactory. On the other hand, he can impose punishment on members of the youth dormitory for negligence of their duties.

Dancing is one of the most important social events for the Juang youth and dance outings are exchanged between *bandhu* villages frequently. As village exogamy is strictly observed, the boys and girls of the same village do not dance together. *Changu* is the important musical instrument played on by boys at the time of dancing. Therefore, the Juang dance is popularly known as '*changu* dance'. The members of the youth organization have to feed the members of the party that visit their village. During dance, gifts are exchanged between the boys and girls. In order to meet the expenses of entertaining the visitors the members of the youth organization work collectively by cultivating one or two patches of *podu* land every year and raise

various crops like paddy, niger, etc. They also collect forest produces from the forest and sell them for money or exchange for paddy and rice.

III

Religious beliefs and practice

The Juang have number of religious beliefs and ceremonies spread over different seasons and months of the year. They are associated with hunting and food gathering. Some of them are associated with eating of the first fruits of the season and mostly revolves round the agricultural operation in the *podu*.

'*Dharma Devata*' and '*Basumata*' are the two important deities propitiated by them, while the former is identified with the Sun God, the latter is identified with the Earth Goddess. Apart from the village rituals, these deities are worshipped on important occasions for maintaining their socio-economic life. Besides the supreme deities, they believe in the existence of many other deities like *Gramsiri* (Village Deity), *Thanapati* (Tutelary Deity), *Bhima Badma* and *Kanchuri*. While the former two deities are believed to protect the village and its inhabitants from all kinds of calamities and misfortune, the latter two are believed to take care of the health of the unmarried boys and girls, as they are believed to reside in the drums kept inside the dormitory. They have also full control over the sound of the drum and *changu* (Patnaik, 1984).

They worship forest, river, and hill deities who are believed to reside in the surroundings of the settlement. In all major rituals the Juang pay homage to these deities and pray them for protection. For the Juang, shifting cultivation is regarded as a means of livelihood. It is their way of life and is interlinked with other facets of life. It unites all the villagers under a single task (Rout, 1969). Therefore, festivals associated with shifting cultivation are observed jointly with great enthusiasm.

'Puspunai' is one of their most important annual festivals. It marks the beginning of agricultural cycle. On the full moon day of '*Pusa*' a pig is sacrificed and its blood is sprinkled over the grains collected from each household. These grains are kept in

mandaghar to be used during '*Magha Jatra*'. Another important festival observed in the month of '*Magha*,' '*Amba-Nua*', is to promote the fertility of the land. '*Amba-Nua*' festival is associated with offering of tender mango fruits to the village deities and ancestral spirits. The village youth on this occasion worship *Bhima* and *Kanchuri* in the dormitory. After this festival, which is held in the month of '*Phalguna*', they go for ceremonial hunting (Patnaik, 1984). '*Tritia*' is a sowing festival held in the month of '*Chaitra*'. During this festival paddy kept in the Mandaghar is distributed to the villagers by the priest for sowing in the podu.

Life Cycle Rituals among the Juang

Birth of a child is always considered a happy incident for the Juang and the male child is preferred to a female for the simple fact that sons perpetuate the family line after father's death. However, birth of girls is also cherished as they fetch bride price to the parents and enjoyment to the villagers in the form of feast at the time of marriage. Juang believe in rebirth and generally prefer the name of deceased ancestors while naming a newborn. Children are also named after the local trees, flowers, roots, tubers, birds, and animals. The name of the day of birth is also considered auspicious and both girls and boys are named after it.

Marriage is another important event in the life of the Juang. The marriage takes place only between members of *cognatic* villages called '*bandhu* villages' (Patnaik, 1984). Various types of marriages are found among the Juang. However, the most common types are arranged marriage, marriage by elopement and love marriage. Previously, marriage by capture was the most prevalent form and it is not practised now among them.

There are different types of marriage that take place with the coordination, arrangement and negotiation of the middleman (*Kamandiria*). He brings the marriage proposal from the bride's (*Kania*) village (Rout, 1966). Different forms of marriages are:

1. *Gatang Kania*: This marriage takes place after the end of negotiations from both the sides. All the villagers from bride side bring the bride to the bridegroom's

house. In the groom's village, all the youth and women participate in dance (*changu*). Here boys are accompanied by the bride's party with their *changu* drum. Changu dance takes place between the youth of two villages, to show their love and affection, to show their wish as *bhandu* for ever.

2. *Tankae oti*: It is a form of marriage between economically poor families and decision is taken from both sides with cooperation. Here, only few women from bride's party bring the *Kania* to the groom's house. There is no feast and *changu* dance for this marriage.
3. In case of arranged marriage, the groom's father sends a senior *bandhu* relative to the girl's village as mediator to negotiate and finalize the marriage proposal. The role of traditional village head, *Pradhan*, is also quite important in these negotiations. After the marriage is settled, a group of married women, unmarried boys and girls from the bride's village accompany the bride to the groom's village for the marriage which ends with mass feast to the guests involving heavy expenditure.
3. In case of marriage by capture (locally known as *Digar Kania*) where the bride is captured by groom's friends on her way to the market, or when she is on a visit for dancing in a '*bandhu* village' or when she goes for NTFP collection. The bride's villagers are informed only after the marriage is performed in the boy's house. Later, the bridal pair accompanied by friends along with bride price, which consist of clothes, paddy and cash, visit the bride's village. This type of marriage involves less expenditure compared to the arranged marriage, as no feast on a large scale is given to the villagers. Though this type of marriage was practised previously, according to the villagers, it is not that prevalent now a day.
4. *Surum Kania* or marriage by elopement: It is a form of love marriage. Bride and bridegroom meet each other. The boy informs and convinces his parents for arranging the girl. In some cases, if parents do not agree with this type of proposal then both elope from that village and get themselves married. After few years, they get back to the groom's village.

5. *Burha kania* (widow marriage): It takes place after mutual understanding, settled from both sides, in the matter of bride-wealth, if both the sides belong to more or less equal socio-economic status in their villages. Then, it will be possible for remarriage. Levirate is permissible and there is no need to pay bride-wealth in such marriages.
7. *Daki kania* (marriage of the separated and the divorced women): It is a case where a woman after marriage who leaves the groom's village for about three month and does not return to groom's house. Her husband waits for one and half months and sends a letter through village elder council. Her husband comes to know that she could not adjust with him. The elder council members, like *nagam*, *pradhan* and other elderly members, go to the bride's village. There both sides meet each other but when they fail to pursue the bride to return her husband's house, they give a written letter in the form of divorce notice to the bride's father and return to the village in that night. This is the concluding practice they follow between couples.

Death and Rituals

Among the Juang, *death* is associated with various beliefs, customs and rituals. It is generally believed that, the hostile spirits, black magic, witchcraft or the wrath of the deities causes death. Elaborate ritual is performed to ward off the evil effects on the living members. It is generally believed that the departed soul would not realize the depth of sorrow of his relatives and would grumble in the other world if they did not make crying sounds until the body is taken to the cremation ground. Unlike in the case of normal death, persons dying because of murder, suicide, snakebite, cholera, smallpox and women dying out of labour pains are not cremated but buried.

It is generally believed that people killed by tiger are transformed into tiger spirits and wander around the forests to attack people. Similarly, women dying during childbirth transform into witches and attack babies and cause fever and sickness.

The relatives and lineage members who live in the village are informed about the death. Soon after, they assemble in the village of the deceased and make arrangements for cremation. The dead body is placed on the pyre with its head placed towards east.

An elderly man brings a *jammu* (*eugenia jambolana*) twig and fans it over the face of the dead body. He also brings water from the stream in a leaf-cup and sprinkles it on the face of the corpse. After this, fire is lit to the pyre. They use the wood of *aova* tree for the funeral. If that is not available then they use the wood of *kusuma* tree. When all these are over, they take a purificatory bath and return home.

Soon after the corpse is taken to the cremation ground an elderly woman from the deceased family goes half way towards the cremation ground to offer cooked food to the departed soul. Next day, the funeral party again goes to the cremation ground and throws away the ashes and bones, except the scapula which is retained. An idol representing the deceased is made of mud and personal possessions of the deceased are placed near the idol. Then the scapula is tied with a piece of thread smeared with turmeric powder and the same is again tied to a *jammu* (*eugenia jambolana*) branch, which is inserted in the chest of the idol. After a while, the scapula is thrown in the stream. They observe mourning for two days. The deceased's family and lineage members observe a number of restrictions. They do not take fish, meat and egg. They also do not use oil. Clothes are washed, the walls and floors are plastered with cow dung mixed with mud, and the old earthen cooking pots are thrown away.

IV

Health and Hygiene

Most of the Juang use tube well water for drinking purposes and stream water for bathing and other purposes. Though the stream water is pure at source, the people contaminate the water as it passes through several habitats due to its indiscriminate use. The Juang defecate on the banks of the stream, wash their clothes, and bathe their cattle in the same stream, which cause considerable pollution to the drinking water. They generally suffer from diseases like diarrhoea, dysentery, etc., after consuming the contaminated stream water. The other sources of water are ground water, pond and water harvesting structure (WHS) made by Juang Development Agency (JDA) (see Plate 4.12). There is a well in the village which is not functioning.

Table 2.8: Water Source and Present Condition

Water Source	No	Functioning
Well	1	0
Tube well	1	1
Stream	2	1
Pond	1	1
WHS	1	1

The backyards of the Juang households have become breeding ground for mosquitoes and flies causing diseases like malaria and gastroenteritis because of their unhygienic surrounding as they throw cow dung and household refuses in the backyards. Due to such pollution, Juang generally suffer from different types of diseases. But according to their belief system black magic, witches and sorcerers, and ancestral and malevolent spirits bring most of the diseases. They believe that unless these offending spirits are properly propitiated with sacrifices and offerings, like chicken, liquor, etc., one may not expect quick recovery from the diseases. They follow their traditional method of curing diseases after detecting the disease by divination and offering chicken and liquor to get rid of the evil spirits. In Kadalibadi Juang depend upon the medicine man that belongs to Gauda caste, as he is the person who purchases herbal medicinal plants, roots from the Juang when necessary. Often in minor illness, cold or cough, Juang follow their own knowledge to cure themselves by the medicinal herbs and shrubs.

Previously there were very limited medical facilities in the remote inaccessible Juang areas. At present medical facilities are available at Gonasika and Kanjipani. Some of them use medicines supplied by the Government for their treatment, through anganwadi centres. With the availability of such facilities within easy reach in recent times, Juang are availing modern medical facilities for treatment of diseases like malaria, skin diseases, gastroenteritis, etc. However, perceptible changes in the attitude of the Juang youth to the use of modern medicine in curing diseases are observed.

Food Habits

The Juang struggle hard to earn their livelihood through cultivation in *podu* and *bilaw* lands, besides collection of different varieties of edible green leaves, fruits, roots and

tubers and occasional hunting and fishing, to supplement their diet. Rice is their staple food supplemented by millets, like Ragi, Jowar and Maize, grown in the plain and kitchen garden. Cash crops like mustard and Niger are produced along with paddy and rice. Rice or millet is taken with some vegetables or green vegetables or green leaves, which are grown in the kitchen garden or gathered from the forest. Pulses like *muga* (black gram), *kulthi* (horse gram) are occasionally added to their food on festive occasions. Quantity and quality of food depends on the seasonal variety according to agricultural cycle and forest collection. In summer, fruits like Jack and mango forms major diet. Various types of roots and green leaves in the rainy season and edible tubers in winter supplement their diet. The powdered mango kernel is used for making pancakes.

Generally they take two major meals in a day, one before noon and another in the evening. An ordinary forenoon meal consists of a leaf-cup full of cooked rice or millet gruel and a small quantity of salt. Sometimes dal (pulses) or green leaves boiled with a little turmeric powder and salt serve as dish. Second meal in the evening is the repetition of the forenoon meal. During the busy agricultural season, meals are taken thrice a day.

On the celebration days, meat and pork are added to the main diet. Mutton, chicken and eggs are also used as food when such items are available, particularly during festival times. Occasional hunting provides them with animal protein. They never take milk and milk products.

The technique of preparing food includes frying, boiling, baking and roasting. Pancakes are prepared from rice or maize flour on special occasions. They consume *mahua* liquor, beer prepared from maize, millets, rice and the juice of Sago palm. They either prepare or purchase the above from *Sundhi* households at Gonasika, a backward caste community. Though expensive, liquor plays an important role during festivals. The liquor is served as medicine for curing minor diseases like fever, headache, etc. They believe that it provides energy to work and it is also offered to their deities and ancestral spirits.

Dress and Ornaments

The dresses used by the Juang have no special significance. The dresses used by men folk are one of the native peasantry with a cloth round the waist and no cover on the upper part. The dress of a woman consists of a white or coloured sari. They do not have special dress for ceremonial and other occasions.

Shirts, pants, blouses, etc., are used when they go to the market and visit relatives. The Juang women take pleasure in adorning different parts of their body with various kinds of ornaments. Their traditional ornaments consist of bangles and anklets, armlet, earrings, nose and toe rings made of brass or aluminium and different kinds of coloured beads and coin necklaces. These are bought readymade from the market, except the bead necklace for which the Juang women purchase threads, beads and imitation coins to make them into different floral designs. But now a day the Juang girls and women like to use plastic, glass and aluminium bangles, ear ring and necklace. Tattooing is found to be obligatory and girls get their arms and forehead tattooed extensively. This is mostly done to enhance their beauty. They mainly use the design of plant, flower and birds as their tattoo marks. The women take little care of their hair in their day to day normal life but on the market day and during any socio-religious ceremonies they apply *kusum* or *mahua* oil to their hair, comb it properly and tie the hair into a bun.

Source of Livelihood

The important source of their livelihood is shifting cultivation, settled cultivation and wage earning, which are supplemented by livestock rearing, horticulture, NTFP and fuel wood collection and, occasionally, hunting. There are two persons who are in Government service, while nine others receive old age pension of Rs. 100/-. Those who are in service also indulge in *Podu*, settled cultivation, livestock and horticulture to supplement their earnings from service.

Annual Calendar of Activities and Division of Labour

Primarily the Juang were food gatherers. Previously their diet included various edible roots, tubers and green leaves from the forest. At present, they continue to evince interest for such items and collection of forest produce. The poor Juang families depend on collection of the above items for six to eight months in a year. The important food items collected by the Juang from the forest include edible roots and tubers, fruits, green leaves, mushrooms, honey, eggs, and insects of various kinds. The collection of food mostly depends on seasonal variation. The seasonal variation of food breaks the monotony of their diet. To supplement the agricultural produce, they often collect different kinds of fruits, roots, tubers and green leaves. Fruits are available during summer and mushrooms of various kinds are available during rainy season. The following table 2.9 shows the food taken by Juang in different months of the year.

Table 2.9: Juang Annual Calendar of Economic and Ritual Activities

Month & Climate	Work	Ritual activities	Purpose	Food
Jan - Feb Cool and dry	<u>M</u> -Watering the fields, harvesting crops like niger, mustard <u>M&F</u> - harvesting, carrying crops from field to house. <u>M</u> -Threshing, storing the seeds in straw packs <u>M</u> -Winnowing	In Pus Punei, they worship Sal tree and sacrifice goat, cakes prepared of rice flour (uncooked rice)	Start of agricultural year	Rice, bajra, maize and millet
February-March Cool and dry	<u>M</u> -Clearing forest for <i>Podu</i> cultivation <u>F</u> -Cutting down trees <u>M&F</u> -Clearing shrubs and bushes Burning the cut trees and bushes after drying those 10 to 15 days. Spreading the ashes all over the cleared land.			Rice, bajra, maize, millet and suan.
March - April Hot and dry	<u>M</u> -Clearing of forest continues, hunting, ploughing of bilaw. <u>F</u> -Plough the <i>Podu</i> fields.	In <i>Amba-Nua-Khia</i> they worship <i>Gramasiri</i> in front of <i>Majang</i> with sacrificing mango (a belief form), goat, etc.	To mark the new mango eating.	Maize, suan

April - May Very hot Occasional showers	<u>M</u> - Ploughing and clearing <i>Podu</i> land (<i>Toila</i>) <u>F</u> -Beat the clods of mud <u>M&F</u> -Collecting jack fruits, mango and store the mango kernel for use in off seasons.			Mango and ripe jack fruits (raw and boiled)
May - June Wet and humid	<u>M</u> -Sowing of niger, black gram, flat gram, maize, jowar (Gangei) in <i>Toila</i> land <u>MFC</u> -Collecting mango, mushrooms, wild berry, young bamboo shoots (for curry)	During <i>Raja</i> festival, puja done in individual houses by worshipping home deities	A day for feasting and playing and singing marks the beginning of all types of cultivation (see Plate.18).	Mango and ripe jack fruits (raw and boiled)
June-July Wet and humid	<u>M</u> -Sowing of above crops continues <u>F&C</u> -Collections of mushrooms and roots, tuber and green leaf for eating.	In Asadhi festival, they worship <i>Sal</i> tree and sacrifice cock.	To permit sowing of paddy seeds. Ritual avoidance of the Kusum flowers. To protect <i>Toila</i> and village from wild animals	Mango kernel, jack fruits (raw and boiled) mushrooms and green leaves.
July - August Wet and humid	<u>M</u> -Watching the crops <u>FM&C</u> -fishing in the stream, collection of roots, tubers and green leaf for eating.	In <i>Gamha punei</i> Earth goddess and <i>Sal</i> trees are worshipped by offering curd (get from Gauda)	Praying to earth goddess and wishing for long life for their family members.	Mango kernels, jack fruits (raw and boiled) mushrooms and green leaf.
August-September Humid and showers	<u>M</u> -Watching the crops <u>F</u> -Reaping of <i>Podu</i> cultivated paddy, maize and suan	Festivals like Dhan-nuakhai, <i>Gramasiri</i> and Ancestors were worshipped by sacrificing cock, goat, new paddy to the deity.	To mark the new paddy eating	Mango kernel, jack fruits (raw and boiled), mushrooms, green leaves. Also eat rice after Dhan-nuakhai
September - October Humid and showers	<u>M</u> -Watching the crops in <i>toila</i> and <i>bilaw</i> . Water harvesting in irrigated lands <u>M&F</u> -Reaping <i>Podu</i> cultivated paddy.			Rice and jack fruits
October - November Cool and dry	<u>M</u> -Watching the crops, harvesting <u>M&F</u> - Reaping, threshing, carrying the grain home.			Rice, bajara, suan
November-December Cool and dry	<u>M</u> -Watching the crops, reaping, winnowing of rasi (niger).	<i>Karma puja</i> takes place by worshipping <i>Gramasiri</i> in front of <i>Majang</i>	For the betterment of the crops and village.	
December-January Cool and dry	<u>M</u> - Watching, harvesting, reaping and beating of mustard, rasi (niger). <u>M</u> -Hunting			Rice, bajara, suan

M-male, F-female, C-children

Economic and ritual activities reveal a regular pattern in annual calendar. In fact, the division of labour is dependent on their activities by categorising certain activities for children, like collection of mango, mushrooms, wild berry, tender bamboo shoots (for curry), fishing, etc. Women do the subsidiary work for men, like cutting trees, plough the *podu* fields, beat the clods of mud, harvesting of *podu* cultivated paddy, maize and suan, etc., whereas men do the activities like watering the fields, harvesting crops like Niger, mustard, threshing, winnowing, storing the seeds in straw packs, clearing of forest, hunting, ploughing of plots, sowing of Niger, black gram, flat gram, maize, jowar (Gangei), suan in *taila* land, watching the crops in *taila* and *bilaw*, irrigating lands, etc.

Both men and women do the activities like clearing of forest for *podu* cultivation, cutting trees, clearing shrubs and bushes, burning the cut trees and bushes after drying, spreading the ashes all over the cleared land, and carrying crops from field to house, etc. All the activities change according to seasonal variation and the agricultural cycle.

The community worships different deities during different festivals all through the year, to fulfil their needs and for better harvest. These rituals involve the starting of agricultural cycle to the end of harvesting with specific purposes.

V

In this chapter we have explained the detailed information about the study village, demographic and geographic aspects, symbiotic relation between Juang and other communities with the ecosystem. Socio-economic aspects in relation to the forest land, agricultural practices, habitation, social organisation, annual working calendar, religious beliefs and practices are described to understand the clear picture of natural resources, in general, and common property resources, in particular.

This chapter depicts the status of Juang distribution in Odisha and particularly in Keonjhar district. Analysis of socio-economic profile and composition shows their dominance in the study village. Population distribution shows that working age group

and adolescents constitute a very significant proportion. However, dependent age group constitute a very large proportion, which suggests that the Juang need to work harder to support the dependent children and the aged. Large number of Juang in the village is illiterate and among those who are educated most of them have studied up to 5th class.

In Juang society the larger territorial organisation is known as *pirah*. Family is the smallest unit of socio-economic and religious activities. Villages were uni-clan earlier but due to migration and distribution of families it became multi-clan. Juang families are patrilineal, patriarchal and patrilocal. Family relations are based on *cognatic* villages called *bandhu* and *agnatic* villages called *kutumba*. Cooperation between them can be found in economic and religious activities. The marriage takes place only between members of *cognatic* villages called 'bandhu village. Death is associated with beliefs, customs and rituals observed by each family. According to them, witchcraft and black magic causes death. Dead are cremated in case of natural death, whereas in case of unnatural deaths they are buried.

Juang use tube well for drinking water purposes and maintain hygiene, as this is the only safe source of drinking water for them. In other cases they use stream water for rest of the daily household works. During health problem now a day they are using modern medicinal facility provided by government through anganwadi centres. Insufficient food intake causes them health degradation. They take meals only twice a day, one before noon and another in the evening. Food intake consists of rice, millet, ragi, jawar, maize. Seasonal fruits, tubers, roots and green leaves are part of their diet. Their food and livelihood largely depends on forest. Shifting cultivation and settled cultivation are the main source of livelihood. They show their strong religious beliefs and practices associated with forest and cultivation by observing different festivals. This belief helps them to manage the natural resources to a large extent, which is hampered by outsiders in the name of development. They worship nature and natural objects in the form of gods and goddesses. In these beliefs and practices, village leaders mostly *pradhan* and *nagam* play a major role. They are the heads of the traditional institutions like *barabhaika*. *Majang* plays an important role in the Juang life, as it is the place of their elders to take decisions. They spend leisure time there and, hence, it acts as a resting place also for villagers, mostly for visitors. It's a

common storage place for their traditional arts and artefacts, musical instruments, common grain fund, community utensils, etc. Juang working pattern now a day is changing because of their shifting from *podu* cultivation to settled cultivation. Still they manage their natural resources through their cultural and religious beliefs and practices.

ⁱ *Gonasika, Guptaganga, Baitarani, Kadalibadi* (Study village), *Raidhia, Jantari* and *Sinkulapada*.

CHAPTER III

DIFFERENT DIMENSIONS OF COMMON PROPERTY

RESOURCES IN THE STUDY VILLAGE

The chapter tries to identify the Juang perception of property in traditional and present context. It discusses the classification, status and types of property in the context of common property resources (CPRs) within the village territory, like pasture land, open land, waste land, shifting cultivation land, orchards, forest, cremation ground, and stream land. In addition to this, water bodies associated with settled cultivation and its management is also discussed. Besides, traditional practices and their cultural relevance in the context of common property are also analysed in this chapter. The existing CPRs are under threat due to privatization and outsiders' intervention. The notion of CPRs, their depletion and degradation described in this chapter are based on the perspective of Juang.

I

Traditionally, Juang concept of property included the community land on which they live, wild and domestic animals, trees, crops, hills, forests, streams, houses, the cloth they wear, the songs they sing, their dances, the ornaments they wear, and many more. Their life and culture are intimately associated with these and they have relative value for each and every item of their property. They perceive that all good things should be enjoyed and shared by one and all. For them the objects, facilities, services and infrastructures which they are availing in their locality are communal property. This reflects their perspective towards property as an aspect that strengthens community solidarity. Now-a-day, due to external interventions, perception towards property has been changing towards private ownership. They now make a distinction between government property and private property. The Juang divide the village resources into three categories, namely: 1. Private property, 2. Communal property, which belongs to the village community and 3. *sarkari* property, which belongs to the government. The following table presents a list of various items of property as classified by the Juang.

Table 3.1: Juang Classification of Property

Sl. No	Private property	Communal property	Government property*
1	Kitchen garden (<i>Badi / Bakadi</i>), Wet paddy land (<i>Bilaw / Beda</i>)	Swidden (<i>toila, guda</i>), Grazing lands (<i>atel</i>), grass lands, Communal land cultivated by the villagers (<i>Ganria ekan</i>) for making village common fund (<i>Gan bua</i>),	Government land, Government buildings and roads
2	Trees in private lands	Village forest (<i>akata</i>), Sacred grove (<i>salo</i>)	Plantation in village common lands [#] and reserve and protected forest
3		Water harvesting structure, streams, ponds, <i>Chua</i> , well and tube well	
4	Homestead land and Household assets	Dormitory (<i>Majang</i>), Settlement sites, Cremation ground (<i>sriguni ola</i>) and Musical instruments (<i>changu</i> and <i>dhol</i>)	School and Anganwadi centre
5	Own hunting equipments, like bow and arrow	Communal hunting equipments kept in <i>majang</i>	-
6	Individual livestock	Wild animals in the forest	-
7	Private utensils	Utensils for communal feast kept in <i>Majang</i>	

*Though the Juang distinguish government land and other resources as separate, they treat them as belonging to everyone, somewhat akin to CPR.

Communal lands are taken over by the government for plantation

The above table provides the way in which the Juang of the study village classify different resources in the village into private, communal and government property. The property that is categorised as government is in fact treated as common property. This is in line with their traditional concept of property, according to which any fixed asset located within their village territory belongs to the village community. They had been enjoying such exclusive communal rights during King's and British period. The concept of private property, according to them, is of recent origin.

Ownership and Management of Land

In the remote past Juang were wandering in small bands inside virgin forest in search of food and hunting animals. They were enjoying ample freedom in respect of their undisturbed forest based subsistence derived from hunting and food gathering. In course of time, with population growth and changed lifestyle, they graduated into settled life and productive economy (Das, 1962). Their livelihood depends upon land and forest based economy, and is the most valuable and permanent resource for them as compared to the other resources. In the past, prior to and also during the British rule, natural resources were abundant and the Juang regarded them as communal resources that they shared along with the others in the community. The British forced them to settle down in small uni-clan villages and stressed more on individual ownership of resources (Saxena, 1997).

During the pre-British period there was no individual or private ownership rights granted to the household heads and the whole village community was the owner of land and forest lying within the defined village territory. The notion of individual ownership and forest restrictions were introduced during the British rule. Despite changes introduced by the British, the Juang practised communal lifestyle and communal ownership of natural resources, like land, forest and water within the village territory from which every member of the village could derive his/her subsistence. There was no private ownership of natural resources, and no exclusive privileges were granted to anyone by the village council. Their main thrust was on equitable distribution of wealth.

In due recognition to their autochthonous status, the Juang were granted ample freedom by the King of Kendujhargarh (now known as Keonjhar) to utilize the land and forest in their natural habitat. According to the elderly, the autonomy relating to land and forest, and the entire Juang habitations were under Kendujhargarh King and they had been distinguished as a separate administrative and cultural unit called 'Pirah'. The Juang habitations are divided into six *Juang Pirahs*; three of them (*Satakhandi*, *Jharkhandi* and *Kathua Pirah*) located in the hill and forest villages surrounding the sacred Gonasika hills and the remaining three, i.e., the *Rebena*, *Hunda* and *Charigarh Pirah*, are located in the adjoining plains. Each *Pirah* is a

maximal territorial political unit of group of Juang villages kept under the charge of a traditional Juang chief called *Sardar*. The internal village administration was being carried out by a village chief called *Pradhan* or *Ardhan*. He was assisted by *Dakua* or *Dangua*, a messenger, and a council of village elders, called *barabhaika*. Chapter 5th covers the detailed analysis of village administration. As there was no system of survey and settlement operation at that time, the King's officials had fixed the boundaries of each Juang village and the King had issued a *patta* (record of right) to the village chief. In that *patta*, the main produces of the land and forest were allotted to the Juang village and the amount and kind of agricultural and forest products and services (*betthi* – a form of tied labour) to be given to the King annually by the village *Pradhan* and concerned *Pirah Sardar*. This *patta* was renewed every seven years with necessary modifications in the boundary and payment of dues to the Kings, as the case may be.

II

The forests in *Juang Pirah* and *Bhuiyan Pirah* of Keonjhar garh can be classified under type IV and Vⁱ. Due to the fire hazards, felling of trees and shifting cultivation practices, fast reduction of these forests was reported (Government of Orissa Report, 1993-94). For the purpose of management and conservation, Government has categorized the forests into two groups like Reserve forest and *Khesra* (open) forestⁱⁱ. Certain rules and regulations were framed for the use of forests by the British foresters as described below:

Rules for Reserve forest:

1. Reserve forests are also called as the Reserve State Forests, which implied that the forests under this category are the properties of the State. No person was entitled to enter it without due permission to gather any forest produce, to cultivate it, to graze cattle, to fell trees or do anything to cause injury to it. Any person found violating this rule would be liable to prosecution and fine, also cancellation of any concession granted to him.
2. The autochthonous tribes, such as Juang, Bhuiyan, Sabara, Kol, Malhar and Khond, living in and around the forest area, who are dependent on the forest for their livelihood, were permitted to collect minor forest produces free of cost

without causing any damage to the forest. Such collection would be for own consumption, and not for sale. If any damage is caused by any one, he would be subjected to the penalties and this concession would be withdrawn from him.

Rules for *khesra* (open) forest:

1. *Khesra* forests were unreserved forests. There are 25 kinds of trees like Sal, *Piasal*, *Sisu*, *Kendu*, *Gambhari*, *Kusum*, *Kurum*, *Asan*, *Harida*, *Bahada*, *Amla*, *Amba* (mango), *Tentuli* (tamarind), *Mahula* (*Modhuca latifolia*), *Jackfruit*, etc., declared to be reserved in *Khesra* forests. No one was allowed to cut the reserved species without prior permission from the superintendent.
2. Unreserved trees and other forest products of the *khesra* forest might be taken by all persons for their own consumption and personal use but not for the purpose of sale or barter.
3. No one was allowed to clear or breakup any land within the *khesra* forest for cultivation or any other purpose without previous sanction of the superintendent which was only granted when the land to be cleared was capable of conversion into wet land.
4. Tribals like Juang, Bhuiyan, Kol, Sabar, etc., who did not have any regular cultivation and normally practice shifting cultivation were allowed to do so in *Khesra* forest.

British were not fascinated by the idea of groups who moved about and did not have a fixed home. They wanted the tribal groups to settle down. The reason was obvious, as they thought settled peasants are easier to control and administer than the people who always are on the move (Saxena, 1997). Also, the British wanted a regular revenue source for the State and for this purpose they introduced land settlement. The tenants used to pay rent to the landowner, who in turn paid the revenue to the State. The British effort to settle the podu cultivators was not very successful because the tribal farmers were not accustomed to plain land cultivation. Hence, they protested and continued podu cultivation. British ultimately allowed them to continue *podu* cultivation but only in some parts of the forest along with cultivation in plain lands along the streams.

There is a symbiotic relationship between the tribal way of life and the forest and, hence, any changes in the forest laws had considerable effects on the life of tribal communities. British extended their control over all the forests and declared the forests as the State property and classified some forests as reserved forest, which produced timber, and people were not allowed to move freely or practice podu cultivation or collect forest produces or hunt animals in these forests. British tried to stop the tribal communities from living inside the forest, but they needed labour to cut trees and transport timber. Hence, they allowed small patches of land to the podu cultivators in the forest on the condition that those who lived in the villages would have to provide labour to forest department and look after the forest (Saxena, 1997). So in many areas of Juang *Pirah* Forest Department established forest villages to ensure a regular supply of cheap labour.

In the present context of rapid socio-economic and political changes, Juang are trying to retain their traditional land governance system. At present, most of their natural resources, like land, water and forest, on which their livelihood is dependent, belong to the State and several restrictions have been imposed on them against the use and management of those resources. They are quite reluctant to give up their age old traditional rights regarding the communal ownership and management of natural resources, as they derive their subsistence from them and it has become their way of life. However, quite a few among them have adapted to settled cultivation.

In the process, Juang have moved from communal ownership to individual ownership rights to cultivable land. This kind of ownership was introduced to them during the post-independence era through land survey and settlement operations, land reform measures and enforcing forest laws. After the Orissa land survey and settlement Act 1958, several changes were introduced in the land classification. As shifting cultivation has been the major source of livelihoods for the tribals, the Government of Orissa is yet to recognize it as a legitimate land use and has declared all such cultivation areas, including forest land, as Government land. During the Survey and Settlements, the shifting cultivation lands on hill slopes were categorized as government land, with no recognition of tribal rights over it, either individual or collective. Section 10 of the Indian Forest Act, 1927, also dismisses the rights of

shifting cultivators during declaration of Reserve Forests, only providing that the forest settlement processes should keep aside some area for shifting cultivation (Kumar, 2005).

Table 3.2: Village Land Classification (hectares)

Category of land (hectares.)	Government	Private	Total
Forest land	23.3		23.3
Grazing land	2.0882		2.0882
Orchard land	0.25	13.7787	14.0287
Open land (foot path)	1.07		1.07
Waste land	1.04		1.04
Settled Agricultural land		11.31	11.31
Homestead land		1.38	1.38
Stream land	1.095		1.095
<i>Podu</i> land	235.2982	79.57*	314.8682
Plantation in <i>podu</i> land	89.2428		89.2428
Cremation ground	0.11		0.11
Development planning purpose		0.38	0.38
Reserved for hamlet expansion		1.139	1.139
Backyard land		5.14	5.14
Total	353.4942	111.3177	464.8119

Source: Land Records obtained from Revenue Department

*Of the total *podu* land identified by the Revenue Department, 79.57 Ha. are still being cultivated by the village community and out of which Juang cultivates 69.87 hectares (15%).

Total land of the study village is 464.8119 hectares, of which the government land constituted 76 percent and the rest is regarded as private property. Juang of the study village continue to regard all the land categorised as Government as CPR, as prior to the taking over of these resources by the State Juang had complete control and access to these resources in their locality.

III

Based on the use and management of the land Juang categorise them on the basis of vegetation and soil types. The categorization of lands is the outcome of constant observation and groupings by the Juang into living and non living objects on the basis of certain recognizable morphological features (Patnaik, 2003).

Kadalibadi consists of hilly tracks, mountainous terrains and small patches of plateaus. Locally, hill is divided into three different segments according to its

geographical outlook. The uppermost part is called *andata*. It may be conical, blunt-ended, as we can see in the *haladidiha* hill patch (see Plate 3.1). When the top of the hill is conical, it is called *tukulung* and a flat top is called *sama* as found in *dhoboladiha* hill patch (see Plate 3.6). The middle portion of the hill is called *etata*, which covers the major part of the hill. The portion between the hill of *chompajhara* hill and *samarai* hill (see plate 4.5). The lower portion of the (foot) hill is called *tulita*, where their settlement is situated (see Plate 3.1).

According to various patterns of vegetation Juang classify a hill starting from the foothill to the hilltop. Hill covered with covered with small trees, bushes or herbs is known as *tulita*. In this area the density of trees is very thin. *Kukurchua* hill patch is of this category. The *etata* covers mixed *sal* forest, with a number of other species. In some places small patches of semi evergreen forests exist. Due to the reduction of plant density this kind of forest are not seen now days.

Hills are classified by them on the basis of size, height, vegetation and its geology. According to size it is classified into three types. The hill covering large areas like the hilla of *Khandiappidha*, *Hatikana*, *Chompajhara* and *Chhatamba* in the village are called *mata uli*. In Juang language *mata* means big and *uli* means hill. The hill with a small area (a portion of *Chhatamba*) is called *entei* (small) *uli*. The isolated smaller hills (namely *Landapahada*) are known as *kerei* (small patch) *uli*.

According to height, the taller hills with higher elevation are called *jaling* (high) *uli*. Four hills named under *mata uli* are of this category. The hills with lower elevations are called *entei uli*. In terms of vegetation a hill is categorised as (i) *jal uli* (found in *Chompajhara* hill), (ii) *tangara uli*, i.e., a barren hill.

Juang classify the valley into three different types. They are *dadha*, *chanda* and *samlaka*. When two hills are situated near each other having a small plain land between them, that place is called *dadha* (see plate 4.5) the place between *chompajhara* and *samarai*. When two hills meet each other at their base leaving little space in their meeting point, the valley is called *chanda*, this kind of valley is found at the meeting place of *chhatamba* and *hatikana* hill. An extended plain land between distantly positioned mountains is called *samlaka*, where *sam* means plain and *laka*

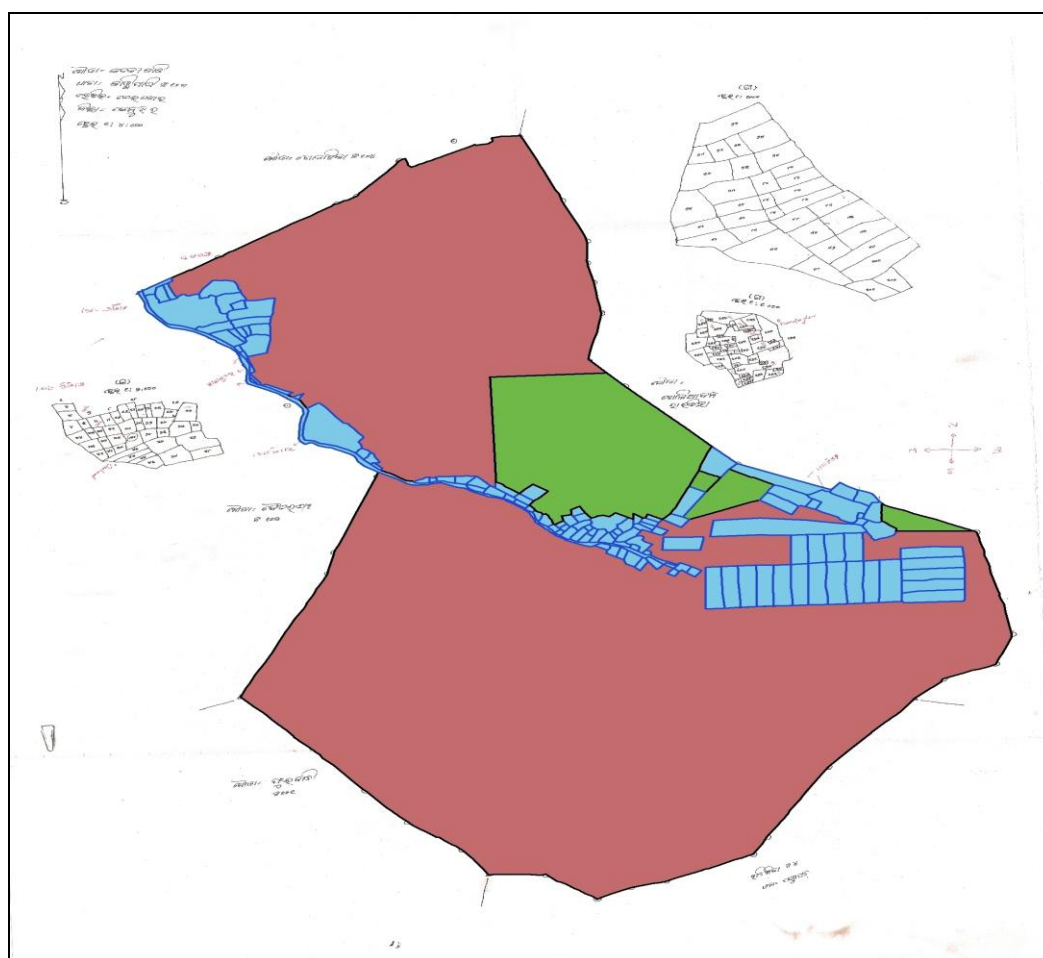
means land. This kind of space is found between *samarai* hill and *hatikana* hill. The hill surface is known as *adrani* and the hill top is called *tukulung*.

All the above forms of land comprise the Juang territory and among them the most important common property is their village territory. They still consider it as their own and try to manage the same according to their customary principles.

For all practical purpose the Juang community in the *Juang Pirah* is an independent and autonomous socio-political unit with well-defined territorial rights recognized by the neighbouring villagers and also by the Keonjhar Kings, who were ruling prior to Odisha becoming an independent State. The territory lying within the pre-demarcated village boundary is owned and managed by the village community. According to Juang, the area surrounding the village habitation site belongs to the village. The boundary line between the neighbouring villages is fixed as per the customary principles that the hill slopes which face the village belong to the village (hills like *khandia pidha*, *champa jhara*, *samarai*, *bagudupada*, *dhoboladiha*, *hatikana* are the demarcating point of the study village), while the other side of the hill facing towards the neighbouring villages is the property of the neighbouring villages *Gonasika*, *Guptaganga*, *Upara Baitarani*, *Phulabadi*, *Hatisila* and *Raidhia*. Such kind of demarcation of territory is made for the purpose of practicing shifting (*podu*) cultivation.

Any kind of trespassing into the territory of one village by the members of the neighbouring villagers leads to disputes. Such disputes are settled by a joint session of leaders and elderly persons of both the villages. In case it could not be settled, the case is referred to the *Sardar*, the traditional chief of the concerned *Pirah* (if both the villages belong to the same *Pirah*) for settlement. If both the villages belong to the different *Pirah*, then the *Sardar* of both the *Pirah* take the case into their hand to solve the issue. Different cases of inter and intra villages boundary disputes are discussed in chapter 5th elaborately.

Map 3.1: Types of Land within Village Boundary



Podu : Red, Forest : Green, *bilawi*: Blue

IV

The distinctive Juang villages are situated on the hill tops, slopes, and foothills, surrounded by hills and forest. Any site covered with mango and jackfruit trees gives the indication of a Juang settlement site. The settlement sites are also covered by *bilaw* and *podu* lands. The study village has 50 households (40 of Juang and 10 of *Gauda*) spread in 3 settlement sites having settled cultivated and *podu* lands.

Table 3.3: Settlement Sites in the Village

Community	Settlement site	HHs	Closer to
Gauda	<i>Bagudupada</i>	8	Bilaw land, stream
	<i>Kendupada</i>	2	Bilaw land, stream
Jaung	<i>Haladidiha</i>	40	Stream, pond, village forest, bilaw land, grazing land

There are 8 Gauda households, who were cattle herders, settled in *bagudupada* site (see Plate 3.2) three generations ago with the permission of the Juang. Lembu Parida

(a Gauda resident of *kendupada* site) revealed that earlier Adikanda Parida with his other siblings was living in *bagudupada* site. But due to unnatural death of his two brothers he has shifted to the *bagudupada* site. Now only Salia Ghana and Lembu Parida's families are residing in *kendupada* (see Plate 3.1 and 3.11). These two families have no *patta* land. They are cultivating the land of Adikanda Parida on lease, which are the ancestral land of the Juang permitted by them to graze cattle. These lands were converted to cultivation by the forefathers of Adikanda Parida. To protect these lands, the siblings of Adikanda Parida (Dibakara Parida, Kulamani Parida, Gurucharana Parida) allowed these two landless Gauda families to live, cultivate and to look after these lands. This led to hostility between the Juang and the Adikanda Parida's descendants in the village, as the lands given to them by the Juang should have been returned to them after vacating their settlement and before moving to *bagudupada*.

Plate 3.1: Juang Habitation in *Haladidiha* (left and middle), Gauda Settlement in *Kendupada* (right)



All the settlement sites are located close to the streams which ensure supply of water for household and agricultural purposes. Juang settlement site in *haladidiha* (see Plate1) has two clusters. One is upper side of the hill while another is just below that. The upper cluster consists of 17 households and closer to *pallijharana* (stream),

whereas the lower cluster consists of 23 households and closer to *balijharana* (stream).

Plate 3.2: Gauda Settlement in *Bagudupada* (at the entrance of the village)



The study village has 50 households settled in 3 sites as mentioned in the above table 3.3. It is clear that Juang settlement is closer to forest and grazing land, as they are dependent on forest based livelihood in comparison to the Gauda who are *bilaw* land cultivators.

Dalton (1872), the Colonial administrator, observed that Juang of Keonjhar are semi nomadic. They live together in isolated huts in a village till the end of one agricultural cycle, but often change the site according to the shifting of *podu* land. As Elwin (1948) also observed that due to scarcity of forest land available for cultivation (*podu* land), they shift their village in search of new one.

The Juang have their own reason for changing their village sites, as they have the belief that long stay in a particular site is not auspicious. Calamities like successive deaths, outbreak of cholera and small pox, repeated crop failure, outbreak of fire and tiger threat in a particular site gives them strong reasons to consider that the site is

dangerous and to look for another suitable site. Moreover, degradation and depletion of soil, land and forest under shifting cultivation in course of time deprives them of their source of livelihood and it compels them to shift to another site where such resources are plenty (That is why, they stated that their ancestors have shifted from Pallahara to Keonjhar). Another reason mentioned during discussion was that a settlement site after long years of habitation becomes very fertile by receiving the waste matters of human beings, domestic animals and plants. They shift to another site so that they can cultivate the abandoned one. But this kind of shifting is very rare in the study village.

As a customary rule, the settlement site is a communal property of the village, administered by the village council. Some villagers own few definite settlement sites within their village territory to which they shift on rotation basis. For example, villages like Gonasika do not have alternative sites, neither any place within their village territory. In other words, the new site should not lie within the territorial limits of other villages in order to avoid inter-village conflicts.

In the past, the decision to change the village site was always taken in the village council meeting. A small group of young men from the village, led by some experienced elders, used to be sent out to explore the new site keeping the following criteria:

1. The site should be located within the *Juang Pirah*
2. The site should not be far away from the *podu* lands.
3. It should be close to the water resource.
4. The site should be suitable for habitation so that there shall not be apprehension of future calamities.

The Juang survey number of sites and observe the omens to know whether a site is favourable for habitation. Some of the important aspects are:

1. The village priest (*nagam*) clears a small patch in the proposed site and plasters it with cow dung. There he worships the deities and sprits offering them a handful of husked rice and live black hen. He ties the hen to a small pole and covers it with a big bamboo basket. The basket is sealed to the ground by a plaster of cow dung and left for a night. In the next morning, if

the hen is found alive and right, the site is presumed to be auspicious. If the bird is dead or sick it indicates disapproval of the deities and, therefore, the site must be abandoned.

2. In the cleared site, the *nagam* after worshipping the deities keeps three small mounds of rice grain. The mounds are placed in a triangular form. . One mound is to forecast the future health of the villagers and the other two to forecast the health of the livestock and the future harvest, respectively. These mounds are covered by a brass pot which is again covered by a bamboo basket. The edge of the basket touching the ground is sealed with a plaster of cow dung in order to prevent the entry of insects from outside that might disturb the position of mounds. It is left for one night and opened carefully in the next morning to see the position of the mounds. Undisturbed position of the grain mounds is a good omen while the disturbed position is a warning to abandon the inauspicious site.

When a site is finally chosen after reading omens, the shifting is made on an auspicious day during January or afterwards, i.e., after the harvesting season. Prior to shifting, the site is cleared and plots are allotted to individual families in a meeting of the village council. To start house construction the village priest first builds his house by fixing the sacred pole. Then he fixes the sacred pole for *pradhan's* house and subsequently for all families. Members of the families work together to build their respective houses after the *nagam* completed the ritual of fixing the sacred pole. In case of widows, old and physically disable people, the villagers help them to construct their houses. The dormitory house (*majang*), which is in the centre of the village, is constructed by the young men and women who are the members of the dormitory.

When the construction works are complete, the *nagam* installs the village deity *Gramsiri* near the *majang* and conducts rituals offering rice, liquor and the blood of a hen or goat to seek the blessings of the deities and ancestral sprits. Then the whole village shifts to the new houses with their belongings.

According to Raghu Juang, when his forefathers shifted to Kadalibadi, the cultivable plain lands and settlement sites have been recorded in their name by survey and

settlement operations in 1958. The present settlement site consists of 1.38 hectares (0.3%) of *patta* (written of record) land. Due to privatization of settlement site, their scope for changing habitation site became very limited because of strict forest regulation, depletion of forests, soil erosion and shortage of *podu* land. Thus most of the Juang settlements have become stationary. Attempts have been made by Government welfare agencies like Juang Development Agency (JDA) through Tata Iron and Steel Company (TISCO) to rehabilitate the Juang in low cost housing colonies in the study village (see Plate 3.3) along with Gonasika, Guptaganga, Boitarani, Upara Raidhia and Tala Champai.

The response of the Juang to resettle in these housing colonies was negative. People stated many reasons. They are:

1. Their customary procedures for the site selection and house construction were not followed by the executing agencies.
2. Emphasis was not given for conducting the rituals, divinations and reading of omens to please the deities and spirits and to determine whether the site is auspicious.
3. The house plots are very small in size. There is lack of space for building separate cattle sheds and maintaining a kitchen garden.
4. The houses are very small and congested to accommodate family members. There is no scope for extension.
5. Due to poor quality of construction and use of cheap construction materials some houses have collapsed during rains and storms.
6. Semi-pucca houses have been built using bricks, cement and iron sheets. Because of poor construction, the houses are in a bad shape after two to three years of use. The Juang are unable to repair and maintain these houses because they are not acquainted to the use of these building materials which are also not easily available in their locality. Even if it can be supplied to them they don't have adequate means to bear the cost of purchase of such materials.
7. The village elders have not been properly consulted and the beneficiary family members have not been made involved in matters like site selection, allotment of housing plots to individual families and house construction works. The colonies have been built by contractors who have engaged labourers and skilled workers from outside. Therefore, the Juang do not feel or have a sense

of belongingness to the place and the houses, due to their lack of participation and involvement in these constructions.

Plate 3.3: *Majang* in the Middle of the Settlement at *Haladidiha*



Among the Juang households, in the middle of the settlement the community house (*majang*) and its open land plays a major role in their community. According to government data 0.01 hectare is mentioned as land for this purpose, which according to the Juang of the study village is very inadequate (for details please refer the previous chapter).

Cremation Ground

Village has 0.11 hectare of land reserved for animal carcasses and its skinning. It is declared as protected land by government during the survey and settlement. According to villagers, it is communal property. This cremation ground, which is located closer to *pali jharana* (stream), is called *sriguni ola* in local term. It is open to Gauda and Juang.

After it was announced as a protected land by the government Juang hardly use this land for cremation purpose. Rather they feel free to use their village forest for

cremation and burial purposes. In some villages in Juang *Pirah* there is no specific site for this purpose and the dead are cremated near their *podu* field inside the forest.

Foot Paths

Neighbouring Juang villages are interlinked by foot paths. The foot paths running through the village territory (see Plate. 3.4) are the property of the village consisting of 1.07 hectare. According to government record there are 14 narrow patches of recorded footpath land, also demarcated as open land. It is open for the neighbours and strangers to use this. A footpath connecting adjacent villages is managed and maintained on mutual and reciprocal basis.

The path passing through hill streams, forests and hills gets washed away during monsoon and forest growth often creates obstruction in these paths (see Plate. 3.4). Earlier, after the harvesting season, when the villagers find leisure they fix a day by conducting a village meeting in the *majang* to maintain these footpaths by cleaning bushes and making necessary repairs. This work is generally assigned to young men (*kangerki*) and women (*selanki*), who are members of the *majang*. They undertake this job under the supervision of village leaders and elderly persons. They repair the entire length of the path from their village to the next village. When they reach the neighbouring village, the neighbours welcome them at the village dormitory and entertain them with food and liquor. They are invited to make a night halt there and take part in the *change* dance with the boys and girls of that village. In the next morning they return to their village. The next year it is the responsibility of the neighbouring villages to repair that path. They are also welcomed and entertained by them in a similar fashion. This customary practice strengthens the bond of friendship, goodwill and good neighbourhood among the neighbouring Juang villages in the Juang *Pirah*. Now-a-day maintenance of these footpaths is being looked after by the Panchayat.

Plate 3.4: Footpath through the Stream



Grazing Land (*atel*)

Juang are quite fond of raising livestock that meet a part of their subsistence needs. Therefore, each Juang village in Juang *Pirah* maintains certain space as grazing area for their cattle. The grazing land, which is of 2.0882 hectare (0.44 %) in the north-east side of the village, is located in *kendupada* hill. A part of this is locally known as *landapahada* (see Plate 3.5) and is called ‘*atel*’ in Juang language. The grazing area is owned and managed by the village community.

Plate 3.5: Grazing Ground in *Landapahada*



The present status of this grazing land has lost its vegetation and for this Juang blame Gauda's as they were given this land for grazing purposes by their ancestors.

At present Juang use to take their cattle to *dhoboladiha* hill for grazing as that is the only place where grass is available (see Plate 3.6). It is the collective responsibility of the community to take the cattle to the grazing ground. For most part of the year, Juang are busy pursuing their subsistence activities. All the households having cattle and its not possible for every family to engage at least one of its members to take its cattle for grazing everyday, which is a full time job, unless one neglects the major economic activities. However, they have developed an institution known as '*padia*' to mange grazing of cattle herds owned by the community.

Plate 3.6: Cattle are being taken for grazing to *dhoboladiha* hill



This is the practice continuing in the study village since 1990. That time there were 32 households and the families were divided into two groups of equal strength. Every day two persons belonging to different families in each group collect the cattle

belonging to all the families of their groups and take them for grazing in the grazing ground assigned for the purpose. In this way every family provides a member when its turn comes for one day in every eight day cycle. This system is called '*padia*'. The number of persons engages in this work and the grouping of families differs from village to village according to the strength of the cattle population and availability of pasture (Plate 3.7).

No one is allowed to use the grazing ground for any other purpose. Cutting of grass or tree branches is restricted in this ground. Cattle of other community members of the village are also allowed to graze their animals. In this case Gauda families also include their cattle in *padia*.

Plate 3.7: Juang taking the cattle's for grazing as a part of *padia*



Apart from the grazing area on the top of the hill mentioned above, the community has lands along side of the stream where wild grass grows which the Juang of the study village manage as CPR. Grass available from these grass lands are used by the villagers based on the need. As government provided tile and concrete roof for their house, the use of grass for thatching purposes is reduced. But still Juang thatch their

houses with a kind of wild grass called *sinkuda*. In the past when there was abundant forest growth, they were getting enough *sinkuda* grass to meet their requirements. Presently with settled cultivation they get paddy straw for the purposes of thatching and fodder. Hence they are not totally dependent on grass lands for these purposes but still they preserve and protect whatever patches of grass lands exist within their territory. Conflicts related to the conversion of grazing land for hamlet expansion, reserved for school play ground and merged with village forest are discussed in chapter 5th.

Orchard Land

There are two communal orchard lands in the village. One in *bagudupada* patch near to the Gauda settlement and another is in *jharapani* patch near to Juang settlement. According to revenue data the total orchard land available for the community is 0.25 hectares. It was 14.0287 hectares earlier but 13.7787 hectares of land were given to 21 Juang families for cultivation, which are discussed in the 5th chapter. Fruit bearing tree's like *kendu* (*diospyrus melanoxylon*), *arjun* (*terminalia arjuna*), *cashew* (*anacardium occidentale*), *amba* (*mangifera indica*), *panasa* (*artocarpus heperphyllus*), *gambhari* (*gomelina arborea*), *kusum* (*schleichera trijuga*), *sal* (*shorea robusta*), *karanja* (*pongamia golbra*), *jamun* (*eugenia jambolana*), *mahua* (*bassia latifolia*), *tentuli* (*tamarindus indica*) and bamboo (*bambusa stricta*) are found in this land. Villagers share the fruits among themselves most of the time when they collect in groups. But sharing does not happen between the Gauda and Juang as they prefer to use the nearby orchard land to their settlement. For household purpose they collect twigs and dry branches and leaf from this land according to their use.

V

Forest Land

There are 23.3 hectares (5.04 percent) of forest land in the study village, covering 7 types of hill (see table 3.4). Juang classify forest according to the composition of trees (Patnaik, 2003), such as

- a) Very dense forest where tree species are abundant and compact in distribution is called *bahuta jalayante*. This type of forest is not found in the study area now.

- b) Moderate dense forest is known as *akata jal*. They are also categorized into different types, like *samajal akata*, dense forest on the hill top, *adrani akata*, dense forest on the slope of the hill and *pachiri akata*, dense forest on the rocky hills. Earlier these kinds of forest were found in the study village.
- c) Open forest is called *qui qui jal*, means. In the study village this type of forest is found in the *kukurchua*, *hatikana* and *landapahada* (hill) (see Plate.3.1) where tree species are thinly distributed.
- d) Hill without any trees is called *kunchula*. Earlier there were trees but now its bald due to the loss of vegetation. This kind of forest was there in some part of the *landapahad* (hill) (see Plate.3.1).
- e) A degraded forest covered with thorny shrubs and grasses known as *laka udayate*. This type of forest is found in the western side of the village in lower part of *dobaladiha* hill (see Plate.3.6).

They also classify forest on the basis of position on the hills. They are:

- a) Forest on the hilltop is called *sama jal* where plant species are in a degraded condition with one or two types of species. This type of forest is found in the *landapahada* which is in the Eastern side of the village (see Plate.3.1).
- b) Forest on the slope of the hill is called *adrani jal* which is usually a mixed deciduous type of forest. This type of forest is found in the *samarai* hill, *chompajara* hill and *kukurchua* hill. which is in the south western side of the village (see Plate.4.5).
- c) The forest in the gap of hills is called *ghagi jal*. This type of forest is very dense and its plants grow faster than in the other forests. This kind of forest is not found now in the study village.
- d) *Chaturi akata* is a type of forest that grows in the rocky hills. This type of forest is available in the neighbouring villages.

They classify forests on the basis of size, like

- a) *Mata bana* or *Kuba* (large area) *jal* (forest) is a type of large forest cover. This type of forest is not available now in the study village.
- b) A moderate sized forest cover is called *nekteik jal*. This type of forest is found in the *kukurchua pahada* which is in the south western side of the village.

- c) A very small patch of forest is called *kerei jal*. This type of forest is found in the *hatikana* hill and *pallijarana*, which is in the north eastern side of the village.
- d) Small forest area around the sacred grove is called *patal*. This type of forest is found in the *kukurchua* hill, which is in the south western side of the village.
- e) The forest demarcated as sacred grove is called *gainsari jal*. This is the core area of *patal* forest.

Forest is also classified on the basis of their religious beliefs:

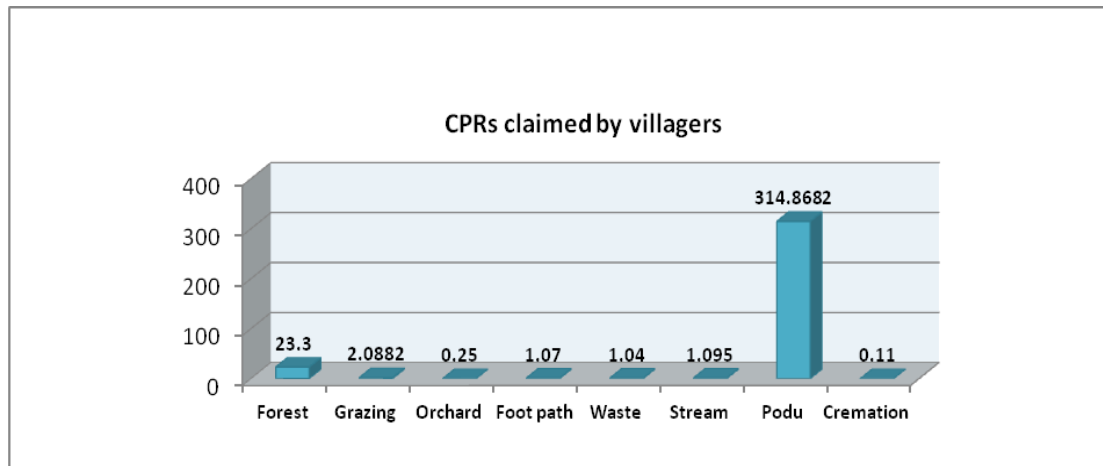
- a) *Kailang kul* is a type of forest cover serves as abode of gods, goddesses, and benevolent sprits. It is found in *dobaladiha* and *kukurchua* hills in the western and south western side of the village (see Plate. 3.6).
- b) *Tarini pidha* is a forest patch demarcated as the residing place of the deities like *Baitarani*, *Budhi maa*, *Tarini*, etc,. This forest is found in Guptaganga, the neighbouring village.
- c) *Rankuni* (evil spirit) *daba* forest is the dwelling place of evil spirit. The term *rankuni* means evil spirit. Mostly this forest is also referred to as *ghagi jal* (forest in the gap of hills). It is not found in the village.
- d) *Misani ala* is the forest found in the burial ground, where Juang believe that evil spirits residing there (This burial ground is found in the *kendupada* patch in the East side of the village).

Podu Land

Podu land is the major CPRs in the village (Table 3.2). The following bar chart shows 314.8682 hectares of *podu* land.

According to Juang, these 314.8682 hectares *podu* land is the communal property(see Chart 3.1). But out of these 79.57 hectares is only accessible to village community for cultivation now-a-day.

Chart 3.1



Land in the village, according to the pattern of use, belongs to 4 categories.

1. *Toila* or *kamana* or *bagada*: fields on top of the hills;
2. *Guda*: flat fields below the hill slopes;
3. *Bilaw* and *beda* : Plain wet paddy land besides the streams; small land is called *bilaw* and relatively big land is called *beda*;
4. *Badi* or *bakadi* : Land adjacent to settlement.

Plate 3.8: Classification of Agricultural land



According to Juang, *toila* and *guda* are two types of *podu* land which are common property where as *bila*, *beda* and *badi* are private property.

1. *Toila/ Kamana/ Bagada*

Traditionally Juang have been doing shifting cultivation in those hill terrains for their livelihood. Major source of common property belongs to the hill land on which the Juang do their shifting cultivation. Out of the total land, major portion (92%) belongs to this category as shown in the table number 3.2. There are seven hills having seventeen different *podu* patches which are mentioned in the following table with the local name and area under each patch.

Shifting cultivation has been the main source of Juang subsistence economy since the remote past. The Juang believe that being the first human beings appearing on the earth, they have absolute right to practice shifting cultivation which has been sanctioned by the supreme god (*mahaprabhu*). In support of their belief, Juang narrated a myth of their origin.

Table 3.4: Shifting Cultivated (*podu*) Patches Around the Village

Local name of hill patch	Land (hect.)
Khandia pidha	12.345
Khandiap idha	218.32
Champajhara	17.275
Samarai	16.16
Samarai	14.56
KendupPada	8.3818
Doboladiha	7.4452
Doboladiha	2.272
Doboladiha	12.059
Doboladiha	14.483
Hatikana	9.68
Hatikana	16
Hatikana	20.56
Chhatamba	15.68
Chhatamba	1.3
Chhatamba	9.9
Doboladiha	8.32

Source: Revenue Department of Telkoi, Keonjhar

One myth says that *Rusi*, the first male, and the *Rusiani*, the first female, created by *Mahaprabhu* and sent to live on earth had no food to eat. *Mahaprabhu* gave them some grains to eat “what shall we eat when all the grains are finished?” asked *Rusi*. *Mahaprabhu* instructed him to make a hoe. *Rusi* designed a hoe. With the hoe he dug roots in the jungle which he roasted and ate. As the roots tasted quite bitter he could not eat them for long time and remained hungry. Then *Mahaprabhu* came as an old man and demonstrated him the methods of shifting cultivation by cleaning a patch in the Jungle and sowing all kinds of grains in that patch. Since then the Juang as the descents of *Rusi* and *Rusiani* have been practicing shifting cultivation in the jungle as demonstrated by *Mahaprabhu*.

Another myth says that *Rusi* and *Rusiani* were living with their many children. They had nothing to feed their children. *Mahaprabhu* knew this and sent a messenger to them with a hoe, the digging stick. The messenger demonstrated them how to dig earth with the hoe and get out the roots with the digging stick. He also taught them how to practice shifting cultivation. *Rusi* and his children cleared a patch in the forest to start *podu* cultivation but they had no seeds to show. They searched everywhere on the earth but found only one seed in *Juang Pirah*. Then, one day *Rusiani* found a tree with every kind of seed in it created by *Mahaprabhu*. They collected the seeds and sowed them in their *toila* land, thus *toila* cultivation started. Juang had full freedom of exploiting the abundant forest in their habitat and practiced shifting cultivation, as there was no pressure of their small population on the land and forest. Whatever they gathered from the forest and produced from their *toila* land was enough to feed them. Since then they have been doing *podu* cultivation.

2. Guda

The high and dry un-irrigated flat lands located in the lower parts of the hill slopes are called *guda*. *Guda* lands are open patches of fallow lands cultivated by Juang. These are literally the extension of *toila* lands. In these lands there are hardly any big trees and bushes to be cut down and cleared for cultivation. The method of cultivation is same as that of *toila* but the recuperative period is shorter than *toila* land. The reason is that because of its location below the *toila* land in hill slopes, the soil eroded from the *toila* are deposited in the *guda* land to makes it more fertile than *toila*. In addition

to its natural fertility, the Juang often apply cow dung manure to enrich its soil further which is not done for *toila* lands. However, application of the ashes of burnt vegetation as the manure is common to both types of land.

Guda lands are exclusively used for paddy cultivation. But now-a-day Juang cultivate Niger in the first year, and paddy, ragi and millets in the following years (see Plate. 3.9 and 3.10). Like the *toila*, *guda* lands are communal property. The management and distribution of these lands are made by the village council in the same way as that of *toila*. As *guda* lands are paddy lands cultivated with plough and bullock, only those families who have necessary capacity and resources to cultivate are given these lands by the village council.

Plate 3.9 and 3.10: *Guda* Land Before and After cultivation



Being the common property of the Juang, *guda* land cannot be sold, mortgaged and inherited as private property by the people who have been allotted with such lands. However, after survey and settlement in 1958, the *guda* lands lying outside reserve forest area have been recorded in the name of individual Juang, thus their communal property was converted into private property. Conversion of *podu* patch (*guda* land) into private land in *dhoboladiha* hill and conversion of *podu* patch (*guda* land) to private land in *kendupada* hill are mentioned in chapter 5th in details.

3. *Badi* or *Bakadi*

The cultivable low land surrounding village settlement is more fertile than the other two categories of lands described earlier. These lands are called *badi* or *bakadi*, meaning the kitchen garden. Like the other categories of lands, this land earlier belonged to the village community and managed by the village council. The allotted families used to cultivate their respective plots as long as they stay in that settlement. When a family leaves the village and goes out in search of better livelihood it ceases to be a member of the village homestead land, and *toila*, *guda* and *badi* plots allotted to it automatically were reverted to the village community. Thus, when they shift from one settlement site to another the *badi* plots along with the homestead plots allotted to the families were returned to the village council. Later, they are redistributed among the villagers.

The Juang plant fruit trees like mango, jackfruit, papaya, banana, etc. These fruit bearing trees are recognized as the private property of the person who have planted them and can be inherited. In case of partition of family property, these trees are not normally divided among brothers but the produce of these are equally shared among them.

The basic difference between *guda* and *badi* is that *badi* land is mature. The Juang enrich the fertility by applying cow dung manure and ashes from family kitchen. Here *zea mays* (juani-a type of maize) is sown in June and harvested between mid-August and September. Immediately after the harvest of maize, *brassica campestris* (*sorisha* i.e., mustard) is sown, which is harvested in January (see Plate 3.11). A small portion of the plot is used for raising tobacco for domestic consumption. In addition to that, vegetables like gourd, cucumber, pumpkin, beans, etc., are also grown in *badi*, mostly for domestic consumption.

After survey and settlement operations in 1958 the homestead lands and *badi* plots have been recorded in the name of individual Juang. Thus, these lands have become private property. In the study village 86 percentage of Juang households possess only 5.14 hectares of this land among the total usable land.

Plate 3.11: Gauda household in *Kendupada* Patch



4. *Bilaw* and *Beda*

The hill bottom plain and wet lands lying close to the perennial streams (*balijhara*, *champajhara*, *phulajhara*) are most suitable for paddy cultivation. These are called *bilaw* and *beda*. In the village 11.31 hectares (2.43 percentages) of wet land is available to 92 percentages of households, which is insufficient for their annual food supply. There are 10 patches of *bilaw* land in the village (see table 3.5). Because of their topographic advantage these lands get sufficient water and also receive the deposits of eroded topsoil from *toila* and up lands. So they remain well irrigated and more fertile than other kinds of cultivable lands. For this they don't have to apply chemical fertilizer to these lands.

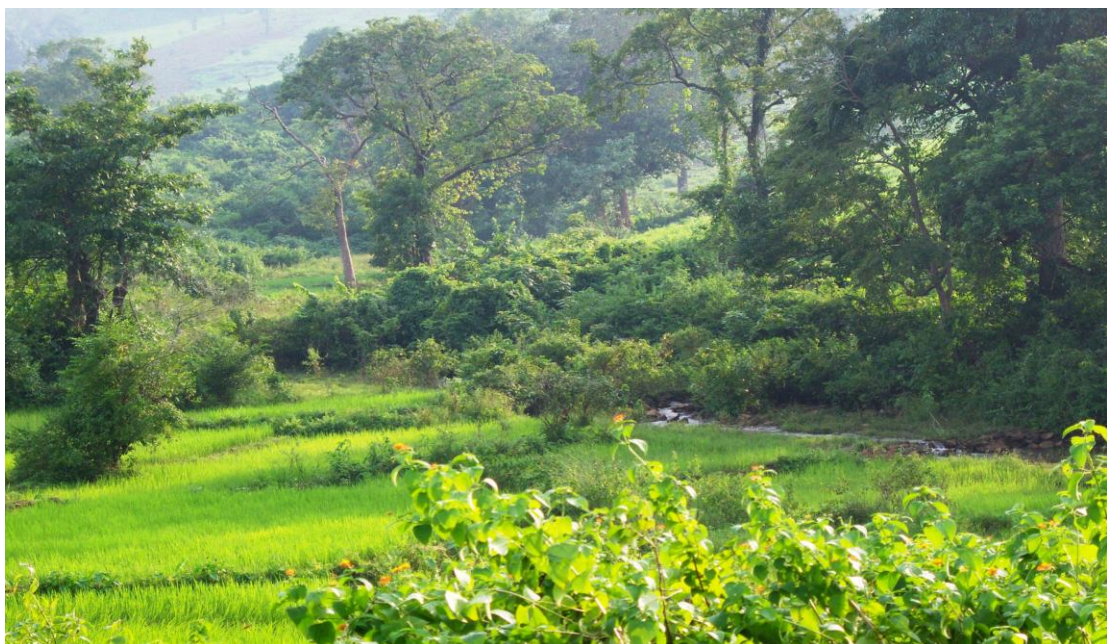
Big size plots are called *beda* and smaller plots are called *bilaw zami*(see *pa*). In these lands paddy is grown once in a year. Due to the efforts made by the development agencies, particularly Juang Development Agency (JDA), the Juang have learned the modern agricultural practices and have started growing high yielding varieties of paddy, wheat, ragi, maize, pulses and vegetables, like potato, tomato, brinjal, etc., in different seasons after harvesting paddy. In villages like Guptaganga, Baitarani and Kadalibadi, Juang having irrigated wet lands have started growing a second paddy crop in summer (*kharif*) by using modern techniques of cultivation, such as raising seedlings in seed beds, transplanting them in *beda* lands and applying fertilizers and

pesticides under the guidance of agricultural extension workers of government agencies.

Unlike other categories of lands, the *bilaw* and *beda* are individually owned. This is a recent addition, as it is created by personal efforts. Hence, as private property it can be inherited, shared and sold or mortgaged. Because of its higher productivity the *bilaw* and *guda* land is estimated to be the most valuable and permanent resource, which, Juang believe, is fortunate to possess. During settlement operation in 1958, tenancy rights have been granted to them in respect of such lands.

Wet land plough cultivation is a recent practice in the study village. Juang have learned this from the neighbouring Gauda and peasant castes who came to stay in *Juang Pirah* during the last century and introduced this new practice in their *toila*, *guda* and *badi* lands. When they found this new practice is less labour consuming, they started reclaiming stream wet lands for the purpose of permanent and settled plough cultivation. Now they are quite knowledgeable in growing even paddy crop in their *toila* and *guda* lands. After reclaiming the *beda* lands, they took up this activity very seriously. Due to population growth, shortage of podu lands, restrictions against use of forest resources, practice of shifting cultivation which forced them to look for a safe and better alternative in the form of paddy cultivation.

Plate 3.12: Stream and *Bilaw* Land Side by Side



There are 10 wet paddy cultivable patches found in the study village, which is mostly used for cultivation and settlement purposes, mentioned in the following table:

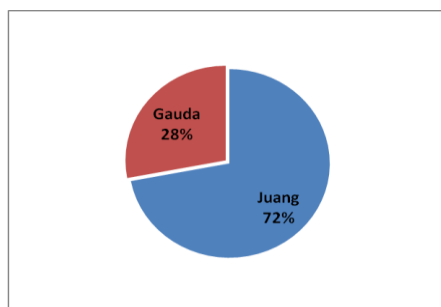
Table 3.5: Status of Different Patches for Cultivation and Settlement

Name of the Patch	Patch Used for	Land(hc)
<i>Bagudupada</i>	Settlement, Sarada (<i>Winter crops</i>), Pulses cultivation, Orchard,	4.405
<i>Banakudara</i>	Sarada (<i>Winter crops</i>)	0.03
<i>Ambapada</i>	Sarada (<i>Winter crops</i>), Biali (<i>Rainy crops</i>)	0.985
<i>Hatimara</i>	Sarada (<i>Winter crops</i>)	0.4
<i>Jamunalia</i>	Sarada (<i>Winter crops</i>), Biali (<i>Rainy crops</i>), Pulses cultivation	0.88
<i>Khandia Jharana</i>	Sarada (<i>Winter crops</i>)	0.05
<i>Haladidiha</i>	Settlement, Pulses cultivation	0.315
<i>Jharapani</i>	Sarada (<i>Winter crops</i>)	0.245
<i>Kendupada</i>	Settlement, Pulses cultivation, Grazing	3.7682
<i>Manshakata</i>	Sarada (<i>Winter crops</i>), Pulses cultivation	0.74

Source: Revenue Record, Tahasil office of Telkoi, Keonjhar

From the above table it is clear that maximum land in *bagudupada* and *kendupada* patch is used for settlement and cultivation purposes. Other patches are only used for cultivation. The total land of these 10 patches is 11.8182 hectares. Out of this 11.31 hectares are cultivable wet land. At present, according to revenue records, Gauda families possess 3.13 hectares (28 percent) of cultivable wet land. The following chart shows it in detail.

Chart 3.2: Community Wise Wet Land



STREAM LAND AND WATER BODIES

All aspects of human development related with agriculture, industry, health, and advancement of socio-cultural life depends upon natural resources. In this aspect,

water resource constitutes an indispensable support system, not only for human development but also for all living species on the earth.

Management of water resources through different irrigation processes is most essential for the success of agriculture and horticultural programmes. Traditionally, Juang were practicing *podu*, which depends upon rainwater, but to continue settled cultivation they depend on stream water for irrigation. Among the CPRs in the village, stream constitutes 1.095 hectares and major settled cultivable patches are besides these streams. They are mentioned in table no.3.5 along with the seasonal crops cultivated by Juang by irrigating stream water.

Before the introduction of settled cultivation, the streams are known for demarcation of the village boundary only, which is community property. Gradually Juang started cultivating the lands adjoining the stream and after 1958 land survey those lands transferred to those persons who were cultivating them. Along with this the water of (both stream) *bali jharana* and *pali jharana* are shared by the neighbouring Baitarani village but no conflict arose due to this. *Balijharana* flows from East side of the village to North-West, while *pallijharana* flows from the North-East to North-West side of the village. Water bodies within its territory are used by the community people but there is no restriction for outsiders to use it. Except stream there is a tube well, pond, water harvesting structure and *chua* (water recharging drench near pond) available in the village. These resources are considered as common property, according to Juang. Every one living in the village has the right to use these resources. As water is the basic requirement, no one, even the culprit who is socially boycotted from the village, is denied access to these water resources.

Juang use pond water for bathing and other household purposes (see Plate 3.13), except cooking. It is the community's responsibility to clean the water and keep it safe for their use. They prohibit their own people to wash cloth and cattle in the pond. They use running stream water for these purposes.

Plate 3.13: Village Pond



IV

From the analysis we come to know that Juang had perception towards property as communal from the very beginning since the King's rule. Since British period they have been introduced to the concept of private property ownership and it was imposed upon them with the State's Land Survey and Settlement Act, 1958. Since then there has been a shift from communal ownership to private ownership of property and this has affected their way of life and livelihoods.

The process of change happened due to the effect of privatisation to enhance livelihood. But it influenced the quantity of those resources which is degrading now days due to outsider's intervention. Common properties like grazing land, horticultural land, *guda* land and forest land have been lost its natural form according to Juang. These CPRs are governed mostly by the authorities outside Juang community, in order to show the benefit of Juang. The decision of governing the CPRs are vested with the State where as Juang are the original owners since time memorial. They utilizing these resources with their own knowledge inherited from their forefather which is discussed in the next chapter.

End Notes

ⁱ According to the report of Government of Orissa on Tribal Traditions and Customs in Orissa, 1993-94, to the Central Tribal Welfare Department, it is mentioned that the forests of Keonjhar are situated in the Dry Deciduous Zone and towards South-Eastern boundary of Central Indian *sal* belt which terminates in Midnapore district of West Bengal. The general character of vegetation of Keonjhar forests is 'Trophilous' but with a distinct tendency to xerophytic structure in many species. A number of Eastern Himalayan and Assam species occur locally in the cool and moist valleys. *Sal* (*Shorea Robusta*) is the most prominent of species and represents the present climatic structure (Government of Orissa Report, 1993-94). The British forest experts classified these *sal* dominated forests into seven types according to their composition, nature and geographical location.

Type	Forest
I	Dry Mixed Forest (with Bamboo)
II	Open Grassy, Dry, Sal forest (Shore- anogeissus, woodfordia)
III	High level, Plateau (Sal-Shorea-Bauhinia-Themeda)
IV	Moist Hill Sal (Wendlandia – Indigofera)
V	Valley Sal (Shorea Famingia-Imperata)
VI	Moist Mixed Sal (Terminalia-Mallotus- Combretum)
VII	Coastal Sal (Shorea-Dillenia-Croton)

Source: Government of Orissa Report, 1993-94

ⁱⁱ In the year 1958 after Survey and Settlement operation these forests were declared as village forests..

CHAPTER-IV

UTILIZATION OF CPRs IN THE STUDY VILLAGE

In the previous chapter we had discussed different types of CPRs and their present status in the study village. We had also discussed the way the resources have changed over time due to the changes in the production processes, laws governing the resources, demographic changes, depletion and degradation of resources, etc. The utilization of the resources and their changing patterns are related to the status of the resources at the time of their utilization. Put differently, resource utilization and their upkeep is intricately related to their utilization by the indigenes. Utilisation of resources is guided by their livelihood needs that are regulated by their socio-cultural practices and institutions.

The present chapter analyses the process of utilization of common property resources by the Juang of the study village and the socio-cultural mechanisms that guide their utilisation. Juang take only from nature what they need for sustenance. Their religious practices don't allow the individuals to indiscriminately make use of natural resources. They celebrate festivals indicating the onset of particular seasons, be it for collecting *mahua* (*Modhuca latifolia*) flowers, tapping palm juice, beginning agricultural operations, hunting or fishing, etc. Individuals are not allowed to pursue their means of livelihood until and unless the specific festivals are performed by the community. This indicates the cherishing of their natural resources. The rituals are symbolic expressions of their gratitude to nature for providing them subsistence. The cultural practices help them to exercise their communal control over their means of production and also their upkeep and sustainability. They collectively owned and managed their natural resources ensuring equal opportunity to all. Forest products are equally utilized as a major source of livelihood in the lean period. For this, Juang judicial management of resources play a significant role for their sustenance. Even though some of the resources are depleting due to different reasons, they still use their resources in a very careful and meaningful manner so that succeeding generations can use it.

Land constitutes the most important and permanent natural gift from which Juang derive their sustenance and livelihood. It has a variety of meanings, purposes, and functions, each depending upon the type, the season, the location, and circumstances. Traditionally, transfer of land took place verbally. When asked about the transfer of land a very old respondent stated that if an individual wished to give a particular land to a descendent or he wanted to donate it to any one, what he normally did was to call the *barabhaika* (village council of elders) and make an oral declaration of transfer. But that transfer is only for the period of a particular agricultural cycle, which is 3 years now-a-day. The words uttered during the solemn declaration before the *barabhaika* by the person transferring the land were: “This land from today onwards belongs to so and so (the person whom he wants to give). If by chance I violated my promise, then let my chest-burst so I die, or let a wild animal or a killer disease affect me”. All that followed was the offer of a drink or a meal for the representatives who stood witnesses. The words spoken were treated as final. No written document was necessary. This was the process they used to follow. Even they share their land with outsiders as is the case with Gauda, who approached Juang to get permission for grazing their cattle’s and eventually started living with them.

I

In the past, major source of livelihood was *podu* lands which they cultivated on rotation. *Podu* land consists of two types, one is *toila* and the other is *guda*. *Podu* sites were communally owned and managed. The traditional village council used to manage all the *podu* sites located within the village territory. It decided the distribution of *podu* plots among individual families and directed the operations, like selection of sites, selection of crops, fixing the time of sowing and harvesting, etc. There are seventeen *podu* patches (see Table 3.4 in the previous chapter) within village territory and these are cultivated on rotation basis. Among the villagers only 79.57 hectares of *podu* land is possessed by 90 per cent of Juang households.

Selection and Distribution of Sites

The decision relating to the selection of *podu* sites, its distribution among the individual families, and utilization of seeds to be sown in it, is made by *nagam* (village priest) during the *Pus punai* or *Magha poda* festival. It is the most important

festival of Juang observed in the month of *Magha* (January-February) marking the end of one agricultural year, and the beginning of another agricultural year. By this time, the harvesting of niger, paddy and other crops are complete. In *Pus punai* or *Magha poda* festival Juang perform religious rites to honour the ancestors (*pitruki*), village goddess (*Gramsiri*), other gods and goddesses, and ghosts and sprits dwelling in hills, forests and streams by offering cooked food. During this process simultaneously they chant hymns for the prosperity of the villagers and bless them against disease, death, misfortune and calamities.

Plate 4.1: *Gaon Bandha* Ritual

Pus punai is observed for three days. First two days the process of selection and distribution of *toila* sites goes on. First day of the festival is called *Gaon bandha* or *Bhuin bandha* (see plate 4.1). Here the ritual is performed at the entrance of the village by the *nagam*. On this day the



nagam conducts rituals praying the deities and sprits for health, happiness and prosperity of the villagers and chants hymns forecasting the fortune of the villagers in the coming year. At the end, he carries a pot of turmeric water encircles seven times around all the villagers assembled in front of the open place of *majang*. Then he sprinkles that water on the villagers wishing health and happiness for the coming year. At that time villagers shout '*haribol*' and listen to the echo. This year 2006 loud echo came from *hatikana* hill side. It is believed that the forest lying in the direction from which the echo comes loudly would yield a good harvest and therefore considers auspicious for the coming year's *podu* cultivation (The researcher was allowed to observe the ritual on the first day up to *majang*. Due to the fear of Forest Department Juang hesitated to take the researcher to *hatikana* podu patch on the next day).

Next day, villagers led by *nagam* and *pradhan* proceeded in the direction of *hatikana* hill to select suitable patch for *podu* cultivation. During the final selection of the patch which has undergone its recuperative period, it was seen that grass should have grown up to knee height and the new trees should be thick as pillars in the King's *durbar*.

After site selection, allocation and redistribution of *podu* plots are made following established norms. The *nagam*, being the senior most male member and religious head of the village, is honoured with the allotment of first plot of his choice. *Pradhan* the next senior man gets the second plot. Then the plots are allotted to the members of the individual families. The *nagam* puts marks on the trees to demarcate the boundary lines among plots.

The size of plot allotted to the families varies according to the need, size and working capacity of family members (see Table 4.1). Each family gets as much land as it can cultivate. A family having more adult members is allotted a larger share than a family having less manpower. A small family is not only given a small plot but the plot should also lie in the middle of the *podu* site where it will be better protected as the family has no adequate manpower to watch the crops from the attack of wild animals. On the other hand, a large family having several men available for guarding the crops is given a bigger plot in a more exposed position or in the outer fringes of the selected hill slopes. Elwin's (1948) study reveals some other reflections in this process. There is the provision to give better site to the person who have received poor site in the first year, same as a person who gets best place in the next year if his crops fails or is damaged by wild animals in the first year. Anyone can acquire as much of land as he can manage according to the strength of labour he puts in clearing the forest. However, today due to shortage of land and increase in population, selection and allocation of *podu* land is limited.

Table 4.1: Community Wise *Podu* Land

Land category Hectares	Juang HH	Gauda HH
Landless	1	1
0 to 1	18	7
1.1 to 1.9	9	1
2 to 2.9	10	1
3 to 3.9	0	0
5 to 9.9	0	0
10 >	2	0
Total	40	10

On the basis of *podu* landholdings, the number of households in the village is categorized into five groups: (i) landless, (ii) 0 to 1 hectares, (iii) 1.0 to 1.9 hectares,

(iv) 2 to 2.9 hectares (v) 3 to 3.9 hectares and (vi) 5 to 9.9 hectares and more than 10 hectares. Data shows that among total Juang households, maximum, i.e., 18 households having have land up to 1 hectare. Families having land up to 2 to 3 hectares are of 10. It's significant to observe that 2 families have more than 10 hectares of *podu* land in the village. Among total Gauda households 7 families having land up to 1 hectares, which is very less in comparison to Juang as they were not *podu* cultivators by practice. This denotes that Juang community has 69.87 hectares of *podu* land where as Gauda has only 9.7 hectares. If we evaluate Per capita land holding, each Juang household cultivates 1.75 hectare where as 0.97 hectares of land is cultivated by a Gauda household. This shows that Juang are still better than Gauda in terms of land holding capacity in the village, which is common property, even though one family from each community is landless.

Only Juang members of 40 HHs (Table 4.1) of the village have the right to get plots in the *podu* sites, as per the rule of village council. Outside immigrant non-Juang families and the Juang intending to leave the village in search of livelihood are not treated as members of the village.

Thus, with allotment of plots, the ownership is temporarily transferred to the heads of the individual families for the period covering three *podu* cultivation cycles after which it automatically reverts to the village community. In other words, allotted plot remains in the possession of a family for 3 years to cultivate them. As the *podu* land is communally held by the community, the cultivators has no right to claim it as his private property and cannot sell, mortgage, lease out or transfer it according to his will.

Apart from family-wise allotment, earlier certain plots were allotted to young men (*kangerki*) and women (*selanki*) of the *majang*, which they cultivated on a cooperative basis. The produces from these plots constituted the fund from which they entertained the boys and girls of *bandhu* villages visiting their village and bought gifts for them. Some plots were also considered as the communal plots (*ganria ekan*) to be cultivated by the villagers collectively on cooperative basis. These plots were bigger in size than the family plots. The produce from these plots were kept in common village fund (*gan bua*) to be spent on entertaining guests, meeting expenses for common village

disputes, litigations, arranging communal rituals, feasts and festivals, paying annual land revenues, and any kind of customary tributes, granting aid and advancing loans to the villagers at the time of need and meeting various contingent expenses when required. Due to the shortage of *podu* land these practices, according to *nagam*, are stopped. Now-a-day, *ganria ekan* do not exist, as the available *podu* land is not sufficient for all the families.

Clearing of Sites

Soon after site selection and distribution of plots, the villagers start cleaning their respective fields of the vegetation by de-bushing and felling trees. To begin this work they choose 3rd day of *Pus punai*. On this day the village priest worships the deities in the

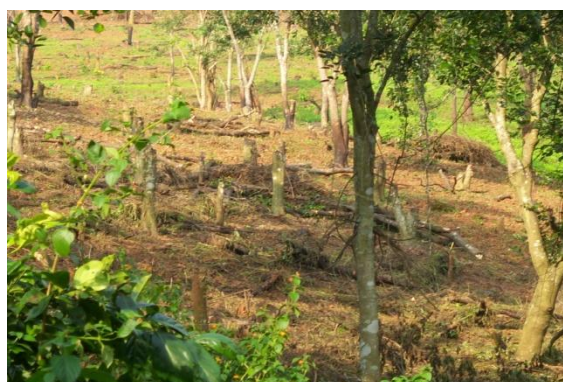


Plate 4.2: *Laka Deilak* at *Podu*

village as well as in the selected site seeking their blessings. The *Nagam* cuts the first tree ceremoniously on his plot using the sacred axe (*paren*) which is kept in the *majang* and no one except the *Nagam* and *Pradhan* are allowed to touch it. Then others start de-bushing and felling the trees in their respective plots. This clearing operation is called '*laka deilak*' (see Plate 4.2).

Similarly, on an auspicious day chosen by the village council, they burn the previously cut down vegetative material that were dried up during the summer months of *Baishaka* (April-May). On that day, *nagam*, after praying to the deities, takes the sacred fire from *majang* to set fire to his plot. Then villagers follow suit. This is called *panja poda*.

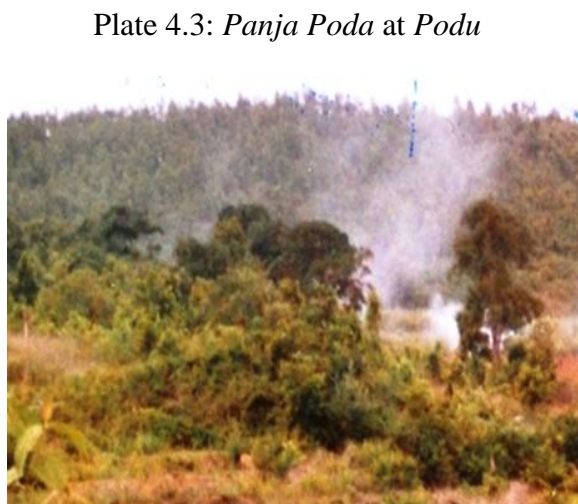


Plate 4.3: *Panja Poda* at *Podu*

Definite norms and customs are associated with clearance of sites and other works of *podu* cultivation. While felling trees, fruit bearing and useful plants like mango, jack fruit, mohua, etc., are left unharmed. Other taller trees are not felled but while burning the site these trees are severely burnt at the base and they dry after some time. The trees are cut above the ground leaving stumps about 1 to 3 feet high (see Plate 4.4). These stumps may sprout after the second cutting. Some big trees standing on the border line of the plots are left to identify the boundary line and also to help in fencing the plot if required.

Plate 4.4: Cut Trees Stumps at the *Podu*



Sowing

Juang do not allot separate plots for different crops. They sow a variety of grains in one plot, resulting in mixed cropping pattern. When the land is ready, seeds are sown by dibbling or broadcasting over the field. *Tritia* festival is a typical ceremony observed before sowing in the field begins. The festival is not observed on a fixed day and may vary within 3 to 4 days of a fixed period during the month of *Baisakha* (April-May). In the morning, every adult from the family is engaged in cleaning the village and its surroundings. Women give a mud wash to all the houses, including the *majang* (the village dormitory). The, young men (*kangerki*) and women (*selanki*) paint the *majang*. After bath, the process of ceremony begins. The boys perform the ceremony on a small-scale, one-day before the *Tritia* festival. Boys collect some

branches of the *aova* tree (considered as sacred tree) and erect two separate posts in opposite directions along the perimeter of the settlement. Some paddy seeds are deposited in a pot and kept in one of the *aova* trees. One of the boys, supposed to be the temporary leader of the village, goes to the pot kept in the *aova* tree and takes it into the forest. A procession of boys with *changu* and other drums of music follow him.

The transfer of paddy seeds from the settlement to the forest signifies their belief that demon comes to the village in the disguise of property and agriculture. In order to protect the real goddess of property and agriculture, *Lakshmi*, the demon should be transferred to the forest. Thus, taking the pot with the paddy seeds by the boys to the forest signifies this. The day following the departure of the demon, the *pradhan* with the help of *barabhaika* and other elders brings the pot (Goddess *Lakshmi*) from the forest, which contains the paddy seeds. In this way they think that the demon is already driven out and the goddess *Lakshmi* comes to the village, she is received by the villagers with music and placed upon an erected stone near *Gramasiri*. Here, *nagam* performs the prayers and offers chicken and goat. Later on these sacred seeds are used for sowing.

By the end of May, the sowing starts. The date for sowing is arrived at a meeting held by the village council. On an auspicious day around the time of dawn everybody takes some seeds mixed with the sacred seeds and move to their respective fields for sowing in broadcast method. Before sun rise they finish all the activities.

The first year is usually used for cash crop, mainly *rasi*, (niger). *Nagam* worship the hill deities with a small ritual in his field and broadcasts *rasi* seeds all over the field and inaugurates the sowing. Besides *rasi*, they also sow pulses, like *biri*, *koltha*, etc. First year *toila* field used for cultivation is called *surilok* and the cultivation process is called *ekan chasa* (see Plate 4.5). It is sown in June and July and harvested during November and December.

Plate 4.5: *Ekan Chasa* in *Surilok* (1st year *podu*)



Most of the time in the *rasi* field *suturi*, a pulse (*vigna umbellate*) is sown. But *rasi* occupies most of the land (see plate 4.6).

Plate 4.6: *Suturi* Randomly Found in *Rasi* Field



At rocky places *sulur*, a pulse (*vigna mungo*) is sown separately without ploughing, but after cutting and burning the plants (see plate 4.7).

Plate 4.7: *Sulur* Sown without Ploughing in *podu*



Second year *toila* cultivation field is called *bualok*. This is the most important year for Juang, because in this year maximum numbers of crops are sown in a specific pattern in a single patch. The central portion of the field is restricted for paddy and encircling paddy, seeds of different grains, one by one, are selected according to the size of the crops. On the border of this plot crops like *kudau*, *akayang*, *gingari*, *sulur*, *kesadha*, *kalar* and *suturi* are sown.

Again along the border, Juang follow a specific pattern of mixed cropping. For example, according to Santia Juang, on the border of the field *kudu* is sown and in the middle of it *kalar* or *suturi* is planted. The innermost lining of the boundary is planted with *paddy* or *gingari*. But mostly paddy is sown now-a-day. The following chart shows the pattern.

Chart 4.1: Pattern of Mixed Cropping



During the discussions with the elderly Juang it was observed that the most important reason for mixed cropping is that the crops grown in the patch have different periods of maturation and are harvested one after another. For example, paddy matures after millets. Pulses are harvested fifteen days after the harvest of paddy. Pulses like *gingari* and *kalar* mature at the same time and the later creeps over the former. The most important symbiotic contribution of *kalar* or *suturi* is fixing atmospheric nitrogen for the millet (Pattnaik: 2003). The crops derive benefit from the associations of each other. The pulses are the source of nitrogen fixation. Millets and cereals are the soil binder. The (photochemical) smell of one plant keeps away insects and pests affecting the other plants.

Paddy takes the central portion and *kudu* (*millet*), the tallest of the crops, takes the perimeter of the field. This is the defence mechanism adopted by them to protect their crops from wild animals. The advantage of this peculiar method of broadcasting is twofold. In the first place, from the centre a farmer can oversee the whole field's crops at once. Secondly, *kudu* and other millets, which are cultivated along the border of the field, form an effective barrier against the destruction of crops by wild animals.

Third year of *toila* cultivation is called *nala*. In *nala*, again *rasi* is cultivated and then the land is left fallow for about 3 years. According to Juang, 3 years of continuous cultivation leads the land to lose its fertility through complete destruction of the vegetation and soil erosion. To get back its natural forest cover they adopt this kind of method.

Weeding

After the monsoon rains the seeds start germinating and the field is covered with green seedlings. Then, weeding is undertaken in the month of August through September. This is essential as the monsoon brings with it a variety of grasses and weeds, which could choke the growth of field crops, take away the soil nutrition, and water content. For this reason, at least once, more frequently twice, weeding and cutting of the offshoots is done during the growing period of crops. Usually women and children are more extensively engaged in the weeding operations.

Watching Over the Crops

The next two months, October-November, is spent watching over the growing crops. As the fields are mostly situated far away from the village and are often open to the ravages of wild boars, elephants, bears and birds, the Juang build temporary field huts, which are usually very small (see Plate 4.8). These are constructed on raised platform. Sometimes the whole family can manage to live in that house for a few months. Some individuals keep watch over long stretches, while others move temporarily to the fields in order that they may keep a watch right through. They drive away the wild animals by shouting loudly, by throwing stones at them or making fire. Lighted torches or firewood all along the edges of the area, keep out elephants from the cropping zone.

Fencing the cropped site is not ordinarily done. However, in some places where wild animals damage the crops, the second year paddy crops in the *podu* sites are fenced all around by thick wooden sticks. Narrow passages are left to prevent entry of wild animals into the field. Traps are set at these entry points to catch or kill the animals. Sometimes barriers are created against wild elephants. Field huts in the field (see Plate 4.8) and also (see Plate 4.9) are made high up in the trees called *mancha*. Most of the times, any one member of the family spends the whole night there during the period of growing and ripening of the crops.

Plate 4.8: Field Hut in *Podu*



Plate 4.9: *Mancha* in the Tree



Harvesting

Harvesting of crops starts from September. The harvesting of different crops falls in different months. By the end of September, maize and paddy are ready for harvesting. Immediately after this, the field will be utilized for mustard cultivation. This is the completion of the first stage of harvesting. Immediately after this, a ceremony known as *Nua-Khia* or New Eating Ceremony is observed. The same type of festival is also observed during the month of March, for the new Mango eating, called *Amba-Nua-Khia*. The main festival of *Nua-Khia* is observed in September to begin the eating of maize and rice. Before taking any crop as food, they perform *puja* and offer sacrifice before *Gramasiri*. They believe that if they perform *puja* with offerings to *Gramasiri*, the deity will bless them with more yields and protect them from calamities.

The second phase of harvesting starts in the month of November after *Nua-Khia*. After paddy, gradually other pulses and crops are harvested. *Biri (kalai pulse)* is harvested from the *podu* field. *Pus Punai*, which is another festival, and the biggest in connection with harvesting, is observed at the end of November. After this festival, the harvesting of *rasi* (niger), *sorish* (mustard) and pulses take place. The harvesting of *rasi* is completed in December. The last item to be harvested is mustard and by mid-January it comes to an end (see Plate 4.10).

Plate 4.10: Mustard Field (extreme left), Paddy Filed (middle) and Niger Field (right)



Within the *podu* field, a threshing floor is made on the ground by clearing and plastering it with mud. After the *rasi* is ready for harvesting, the top portion of the plant is cut and left on the field for drying for a couple of days. After the seeds are dry, women bring these to the threshing floor and beat it using a bamboo stick. Then thrashed grain is separated from the husk. Generally, one stands on one end of ground and drops the grain slowly and steadily from a winnowing basket. Another person, generally the man's wife, creates an artificial breeze by another winnow to separate grains from the husk.

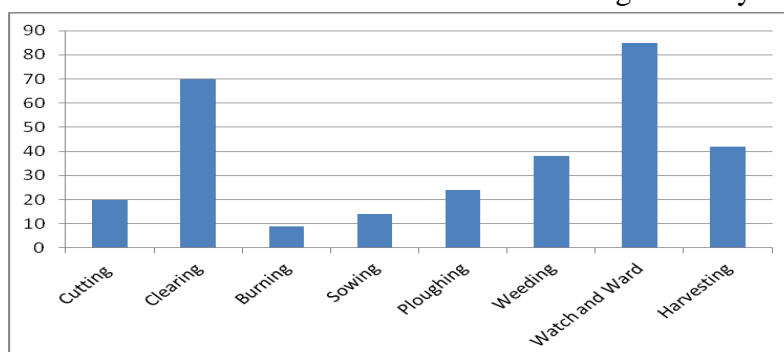
Table 4.2: Agricultural Harvesting Calendar

Name of Crop	Sowing Month	Harvesting Month
<i>Kima Bua</i> (Paddy)	May – June	November to – December
<i>Paro Bua</i> (Paddy)	May	September
<i>Belaw Bua</i> (Paddy)	June	December
<i>Makka</i> (Maize)	May – June	August – September
<i>Biri</i> (Pulse)	May – June	November December
<i>Rasi</i> (Niger)	May – June	December
<i>Mandia</i> (Millet)	May – June	November – December
<i>Gingari</i>	May – June	November – December
<i>Sorisha</i> (Mustard)	August	December – January

Limitations of *Podu* Cultivation

Shifting cultivation is a way of life for the Juang. It's the most laborious agricultural practice involving manpower and a long term productive process. The following case study of Gopi Juang of the study village illustrates the point. In Gopi's family, his wife, two children have worked for 20 days for cutting trees, 70 days to clear bushes and spread them evenly over the site, 9 days for burning, 14 days for sowing seeds, 24 days to plough the sites, 38 days for weeding, 85 days for watch and ward, 42 days for threshing, transportation and harvesting the crops during 2007. In total the family members have put up 302 days of hard labour to cultivate their three *podu* sites. As compared to the value of the labour component the productive output from *podu* cultivation is quite less. Produce from this cultivation hardly feed the family of Gopi for 4 months in a year. But the cultivation process keeps them occupied for about three quarters of a year.

Chart 4.2: Process of Labour Investment During *Podu* Cycle



The women have a major contribution in all works relating to *podu* cultivation. They take part in all operations, like hoeing, weeding, de-bushing, burning, watch and ward, reaping, carrying crops to home, and harvesting, except site selection, felling trees, burning, ploughing and sowing which are tabooed to them.

Juang has developed its ways and means to solve the problem of labour supply. In their community, factors like mutual help, exchange of labour, reciprocity manage the cycle of shifting cultivation. For example, helpless widows and physically challenged persons in the village are given *podu* plots so that the persons on whom they become dependent shall not consider them as burden. If no one comes to their rescue, the villagers collectively cultivate the *podu* lands allotted to these handicapped persons. These persons, for whom the villagers work, entertain them with a mid-day meal. It's a humanitarian and practical solution to a basic problem.

The output from the *podu* cultivation is always uncertain and unpredictable. The cultivation depends upon the agro-climatic conditions, wild animals and birds, pests and diseases. Earlier, Juang used to harvest better crops which they fed themselves for 9 to 10 months in a year. Now-a-day harvesting from *podu* is declining as crop failures have become frequent. By continuous practice of shifting cultivation the thick *sal* forests in the region has extensively been depleted and there has been extensive soil erosion, according to the Forest Department officials of Kanjipani. This has caused, according to the Forest Department personnel, environmental hazards by upsetting the environmental balance. As a result, the output from *podu* cultivation has reduced considerably these days. Prohibition of shifting cultivation in the reserve forest in Junag *Pirah* has further limited the area and scope for the Juang to practice

their *podu* cultivation. Population pressure on land resources has compelled them to cultivate the small area available to them continuously by shortening the recuperative period from 8 years to 3 to 4 years at present. This has aggravated the situation further by causing damage to the soil and natural environment. Gradually, the produce has led to a decline of food supply and brought a miserable state of starvation and hunger. Many hills in the Juang *Pirah*, which were under thick cover in the past, have become completely devoid of soil and vegetation exposing barren and rocky surface, Raghu Juang said by indicating *landapahada* (hill) in the North-East side of the village (see Plate 3.1).

Although shifting cultivation is the main component of the Juang economy, the food grains obtained from this do not last for more than four months. Earlier, during the scarcity period they were depending upon minor forest products to survive. In order to overcome this problem, they have adopted settled cultivation in their *bilaw* land for better yields, for which they use water from the stream. Gradually, Juang came to know that *bilaw* cultivation is giving more subsistence production than *podu* cultivation.

Yield from both the cultivations:

Table 4.3: Average Yield per Hectare (kg)

Crops	Juang				Gauda			
	Bilaw		Podu		Bilaw		Podu	
	Kharif	Rabi	Kharif	Rabi	Kharif	Rabi	Kharif	Rabi
Paddy	0.001	0.001	0.008	0.157	0.003	0.002	0.131	0
Wheat	0	0.617	0	0	0	0	0	0
Niger	0	0	0	0.013	0	0	0	0.011
Arhar	0	0	0	0.067	0	0	0	0.011
Bajara	0	0	0	0.160	0	0	0	0.277
Kangu	0	0	0	0.254	0	0	0	00
Mandia	0	0	0	0.076	0	0	0	0.161
Ruma	0	0	0	0.276	0	0	0	0
Biri/sulur	0	0	0	0.985	0	0	0	0
Ginger	0	0	0	0.828	0	0	0	0
Gangae	0	0	0	0.630	0	0	0	0
Jalli	0	0	0	1.313	0	0	0	0
Katla	0	0	0	2.627	0	0	0	0
Suturi	0	0	0	7.880	0	0	0	0
Maize	0	0	0	0	0	0	0	0.020
Mustard	0	0	0	0	0	0	0	0.099

Juang cultivate 8.18 hectares of *bilaw* land, where as Gauda cultivate 3.13 ha of *bilaw* land according to revenue record data. Juang cultivate 78.836 ha. of podu land which is the combination of 69.87 ha of podu land with 8.966 ha. of horticulture land, according to household data. Whereas Gauda cultivate 9.7 ha. podu land according to household data.

The table 4.3 reflects that Gauda are yielding better paddy kharif and rabi crops in bilwa land than the Juang. Cash crops like maize (*B-Zea meys*) and mustard (*B. Juncea*) is also cultivated by Gauda in podu. Niger (*guizotia abyssinica*) and arhar (*elensini coracana*) are the crops where Juang are yielding better than the Gauda. Crops like wheat (*triticum*), ruma, sulur, zinger (*zingiberaceae*), Ggngai (*sorghum sp.*), jail (*panicum miliaceum*), katla and suture (*vigna umbellata*) are only cultivated by Juang for their own consumption. Gauda yields better Mandia (*eleusini coracana*) than Juang. Over all Gauda are getting better yield from bilaw cultivation than Juang. But Juang are getting little bit better yield from podu cultivation. As per the per capita land holding is concern 20 percent Gauds are better of than 80 percent Juang households.

II

Use of water in low land areas

Plate 4.11: *Bilaw* Land on the Slopes

Stream water is used for daily activities like bathing, washing clothes, drinking water to the cattle, irrigate the kitchen garden, etc. But most important use of this stream water is to irrigate the paddy lands adjoining the streams. They make mud bunds to channelize the water to the



agricultural fields. Patches of *kendupada*, *jamunalia* and *khandiajharana* are prepared in a slope (see Plate 4.11) for cultivation from top to the valley bottom, so that water from top can run down through the agricultural field. It is their indigenous mechanism of irrigation.

The Juang rarely owned valley bottom paddy fields. However, whenever such fields were available and streams flowed by the side, the people do channel the water through openings in the terraced bunds to irrigate the fields.

Use of water for household need

The Juang depend on streams, wells and tube-wells for their daily household needs. In dry season they largely depend upon tube wells, which is the community's source for drinking water.

Due to efforts made by government and development agencies, the pattern of utilization of water resources in the study village has undergone certain changes in recent years, and for the better. In the village, tube-well embankment was constructed with brick and cement, but Juang face difficulties to pump the water daily, as water level remains low in summer due to its geological condition (see Plate 34). They use this water for cooking. For other household needs such as for bathing, washing clothes, dishes and for quenching the thirst of livestock they use pond and stream water.

Preservation of upstream water

The hill stream water does not benefit the Juang living in the higher ridges or near the catchment area, for the water gushes quickly down the slopes and flows on to the plain. Depending on the terrain, there are harvesting structures created for irrigation by the government. A water harvesting structure

(WHS) (see Plate 4.12) has been built by JDA in *landapahada* on *balijharana* to store the running water for irrigation purposes, according to the Director of the JDA. But people have no lands beside this stream and the WHS to irrigate. Only they use this water for bathing purposes of their cattle. According to the Director, Juang are encouraged by Government to collect rainwater in the pond and WHS. This may enhance the moisture content of the watershed area, according to him. Traditionally, they never preserved the stream water and rainwater, but now they are doing this for their community, household and irrigation purposes.

Plate 4.12: WHS



Drinking water provision

For drinking water purpose, water from one tube-well (see Plate 4.13) is used by the villagers, but some people still use the stream and *chua* water for daily purposes. Because they feel that it is not good in taste, as the water contains rust from pipes and other sediments. Hence, the same people show their dissatisfaction on Government dug tube well, which is of no use to their community. Even though they use open water sources for drinking, it is wrong to believe that Juang are not health conscious. They do not drink water that appears polluted to the naked eye, or tastes bad, and prefer to go to fetch water that apparently looks clean.

Plate 4.13: Only Source of Drinking Water

Due to the developmental programmes, Juang are provided the sources of water through well and tube well at their doorsteps. Now-a-day pipe water facility is being provided to them in the neighbouring village Gonasika. But after few days, according to villagers, it stopped functioning.



Earlier, water bodies were managed by Village Council (*barabhaika*), which includes the priest (*nagam*) and elder members of the community. Village council solves disputes related to these matters. There was no serious conflict happened relating to water management in the village. They feel that it is their community's obligation to keep the water bodies clean so that everybody can use the water.

III

Ecological classification

An ecological classification deals with the utilization and conservation of natural resources by tribal people and it is an integral part of the tribal culture from time immemorial. Due to close association with their habitat, humans have imbibed the quality of recognizing and categorizing the different forms of nature. These are based on overall resemblances. The recognition of distinct patterns in nature's structural

forms constitutes the basis of ecological classification. Recognition of finer distinctions by the process of differentiation enables to discriminate between species, whereas generalization leads to the formation of higher order groupings from those natural groupings (Naik, 1992). The Juang community differentiates species under a higher category.

The Juang of Juang *Pirah* along with the study village are associated with the flora and fauna of the village. The plants are used by the Juang for various purposes. The renewable natural resources in their forest, such as tubers, roots, leaves, flowers, fruits, fibres, gums, resins, honey, etc., provide the bases of their livelihood. These forest produces not only support their livelihood, but also play a significant role in their socio-religious activities which are discussed earlier.

The plants provide food, medicine, oil, gums, resins, dye, timber, wood, bark, fodder, drink and materials for thatching, agricultural implements, basketry, broom, etc (Annexure 4.2). Juang cautiously and meticulously analyse each plant species based on its type, extracts and parts they use, because this is the resource which nature provides them to sustain and they feel it's their moral responsibility to take care of it with gratitude.

Fuel wood

The households of Kadalibadi and its neighbouring villages in Juang *Pirah* use different plant species for domestic fuel consumption. They require wood every day for cooking food and for heating purpose in winter season. Apart from this, wood is also needed to keep the fire burning throughout the year in the *majang* (dormitory) (see Plate 5.1). The following plant species are used for fuel wood.

The consumption of fuel wood in a household is calculated by considering the following criteria:

- (i) the number of members in the family,
- (ii) Number of huts owned by the family. Each separate hut has its own fire place to keep the room warm during winter. The cooking is done at a particular place for the whole family. For example, Keshaba Juang (52) and his wife

reside in one hut. His son and daughter-in-law reside in a separate hut, but the family has a common kitchen and food is cooked by the daughter-in-law. In this family the fuel wood consumption is more than in a family where the household has a single hut.

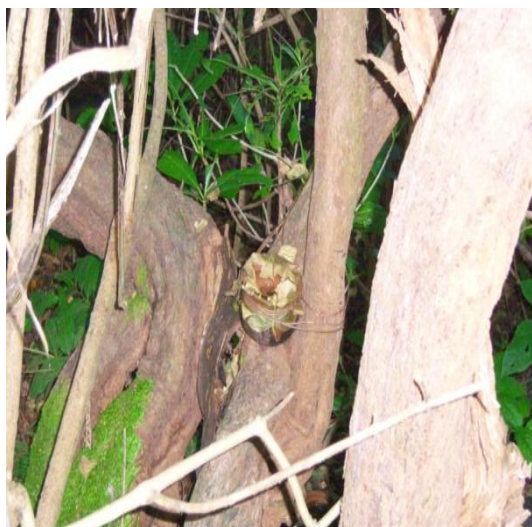
- (iii) Number of members going to the forest to collect fuel wood, and
- (iv) Approximate amount of fuel wood collected per person.
- (v) According to the women, consumption in the month of April and May (summer) is lower because food cooking is less as most of them consume fruits like kendu, mango, jack fruit and roots of tubers (*dioscorea* species). The table in Annexure 4.5 shows the household consumption of fuel wood in the study village.

It was found that among Juang an individual collects on an average of 8.79 quintals of fuel wood for household consumption yearly, whereas 8.37 quintal is collected by a *Gauda*. If we calculate the average use of fuel wood yearly by a Juang household it comes around 47.7 quintals, whereas a Gauda household consume 36 quintals of wood for household consumption (Annexure 4.5).

Juang do not use some plants like *temrem* (*diospyros melanoxylon*), *koliani* (*xylocarpa*), and *kali kendu* (*diospyros malabarica*), because these are not suitable as fuel wood. According to the Juang, when they burn these wood it makes sound like noisy firecrackers and the fire particles may set the hut on fire. Secondly, it produces too much smoke which makes it difficult to cook in the kitchen. Wood of plants like *sumbuli* (*salmaalial malabarika*) is very light and catches fire easily. The hut may catch fire by the flame which is very low in height. Juang perceive that if they burn the wood of *bara*, i.e., banyan tree (*ficus benghalensis*) and *panasa*, i.e., jackfruit tree (*artocarpus heterophyllus*) then it may cause the spread of bed bugs in the hut.

Plate 4.14: The *Salo*

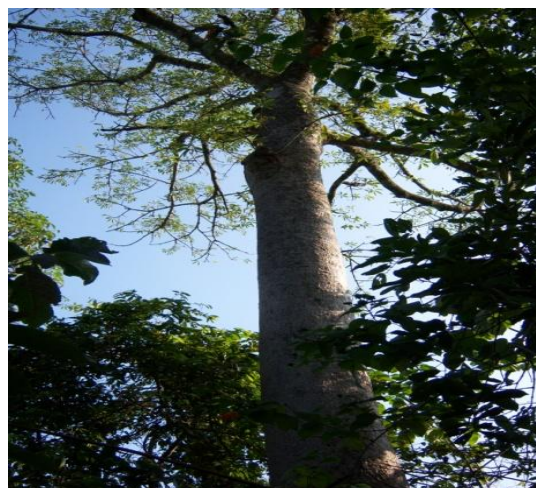
Except dried branches for fuel wood they don't cut any plant species elsewhere, in general, and none in the *salo* (sacred grove), in particular, because they have strong relation with their ancestral spirits that reside in the sacred groves. They perceive that the trees in the grove are the dwelling place for those spirits, for which they have to take care of these trees (see Plate 4.14).



Sacred Grove (*salo*)

As far as forests are concerned, one of the significant conservation practices is the sacredness of plant species in the name of ancestral worship. In Juang society, trees and forests are protected with religious sanctions and are known as sacred groves. Sacred grove is locally known as *Salo*. It is found in south-east part of the study village. Cutting of plants from *salo* is strictly prohibited. They believe that, their ancestors spirit (*pitruki*) reside there and protect their *podu* and family from calamity. To safeguard the place they do not cut any live or dead trees, branches or any of its parts for any purpose. Thus, the species in *salo* gets maximum protection. All the rituals are performed at *Gramasiri*, the village deity that has its place besides the *majang* (dormitory), and the *salo*, usually located at the outskirts of the village. The area is very small, comprises a wide range of biologically diverse trees. The main trees under which the worship is performed are bombax ciba (*simuli*) (see Plate 4.15). Trees are surrounded by wild creepers. It is situated in *kukurchua* (name of the hill), where forest department has been planting trees as a part of afforestation programme since 2005.

Plate 4.15: Sacred Tree in *Salo*

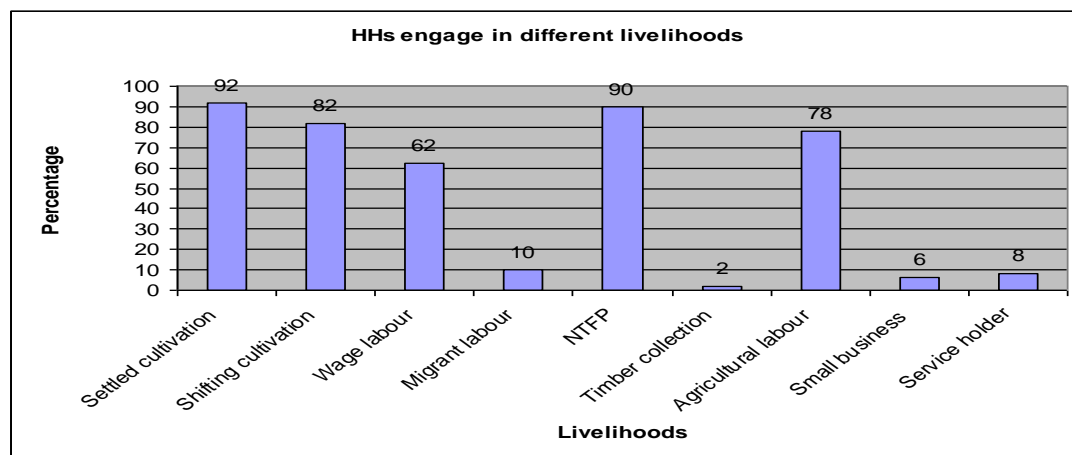


Due to plantation and developmental activities implemented by Government, changes have been found in the status of flora in the study region. Vital plant species which are very useful in Juang daily life are decreasing drastically and this affects their utilization pattern (Annexure 4.3).

Till now we have analysed the way Juang perceive and utilize common property land resources, classify them according to their need and based on its maximum use, dependency along with the concern of its time for regaining fertility. All this happens consciously in their mind from the survival point of view as they provide them multiple livelihood options, but hardly sufficient for meeting household needs.

Households Engaged in Different Livelihoods

Chart 4.3: Households Engaged in Different Livelihoods



The chart below shows that livelihood options have increased after the introduction of settled cultivation, which is adopted by maximum (92 %) of household. However, they have not abandoned their age old forest based traditional cultivation, i.e., *podu*, which is still practiced by 82 per cent of Juang households. Yield from these lands does not last for full year, so it is supplemented by NTFP collection as the major source of income in the lean period. But due to the increase in settled cultivation agricultural labour is taken as a livelihood by 78 per cent of households, where as 62 per cent of household depend on wage labour due to the introduction of developmental activities with the provision of job card facilities in the locality. To enhance household economy, youth from 10 per cent of families prefer to go outside

and work as migrant labour. The other activities like timber collection, small business and service holder are negligible. These are alternative occupations to the forest based livelihood and primary sources of livelihood, e.g., agricultural income.

Cultural Ecology and CPR Management

The concept of ecological anthropology has been given importance by scholars like White (1943) and Steward (1955). It is their subsistence approach to the study of culture with relation to nature. White talked about the making of culture, especially material culture, by means of energy expenditure, while Steward focused on the ecological adaptation of culture. He looked at the concept in relation to human beings to understand the interaction of environment and culture. His work emerged as 'Cultural Ecology', which can be used in the study of traditional cultures like that of the Juang.

The culture of Juang is largely dependent on renewable natural resources, which are intimately linked with the supernatural sphere. They do not dichotomize nature into distinct and exclusive sphere of the natural and supernatural. For them there is no nature without the supernatural. The adaptation of the natural environment, according to Beattie (1964), is always through the supernatural world or through the institutionalized symbolic procedures. These symbolic procedures are the religious and magical practices by means of which Juang control their natural resources.

They have symbolic knowledge and practices which maintain the symbiotic relation of nature with supernatural. This man-nature with supernatural network is a reflection of ecological adaptation of a community, which was elaborated in a classical study made by Rappaport on the Tsembaga Maring of New Guinea (1968). He has tried to show how the annual ritual killing of pigs is a homeostatic mechanism to maintain an un-degraded environment, limit fighting among the Maring to a level that does not endanger the existence of regional human population, adjusts man land ratios, facilitates trade, distributes local surplus of pig population in the form of pork through the region and assures a high quality of protein to the people when they need it most.

A number of examples are found in the study village to signify the relation between supernatural power and the Juang. Among the Juang, one such example can be found. They do not eat mango unless they observe the ritual of *amba nua*, the new mango eating ceremony. On this occasion, the ancestors are offered the first mango and then the villagers start eating. Anybody eating mango before the ritual would invite the supernatural wrath and miseries would follow. By the time mango ripens (May – June), their stock of food is usually exhausted. Mango serves as a nutritious staple food for the lean period of approximately 3 months as 98 per cent of the household engage in the collection of this NTFP. If such a ritual would not exist, mango would probably have been already consumed by the time the lean period begins. The ritual, thus, is a survival measure. There are other such rituals to control the use of food resources.

Earlier beef was relished among the Juang. Due to Sanskritization¹, the adoption of Hindu custom and rituals, it has been tabooed for consumption as cows are considered to be sacred animals now. There are clan totems which are honoured and are not consumed by the respective clan groups as they are taboo. The members of *baningbak clan* do not consume *kusuma* (*schleichera oleosa*) and *temrembak clan* people do not consume tender fruits.

It's a taboo for the Juang to hunt and consume, if an animal is pregnant. The animals in their infancy and when an animal is drinking water are not hunted. Many fruits and crops are eaten only after the rituals connected with them are performed. Mango is consumed only after observing *amba nua* and mango pickles and *kusuma* fruits are eaten only after the *asadi parba*. While new paddy is consumed after observing *nuakhai*, new pulses, vegetables, millets and tubers are consumed only after observing *kalarb*. Similarly, *siali* fruit, cakes made out of cereals and millets are consumed only after the observance of *pus pune*.

¹ According to Srinivas (1952) Sanskritization is a process by which "a low or middle Hindu caste, or tribal or other group, changes its customs, ritual ideology, and way of life in the direction of a high and frequently *twice-born* caste. Generally such changes are followed by a claim to a higher position in the caste hierarchy than that traditionally conceded to the claimant class by the local community"

There are food restrictions observed by religious functionaries (*boita*, *dangua*, *pradhan*). They do not eat *kudu*, *akayang* (millets), *kundui* (fruits) and *galangsing* (honey) during rituals. The use of honey is a taboo for them at any time, because of a sacred feeling attached to it. The religious functionaries use to hang a pot from the roof of their houses. This sacred pot looks like a fan shaped honey comb and since the *galangsing* honey comb resembles a fan, it is taboo for them to eat it (This example was found in Talabaruda village where the *pradhan* did not permit the researcher to take photo due to their belief in supernatural powers).

They follow food restrictions for different health problems. During fever, the patient is only given vegetarian food, because it is believed that the fever may relapse otherwise. If someone is infected with scabies, the patient has to take non-vegetarian food, pulses and millet cakes. A pregnant woman, mature girls (girls who attained puberty), married women and their husbands do not eat the head of a hunted animal as this might endanger the success of further hunting. Similarly, a woman having just given birth to baby does not eat green leaves, because the new born baby may thus suffer from diarrhoea. She also takes less food and does not take oil and non-vegetarian food, as the baby may have various health problems. She is restricted to take raw salt, plain water, brinjal (eggplant), onions and potato. Such taboos continue for a period of three months after the birth of a baby, who, for one year period is only breast fed.

Food prohibition based on age and sex is also followed by Juang. For example, paddy collected from the rat holes in the field are not consumed by the males, due to the fear of possible loss in the next year's harvest. Similarly, a type of mushroom is not consumed by the unmarried youths and kids, for the fear that fever may afflict a family member. Unmarried youths can take new food stuff of any type of crops, fruits, and seeds in any village, other than their own, even when the formal rituals are not observed, but married people cannot do so because it might lead to health problems in the family. Taking food is restricted at the sacred grove, where the ancestors are worshipped. Places where malevolent spirits reside are avoided and no food is taken there, for the fear that the spirit may attack the consumer through the food. As far as time is concerned, bitter gourd is not taken at night by those whose

father is alive. Likewise, meat and mushroom are not taken together, because of the belief that it will create poison in the stomach.

It implies that they need supernatural sanctions and support for indigenous resource management practices. There is an example of an elaborate ritual of rain making practised in neighbouring Guptaganga village (not observed in study village). People from the study village participated in this ritual and they described this during discussions. Rain is considered by the Juang as a gift of the Hindu rain God *Indra*. The year, in which rain does not come in time, they propitiate *Indra* God for immediate rain. On this event, the youths of the village go to the forest in the night to find out the sacred *garia* plant required for the worship. One of the male Juang takes a holy dip in the Baitarani stream and then worships the plant. Afterwards, he cuts it and collects its sap in a bowl, which is carried on the head of a girl. With a loud collective invocation of *haribol*, by beating the *changu*, everybody returns to the village, where the boy who collected the sap, sprinkles the holy sap over the dormitory. This ritual is believed to bring rain immediately.

The next section will focus on their balanced and restricted use of forest resources in their day to day household collections.

IV

Forest Based livelihoods

Households spend time and manpower seasonally to collect forest produces. By selling these produces they enhance their income, which plays a role of safety net to their livelihood. Here we need to distinguish between non-timber forest produce for sale and for self-consumption (see Plate 4.16).

It was observed that most of the households collect NTFP not only for household consumption but also to sale in the market for money. The following table 4.4 shows the comparison of households engaged and their percentage in the collection of different NTFPs in the study village. The table shows that maximum income comes from the selling of *sal* leaf. Annual average income comes from NTFP collection is maximum during summer and winter, which is 69 per cent of the total income. Except *siali* fiber all other forest products are used for commercial purpose.

Plate 4.16: Juang Consuming the Tubers (sweet potato)



In summer season Juang get plenty of time out of their agricultural cycle. They use that time in collection of above necessary NTFPs for commercial and own consumption purpose. In rainy and winter season they till the land and prepare for felling, de-bushing, burning, and sowing. It consumes more time so that they get hardly few hours out of their daily agricultural cycle to collect NTFPs. Hence, the seasonal income varies according to the time spent along with *podu* and *bila* cultivation as the primary livelihood.

Table 4.4: NTFP Collection and Use Status by Community

NTFP products	HH Collect		HH not Collecting		HH Selling		HH Own Use		Annual average income @ Rs		Nature of Collection	
	JU [#]	GA ^{\$}	JU	GA	JU	GA	JU	GA	JU	GA	JU	GA
Sal leaf	37	5	3	5	35	5	2	0	11942	8429	Coll.*	Coll.
Sal seed	37	7	3	3	37	7	0	0	1802	1208	Indv. [@]	Indv.
Karanja seed	38	4	2	6	38	4	0	0	687	286	Indv.	Indv.
Kusuma seed	39	10	1	0	39	10	0	0	226	90	Coll.	Coll.
Mushroom	39	9	1	1	3	0	36	9	315	0	Indv.	Indv.
Siali fibre	2	0	38	0	0	0	2	0	0	0	Indv	-
Mango fruit	39	10	1	0	29	5	10	5	1140	753	Indv.	Indv.
Mango Kernel	39	10	1	0	30	5	9	5	1584	938	Indv.	Indv.
Jack fruit	39	10	1	0	11	5	28	5	322	156	Indv.	Indv.
Jack seed	3	0	37	10	1	0	2	0	180	0	Indv.	-
Musakani root	17	0	13	0	12	0	5	0	1098	0	Indv.	-
Patalagaruda root	14	0	16	0	14	0	0	0	1360	0	Indv.	-
Pitalu	16	0	14	0	4	0	12	0	303	0	Indv.	-

JU[#] = Juang; GA^{\$} = Gauda; Coll.* = Collective; Indv.[@] = Individual

***Sal* leaf**

Sal leaf is the major NTFP collected collectively in the summer and winter seasons by 37 Juang households and 5 Gauda households. Out of 37 households, 35 households it sell in the form of leaf plates in Kanjipani and Keonjhar market and 2 Juang households use it for their own consumption. They make *sal* leaf plates (see Plate 4.17) and sell it to get Rs. 130 for 1000 plates. Maximum households sell leaf plates to the middleman (*kuchia*), who purchases from the households at a low price (Rs.100 @ 1000 plates) than the market price (see Plate 4.18). Villagers store these leaf plates in the *majang* house of neighbouring village Baitarani, and from there the *kuchia* collects every week. Fifty percent Gauda household engage in this activity and the process as mentioned, like Juang. Juang household engaged in this collection gets an average of Rs.11,942 in comparison to Gauda household who gets Rs. 8429 annually. Juang are better off in this activity due to the advantage of more man power than Gauda. It is also observed that 1 Juang household does not collect this item because he is a handicapped single person, whereas 50 percent Gauda household does not collect *sal* leaf as they have other economically better than other Gauda's and have small business to run.

Plate 4.17: A Juang Woman Making Leaf Plates



Plate 4.18: Middleman Purchasing Sal Leaf Plates from Villagers



Sal seed

Sal seed is mostly individually collected in summer season by 37 households of Juang and 7 households of Gauda in the study village. All the households of both the communities sell it in the Kanjipani market in the range of Rs.3 to Rs.10 per kilogram and get an average of Rs.1802 in case of Juang and Rs. 1208 by Gauda annually. However, 3 households of both the community does not collect this NTFP as they engage in seasonal leabour in case of Juang and small business in case of Gauda.

Karanja seed

Karanja seed is collected individually by 38 households of Juang and 4 households of Gauda in summer season. (see Plate 4.19).

Plate 4.19: Processing of *Karanja* Seed by the Family Members



All the engaged households sell it in Kanjipani market in the range of Rs.3 to Rs.8 per kilogram and get an average of Rs.687 and 286 respectively by Juang and Gauda in a year. According to Juang, 2 households do not collect karanja seed as they feel it more labour consuming and 6 Gauda households do not collect this resource as they want to engage in mango collection during this time, which is more profitable.

Kusuma seed

Kusuma seed is collected collectively by 39 households of Juang and all the households of Gauda in summer season. All the households see this product in an average of Rs. 5 per kilogram in Kanjipani market. Juang gets Rs. 226 and Gauda gets Rs. 90 as an average income respectively. It is interesting to note that even if it is not profitable but all the Gauda households engage in this activity whereas a Juang household is not engaged in this activity due to physical handicap.

Mushroom

Mushroom is collected individually by 39 Juang households and 9 Gauda households in rainy and winter seasons. For their day to day consumption 36 Juang households use it whereas all the engaged Gauda households consume it. One family from each community does not collect it because of no man power in their family. Only 3 Juang households sell it for Rs. 5 per kilogram in Gonasika and Kanjipani markets to get an average amount of Rs.315 annually.

Siali fiber

Only 2 Juang households collect this product to prepare rope to use for repairing their damaged hut (see Plate 4.20). According to Gauda, they do not need this product as they all have pucca houses.

Pitalu

Now-a-days *pitalu* is the only tuber generally accessible to 16 Juang households in rainy and winter seasons. Only 4 households sell it between Rs. 5 and 7 per kilogram in Gonasika and Kanjipani and get an average of Rs.303 annually. For daily consumption 12 households use it. They search for this tuber in forest during their leisure period of agricultural activities to get some support to their daily food

supplement (see Plate 4.20). Due to the restriction to enter forest 14 households do not get this tuber, as reported.

Plate 4.20: Juang with Tubers and *Siali* Fibres



Mango

Mango is collected in summer season by 39 Juang households out of which 29 households consume it at their household level. All the Gauda households collect this product and half of them consume it. Rest of the 5 Gauda family and 11 Juang households sell it in Kanjipani and Gonasika market between Rs. 2 to 5 per kilogram. Juang gets Rs.1140 and Gauda gets Rs. 753 annually mostly on individual basis. One person from a household from Juang community donot collect this due to physically handicapped.

Mango kernel

It is significant to note that 39 Juang households collect mango kernel, where as all the Gauda household collect it. Out of this 30 Juang household and 5 Gauda household sell it in Kanjipani and Gonasika markets between Rs. 15 and 20 per kilogram annually. Juang and Gauda get an average of Rs. 1584 and Rs. 938 annually respectively. Nine households of Juang and 5 household of Gauda consume it.

Jack fruit

In the study area Jack fruit is plantily available in summer 39 Juang households and all Gauda household collect it. Out of this 11 household of Juang and 5 household of

Gauda sell it in Kanjipani and Gonasika markets between Rs. 2 and 5 per kilogram. Juang get Rs.322 and Gauda get Rs.156 which is half of the average annual income of the Juang. However, 28 Juang and 5 Gauda household prefer to consume it rather than selling. Even if, Jackfruit seed is plenty available only 3 Juang household collect it, out of which 1 household sell it to get an average of Rs.180 annually. Two households consume it where as no Gauda like to collect this product.

Mushakani root

Mushakani root is individually collected by 17 Juang families in summer and winter to prepare medicines which are used in preparing countrymade liquor and for cash purpose. Out of this, 12 households sell it in Kanjipani market to get an average of Rs.1098 in a year, where as no Gauda households collect this NTFP, even though the village medicine practitioner belongs to this community. He use to purchase it from the Juang as reported.

Patalagaruda root

Patalagaruda root is individually collected in summer and winter by 14 Juang households. This root is also used for medicines and countrymade liquor. Mostly for this reason it is sold in the market. All Juang use to sell it in Kanjipani market between Rs. 40 and 60 and get an average Rs.1360 in a year, where as no Gauda households collect this NTFP. They depend on Juang for this product when ever required according to Gauda.

Over we can analyse that all Juang households are collecting maximum number of NTFP's rather than Gauda, who are only collecting 5 mentioned NTFP's in the table. As they have more other options to engage themselves in activities like small business and intensive bilaw cultivation rather than Juang. This keeps them economically better than Juang. In terms of overall household, we can see that, maximum number of Gauda households consume the products rather than selling. On the other hand Juang are selling more product than their own consumption, to support their livelihood.

From the above data we observe that among all the NTFP collections 92.4 per cent products are collected individually, whereas earlier the whole community used to collect the NTFPs collectively and share them among the households. The change has come about because of the introduction of market economy to develop the households, and not the community as a whole. Number of persons goes in a group for collection has reduced because they have other works to engage now-a-day. The change occurred due to the availability of different livelihood options from outside the community which are mentioned in chart 4.3 above.

V

Rational and controlled use of forest resources is the feature of their management. The utilization processes of forest resources convey their management and conservation skills. The fruit bearing trees like *mangifera indica* (mango), *artocarpus heterophyllus* (jackfruit), *diospyros melanoxylon* (kendu), *artocarpus lacucha* (jetu), *aegle marmelos* (belo) and *schleichera oleosa* (kusum) are prohibited to be cut. These plants are just like their children, according to Juang. They plant mango and jackfruit trees near and around the settlement place and they provide them with adequate protection during their growth period. Now-a-day, the Juang Development Agency (JDA) has encouraged them to plant guava, supplying them with saplings. Banana and papaya plants are rarely seen in the kitchen garden.

While collecting various plants or their parts, they apply certain conservation practices. For example, when they dig the soil to get the tubers of eight types of *dioscorea species*, they bury the upper portion of the tuber in the pit and cover it with soil. So that in rainy season the tuber will regenerate. Similarly, they avoid to cut *rubus elipticus* (sindhkoi fruit), because they are fond of the fruits of this plant. The *mahua* plant (*madhuca indica*) is always protected wherever it is found. The flowers of the plant are widely used as food and in making of country made alcoholic drink called *mahuli*. Most of the places in the forests, vegetation are removed due to cultivation but these plants are never destroyed. Juang normally collect leafy vegetables for consumption required for one day and not more. Similarly, they collect the fruits of *diospyros melanoxylon* (kendu) that is just enough for the day. But now-a-day there is scarcity of these plants. Some tubers of *dioscorea* species are collected with care for their daily consumption so that the product is not exhausted in a short

time. The Juang avoid hunting of wild animals in their pregnancy. When they catch the chicklings of peacock, parrot and other birds, they don't destroy the nest of the birds, so that the birds can again breed in those nests. Certain areas in the ecosystem are never harvested for any purpose, among which the sacred grove (*salo*) has the benefit of the best protection. The plant and their parts from the sacred grove are never used and the dead and decayed plants are left for decomposition. This shows the involvement of their religious and cultural practices in the management of forest and forest products as CPRs which justifies the idea that there is hardly any difference between their thinking and practical use of natural resources.

Their controlled way of resource utilization may in itself be a sound management method. For example, when a tuber is dug out, the Juang women invariably replant a piece of the tuber for its regeneration. Timber is utilized to keep the fire burning all day and night in the *majang* (see Plate 5.1) and for periodic requirements in house construction and repairing. The Juang build cattle shed and small field huts (see Plate 4.8 and 3.3) to watch standing crops in *podu*, timber are used for such temporary constructions. After the harvesting of crops, field huts are dismantled, but the logs are brought home to be used as fuel wood and other purposes, even though the *podu* are far off and even if timber is available nearby. Kusha Juang of aged 25 years was seen carrying a heavy load of timber. When asked why he was carrying these logs from a distance of about 2 km from the field, he said "why cutting new trees when old and dead ones are available". This shows their attitude towards the use of CPRs.

Safeguarding of totemic plants, animals, sacred groves and fruit bearing trees are viable approach of indigenous method for forest protection and management. It allows periodic regeneration of forest by leaving cultivation gaps between *podu* rotation cycles. Scholars like Fernandes, Menon and Viegas (1988) argued that it is not the *podu* cultivation itself, but its reduced cycle (from about 18-20 years to about 3-4 years) over the last couple of decades which is causing damage to forest regrowth and soil fertility. Therefore, instead of completely banning shifting cultivation, it should be controlled and by increasing the cultivation gap to a period of about 5 to 6 years.

It is important to know that Juang culture is linked to its local ecosystems and, hence, they have sound knowledge and skills for the management of their resources. This can

be used in a more effective way, not only for their own sake, but for the sake of entire forest and the environment as well.

From our study we found that Juang livelihood mostly depends on land. According to Juang 75.8 per cent of common property land resources in the village constitutes of settlement site, grazing ground, grass land, cremation ground, open land, mountain land, and stream and water bodies. From the study we found that the Juang still uphold their traditional beliefs through socio-cultural mechanisms to manage their communal land through *podu* cultivation, etc. During this process they leave the land for three years fallow period to maintain the fertility which shows their better understanding about the communal management of land. By looking at the *podu* land one can differentiate between Juang and non-Juang land. There are no big or fruit bearing trees in Gauda land because they cut these trees, while Juang keep these trees in their land. The use and management of the land are categorized by Juang on the basis of its use and features.

The categorization of lands is the outcome of constant observation and groupings by the Juang into living and non-living objects on the basis of certain recognizable morphological features in their surroundings. Most of the resources which are considered to be the source of livelihood available within the territory, such as village forests, hunting animals, grass lands, grazing land, settlement site, cremation ground, *podu* lands and water bodies, etc., are treated as communal property and are managed as such. The village territory is owned and administered by the village community through its corporate body of traditional leaders and elders constituting the traditional village council called '*barabhaika*'. Inter and intra village land disputes are settled by the village council.

Annexure 4.1: Podu and its Associated Seasonal Rituals and Process of Cultivation

Podu Steps	Process	Ritual	Worship	food/ material	Member	Period	Field Status	Crops/ use/ harvest	Place
Selection and distribution of sites	Selection of new plots for the year	<i>Pus Punai</i> or <i>Magha Poda</i>	Pitruki, Gram siri	Cooked food	Nagam (priest)	<i>Magha</i> (January-February)	Selection and demarcation of patch	Harvesting of Niger and paddy	*
	1st day	<i>Gaon Bandha</i> or <i>Bhuin Bandha</i>	<i>Basukimata</i> and spirits	Turmaric water	Nagam (priest)	<i>Magha</i> (January-February)	Distribution	*	In front of majang
	2nd day	*	*	*	Nagam (priest)	<i>Magha</i> (January-February)	Grass should be knee height, tree trunk should be thick	*	selected podu field
	3rd day: Allocation and distribution	*	*	*	Nagam & Pradhan	*	Marking of trees as the boundary of plots	*	*
	Plot for young men and women	*	*	*	Majang members	*	cultivated for the fund of youth dormitory	used for gift purchasing for neighbours	*
	communal plot (<i>ganaria ekan</i>)	*	*	*	Any member	*	Bigger than other plots	Common fund (<i>Ganbua</i>) use for guests and community expenses	*
Clearing	Debushing and felling trees by axe called <i>laka deilak</i>	<i>Pus Punai</i>	<i>Gramsiri, Basukimata</i>	*	Nagam & Pradhan	<i>Magha</i> (January-February)	While felling trees, fruit bearing and useful plants like mango, jack fruit, mohua, etc., are left unharmed as the demarcation of plot boundary	*	Majang , selected podu field

	Set fire by Nagam to the dried vegetation is called <i>panja poda</i>	*	*	sacred fire from majang	Nagam	<i>Baishaka</i> (April-May)	Spread the ashes scatterly in the field	*	selected podu field
Sowing	seeds are sown by dibbling or broadcasting over the field	<i>Tritia</i>	Laxmi, demon, <i>Gramsiri</i>	Branch of <i>aova</i> tree, paddy seeds in the pot, <i>changu</i> , Chicken, Goat	<i>Majang</i> members(boys), Pradhan, Barabhaika, Nagam	<i>Baishaka</i> (April-May)	Sowing of sacred seed by the end of May in the field	<i>Rasi</i> (niger), biri, koltha	habitation site, selected podu site
	2nd year-central portion occupied paddy and encircling it, seeds of different grains, are sown according to the size of the crops.	<i>Tritia</i>	*	*	Family members	<i>Baishaka</i> (April-May)	Adoption of defence mechanism in the cropping pattern from wild animals	paddy, millet, gingari, kudu, kalar	podu field
Weeding	Taking out variety of grasses, weeds and cutting of the offshoots is done during the growing period of crops	*	*	*	Women and children	August-September	Weeding happens once of twice in a season	*	podu field

Watching over the crops	Fencing, temporary field huts and huts on the tree	*	*	*	Any/All family member	Oct-Nov.	drive away the wild animals by shouting loudly, by throwing stones at them or making fire	*	podu field
Harvesting	1st phase cutting of crops	<i>Nua-Khia</i> (new eating)	<i>Gramsiri, Basukimata</i>	New crops and Sacrifice cock, hen, goat	All family members	September onwards	By the end of September, maize and paddy are ready for harvesting	Maize, paddy,	podu field
	2nd phase	<i>Pus-Punai</i>	*	*	All family members	End of November, end of December and mid-January	*	Biri (kalai pulse), Niger, and mustard	podu field
	Within the <i>podu</i> field, a threshing floor is made on a piece of ground by clearing and plastering it with mud	*	*	*	All family members	*	*	Rasi (niger), biri, koltha	podu field

Annexure 4.2

Type and Parts of Plants Used by Juang

No	Juang name	Odia name	Botanical name	Parts used	Utility
1	Aching	Atundi	<i>Combretum roxburghii</i>	Stem, bark	BK, FU
2	Adkeng	Baidanka	<i>Mucuna pruriens</i>	Seed	ME
3	Ala	Bhuinkhajuri	<i>Phoenix acaulis</i>	Leaf, fruit	ED, BS, Mat making
4	Alang	-	<i>Heteropogon contortus</i>	Whole plant	TH
5	Ale	Amba	<i>Mangifera indica</i>	Fruit, wood	ED, TWC
6	Amburuli	-	<i>Acacia sinuate</i>	Fruit, Flower	ED, Fruits

					used for washing
7	Anasam	Panas	Artocarpus heterophyllus	Fruit, wood	ED, TWC
8	Ankala	Ankula	Alangium salvifolium	Root	ME
9	Anla	Anla	Phyllanthus emblica	Fruit, stem	Ed, ME, MR
10	Annarae	-	Cissampelos pareira	Root	ME
11	Antanak	Asan	Teminalia alata	Wood, leaf	CT, FU, TY
12	Arak	Arakh	Calotropis gigantea	Latex	ME
13	Asadhua	Asadhua	Capparis zeylanica	Fruit	ED
14	Bacharak	-	Reinwardtia indica	Leaf	ME
15	Badamjat	-	Asparagus racemosus	Root, whole plant	ME, MR
16	Balang	-	Trema orientalis	Bark	BK
17	Balibuda	-	Colebrookia oppositifolia	Inflorescence	MR
18	Baliyar	-	Leea macrophylla	Flower	MR
19	Bana Ganjei	-	Anisochilus carnosus	Leaf	ME
20	Bana Kaunriya	-	Abelmoschus	Bark	BK
21	Bandhan	Bandhan	Desmodium oojeinensis	Wood	AGI
22	Banganjei	-	Eusteralis stellata	Root	ME
23	Bangrur	Kusum	Schleichera oleosa	Fruit, seed, wood	ED, OY, ME, TWC, FU, TY
24	Banslisag	Muthisag	Polygonum plebeium	Leaf, whole plant	ED
25	Barada	Barhial	Annona reticulata	Fruit	ED
26	Baranga	-	Kydia calycina	Bark	BK
27	Basan	Pita alu	Dioscorea bulbifera	Tuber	ED
28	Bayam	Bainga	Dioscorea pentaphylla	Tuber	ED
29	Bayar	Barakoli	Ziziphus mauritiana	Fruit	ED
30	Begunia	Begunia	Vitex negundo	Stem, fruit, leaf	HP, ME
31	Bela	Bela	Aegle marmelos	Fruit	ED, MR
32	Benduli	Haragoura	Impatiens balsamina	Flower	MR
33	Bhalia	Bhalia	Semecarpus	Fruit	ME

			anacardium		
34	Bhuin nimb	Bhuin nimbi	Andrographis paniculata	Whole plant	ME
35	Bhurusuni	-	Trachyspermum sp.	Leaf	ED
36	Bisa jodak	-	Duranta repens	Stem	ME
37	Biskapara	-	Sida cordifolia	Root, leaf	ME
38	Chacharak	-	Selaginella species	Plant	ME
39	Chakunda	Chakunda	Cassia tora	Seed	ME
40	Chama	Champa	Michelia champaca	Stem	MI
41	Chaturi madang	-	Bulbophyllum triste	Whole pant	ME
42	Chitamuli	Dhalachita	Plumbago zeylanica	Root	ME
43	Chunkoli	-	Ziziphus funiculosa	Fruit	ED
44	Chutuni	-	Eryngium foetidum	Leaf	ED
45	Dadhang	Phanphana	Oroxylum indicum	Bark	ME
46	Daluachini	-	Scoparia dulcis	Leaf	ME
47	Doba alang	-	Imperata cylindrical	Leaf	MR
48	Dukursag	Thalkudi	Centella asiatica	Leaf	ED
49	Dumuri	Dimiri	Ficus glomerata	Leaf	FO
50	Eman	-	Kalanchoe pinnata	Leaf	ME
51	Gachha jari	-	Cymbidium aloifolium	Leaf	ME
52	Gadiri	-	Colocasia esculenta	Leaf	ED
53	Gagaech	-	Casearia elliptica	Plant	TWC,FU
54	Galtang	-	Leonotis nepetifolia	Flower	ME, ED
55	Garagada	Garagada	Coix lacryma Jobi	Grains	ED
56	Garia	-	Curcuma species	Plant	MR
57	Gordhei	-	Sterulia urens	Bark	RE, BK
58	Guruba	-	Lxora pavetta	Leaf	ME
59	Hala	Baunsa	Dendrocalamus strictus	Stem, leaf	TWC, AGI, Basketry, FO
60	Harida	Harida	Terminalia chebula	Fruit, wood	ME, TWC, FU
61	Jalajang	Mandei alu	Dioscorea belophyla	Tuber	ED
62	Jamu	Jamu	Syzygium cumini	Fruit, wood	ED, CT, FU

63	Jarak Chadheigodi	-	Schefflera venulosa	Leaf	FO
64	Kadam	Kurum	Adina cordifolia	Whole plant	TWC, FU
65	Kakutak	-	Thespesia lampas	Stem, fibre	BK
66	Kalatha jak	-	Atylosia scarabaeoides	Fruit, whole plant	ME
67	Kaleng jalae	-	Curculigo orchioides	Root	ME
68	Kalia jahlai	-	Diospyros sylvatica	Plant	MR
69	kalikendu	Mankada kendu	Diospyros malbarica	Bark	ME
70	Kaluk ajang	Kanta alu	Dioscorea glabra	Tuber	ED
71	Kamaneng	-	Clematis wightiana	Leaf	ME
72	Kandae	-	Ehretia laevis	Bark	ME, Dye
73	Kandaria rasing	Tiloi	Wendlandia	Flower	MR, FU
74	Kansida	-	Polygonum hydropiper	Leaf	ED
75	Kanta marisi	Kantaneutia	Amaranthus spinosus	Leaf, root	ED,ME,MR
76	Kantakoli	Kantakoli	Ziziphus oenoplia	Fruit	ED
77	Kantua	-	Solanum violaceum	Fruit	ED
78	Karal	-	Benkara malabarica	Stem	MI
79	Karanj	Karanj	Pongamia glabra	Seed	OY
80	Karat	Katha Champa	Plumeria rubra	Plant, flower	MR
81	Kasi	Kasi	Bridelia retusa	Wood	TWC, FU
82	Katak	-	Strychnos potatorum	Fruit	ME
83	Katanguru	-	Gardenia latifolia	Gum	ME
84	Kathasindura	Kapilgundi	Mallotus philippensis	Fruit	ME
85	Kesan	Dhaura	Anogeissus latifolia	Wood	TWC, FU
86	Khakada	-	Homalium nepaulense	Stem	TWC
87	Khandakhai	-	Litsea glutinosa	Bark	ME
88	Khijiri	Khajuri	Phoenix sylvestris	Leaf, fruit, sap	ED, BS, Basketry
89	Kiring	Kuluchi	Holarrhena pubescens	Stem, bark, root	TWC, ME
90	Koliari	Kathasiali	Xylia xylocarpa	Wood	TWC
91	Kulutha	-	Grewia tillifolia	Stem	AGI
92	Kundui	Pudei	Ficus	Fruit	ED

			semicordata		
93	Kunduli	Muturi	Smilax zeylanica	Stem	ME, MR
94	Kurar	-	Callicarpa tomentosa	Wood	FU
95	Laenga	-	Celosia argentea	Leaf	ED
96	Laidak	-	Ardisia solanacea	Leaf, flower	Ed, ME
97	Lalaisen	-	Trianthema portulacastrum	Leaf	ED
98	Lalak	-	Grewia disperma	Stem, Bark	ME
99	Landam	Siali	Bauhinia vahlii	Leaf, steam, bark	ED, BK
100	Machakana	-	Emilia sonchifolia	Leaf	ED
101	Madang	Madang	Dendrophthoe falcate	Plant	MR
102	Majurasadhi	-	Elephantopus scaber	Root	ME
103	Maling ajang	Khamba alu	Dioscorea alata	Tuber	ED
104	Marag ijing	-	Euphorbia hirta	Leaf	ME
105	Meremkutam	-	Cyperus rotundus	Tuber	ME
106	Muduranga	Madaranga	Alternanthera sessilis	Leaf, Whole plant	ED
107	Munnun	Mahula	Madhuca indica	Flower, seed	Ed, OY
108	Nima	Nimba	Azadirachta indica	Stem	ME, ED, Tooth brush
109	Palaenga	-	Chenoposium album	Leaf	ED
110	Pandiri	-	Firmiana colorata	Bark	BK
111	Patalagaruda	Patalagaruda	Rauvolfia serpentine	Root	ME
112	Piasal	Piasal	Pterocarpus marsupium	Leaf, wood	FO, TWC, FU
113	Pita kakada	-	Trichosanthes tricuspidata	Root	ME
114	Punnei	Puruni	Boerhavia diffusa	Root	ME, MR
115	Raikal	-	Butea parviflora	Bark	BK
116	Ranikadi	-	Desmodium pulchellum	Stem	ME
117	Rasing jodak	-	Lantana camara	Plant	HP
118	Salak tang tang	Apamarang	Achyranthes	Whole plant, Root	MR, ME
119	Sankam	-	Rungia pectinata	Leaf	ED
120	Saraka	Bajramuli	Sida acuta	Plant, leaf	BS, ME
121	Saranj	-	Vernonia anthelmintica	Fruit	ME
122	Sargiya	Sal	Shorea robusta	Fruit, leaf, wood	ED, OY, ME, CT, TY, FU

123	Satyamba	Satyamba	<i>Garcinia xanthochymus</i>	Fruit	ED
124	Sidam	Sidha	<i>Lagerostroemia parviflora</i>	Wood	TWC, FU
125	Sigen	Putuli	<i>Croton roxburghii</i>	Bark, wood	ME, FU
126	Silim	Gileri	<i>Indigofera cassioides</i>	Flower	Ed, ME
127	Simili	Simuli	<i>Bombax ceiba</i>	Fruit, fibre	Make fire
128	Sindhkoi	-	<i>Rubus ellipticus</i>	Fruit	ED
129	Siris	Siris	<i>Albizia lebbeck</i>	Wood	TWC, FU
130	Suidak ajang	Sainga	<i>Dioscorea puber</i>	Tuber	ED
131	Suinlaha	-	<i>Ichnocarpus frutescens</i>	Stem	BK
132	Sujuna	Sajana	<i>Moringa oleifera</i>	Leaf, flower, fruit	ED
133	Sunsunia	Ambiliti	<i>Oxalis corniculata</i>	Leaf	ED
134	Sunsunio	Sunsunia	<i>Marsilia minuta</i>	Leaf	ED
135	Syankar lah	-	<i>Curcuma reclinata</i>	Plant	MR
136	Tangar siju	-	<i>Sarcostemma acidum</i>	Stem	ME
137	Tarap	Chara	<i>Buchanania lanzan</i>	Fruit, seed	ED
138	Tartari	-	<i>Justicia gendarussa</i>	Leaf	ME
139	Tate	-	<i>Themda arundinacea</i>	-	TH
140	Tentu	Bahada	<i>Terminalia bellirica</i>	Fruit, gum	GM, ME, FU
141	Teren	Kendu	<i>Diospyros melanoxylon</i>	Leaf, fruit, stem	ED, MI
142	Thekei	-	<i>Glochidion lanceollarium</i>	Bark	ME
143	Thikar lah	Gobaranai	<i>Hemidesmus indicus</i>	Root, Stem	ME, BK
144	Timang	Tunga	<i>Dioscorea wallichii</i>	Tuber	ED
145	Tintuni	Tentuli	<i>Tamarindus indica</i>	Fruit, stem	ED, FU, MI
146	Topak Jodak	-	<i>Toddalia asiatica</i>	Stem	ME
147	Tumboi	Kumbi	<i>Careya arborea</i>	Bark	BK, ME
148	Urchen	Koliari	<i>Bauhinia purpurea</i>	Leaf, flower	ED
149	Utikulikak	Gangasiuli	<i>Nyctanthes arbortristis</i>	Flower, leaf	MR, ME
150	Utui	Jeut	<i>Artocarpus lacucha</i>	Fruit, wood	ED, TWC

Note: While collecting data help was taken from local medicine practitioner Mr. Gurucharana Parida and Botany Teacher of Gonasika High School; Mr. Sam Sundhar Dhal, and referred Forest tribes of Orissa-vol-3, (Pattnaik: 2003)

ME for Medicinal purpose; ED for edible; OY for oil yielding; GM for gum; RE for resin; TWC for timber, wood, construction; FU for fuel; BK for bark and fiber; FO for fodder, AGI for agricultural implement, DC for decoration; MR for magico-religious; DR for drinking; TH for thatching; BS for broom stick; TY for tasar yielding; MI for musical instrument.

Annexure 4.3:

Status of Plant Species Found in the Study *Pirah* Villages

Sl No	Plant species	Tree/ Shrub/ Herb/ Creeper	Parts used	Used for (Food, Fuel, Medicine, House making, Rituals or any other Purpose)	Usage trend (Increasing/ decreasing)
1	Achinki	Creeper	Flower	Rituals	Decreasing
2	Agnajala	Creeper	Leaf, Root	Medicine	Decreasing
3	Amla	Tree	Fruit	Food, Medicine	Decreasing
4	Amuta	Tree	Wood	Fuel, House making	Decreasing
5	Asana	Tree	Wood, leaf, Skin	Fuel, House making, medicine	Decreasing
6	Asanga	Shrub	Leaf	Food	Decreasing
7	Ashoka	Tree	Wood, Flower	House making Medicine	Decreasing
8	Badi Champa	Creeper	Flower, Root	Medicine, Rituals	Decreasing
9	Bahada	Tree	Fruit	Food, Medicine	Decreasing
10	Bandhana	Tree	Wood, Skin	Fuel, House making, medicine	Decreasing
11	Bandhira	Creeper	Leaf, Root	Medicine	Decreasing
12	Banian	Tree	Wood, leaf	Rituals	Decreasing
13	Basanga	Creeper	Root	Medicine	Decreasing
14	Basanga	Tree	Flower	Rituals	Decreasing
15	Bela	Tree	Fruit, leaf	Food, Medicine	Decreasing
16	Bhuin Kakharu	Creeper	Fruit, Leaf	Food	Decreasing
17	Boikiring	Shrub	Leaf	Food	Decreasing
18	Boinga	Creeper	Root	Food	Decreasing
19	Champa	Tree	Flower	Rituals	Decreasing
20	Char	Tree	Wood, Fruit, seed	Fuel, Oil, House making	Decreasing
21	Chintamani	Creeper	Leaf, Root	Medicine	Decreasing
22	Chuchuna	Tree	Wood	Fuel, House making	Decreasing
23	Dhala	Tree	Wood	House making, Fuel	Decreasing

24	Dimiri	Tree	Wood, Fruit	Fuel, Food	Decreasing
25	Futi Kakudi	Creeper	Fruit	Food	Decreasing
26	Gadari	Shrub	Leaf	Food	Decreasing
27	Gambhari	Tree	Wood	Fuel, House making	Decreasing
28	Ganda baira	Tree	Fruit	Food	Decreasing
29	Gendu	Herb	Flower, Leaf	Medicine, Rituals	Decreasing
30	Gilari	Shrub	Leaf	Food	Decreasing
31	Guava	Tree	Wood, Fruit	Fuel, Food	Decreasing
32	Jack Fruit	Tree	Wood, fruit, seed, Leaf	Food, Fuel, Rituals	Decreasing
33	Jada	Tree	Seed, Leaf	Oil, Medicine	Decreasing
34	Jamun	Tree	Wood, fruit	Food, Fuel	Decreasing
35	Jatingi	Creeper	Flower	Rituals	Decreasing
36	Kakudi	Creeper	Fruit	Food	Decreasing
37	Kanchana	Tree	Flower, Leaf	Food, Rituals	Decreasing
38	Kanchana	Shrub	Leaf	Food	Decreasing
39	Kaniyara	Tree	Flower	Rituals	Decreasing
40	Kankoli	Shrub	Leaf	Food	Decreasing
41	Kanta alu	Creeper	Root	Food	Decreasing
42	Kendu	Tree	Wood, fruit	Food, Fuel	Decreasing
43	Kendu	Tree	Wood, Fruit	Food, House making	Decreasing
44	Khujuri	Tree	Fruit, Leaf	Food, mat making	Decreasing
45	Krushnachuda	Tree	Flower	Medicine	Decreasing
46	Kuduchi	Tree	Wood	Fuel, House making	Decreasing
47	Kuliary	Shrub	Leaf, seed	Food	Decreasing
48	Kusuma	Tree	Wood, fruit, Flower, seed	Food, Fuel, oil, Rituals	Decreasing
49	Mahua	Tree	Wood, Flower, seed	Food, Fuel, Liquor, Rituals	Decreasing
50	Majura suli	Creeper	Leaf	Medicine	Decreasing
51	Malanga	Creeper	Root	Food	Decreasing
52	Malli	Herb	Flower	Rituals	Decreasing
53	Mandaie alu	Creeper	Root	Food	Decreasing
54	Mandara	Herb	Flower, Leaf	Medicine, Rituals	Decreasing
55	Mango	Tree	Wood, leaf, fruit, seed	Food, Fuel, Rituals	Decreasing
56	Mankada Kendu	Tree	Wood, Fruit	Food, House making	Decreasing
57	Mushakani	Creeper	Root	Medicine	Decreasing
58	Palanga	Shrub	Leaf	Food	Decreasing
59	Pani alu	Creeper	Root	Food	Decreasing
60	Patala garuda	Creeper	Leaf, Root	Medicine	Decreasing
61	Piasala	Tree	Wood	Fuel, House making	Decreasing
62	Pipal	Tree	Wood, leaf	Rituals	Decreasing
63	Pitali	Tree	Wood	House making, Fuel	Decreasing
64	Pitalu	Creeper	Root	Food	Decreasing
65	Pudaie	Tree	Fruit, Skin	Food, Medicine	Decreasing
66	Rai	Tree	Wood	Fuel, House making	Decreasing

67	Remeni	Tree	Wood	House making, Fuel	Decreasing
68	Sainga	Creeper	Root	Food	Decreasing
69	Sajana	Tree	Wood, Leaf, Fruit	Fuel, food	Decreasing
70	Sal	Tree	Wood, leaf, fruit, seed	Fuel, oil, House making, Rituals	Decreasing
71	Salapa	Tree	Wood, Juice	Food, House making, Rituals	Decreasing
72	Satabari	Creeper	Root	Medicine	Decreasing
73	Siali	Creeper		Rope making	Decreasing
74	Simili	Tree	Wood, Dry fruit	Fuel, Cotton	Decreasing
75	Sirisha	Tree	Wood	House making, Fuel	Decreasing
76	Sishu	Tree	Wood,	Fuel, House making	Decreasing
77	Sudur	Shrub	Leaf	Food	Decreasing
78	Sunari	Tree	Wood	Fuel, House making	Decreasing
79	Tala koli	Creeper	Fruit	Food	Decreasing
80	Tamarind	Tree	Wood, fruit, seed	Food, Fuel	Decreasing
81	Tarata	Tree	Flower	Rituals	Decreasing
82	Tulasi	Creeper	Leaf	Medicine, Rituals	Decreasing
83	Tunga	Creeper	Root	Food	Decreasing

Note: While collecting data help was taken from local medicine practitioner Mr. Gurucharana Parida and Botany Teacher of Gonasika High School; Mr. Sam Sundhar Dhal, and referred Forest tribes of Orissa-vol-3(Pattnaik; 2003)

Annexure 4.4

Seasonal Calendar of NTFPs Available in the Study *Pirah* Villages

NTFP	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
Bamboo Shoots							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Charaita	<input type="checkbox"/>	<input type="checkbox"/>									<input type="checkbox"/>	<input type="checkbox"/>
Jhadu Grass	<input type="checkbox"/>	<input type="checkbox"/>								<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Gum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>								
Jhuna Gum			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
Kendu Leaf				<input type="checkbox"/>	<input type="checkbox"/>							
Khajuri leaf	<input type="checkbox"/>									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Khajuri seed									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Kusuma seed							<input type="checkbox"/>	<input type="checkbox"/>				
Mahua Flower			<input type="checkbox"/>	<input type="checkbox"/>								
Mahua seed				<input type="checkbox"/>	<input type="checkbox"/>							
Mango fruit				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Mango Kernel				<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Masia Kanda	<input type="checkbox"/>	<input type="checkbox"/>								<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mushroom							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Pitalu							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sabai Grass	<input type="checkbox"/>									<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sal leaf	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sal seed						<input type="checkbox"/>	<input type="checkbox"/>					
Sal Twig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Siali Fibre			<input type="checkbox"/>	<input type="checkbox"/>								

Siali Leaf	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jack Fruit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Karanja seed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kendu fruit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kendu leaf	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lac	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Char seed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tamarind fruit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Annexure 4.5

Fuel Wood Consumption in Quintal (approximately measured by Juang)

HH no	Name of the family head	Family members	Average fuel wood consumption	
			Monthly	Annually
1	Sana Kalia Juang	8	6	72
2	Santia Juang	5	5	60
3	Jadava Juang	7	4.5	54
4	Monohar Juang	7	5	60
5	Tuni Bewa	9	7	84
6	Ananda Juang	6	3.5	42
7	Natha Juang	4	1	12
8	Chandru Juang	8	5	60
9	Gobinda Juang	3	2	24
10	Subarna Juang	4	4	48
11	Srabania Juang	5	3.5	42
12	Gala Juang	5	7	84
13	Keshab Juang	6	5	60
14	Sanatana Juang	9	5	60
15	Maluku Juang	3	3	36
16	Jagabandhu Juang	2	3	36
17	Nabaghana Juang	2	4	48
18	Jema Bewa	4	2	24
19	Suresh Juang	4	3	36
20	Chaitana Juang	1	2	24
21	Kusha Juang	7	8	96
22	Suagi Bewa	8	5	60
23	Banamali Juang	6	3	36
24	Raju Juang	9	5	60
25	Chemutu Juang	9	5	60
26	Sukadev Juang	6	4	48
27	Gopi Juang	9	7	84
28	Raisu Bewa	9	5	60
29	Shulia Juang	7	6	72
30	Gurumgdai Bewa	5	3.5	42
31	Jayanta Juang	4	3	36

32	Radhika Bewa	5	3.5	42
33	Nidhia Juang	4	3	36
34	Bhagabata Juang	3	2	24
35	Fakira Juang	5	2	24
36	Champa Bewa	7	4.5	54
37	Mantri Juang	6	4	48
38	Banshi Juang	3	2	24
39	Dibakar Parida	4	3	36
40	Jayadev Parida	5	3	36
41	Kulamani Parida	4	3	36
42	Danae Parida	5	2	24
43	Samsundar Parida	6	3	36
44	Gurucharana Parida	3	2	24
45	Padmacharana Parida	4	3	36
46	Baikuntha Juang	2	2	24
47	Kandara Juang	1	1	12
48	Saila Ghana	4	4	48
49	Lembu Parida	6	5	60
50	Urgasen Parida	2	2	24

Annexure 4.6

List of Crops Cultivated by Juang

Local Name	English	Botanical Name
<i>Bua</i>	Paddy	<i>Oryza sativa</i>
<i>Rasi</i>	Niger oil seeds	<i>Guizotia abssinica</i>
<i>Biri</i>	Kalai pulse	<i>Phaseolus mungo</i>
<i>Kudu (Mandia)</i>	Millet	<i>Eleusine coracane</i>
<i>Sorish</i>	Mustard	<i>B.Juncea</i>
<i>Arhar</i>	Pulse	<i>Cajanus indicus</i>
<i>Makka</i>	Maize	<i>Zea mayas</i>
<i>Jalli</i>	Millet	<i>Panicum miliaceum</i>
<i>Kangu</i>	Millet	<i>Eleusine coracana-L</i>
<i>Kalar</i>	Pulse	<i>Vigna unguiculata</i>
<i>Ruma</i>	Millet	-
<i>Katla</i>	Pulse	<i>Vigna umbellate</i>
<i>Suturi</i>	Pulse	<i>Vigna umbellate</i>
<i>Sulur</i>	Pulse	<i>Vigna mungo</i>
<i>Koltha</i>	Pulse	<i>Sesamum indicum</i>
<i>Gahama</i>	Wheat	<i>Triticum</i>
<i>Bajra</i>	Millet	<i>Pennisetum americanum</i>
<i>Gingari</i>	Pulse	<i>Sorghum sp.</i>
<i>Adda</i>	zinger	<i>Zingiberaceae</i>

Annexure 4.7

Plant Species Used for Fuel Wood in Juang Pirah

Sl. no.	Odia name	Juang name	Botanical name
1	Sal	<i>Sargiya</i>	<i>Shorea robusta</i>
2	Asan	<i>Antanak</i>	<i>Terminalia alata</i>
3	Dhaura	<i>Kesen</i>	<i>Anogeissus latifolia</i>
4	Jamu	<i>Jamu</i>	<i>Syzygium cumini</i>
5	Sidha	<i>Sidam</i>	<i>Lagerostroemia perviflora</i>
6	-	<i>Kurar</i>	<i>Callicarpa arborea</i>
7	-	<i>Karang</i>	<i>Macaranga peltata</i>
8	Amba	<i>Ale</i>	<i>Mangifera indica</i>
9	Kuluchi	<i>Kiring</i>	<i>Holarrhena antidysenterica</i>
10	Atundi	<i>Achinglata</i>	<i>Combretum roxburghii</i>
11	Kusum	<i>Bangrur</i>	<i>Scheichera oleosa</i>
12	Harida	<i>Harida</i>	<i>Terminalia chebula</i>
13	Bahada	<i>Tuntu</i>	<i>Terminalia bellirica</i>
14	Pijuli	<i>Gadam</i>	<i>Psidium guajava</i>
15	Putuli	<i>Sigen</i>	<i>Croton roxburghii</i>
16	Khakada	<i>Gagaech</i>	<i>Casearia elliptica</i>

CHAPTER-V

STATUS AND MANAGEMENT OF CPRs IN THE STUDY VILLAGE

This chapter deals with the CPR management in the study village with the associated cultural norms, rules, regulations and institutions revolving around these resources to regulate its functioning. This chapter also focuses on intra and inter community disputes related to CPRs and their resolution. Development programmes are introduced by the State through different interventions. Our focus, therefore, is to analyse the Juang traditional management systems, institutions and cultural values relating to CPRs.

I

If we analyse the process of outside interventions that impacted the Juang of the study area, it started with the colonial rule. Prior to it, they had control over the land, forest, water and other resources within their territory. They had a governance system of their own, a kind of autonomous society. Colonial administration brought the Juang under their rule. They introduced the concept of private property, market economy, commerce and other political process that ran contrary to the ethos of the tribal communities, in our case the Juang of the study village. This had a devastating effect on the tribal life. As a result, they lost control over land, forest and other resources, including their own labour. It paved the way for the outsiders and moneylenders to usurp their resources and exploit them. Also, the State introduced industrial and plantation activities in tribal areas due to the availability of cheap labour and resources. This process of development did not benefit the tribal communities and the Juang is no exception (Saxena, 1997).

In post-colonial period, constitutional safeguards were introduced for the protection and welfare of the tribal people; most of them are through development measures like tribal sub-plans, community development programmes, intensive agricultural development programme, implementation of PESA Act, Forest Rights Act, etc. Huge amounts of money have been spent to improve the quality of life of the tribal communities. However, these programmes did not benefit majority of the tribal communities. There is a feeling of deprivation among the tribal communities leading to unrest and feeling of exclusion. This exclusion created a contradiction between the tribal development and National development. The latter is taking

place at the cost of the former and tribals have almost lost their natural resources at the cost of development.

We can commence with the neo-Malthusian debate on the “tragedy of the commons”. The basic argument is that as each user of the commonly owned resources strives to maximize their individual share, which results into inevitable resource degradation. This is based upon the reductionist premise that human beings are by nature incapable of putting collective interests before private ones (Hardin, 1968; Runge, 1986). In other words, the tribal traditional users of natural resources can hardly be expected to conserve and manage these resources and, hence, the privilege of forest management must go to the individual owners and/or the State. Obviously, the analysis ignores the prevalence of complex formal and informal systems of sustainable use and self-management of these natural resources among the tribal and indigenous peoples. It stands in contrast to the documented evidence from different parts of the world (e.g. Bromley and Cernea, 1984; Repetto and Holmes, 1984; Ostrom, 1988).

In the context of common property a generalized rights of access controls the resource. There are definite terms and conditions of access to the members of the group and restricted rights of harvest, decided by the community, in the communal property system of the hunting gathering societies (Roy Burman, 1987). The CPRs in their territories are restricted for the community members, who can access this collectively for their present and future use. The methods of management and harvest of resources by the members are rooted in historical experiences, oral traditions, observations, customary rules, rituals and practices. The social arrangements block the overuse of resources and constrain the growth of individualism. But this social arrangement is breaking down among the indigenous communities due to outsider’s intervention in their resource management system which varies from region to region and society to society (Patnaik, 2003).

There is hardly any difference between Juang thinking and their practical management and access of natural resources. Unlike the modern system of management which reduces the environment to conceptually separate components in an historical and hierarchical way where the managers are separated from the harvesters. The Juang system of management is non-compartmentalized, integrated and holistic with limited scope for overuse (Patnaik, 2003). It’s evident to note here that traditional systems of controlling CPRs are more or less intact,

as resource sustainability is not an issue and the notion of “tragedy of commons” is inapplicable. In the present situation, it is observed that, the communal management institutions are deliberately damaged, and a clear trend for privatization of collective property for individual benefit is emerging, as we have seen in the previous chapter. But the situation was different earlier when Juang were forest dwellers.

Since the past, their socio-cultural life centred on and around the forest. As such, their life and culture is so symbiotically linked with the forest that they cannot think of their survival without forest, as it provides all their needs. They worship number of deities residing in the hills, forests, fields and streams, namely *Thanapati*, *Boitaranipat*, *Gutipat*, *Rangapat*, *Kalapat*, etc. In all major rituals they pay homage to these deities to seek their blessings and protection. Their strong emotional attachment with the forest makes them quite possessive about it that they always treat it as their own community property.

They regard forest as a permanent gift of the mother earth (whom they regard as one of their supreme deity called *Basukimata*, i.e., the earth goddess), which they have inherited from their forefathers. However, they understand quite well that the forest resources are limited and they shall be the worst sufferer if forests are destroyed by outsiders. Therefore, they have developed their own cultural norms for the management and protection of their forest resources.

There is no restriction for the Juang to use the forest resources anywhere within the study village Kadalibadi, as was noticed in the previous chapter. They respect the territorial autonomy of neighbouring villages and fulfil their requirements from the forests lying within their respective village territories. Only they collect as much forest produces as required for their own consumption but not for sale or profit. Now a day, they are selling the forest products for their livelihood due to the introduction of market economy. Earlier over exploitation of forest resources by any person with selfish motives or for commercial interests is condemned as an antisocial act and, therefore, punishable to the extent of social excommunication and isolation by the *barabhaika* (village council).

Activities like climbing and cutting the trees, catching birds and animals, collecting honey are tabooed for Juang women. Felling fruit bearing trees and certain useful plants, like mango, jackfruit, kendu, mahua, jamu, khajuri, etc., are tabooed for all. The tree and animal species

which are ritually connected to them either as totemic object for different clans or otherwise, are also left untouched. Even they leave these forbidden trees untouched while felling in *podu* sites. They believe that causing any harm to these forbidden tree species offends the deities and ancestral spirits resulting in disaster and human suffering. The fear towards supernatural power allows them to keep the environment safe from degradation.

No one is allowed to eat the seasonal fruits collected from the forest before offering the same to the deities and ancestral spirits. Similarly, in *asadiparaba*, they offer *bangrur* (*kusuma*) fruits to the deities before eating the same. Anyone who violates these taboos is severely penalized by the village council and appropriate purificatory rituals are held to calm down the deities who become angry by such offences. They observe a number of communal rituals and festivals round the year, like *ambanua* (February-March), *asadi* (June-July), *manchuripuja* (July-August), *kimiyang* and *kalart-Aba* (September-October), *gundadia* (October-November), for this purpose. In the *ambanua* (new mango eating) festival they offer green mangoes to the deities and ancestral spirits and there after they eat the new fruit. During the initial period of fieldwork it was noticed that the *ambanua* festival was delayed by one month. It was to be celebrated in the month of April. Through discussion it was revealed that Forest Department took over all the *hatikana podu* land (20.56 hectare) for plantation in 2005. The Forest Department did not seek the permission of *barabhaika*. Rather they started putting pressure on the people to vacate the land for commercial plantation. As the *podu* land is community property of the Juang, they did not want to give it to the Forest Department. Due to a strong resistance from the Juang it was difficult for the Forest Department to pursue their interest. The Forest Department continued their efforts to convince the Juang to give up their land for commercial plantation. As a strategy the Forest Department bribed Narahari Juang and Raghu Juang (leading members of forest committee created by Forest Department) to give their two hectare *podu* land for commercial forestry.

They were given Rs.1,500 each to motivate the community to accept the Forest Department's proposal. The Forest Department began commercial forestry on Narahari and Raghu Juan's land. The *barabhaika* and community members learnt about Narahari and Raghu's deeds and were disappointed. After many rounds of discussions and warning, the *barabhaika* and the other community members decided not to celebrate the *ambanua* festival in the *podu* patch and within the territory, as a sign of protest against Narahari and Raghu and the Forest Department. On this matter Raghu's mother (Raisu Juang) expressed that "he has sold his

mother to the Forest Department for some money”. During this process *ambanua* festival got delayed. The Juang felt that their own members have betrayed them by giving their podu patch for commercial forestry. The loss of land is also a loss of ancestral property. In the council meeting it was decided that Raghu and Narahari should return that amount and demand that the Forest Department should return their podu land. The decision of the council was not followed and the issue remained unsolved. Later the village council decided that, the whole community should not suffer because of the betrayal of two Juang. The members felt that the mangoes for the season would remain untapped. The council decided to celebrate the *ambanua* festival in April. So that the mangoes may be consumed, otherwise the Gauda are always ready to tap the fruits.

According to the elderly people of the village, during their childhood there were vast areas of forest crowded with wild animals in their village. They had full freedom on forest and regular hunting was a part of their subsistence. Gradually, the forests are depleted and the wild animals declined considerably. Now-a-day, hunting is prohibited, and it has become a part of leisurely activity, pursued very occasionally. With this their past skill in hunting has also diminished.

They use bow and arrow to hunt animals like deer (*mirig*), sambar (*seram*), wild goat (*kutura*), wild pig, hare (*alang*), bison (*sayner*), rabbit, etc., which were found in that region. They also use traps, pellet bows and bolt arrows and a kind of arrow with a pointed iron head to catch birds. Hunting was mostly a communal affair among them. Ceremonial hunting starts during summer, i.e., from *ambanua* festival held during March and then the communal hunting expeditions continue for a month or two. The last day of the *ambanua* festival marks the beginning of communal hunting. Elaborate rituals are performed before, during and after hunting. Norms and customs associated with hunting reveals their communal life.

The Juang males who are interested in hunting, deposit their bow and arrows in the *majang* in the night before the day fixed for hunting. That night they have to observe self-restraint and sexual abstinence. Next morning, the village priest, *nagam*, worships the village deity for granting a successful hunt. There after the members of the hunting party collect the weapons and go out on hunting expedition. The husbands of menstruating women cannot take part in this expedition. The members of the party even avoid touching or seeing a menstruating women which is considered to be a very bad omen.

Killing a sambar is regarded to be auspicious. The blood of the dead animal is offered to the forest deities and ancestral spirits at first in the forest immediately after the killing. Then the successful hunters return to their village shouting and whistling while carrying the kill. The villagers welcome them at the outskirts of the village beating *changu*. Women receive them singing songs and by washing their feet with turmeric water.

The customary procedure for distribution of the meat of the animal is very important after hunting. The head, tail and ears are kept separately to be offered to the deities the next day. The hunter who actually shot or killed the animal gets a lion's share. At first he gets two shares. His first share containing a part of the shoulder and hind quarters of the animal is called hunter's share. His second share consist some meat from the breast portion which he presents to his maternal uncle. The remaining portion of the animal is divided into two parts. One part is equally distributed among the members of the hunting party and the other part is equally shared among all families of the village. Thus, the hunter gets four shares.

Out of his lion's share, the hunter distributes a part among his lineage members and other families of the village. Then the hunter visits his maternal uncle to present his second share containing the breast portion. His uncle receives him and distributes the meat among his fellow villagers. In return of this, each family of his uncle's village present him with one or two *pai* of paddy. His uncle presents him an arrow and blesses him to become a more successful hunter.

The next day the head, tail and ear portions of the animal cooked with rice contributed by the hunter and his colleagues are offered to the village deity (*Gramasiri*) and other deities. The village priest (*nagam*) conducts the ritual after which all the villagers enjoy the feast, except those whose wives are undergoing menstrual period. This demonstrates the Juang ethics that all good things should be communally shared among one and all.

II

Territorial management

An interview with Sana Kalia Juang, 72 years male, narrated that, 55 years before a trespassing dispute occurred between the study village Kadalibadi and its neighbouring

village Upara Baitarani, when some villagers of Upara Baitarani cleared the hill slopes of *champajhara* hill patch lying within the jurisdiction of the study village. The villagers of Kadalibadi physically restricted the trespassers and lodged complaint with their *Pirah Sardar*. The *Sardar* held a joint meeting of both the villagers and held the trespassers guilty. The offenders were made to pay a penalty in the form of a feast with liquor to the *Sardar* and the villagers of Kadalibadi and were asked to vacate the disputed site immediately.

Such inter-village boundary disputes are very rare because, Juang are peace loving and friendly people and they maintain good relationship with the neighbouring villages. When enough *podu* sites are not available in one village, the villagers approach the leaders and elderly persons of the neighbouring villages seeking their permission to cultivate some *podu* plots available in their village areas. The traditional village council (*barabhaika*) sits in the ‘*majang*’ to discuss the issue and formally grants or refuses permission to their neighbours depending upon the availability of surplus *podu* sites. When such permission is granted, it is usually given for one term, i.e., one cycle of *podu* cultivation covering two consecutive years after the expiry of which the neighbours have to abandon the site.

This kind of temporary lease of *podu* sites are not granted free of cost. The lessee are liable to pay a customary fee in kind, food grains, at the time of harvest. In a *podu* cultivation cycle, Niger (*ramtila*) is cultivated in the first year and paddy (*bua*) is cultivated in the second year. Hence, each lessee pays two *pies* (approximately 2 kilogram) from each patch of Niger and five *pies* (5 kg approximately) from each patch of paddy during the harvest in the first and second years, respectively. This kind of customary payment is called ‘*paiekia*’ and it is deposited in the village common fund (*ganbua*) which owns these *podu* sites. This system is called ‘*paiechala*’.

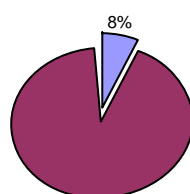
Unlike shifting cultivation, the territorial limitations are relaxed for the purposes of hunting, collection of minor forest produces and grazing domestic animals. They can hunt, collect forest produce and graze their cattle anywhere within the Juang *Pirah*. They can enter into the territory of other villages where these facilities are available, provided they do not damage the plant and animal species or encroach upon similar rights of the members of the concerned villages in any way. Juang respect the territorial rights of their neighbouring villages and do not move beyond their own village limits for the above mentioned purposes.

The village territory is owned and administered by traditional village council '*barabhaika*'. The outsiders, i.e., the families belonging to non-Juang communities, such as Gauda, who come to settle down or use the land in the study village, are accommodated after they are permitted by the village council. At present 10 Gauda families are residing along with Juang. According to the customary principle, an immigrant family may be allotted a homestead land and be allowed to graze their cattle, hunt and collect minor forest produces inside the village territory, but it cannot be allotted cultivable lands, especially for the purpose of practicing shifting cultivation.

In course of time the Gauda found it easy to infiltrate into the study village in search of grazing land and forest resources. To get this they tried to earn the goodwill, friendship and confidence of the Juang by establishing friendship, participating in Juang kinship rituals, moneylending and providing goods and services to the Juang. The Juang reciprocated by relaxing the customary rules and granted them temporary lease to cultivate lands. Gradually, Juang became indebted to these moneylenders and could not repay their debt, which resulted in the loss of their land.

Gauda households encroached 8 per cent of cultivable waste land in the *kendupada* patch of the study village (Chart 5.1), which actually belongs to the Juang community.

Chart 5.1: Cultivable Waste Land Encroached by Gauda



During survey and settlement operations, Gauda families managed to record 1.82 hectares of land out of 23.66 hectares of cultivable waste land in their favour, which was Juang community property earlier. The encroachment by Gauda goes back to two generations, as mentioned by the Juang elders.

Suka Parida, when he was of 65 years (father of Vulu Parida) came from Tangarapda village (neighbouring village) to Kadalibadi. He approached the village council *barabhaika* with great respect seeking their permission to stay in the village on the ground that enough grazing

grounds, cultivable lands and homestead lands were not available in his native village due to the growth of his own caste. He received a piece of land to tie his cattle and build a small hut. As his request was granted by the village council subjected to certain conditions that: 1. he should promise to maintain loyalty to the village council and live as a temporary tenant in the village, and 2. he should serve the village community by providing certain customary goods and services called '*pancha*' regularly, that includes:

1. Supply of milk and milk products, like ghee, butter and curd, to be offered to the village deity at the time of communal rituals held in the village, free of cost.
2. Supply of water and milk products and rendering any other services to the visiting officials and dignitaries as and when required.
3. Supply of a buffalo-calf for sacrifice to the village deities during '*nuakhai*' (new rice eating) ceremony held annually in the village.

The village council allotted a small plot to Suka Parida next to the village settlement at *bagudupada*. Suka had two sons and the youngest son, Joko Parida shifted from Tangarapada to stay with his father at Kadalibadi, while his eldest son, Vulu Parida, stayed back at Tangarapada to manage his father's properties there. After some time Suka and his youngest son Joko cleared another plot in *bagudupada* patch with the request to tie their cattle. After Suka died, Joko went on occupying 3 plots one after another while he sends his sons to Tangarapada to manage his shares of paternal property there. On the other hand Vulu, his elder brother, who stayed there in Tangarapada, sends his son Dibakara Parida to Kadalibadi to keep cattle and cultivate the lands occupied by his father and brother. During the survey and settlement operation, they have recorded those lands in their favour by giving bribe to the *tahasildar* and other officials. Apart from making illegal encroachment of communal lands, they also started occupying cultivable lands of the Juang families. Now they have become so influential and powerful that the Juang are afraid to challenge them.

III

Land is also taken for plantation by forest department in the study village. In the name of *podu* prevention programme, Forest Department took over 89.2428 hectares (28 per cent) of *podu* land in the patch of *khandiapidha*, *hatikana*, *chhatamba*, and *doboladiha* for plantation purpose (Table 5.1).

Table 5.1: *Podu* Land Taken Over by Forest Department in 2005 for plantation (hect.)

<i>Podu</i> patch	Actual Land	Land taken over	%
<i>Khandiapidha</i>	218.3	10.2104	4.7
<i>Doboladiha</i>	13.92	13.088	94
	14.37	2.3108	16
	17.36	2.8774	16.6
	15.36	12.0562	78.5
<i>Hatikana</i>	15.75	15.75	100
	4.81	4.81	100
<i>Chhataamba</i>	15.68	15.68	100
	13.76	12.46	90.5

In other instances it was observed that *podu* lands are converted into horticulture land by the Government. According to the government record, in 1985-86 Juang were allowed to claim some *podu* land of *doboladiha* and *kendupada* hill patch in their name (for those having *patta* – record of settlement) as they have been cultivating those lands since generations. It is demarcated as uncultivable waste land by the Government, as *podu* is not a legalized source of livelihood. Government does not recognize *podu* as communal land. So Government converted those communal lands into private orchard land as a preventive measure so that Juang may not look for new *podu* land. This was used as a strategy of *podu* prevention programme to promote horticulture in *Juang Pirah* area.

Conversion of *podu* patch (*guda* land) into private land in *dhoboladiha* hill patch helped some families but not the community as a whole who have been doing *podu*. Out of 13.9200 hectares, 6.4748 hectares of *podu* land were given to 12 Juang families. In the same process 5.0587 hectares of *podu* land were given to the 9 Juang families from *Kendupada* hill patch which is 13.4400 hectare. About 7 percent of *podu* land (*guda*) was converted to private land in the process of survey and settlement leading to decline in CPR.

The families are happy that they have got some land to cultivate. In the name of horticulture the Juang are continuing their *podu* cultivation, as they know that horticulture cannot give them two meals a day which they can get from *podu*. On the other side, revenue department people felt proud that they have fulfilled the demands of Juang. But in a larger context Juang demand is still pending, which is to get the ownership over ancestral *podu* land.

Similarly, the status of grazing land has declined as it was diverted to different purposes. Before 1958, it was 5.7544 hectare, but gradually it was converted to other programmes. During 1958, in the process of survey and settlement, 3.6662 hectare reserved and converted into village forest (35.62 per cent), school playground (6.6 per cent) and hamlet expansion (21.48 per cent). Rest is demarcated as the *gochar* (Table 5.2).

Table 5.2: Conversion of Grazing Land

Land status	Present Land (hect.)
<i>Gramya Jangal</i>	1.7
Reserved for school play ground	0.38
<i>Gramya Jangal</i>	0.35
Reserved for hamlet expansion	0.439
Reserved for hamlet expansion	0.7
Present <i>gochar</i> land	2.0882

This grazing land conversion is again the loss of community land. Due to the reservation, conversion and loss of vegetation in *landapahada* hill patch (demarcated by Revenue Department), Juang are now-a-day taking their cattle to *dhobladiha* (see Plate 3.6) for grazing. It was revealed that Forest Department forced them to take their cattle to the *landapahada* village forest for grazing, which they did not want. As Juang found the land has lost its vegetation and all the conflicts related to it, Juang did not want to entangle. They did not have any option to select their grazing land, rather than to take their cattle to *dhobladiha*. Along with this, the system of cattle grazing known as *padia* does not function regularly. All these conflicts revolving around *guda* land and grazing land is leading to a chaos in the Juang community.

IV

Role of Institutions in CPR Management

Common property resources are always managed by institutions which are run by the community in a decentralized manner. This section deals with the structure and function of traditional and modern institutions in CPRs management in the study village. The study analysed the importance of village level institutions like kinship organization (*kutumba*), clan organization (*bak*), village common fund (*ganbua*), *majang* (dormitory), *barabhaika* (village council), and Community Forest Management institution (*Kadalibadi Jangala Surakhya Samiti*) in CPRs management. Further, this chapter discusses the emergence, need and role of

modern institutions in the regulation of natural resource management. Present rules and regulations related to resource management and its implications on Juang community are regulated by State as an outside force. For the Juang development, Forest Department, Revenue Department, Juang Development Agency (JDA), Panchayat Raj bodies, *Vana Surakhya Samiti* (VSS), and non-governmental organizations play a supportive role to the community. To empower the community, Constitutional measures like Panchayat Extension to Scheduled Area (PESA Act) 1996 and Forest Rights Act 2006 are introduced.

Juang believe in obtaining their rights in a non-violent way, unless compelled under critical situations, they hardly go against established social norms and customs. Their community oriented life style has given birth to their indigenous political system. In course of time it started from simple village organization to regional territorial organization, i.e., the confederation of villages called "*pirah*". All these contribute to the maintenance of social control. Juang customs and customary practices are integral part of the institutions related to resource management. Roucek (1965) observed that the social institutions control resources to stabilize societies and provide a means for constant adaptation to change. The Juang indigenous political system plays an important role in CPR management.

The available historical evidences show that, the *pirah* emerged as a political entity under the princely state of Keonjhar after 10th century A.D. when the State was founded by the King named Jyoti Bhanja, the ruling Bhanja family of Mayurbhanj State. The Juang being the autochthones of Keonjhar take pride in narrating legends about their active role, bloody sacrifice and pain in establishing the institution of kinship of Jyoti Bhanja. They also narrate their long association, emotional attachment and unfailing loyalty to their King since the foundation of the State. In return, the King had recognized their role and aboriginal status and had granted them many concessions and privileges while avoiding interference with their life style, including their traditional socio-political system (Tribal Welfare Department, Annual report 1993-94, GoO).

During the period of Princely State of Keonjhar, the traditional *pirah* organization was given due recognition by the feudal chiefs and then by the British administrators when the State came under British rule, which continued till independence. Even after abolition of Princely States following independence, the traditional political system of the Juang remained quite effective for some time. However, the imposition of Panchayat Raj System, participation in

elections, establishment of democratic set up and the rapidly changing socio-political environment in the country in post-independence period have affected the traditional political system of the Juang.

Keonjhar State came under British occupation in 1803. The British tried to impose their power on the State by initiating reforms in many fields, but they never interfered with the lifestyles of the tribes, like Juang and Bhuiyan. On the other hand, they tried to strengthen the traditional *Pirah* organization of the Juang and introduced many social reforms among them for which Juang treated the white rulers with respect and admiration. The eldest person of the village, Sanakalia Juang, stated that British period was good as they used to get food for work rendered, and white people did not interfere in their life without the permission of the King.

In the princely State of Keonjhar, the Juang and Bhuiyan were granted special status as compared to the general population. The feudal administration never interfered with the indigenous socio-political system of the Juang. The Juang *Pirah* areas were granted greater autonomy and the Juang were allowed to pursue their culturally sanctioned traditional lifestyle in their remote and isolated hill habitat comprising their *Pirah* areas without any external interference. Further, they were granted certain privileges and concessions in matters of paying taxes, rents, revenue, exploring the forest resources, carrying on shifting cultivation and hunting, etc.

The general administration of the Princely state was carried out by dividing the State into three sub-divisions. The sub-divisions comprised of a number of smaller regional territorial units called '*landpat*'. The *landpat* was being governed by a Royal officer designated as '*gadanayak*' and his assistants, namely '*dalei*' and '*paika*'. Under a *landpat* there were a number of villages, forming the smallest territorial and administrative units of the State. The village was kept under the charge of a traditional secular hereditary chief called '*pradhan*'.

The Juang *pirah* area was excluded from this general administrative structure. A comparative picture of the administrative structure of the *Pirah* and non-*Pirah* areas of the Ex-Keonjhar state given below shows the difference between the two.

Table.5.3: Administrative Structure of the Ex-Keonjhar State

Political. Unit	Hierarchal Authority / Leadership Pattern at Various levels
State	<p style="text-align: center;"><u>Keonjhar State</u></p> <p style="text-align: center;">King (Sovereign and Supreme Authority)</p> <p style="text-align: center;">↑</p> <p style="text-align: center;"><i>Diwan</i> (Manager of the State)</p> <p style="text-align: center;">↙ ↘</p> <p style="text-align: center;">General Administration Tribal Administration</p> <p style="text-align: center;">(For non-<i>Pirah</i> Area) (<i>Pirah</i> Area)</p>
Regional	<p style="text-align: center;">↑</p> <p style="text-align: center;"><i>Landpats</i></p> <p style="text-align: center;">↑</p> <p style="text-align: center;">Gadanayak</p> <p style="text-align: center;">↑</p> <p style="text-align: center;">Dalei</p> <p style="text-align: center;">↑</p> <p style="text-align: center;">Paika</p> <p style="text-align: center;">↑</p> <p style="text-align: center;">Gadamajhi</p> <p style="text-align: center;">(Officer appointed by the King to look after revenue collection and law and order situation in the Pidha area)</p> <p style="text-align: center;">↑</p> <p style="text-align: center;">Tandkar (Assistant to <i>adamajhi</i>)</p> <p style="text-align: center;">↑</p> <p style="text-align: center;">Sardar (Traditional Tribal Chief of the <i>Pirah</i> chosen by his fellowmen but not appointed by the King)</p> <p style="text-align: center;">↑</p> <p style="text-align: center;">Nagam/Boita</p> <p style="text-align: center;">(Ritual Head of the village)</p> <p style="text-align: center;">↑</p> <p style="text-align: center;">Pradhan/Ardhan (Secular Chief)</p> <p style="text-align: center;">↑</p> <p style="text-align: center;">Dangua/Dakua (Assistant to <i>Nagam</i> or <i>Pradhan</i>)</p> <p style="text-align: center;">(All are traditional village leaders chosen upon certain tribal customary principles, but not appointed by the State)</p>
Village (Gram/Mouza)	<p style="text-align: center;">↑</p> <p style="text-align: center;">Pradhan</p> <p style="text-align: center;">↑</p> <p style="text-align: center;">Dakua/Adhikari</p>

Source: Annual Report, Tribal Welfare Department, 1993-94, GoO.

From the above it is clear that the Juang *pirah* area was granted a separate administrative status with greater autonomy to handle their internal affairs following their indigenous culture, customs and traditions with least interference from the State. This administrative arrangement prevailed till the independence of India, when Keonjhar State merged as a district with the separate province of Odisha. With the abolition of Kingship, the district of Keonjhar came under the administration of the Government of Odisha. Democratic government replaced the King's government. But the endogenous *Pirah* organization of the Juang, which is deep rooted in their socio-political life, has managed to survive despite the State's autonomy.

Traditional socio-political system

The smallest basic socio-political unit at the bottom level of traditional organization is the village, it is a culturally homogenous, territorial, autonomous and permanent unit comprising of a local kin group (Annual report, Tribal Welfare Department, 1993-94, GoO). The of the village organization have unique characteristics that are mentioned below:

1. Village boundaries are fixed, well defined and recognized by its neighbours and also by the King of Ex-Keonjhar State who have issued *pattas* to each Juang village located in the Juang *Pirah*. All the natural resources lying within that territory, like forest, streams, cultivable lands, grazing ground, horticulture land, cremation ground, and common water bodies are exclusively owned and managed by the Juang community. According to them, they have no rights to own and use those natural resources of that village unless they are permitted by their village community. This kind of territorial autonomy of each village in the *Pirah* is mutually recognized and respected by respective neighbouring villages. And any kind of trespassing by any one into other's territory gives rise to serious inter-village disputes. These disputes are settled by the *Sardar* in the *Pirah* (case analysed between the study village and Upara Baitarani, page no. 6-7), or in the past by the King, in the inter-*Pirah* level.
2. Traditionally, the Juang community is homogeneous socio-cultural unit comprising uni-clan local descent groups. Juang village is inhabited by the members of a single clan (*kili*). Hence, they are related to each other as brothers and sisters. Many Juang villages have their names derived from the clan affiliations. For example, the village Banura (a village of Revena *Pirah*) is inhabited by the *banurmbakkili*. Persons belonging to the clans named *Tangarapadiabak*, *Dumuriabak*, *Kundibak*, *Gungibak* and *Sarambak* live in the villages named Tangarapada, Dumuria, Kundei, Gungi and Saria, respectively. As the members of the village belong to the same clan, they manage the village affairs very systematically and efficiently with least conflict, tension and difference in their opinion. It is their strong kinship ties that bind them to traditional values and social harmony. Now-a-day people of different clans have settled down in one village, but members of major clan, who are numerically superior and original inhabitants of the village, play a dominant role in the administration of village affairs (For example, in

Guptaganga, neighbouring village, *temerenbak* clan people are leading the village matters).

3. The village is the basic and minimal autonomous political and administrative unit. It has a system of age-old traditional authority and leadership that is communal in nature conforming to the communalistic lifestyle of the Juang. This mutual leadership is quite formal, well organized, permanent, efficient and powerful to handle the affairs at the village level. In the village the real authority is handled by a traditional village council known as *barabhaika*.

The *barabhaika* constitutes village leaders (mostly eldest persons) to carry out day to day routine administration of the village in their respective fields. *Barabhaika* functions in complete harmony. There were three kinds of traditional officials functioning in the Village. They are designated as: (i) *Nagam* or *biota* or *deuri*, the sacerdotal head, (ii) *Pradhan* or *ardhan*, the secular head, and (iii) *Dangua* or *dakua*, assistant to the *nagam* or *pradhan*. After the introduction of the Panchayat Raj System, following independence, a new set of modern leaders like the *sarpanch* and ward members have gained prominence at the village level. But the traditional leaders still continue to command respect and commitment of their fellow beings. The recruitment, duties and responsibilities of the traditional village leaders are discussed below.

Plate 5.1: *Barabhaika* at Majang



***Nagam* (the sacerdotal chief)**

In the Juang dialect the term *nagam* means ‘head’ or the ‘big headed personality’ of the village. The *nagam* is the sacerdotal chief and also head of the village and, therefore, given highest place of honour as compared to the other leaders.

Being the sacerdotal chief, his activities mainly centred on religion and rituals. He is the religious functionary who acts as the village priest. He is also called *boita* or *deuri*. The post of *nagam* is not hereditary. In the discussion, Juang narrated certain customary rules and principles for selecting the right person to hold this important office. The traditional village council selects and appoints *nagam* in accordance with the customary provisions. These are:

- (i) He must be the senior most man of the village in terms of age so that he can get spontaneous respect and obedience of his fellow villagers. This custom originates from the fact that Juang do not pay respect to a person who is not senior by age and generation. In view of this generational seniority, the office of the *nagam* passes to his lateral kin, i.e., his younger brother but not to his linear kin, such as his son, after his death or upon the position being vacant.
- (ii) *Nagam* must be the senior most man of the largest lineage group of the dominant clan of the village. The former *nagam*, Sanakalia Juang has 9 family members, who is the younger brother of late Badakalia Juang, has lost his post after the death of his wife. He got support, loyalty and confidence of his lineage and clan members who constitute the majority in the village council which plays a dominant role in the management of village affairs.
- (iii) Bachelor, widowers and divorcees are not eligible for the office of the *nagam*. According to Juang a man cannot attain full adulthood and full-fledged membership of the society without being married. A bachelor is not considered to be a responsible person. He does not have the required status to perform the rituals and any other sacred function. Even a *nagam* who becomes widower during his tenure cannot perform his sacred functions until his remarriage.
- (iv) The *nagam* is a mediator between the supernatural world and Juang. They strongly believe that unless the selection of the candidate for this post is approved by the

supernatural power, serious misfortune will befall on the villagers. Hence, seeking of supernatural approval in favour of the candidate is a necessary precondition for final selection of the candidate. A candidate who fulfils other criteria but not approved by the supernatural power can never be chosen for this office.

- (v) The candidate should possess good qualities and capacities, like honesty, ritual purity, good moral character, pleasing and commanding personality, leading and organization capacity, aptitude and dedication for performing sacred functions and serving the village community.
- (vi) Women are not eligible to hold any traditional public office. But in the event of the death of a *nagam*, his widow can officiate in the vacancy until a new *nagam* is chosen by the village council.
- (vii) If no right person is available to officiate or fill up the vacancy, unmarried young men (*kangerki*) of the village take up the essential ritual functions of *nagam* until a new *nagam* is selected.

A *nagam* continues in his office till his death unless he deviates from the prescribed conduct. The traditional village council has the authority to dismiss *nagam* in the event of misconduct, negligence of duty and indulgence in immoral practices. The *nagam*'s misconduct causes supernatural displeasure that manifest in the form of epidemics, crop failure, and outbreak of fire and attack of wild animals. The *nagam* is a religious functionary and sacred specialist. His duties include, worships of the village deities regularly and other gods and goddesses during festive occasions, organizing communal festivals, rituals and ceremonies, sacrificing animals and conducting rituals during the time of crises and sometimes, he serves as a medicine man, shaman, magician and witch-doctor.

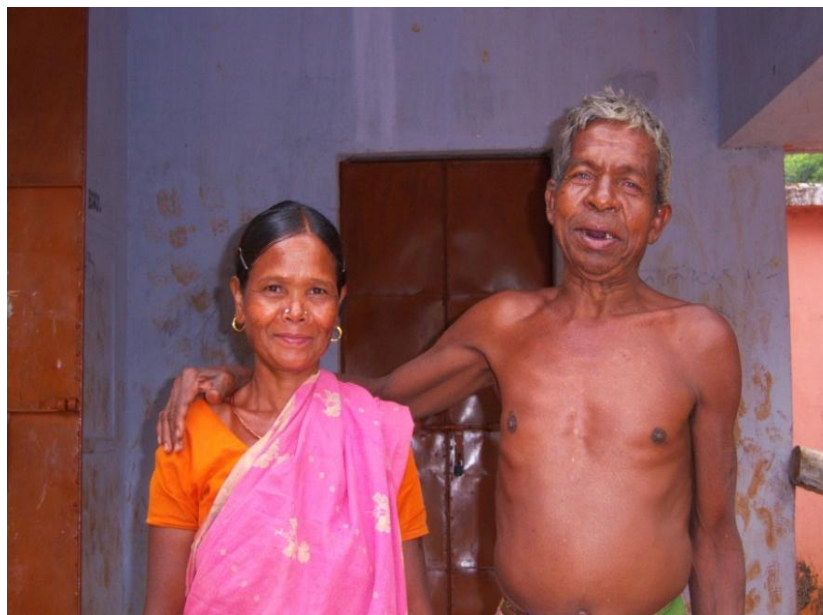
According to Juang, in earlier days, *nagam* used to sit before the *majang* fire to take decisions regarding village affairs. He continues to give guidance and advice to the young men and women, besides receiving the guests and visiting officials by extending traditional Juang hospitality. People were mostly afraid of him because his curse may bring death or serious disaster. Overall, he is the moral custodian of the village.

As a matter of religious norm, he cannot thatch his house and cultivate his land. Therefore, villagers do these works for him. He does not get any remuneration for his services. But actually the villagers pay him in terms of services with free labour during rituals and at the time of harvesting of his crops. He is exempted from the communal donation and contribution. He gets a lion's share during animals scarified in communal rituals.

***Ardhan* (the secular head)**

The Juang interpret the term *ardhan* as the village chief. He is also called *pradhan*. Burusha Juang, 70 years male is the *pradhan* of the village (see plate 5.2). He is the traditional secular head of the village. Besides performing important socio-cultural functions, he also discharges some religious functions by way of assisting the *nagam*, in respect of organizing and conducting communal rituals, especially slaughtering animals before the deities. Therefore, the sacred battle axe of the village, called *pathanda* or *paren*, is kept in *Majang*. He sacrifices animals with the help of this sacred axe.

Plate 5.2: Village *Ardhan*



Like *nagam*, the post of *ardhan* is not hereditary. He is selected by the village council and continues in his office as long as he enjoys the confidence of the village council. During the feudal rule and later during British rule the office of *pradhan* or *ardhan* was formally recognized by the rulers. Hence, the *pradhan* was functioning as the village level agent of the feudal administration. He was entrusted with the responsibilities of collecting revenue, taxes,

and customary gifts and tributes and arranging '*bethi*' services (a type of tied labour) for the King and higher officials. As the representative of his village he was also communicating the wants and grievances of his people to the higher authorities. He was a very powerful village official in those days. After independence, his official powers are gone but he still continues to command the respect and faithfulness of his fellow men and thus remains very influential at his village level.

***Dangua* (the village messenger)**

Dangua or *dakua* holds an important office in the village. The term *dangua* means the village official 'who calls on everybody'. The *dangua* functions as the village messenger and the common assistant to *nagam* and *ardhan*. Like the other officials, his post is not hereditary and he is selected by the village council. According to the customary rules and regulations he should be the third senior most person of the village, next to *nagam* and *ardhan*, in social status. He must be a married man physically capable enough to go to distant places carrying messages.

Dangua assists *nagam* and *ardhan* actively in organizing meetings of the village council, communal rituals, enterprises and collecting donations. He is the bearer of important decisions of the village council and other important messages in the village. His office carries many responsibilities without any remuneration. However, *nagam* and *ardhan* always share with him the customary gifts and services they receive from the villagers on various occasions. In some villages, like the study village, the office of *dakua* remains vacant as people usually don't come forward for this job. In such villages, *ardhan* (Burusha Juang) and village youth manage the work of *dakua*.

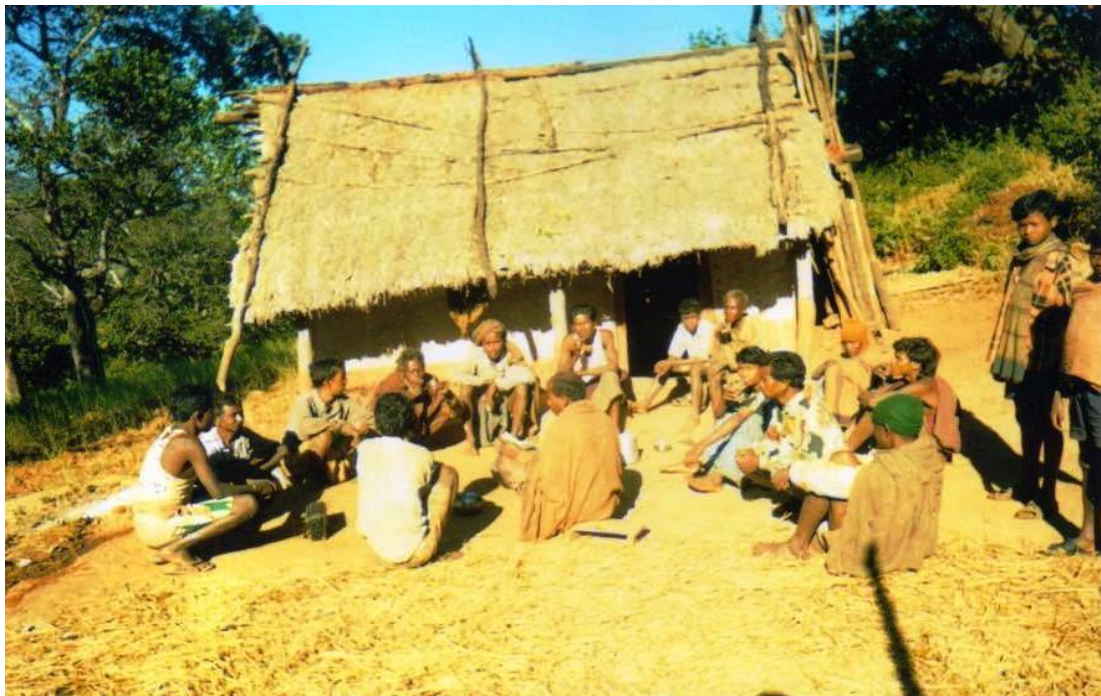
***Barabhaika* (the traditional village council)**

Traditional village council constitutes the highest, most powerful and effective corporate body of the village elders that exercises supreme authority at the village level. It is composed of knowledgeable village elders, household heads and village officials who are its legal members. The *ardhan* is the Chairman of the Panchayat who convenes its meetings with the help of his assistant, *dakua*. In the absence of *ardhan*, and *nagam*, any other senior member presides over its sessions.

The term *barabhaika* means a group of 12 good, honest and experienced wise men who control supreme power in the process of decision making at the village level. Women, bachelors, insane persons, criminals, strangers and non-Juang inhabitants of the village are not eligible to become members of the council. However, they can attend the meetings as parties to disputes, offences and as witness or watch the proceedings from a distance as spectators.

Majang, the dormitory house of the village, is the seat of village council (see Plate 5.1). It serves as the common venue to hold the meetings. The meetings are usually held inside the *majang* or in the court in front of it. If the matter of discussion is very serious or secret one, the meeting may be held in a secluded place inside the forest and away from the village to maintain total secrecy. Conventionally, the meetings are held during the leisurely hours of the afternoon and evening when people are free after returning from their work. Sometimes it can start in the morning (see Plate 5.3), if necessary.

Plate 5.3 Meeting of Village Council in the Morning



The *Ardhan* or the *pradhan* convenes the meetings as and when necessary by informing the members about the date, venue and agenda through his assistant, *dakua*. The elderly and knowledgeable members with their experience and wisdom provide valuable advice in course

of village matters. But mostly *pradhan* by virtue of his socio-political status, knowledge and experience, influences the decision making. However, the opinion of *nagam* is also given due weightage in those matters. Finally, the decision is arrived at by general consensus. All important decisions are accorded supernatural sanctions by performing the customary '*jhuripaka*' ritual, i.e., the pouring of liquor, invoking the supreme deities, village deities and other deities by *nagam*. Thus, with the backing of social and supernatural sanctions, the decision of the village Council becomes final and binding. However, if the concerned party is not satisfied with the decision of his village council, he can make appeal before the higher authorities, i.e., the *Pirah sardar*, who can review his case by convening a meeting of '*desha*'- the *Pirah* council (Annual report, Tribal Welfare Department, 1993-94, GoO). But this is an expensive affair which acts as a restraint against appealing before *sardar* and *desha*. Therefore, generally to avoid the expenses, people obey the decisions of the village Council.

As a powerful corporate body at the village level, the traditional village council exercises considerable socio-political and judicial powers. It acts as watchdog of social and cultural relations inside the village. It watches, reviews and regulates the conduct of the villagers as well as the village leaders. It guides and advises, instructs and warns, whenever it feels the necessity to do so. The village leaders are bound to act according to the aid and advice of *barabhaika*, because they are selected by the latter and answerable to it for their conduct. Now-a-day with the introduction of external political institutions and access to different legal system, the village council is less effective for resolving conflicts. But still Juang have believe and faith on their senior fellow men.

Barabhaika, being the corporate authority of the village, owns and manages all the communal property of the village, like village territory, *podu* land, streams, pond, cremation ground, grazing ground, *majang*, village common fund, etc. It makes equitable distribution of economic assets, like *podu* land, among the families considering the needs and capacity of each family.

Barabhaika is the custodian of cultural values, ethics, customs and traditions in the Juang village (Annual report, Tribal Welfare Department, 1993-94, GoO). Most of the customary disputes and offences at the village level are decided by it. It has jurisdiction to deal with cases relating to social, economic and religious disputes and offences, like:

- Inter-family, intra-family, interpersonal, inter-group and intra-group disputes, break down of joint family; dispute over partition of family property, inheritance and succession, marriage, divorce, separation and payment of bride price; property ownership and boundary disputes;
- Illicit and secret love affairs, sexual indulgence among the young men and women of the *bandhu* and *kutum* villages and those sexual affairs which result in causing premarital pregnancy of girl or woman and other sorts of sexual crimes like molestation, adultery, breach of incest taboo, etc.
- Failure of parents or guardians to arrange the marriage of their sons and daughters is regarded as an act of disobedience and disrespect to juniors by elders;
- Breach of important taboos and prohibitions; theft, violence, fire-starting and black magic;
- Negligence of duties, disobedience, misconduct and breach of the rules of *majang* and selection of members of young men (*kangerki*) and young women (*selenki*) of *majang*.

The village council always tries to settle the disputes amicably on mutually agreeable terms and conditions. In most cases the offender is asked to pay compensation to the aggrieved party in cash or kind, besides paying the customary penalties in the form of food and liquor to entertain the members of *barabhaika* as well as the villagers. In case of serious offences like breach of incest taboo and disobedience of village council, etc., the offenders are socially boycotted, ex-communicated and at the worst cases their moveable and immovable assets are seized to compensate the dues.

***Pirah* organization**

Pirah is the traditional, maximal, regional/ territorial socio-political unit of the Juang. As an effective socio-political organization, the *pirah* presents a distinguishing characteristic feature of traditional Juang socio-political system. It is, in fact, a permanent federation of a group of adjacent villages occupying a specific territory. *Pirah* is an *Odia* term. The Juang have adopted this term by way of mispronunciation of the *Odia* words *Pirah* or *pahada* which means ‘the place of origin’ rather ‘the seat’ or ‘the hill’, respectively (Annual report, Tribal Welfare Department, 1993-94, GoO). According to Juang some important distinguishing features of the *Pirah* are as follows:

1. **A defined territorial entity:** As stated earlier, it is a union of some adjacent villages occupying a specific territory. The right of dwelling and exploiting the natural resources for sustenance within the territory is enjoyed by the Juang. Each village has its individual territory, like the study village, which is well demarcated with that of the neighbouring villages and any kind of trespassing cause disputes which are settled at the *Pirah* level.

2. **A homogeneous cultural entity:** *Pirah* is a cultural unit of Juang. Few non-Juang people belonging to Gauda and Sundhi caste and other tribes like *Bhuiyan*, and *Munda* are found in some villages of the *Pirah* areas. But they are not treated as legitimate residents. They have been allowed to settle down by the Juang to serve them by way of rendering goods and services. The common culture of the Juang in the *pirah* forms the very basic of social cohesion as it creates likeness, common traditions and emotional attachment among its members, to work together, hand to hand and develop a cultural identity and a compact socio-cultural unit.

3. **A well-defined political unit:** By possessing a definite territory and cultural homogeneity, the *Pirah* has an independent autonomous political unit with a communalistic and political setup through well-organized councils and leadership from the village level to *Pirah* level. There are four major *Pirahs* in Keonjhar, namely, *Satkhandia*, *Jharkhandia*, *Kathua* and *Rebena*. (i) *Satkhandia Pirah*, *Satkhandia* meaning ‘seven in numbers’ is derived from the fact that this *Pirah* comprises seven villages. They are *Gonasika*, *Guptaganga*, *Baitarani*, *Kadalibadi* (Study village), *Raidhia*, *Jantari* and *Sinkulapada*. (ii) *Jharkhandia Pirah* is the largest Juang *Pirah* having 21 villagesⁱ. The significance of this *Pirah* is that it used to supply *siali* ropes to the King of *Kendujhargarh* for the cart festival held at Kendujhar every year. (iii) *Kathua Pirah* derive its name from *Kaatha*, means ‘wood’ as it was supplying 99 categories of firewood every year for consumption in the King’s palace. It comprises 11 villagesⁱⁱ. (iv) *Rebena Pirahh* has 16 villagesⁱⁱⁱ under its jurisdiction (Annual report, Tribal Welfare Department 1993-94, GoO). The location of this *Pirah* lies in a relatively plain area around the foothills of *Gonasika* region. Now non-Juang inhabitants have settled down in these villages.

These *pirah* have a roughly north-west to south alignment along the range of hills to the west and south of Keonjhar. *Jharkhandia*, *Satkhandia* and *Kathua pidah*'s form northern spatial unit which is separated from *Rebena Pirah* by the river Sankoi. The Juang of *Satkhandia* and *Jharkhandia Pirahs* claim cultural superiority over their counterparts of *Kathua* and *Rebena Pirahs* for their numerical strength, group solidarity, group identity, cultural homogeneity and proximity to their sacred place of origin, i.e., Gonasika (Annual report, Tribal Welfare Department, 1993-94, GoO).

As stated earlier, each Juang *pirah* has a customary chief called *sardar*, whose position and powers are described here. The prestigious and powerful office of the *sardar* lies at the top of regional *Pirah* organization of Keonjhar. He is a traditional leader whose role and status have not derived from legislation, contract or agreement by any external and non-tribal political authority but sanctioned by the Juang culture from the time immemorial. Later, his office is recognized by the ex-ruling chief of Keonjhar State and by the British rulers. As a token of recognition, the King had granted an official document (on a copper Plate) called '*kabuliyat*' in favour of the *sardars*. The King also used to tie a turban on the *sardar*'s head in his court during the occasion of *Dussera* festival held at the palace every year.

"The *kabuliyat* contained a list of duties which the *sardar* had to perform and the payments which they were entitled to for the services rendered. Briefly, the duties of the *sardar* is to collect land revenue and credit it to the treasury of the chief of the State and maintain peace and order and check tribal uprising and other disturbances. He was responsible for looking to the comfort of officials during their visit to his area by way of arranging food supply, building temporary shade for camping and arranging porters to carry belongings to the touring officials" (Patnaik, 1976: 28).

In spite of being backed by the feudal chief, the Juang *sardar*, unlike other State officials, never functioned as administrators, governors or agents of the feudal system. *Sardar* continued to enjoy the confidence, respect and faithfulness of their fellowmen as their true leaders, sharing their problems, pain and miseries and representing them in all internal and external matters. He always stands by the side of his people at the time of need and crises. He communicates their wants and grievances before the higher authorities as their spokesmen, works for their welfare and well being, settles disputes and conflicts among them, creates awareness, upholds their cultural beliefs, values, morals, ethics, customs, traditions,

maintains law and order, peace and tranquillity and preserves the prestige, dignity, group identity, homogeneity and solidarity in his *Pirah* area by his own efforts. That is why he still remains important and effective despite the radical change in government and political structure of the country after independence (Tribal Welfare Department, Annual report 1993-94, GoO).

The post of *sardar* is not hereditary. When a *sardar* dies, resigns or leaves his office; a vacancy is created. To fill up the vacancy, the traditional *pirah* council (*Desha*) comprising the village chiefs and elderly persons select a suitable candidate. Often one of the direct kin, such as the son or brother, of the predecessor may be chosen for the office, if the candidate is considered fit for the post by the *pirah* council. The present *sardar* named Srikanta Jaung belongs to *Jantari* village.

Being the *pirah* chief, the *sardar* shoulders a great deal of social and political responsibilities. He commands the obedience of the *pradhans* of the villages of his *pirah*. He is the custodian of Juang culture. As such, he may perceive, protect and defend and amend the unwritten code of conduct sanctioned in consultation with his fellow *sardars* and *pirah* council.

He administers law and justice and decides the causes of disputes, conflicts, offences, involving the interpretation and exercises the customary laws in his *pirah* area. Usually serious cases which cannot be decided at the village level, i.e., cases like adultery, incest, premarital pregnancy, marriage with other tribes / castes, inter village issues regarding boundary issues, trespassing, marriage by capture, non-payment of bride price, etc., are brought before him for decision and settlement. The *pradhan* of the concerned village of the concerned parties presents the cases before him. He can hear appeals against the decision of the village council and can intervene into any dispute of offence, which in his opinion affects the peace and integrity of his *pirah*. He is empowered to punish the offender both physically and financially. At the worst case, he may decide to excuse the violator after taking away his properties.

His religious functions are to organize some communal rituals at the *pirah* level. On the tenth day of *phalguna* (February-March), a common ritual called '*pirah puja*' (worshipping the *pirah*) is conducted by him. The inhabitants of each *pirah* worship a particular mountain in their respective territory on that day.

The office of *sardar* is not very remunerative. But during the feudal rule, he was getting an annual honorarium of sixty rupees with a pair of dress and an official turban from the King's *darbar* as his remuneration for his services to the King. While deciding cases he was paid 25 percent of the fines collected from the offender (Tribal Welfare Department, Annual report 1993-94, GoO). After abolition of the Princely States, he no longer enjoys official recognition from the present administration. But as the Chief of his own people he is still respected and obeyed.

***Desha* (the traditional *Pirah* council)**

Desha is the traditional corporate body composed of all village *pradhans* (55) and all *pirah sardars* (4) at the *pirah* level. It is organized by the *sardar* from time to time under certain circumstances; some of them are as follows:

1. When conflicts, disputes, violence occur inside a village, within two or more villages of one *pirah* or different *pirahs*, between the Juang and non-Juang that could not be settled locally, either or both the concerned parties or the concerned village *pradhans* approach the *pirah sardar* to intervene and settle the matter by assembling the *pirah* council. The *Sardar* then summons all the parties involved in the issue and the members of *pirah* council, i.e., the village *pradhan* to sit down together and settle the issue peacefully and amicably in accordance with the customary principles and provisions. When the matters involve two *pirahs* or Juang or non-Juang, a joint meeting of the traditional council of both the *pirahs* or of the representatives of both the sides are held. The cases usually referred to *Desha* related to boundary and other kinds of territorial disputes between two villages, marriage by capture, marriage by elopement, love marriage, adultery, premarital pregnancy, divorce, separation and desertion, non-payment of bride price, theft, murder, inter-caste marriage, physical assault, violence, aggression, etc.
2. If the punished party is not satisfied with the decision of village or inter-village council, may appeal before the *sardar*, who calls a meeting of *Desha* to hear the case. The decision of *Desha* in that case shall be final and binding even though it overrides that of the village council.

3. *Desha* being the apex body at *pirah* level, it can formulate, sanction, amend, defend and interpret the customary laws. Any issue relating to customary law are discussed and finalized by *Desha*. In 1945, the inter *pirah* council comprising the *sardars* and village level representatives of all Juang *pirahs* passed a resolution to ban the practice of beef eating by the Juang because they were looked down upon by their Hindu neighbours. Now if a Juang is caught eating beef he is severely penalized.
4. Sessions of *Desha* are also held to resignation of the *sardar* and to select a new *Sardar*. *Desha* can review, command and criticize the conduct of *sardar* and demand his resignation, if he acts against the interest of his people. Emergency sessions of *Desha* are held at the time of serious crisis affecting peace and integrity of the *Pirah* and its citizens. Generally the meetings of *Desha* are held at *sardar's* village. It may also be held at the place of occurrence of an issue for which the concerned party of the village *pradhan* invites the *Desha* to decide. To discuss about secret matters, the meeting of *Desha* are held in a solitary place like forest so that others cannot know about the matter.

During feudal rule, *Desha* backed by the State, was recognised as a very powerful body. After independence, it no longer enjoys this privilege and its power has been curtailed. But as a traditional council, it still continues to handle internal tribal matters backed by the confidence of the Juang (Tribal Welfare Department, Annual report 1993-94, GoO).

These political systems essentially involve regulation and control. It includes organizational structure and function that deals with the maintenance of social order by law and its enforcement with external relations by diplomacy. In Juang culture, power and authority are synonymous. Those who exercise power have the right to do so because they are leaders, chiefs, office bearers and whose assumption of power has been culturally sanctioned.

Analysis of the political system of the Juang shows that they are a well organized community. The survival and continuance of their traditional *pirah* organization is not much affected by the changing political climate of the State even after abolition of Princely State of Keonjhar, whose patronage it was enjoying in the past. It proves that it is an indigenous and endogamous system which has the capacity to adopt the change.

Being a particularly vulnerable tribal community, Juang have preserved their group identity by speaking a common dialect, living in a common territory, practicing a common culture by retaining their traditional *pirah* organization, whereas, their counterparts living isolated in plain areas of Dhenkanal district have lost most of their cultural traits and at present facing an identity crisis (Elwin, 1948). Basically there are factors like kinship and locality which enforce social control at the primary level. The Juang village comprises of local kinship groups whose members belong to single clan and it is an autonomous and independent socio-political unit. The members of a village consider themselves as being one people and regard each other as brothers and sisters among whom marriage and sexual relations are strictly prohibited. The elderly male persons of the group form a corporate body to enforce social control among members of this local descent group and all of whom are treated on an equal footing. Clan unity and group solidarity are expressed in the ideal that members of the group should support each other and resolve their differences without resorting to force.

Leadership and authority are ascribed but at the village level factors like kinship clearly operate in the determination of leadership. Village authority is linked to seniority, both social and biological. When majority of members of a village belongs to one clan, it is obvious that the senior most male person of the biggest lineage of the dominant clan occupies the traditional office and exercise authority in their respective fields. The dominant clans whose members constitute the majority in the corporate body of the village council (*barabhaika*), plays a decisive role in the process of decision making at the village level.

Leadership and authority are frequently considered to be manifestations of divine will. Supernatural ratifications in favour of persons selected for traditional offices are always required later. They strongly believe that prosperity of their group depends upon the satisfaction of supernatural and their leaders are responsible for bringing good luck to their people. Hence, the leaders are expected to maintain high standards of purity, sanctity and morality by themselves so that the Gods will be pleased. Especially, the personal code of conduct is more stringent in case of sacerdotal chief of the village (*nagam*).

Selection of efficient persons to the traditional offices on general consensus is a fair inclination towards strong democratic traditions and practices. The male dominated Juang society does not permit women to hold traditional offices and take an active part in political activities. Men hold monopoly in this respect. Their political system provides certain checks

and balances on the authority and leadership by decentralization of power through delegation from higher level to lower level and from the corporate decision making body to the traditional leadership. The leaders at the *pirah* and village level derive their authority from the corporate bodies, such as *pirah* council (*Desha*) and village council (*barabhaika*), respectively. They are answerable for their actions to their respective bodies which review their activities and take disciplinary action on them, if necessary.

V

Present situation

The impact of Gram Panchayat, democratic election system, spread of communication and education and many other development programmes implemented by government and non-government agencies have forced Juang to adopt the changes. But the direction of change is more towards to avail better basic needs than progress.

Emergence of modern leadership mainly comes from the younger generation who seriously think about to bring some changes in their way of life in order to adjust to the changing circumstances. While the old people still dwell in memories of good old days of King's rule when there was strict social discipline and rule of truth and virtue, the younger generation believes that the old system cannot deliver the goods. They understand that the changing circumstances have created many new problems for their survival. These cannot be solved by the traditional means prescribed by their old culture. On the other hand, their traditional social institutions which are deep rooted cannot be wiped out overnight because people still have confidence on their efficiency and no viable alternatives are known to them. So at this point it appears to be a compromise between the new and old traditions. This compromise provides that the traditional system takes care of their conventional cultural needs and the modern leadership looks after the needs of the present day. Therefore, at present traditional leaders remained unchallenged in their respective grounds and give way to their ambitious younger generation to meet the emerging needs of their people which they are unable to meet. Some of the examples of the change are, seasonal labour migration, receiving job card as a licence to get wage with in the locality, availing house under Indira Awas Yojana, and assistance for vegetable cultivation from JDA, etc.

Central Govt. formulated new rules to create awareness among Juang to retain their customs and traditions in the modern context. But these are not implemented at the State level. For example, Panchayat Extension to Scheduled Area (PESA) Act 1996 and Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 is another step to empower the tribal community. But people are not aware about this process in the study village. To empower them, according to Revenue Department, under Forest Rights Act (FRC), 21 Juang families were given 7 per cent of land from *dhoboladiha* and *kendupada* hill patch for horticulture. However, Juang say that they claimed these lands on April 1, 1982 and are given ownership on 2002, on which they have been doing *podu* since generations.

The modern leaders have been organizing meetings and inviting representatives from the Juang villages of *Satkhandia Pirah* area to discuss about the issues and take reformatory actions. Most of the time, government officials, development agencies, and local leaders of the Statutory bodies – like ward member, *Sarpanch*, *Panchayat Samiti* Chairman, are involved in the process of decision making. This shows that the Juang traditional leaders are generally are not allowed to participate in the meetings of statutory body leaders, agencies and institutions. But earlier they used to take decisions pertaining to development and welfare of their community.

According to the *pradhan*, Burusha Juang, a 70 years male, about fifty years ago, the late Nata Sardar of *Jharkhandia Pirah* organized a meeting of the Juang leaders of all *Pirahs* and villages to initiate some social reforms to improve the lifestyle of the people to keep pace with the changing time. The meeting was held at *Jantari hata* (market in the neighbouring village) in which distinguished Juang leaders, such as Nefra Sardar of *Satkhandia Pirah* and Narsing Sardar of *Kathua Pirah*, participated. A *sardar* of neighbouring *Bhuiyan Pirah* was invited as the guest participant. In this meeting Nata Sardar presented the following proposals:

1. To change the old pattern of dress and ornaments of Juang women by adaptation of the dress pattern of Hindu women.
2. To cultivate good habits of neatness and cleanliness and personal hygiene so that their neighbours do not hate them for their ugly and unclean habits and their health conditions would improve.

3. To reduce and finally stop consumption of liquor and other intoxicants
4. To fight against the exploitation by local moneylenders.

Majority of the participants approved and accepted the proposal. The village leaders were entrusted with the responsibilities of communicating these messages to their people and create awareness among them in favour of these reforms. It was hoped that these reforms would be put into practice slowly with mass awakening.

This shows their interest to meet the challenges of the changing times. They have developed the capacity and flexibility to incorporate necessary changes in their way of life to adjust with the recent times. Most of the changes are reformatory, progressive and suitable to the present time and environment. It fosters higher social aims and objectives. The movements and achievements are very slow but stable. The consciousness and progress are very much mechanical or superficial but silent and spontaneous.

In spite of these changes, their core culture has not been affected much. On one hand, they have accommodated certain reforms in some aspects of their lifestyle and, on the other hand, they have preserved their originality and uniqueness of indigenous culture. Thereby, their group identity counteracts the powerful blows of modernity. One such example is the emergence of PESA Act, which empowers them to uphold their identity. But people of the study village as well as the Panchayat members have no clue about this Act.

Discussion with the Sarpanch and Revenue Department officials revealed that they have not received any instruction from the higher authority (*Zilla Parishada*) about PESA Act. It is observed that there are some fundamental differences between the State's Act and the Central Act, as this can be seen from the following table:

Comparison of Central and Odisha State PESA act

The following table (Table 5.4) reveals that Odisha had conformed, though not fully, to the provisions of the Central PESA Act while modifying its Panchayat Raj Act. Mandatory provision in the Central Act ensuring tribal communities control over natural resources,

granting licenses for minor minerals and their exploitation and acquisition of land by government for development projects which is proposed to be enforced through Gram Sabhas have not been conformed with.

Table 5.4: Comparison Between the Provisions of the Central PESA Act, 1996 and Panchayat Act of Orissa, 1997

Provision of PESA	Central Act (1996)	Odisha Act (1997)
Acquisition of land for development projects	The Central PESA Act makes it mandatory for consultation with Gram Sabha or Panchayat at appropriate level	Assigned this power to <i>Zilla Parisads</i>
Planning and management of minor water bodies	Entrusted to Panchayat at the appropriate level	Assigned this power to <i>Zilla Parisads</i> , instead of giving power to Gram Sabhas or Gram Panchayats
Managing the village market and regulating money lending to STs	Endowed Gram Sabha or Gram Panchayat	Given to Gram Sabha but subject to control and supervision of Gram Panchayat
Control over local plans and resources, including Tribal Sub-Plans	Endowed Gram Sabha or Gram Panchayat	Given power to Panchayat Samiti. It's not the mandatory requirement of the Gram Sabha.
Exercise of control over institutions and functionaries in all social sectors	Endowed Gram Sabha or Gram Panchayat	Given to Panchayat Samiti but it is subject to consultation with the Gram Sabha.

Source: SCSTRTI, Two Tribal Friendly acts and their Implications, A.B. Ota and K. Patnaik (Ed.) (2009)

Presently the Panchayat rules of Odisha have conformed to the reservation of seats for STs in Scheduled Area based on the proportion of their population. The minimum seats reserved in Panchayat Raj Institutions for STs are 50 percent. All the posts of the Chairpersons of the PRIs at all levels are reserved for STs. If the Chairperson is a male, the Vice Chairperson should be a female. One third seats are reserved for ST women.

VI

Constitutional Privileges and Recognitions

The Juang have a belief that the forest they are living in belongs to their forefathers and that they are the only owners. For centuries, they have enjoyed the benefit of forest resources as

their life revolves around it for survival. Therefore, the restrictions on resource utilisation have a tremendous impact not only on their living standard, but also on their psychology. As eighty years old Sulia Juanga of the study village says, “We were quite happy under the King as our movement in the forests was unchecked and unrestricted; the coming of present Panchayat system constrained our living”. This feeling is widely shared among other Juang. Commenting on the national forest policies, the Commission on Scheduled Tribes, 1960, noted that the traditional rights of the tribals were no longer recognized as rights. In 1894 they become rights and privileges, in 1952 they became rights and concessions and later, they became only concessions. Some of the tribal rights were restored in 1988, when the symbiotic relation of tribals with their forests was recognized. In 1981, another committee reviewed tribal rights and concessions over forest resources. It recommended that exercise of rights and concessions should be restricted only to tribals, agricultural and other rural people residing within a maximum distance of 8 km from forests. It also recommended that the beneficiaries should not be allowed to enter the forests and remove the produce. Hence, the supplies should be made through departmental stores opened outside the forests for this purpose. Barter and sale of the forest produce should be granted to beneficiary families and restricted only to the forest produces (Report of the Committee for the Review of Rights and Concessions in the Forest Areas of India, 1984), (cited Patnaik, 2003).

Now, the Juang are under the mercy of the forest officials and the landless Juang can only encroach and occupy waste land and grazing land at the foothills, by paying tax (bribe!) to the Forest Department officials. What is significant to note is that unconvinced management practices by forest officials made forests into treeless in many places, including Kadalibadi of Juang *Pirah*.

With the current restrictions, they can collect only one head load of dry firewood for their daily requirements from the village forest. They can sell timber and fuel wood of dead trees and NTFP either in the local weekly markets or in the Kanjipani market within 8 km radius from the place (village) of procurement. Traders who purchase timber or NTFP from the forest dwellers are supposed to pay a royalty to the forest department. According to the forest officials at Keonjhar, the logic behind this policy “is to penalise and discourage the outside commercial forest resource users”. Illegal cutting of trees in the forests is fined differently, if the timber is cut in the night (after sunset and before sunrise), the fine is generally 12 times

the market price of the timber, and if it is cut during day time, the penalty is equal to its value (Patnaik, 2003).

According to the National Forest Policy, 1988, to protect the forests, the State Government is now trying to encourage the Juang through Joint Forest Management (JFM) in which the villagers can use the forest resources and sell timber every five years. JFM approach was adopted in Suakati, a neighbouring village, by the Forest Department and the Bhuiyan tribals. The revenue earned is equally shared by the villagers and the Forest Department. JFM is in its initial phase in the Juang *pirah*. The forest lands which have lost its natural forest cover are now being taken up for afforestation (social forestry, see Plate 5.5) measures by declaring such lands as Demarcated Protected Forests.

Plate 5.5: Social forestry in the lower half



Gram Sabha (known as *Palli Sabha* in Odisha) is the authority to initiate the process of determining the nature and extent of forest rights of individuals. The Gram Panchayat by organizing the Gram Sabha shall form the Forest Rights Committee with members not less than 10 and not exceeding 15, with a 2/3rd members present. It is prescribed that the Forest rights committee (FRC) will have 1/3rd of its members from the Scheduled Tribes and not less than 1/3rd of its members shall be women.

In Kadalibadi, Juang have *Kadalibadi Jangala Surakhya* committee which has been functioning since 1992-93. Under this committee they were protecting 292.85 hectares of forest land. Later towards 1996-97 another committee was formed by Forest Department consisting of community members under the scheme of Joint Forest Management (JFM). This committee is known as *Kadalibadi Bana Sarankhyana Samiti*. Under this committee they have been protecting 25 hectares of forest land (social forestry) under the guidance of Forest Department.

Table 5.5: Structure of *Kadalibadi Jangala Surakhya Samiti* (KJSS)

Sl. No	Position	Name	Age at joining	Sex	Community
1	President	Bhagwat Juang	45	Male	ST
2	Vice-President	Narahari Juang	43	Male	ST
3	Secretary	Raghunath Juang	40	Male	ST
4	Joint-Secretary	Bana Juang	35	Male	ST
5	Treasurer	Ananda Juang	40	Male	ST
6	Working member	Sanatanajaung	36	Male	ST
7	Working member	NaradaJaung	38	Male	ST
8	Working member	NathaJaung	30	Male	ST
9	Working member	Santia Juang	48	Male	ST
10	Working member	Rasika Juang	42	Male	ST
11	Working member	Chandramani Juang	46	Male	ST

Table 5.6: Structure of *Kadalibadi Bana Sarankhyana Samiti* (VSS)

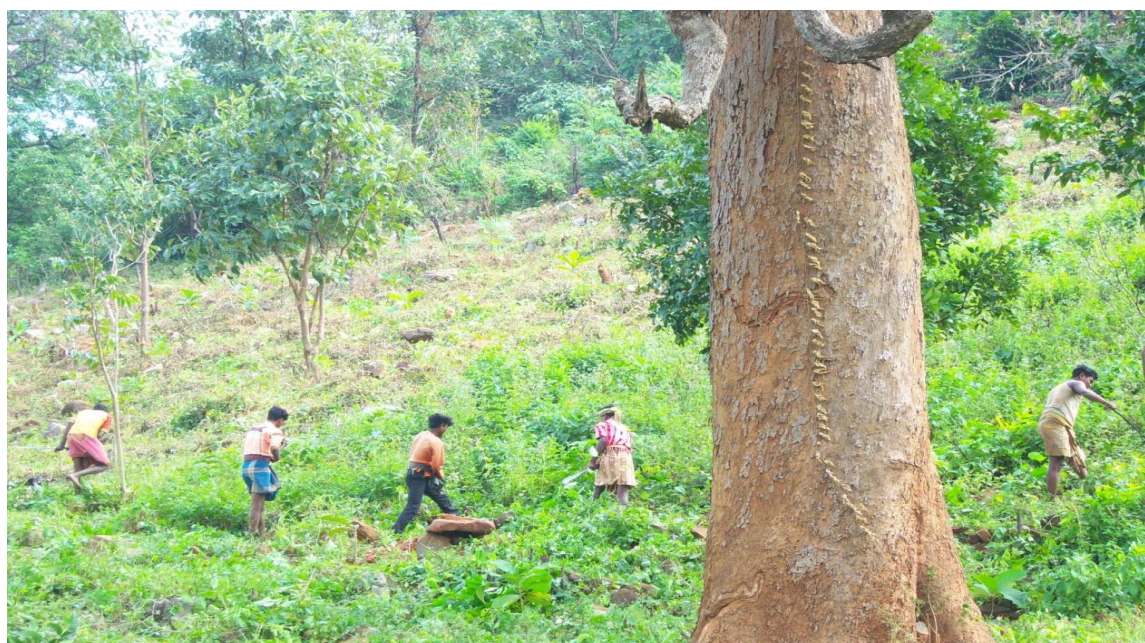
Sl. No	Position	Name	Age at joining	Sex	Community
1	President	Fakira Juang	35	Male	ST
2	Vice-President	Natha Juang	25	Male	ST
3	Secretary	Raghunath Juang	36	Male	ST
4	Joint-Secretary	Narahari Juang	42	Male	ST
5	Treasurer	Brusha Juang	45	Male	ST
6	Working member	Sambharijaung	32	Female	ST
7	Working member	RebatiJaung	35	Female	ST
8	Working member	JayadevParida	38	Male	SC
9	Working member	Shrabania Juang	39	Male	ST
10	Working member	Monohar Juang	35	Male	ST
11	Working member	Chandra Juang	34	Male	ST

Both the protection committees belong to the village. KJSS is the traditional one whose members are selected by the Juang community, whereas the later one is formed by the forest department. Both the institutions have few common members, like Raghunath Juang and Narahari Juang. Meeting of these protection committees are held quarterly and annually. Moreover, during times of emergency forest department and village community call for

meetings. Women participation is nil in the meetings of traditional forest committee (KJSS), but their views are considered during the time of decision making process in forest protection and management. Women participation is found around thirty percent in meetings of VSS.

As a revenue village, the protection committee (VSS) formed by FD is recognized as registered body, where as community protection committee (KJSS) is not registered, rather not recognised by the Forest Department. But according to PESA Act and Forest Rights Act, *palli sabha* should recognize the traditional committee, as far as the developmental fund release is concerned. Raghunath Juang and Narahari Juang play an important role as they are members of both the committees. From villagers it was learnt that appointment of the two common members from the traditional body in both the committee is a strategy of the Forest Department to manage the finances smoothly. The traditional committee (KJSS) does not get any financial assistant from the Forest Department, where as VSS committee received Rs, 2,000 annually for the development and maintenance of forest cleaning (see Plate 5.6), stone bunding, and plantation. This committee also received equipment like four plastic chairs, and two big cooking vessels which are kept in the *Majang*. For the economic development of Juang FD donated Rs, 10,000 to the community to form self-help groups (SHG) through VSS. Community protection committee (KJSS) has no source of financial assistance from the government. But they have a fund to which money comes from the fine and donations collected from members and others, according to Ananda Juang who keeps these records. The documents of VSS are maintained by the forester.

Plate 5.6: Forest cleaning for plantation



The traditional process of forest protection adopted by community is *thengapali* system, where two members from two families watch the community forest at night with the *thenga* (the thick and long bamboo). As a rotation system every member carries this *thenga* when their turn of duty comes. Anyone who neglects this process pays a fine of Rs, 20 to the protection committee fund. It is the collective responsibility of the community to protect the forest in their day to day life. Rather it is a part of their life as forest is regarded as their mother. In the case of VSS the system of forest protection is watch and ward. This is a voluntary process where FD pays anyone who attains the duty of watching the forest at night. Lembudhara Parida and Bhimsen Juang are the two watchmen selected by the FD for this duty and pays Rs 40 per night.

The community hardly gets any material benefit from social forestry, as entering to this forest is restricted. They only get financial benefit as mentioned above from Forest Department. Community forest provides them livelihood in the form of NTFP collection for household use and commercial use, as mentioned in the previous chapter. Most importantly they have all socio cultural attachments towards this forest, as mentioned in the previous chapter, whereas social forestry is an imposition on Juang by Forest Department through financial assistance.

As mentioned earlier, though only *palli sabha* can initiate the process, the real power is vested with forest and revenue departments. The data reveals that VSS is actually operated by the Forest Department and not by the community, even though it is formed by the community. KJSS is the community institution which has no financial power in decision making process of developmental activities. But according to PESA Act, *palli sabha* should recognize this institution so that community can become aware of the Forest Rights Act (FRA) and claim their ancestral forest land. Thus, community institutions can play a major role in restoring control over community land.

VII

Development Programmes and People's Response

To prohibit Juang from practicing shifting cultivation, the State Government has taken up number of measures. One such measure is the establishment of Juang Development Agency (JDA) in 1978. In Juang *pidha* the JDA covers 32 Juang villages. It encourages them to take up permanent agriculture in the valley lands besides the streams. Along with this it also

provides health care services and elementary education. The JDA report of 1990 reflects that the beneficiaries received seeds, agricultural implements and bullocks through *podu* prevention scheme. Activities such as the construction of water harvesting structures, nursery maintenance to demonstrate improvements in yields have been initiated in Juang villages. However, at present, 82 per cent of household still practice *podu* in the study village. On the other hand, major change is also observed in agriculture, as 92 per cent households adopted settled cultivation. JDA has got little success in providing alternative sources of income from agriculture, after 30 years of its functioning. The measures like *rabi* potato cultivation or wheat cultivation seems to have been not beneficial to the Juang. As there is not enough wet land available for this cultivation. Orientation about this cultivation was not successful. Technical demonstrations by the officials failed, according to the Juang beneficiaries. Same effect was observed in the situation with the backyard plantation programme. Lack of technical information and guidance has made the programmes collapse, as the JDA staff hardly understands the basics of local ecology and environment. In addition to that, the corrupt practices by JDA staff members in fund management and in the selection of beneficiaries are the major problems. On the contrary the JDA officer accused that the Juang are unable to take the benefit of these programmes as they are illiterate. Above all, in these programmes environmental and cultural knowledge are missing in which Juang are richer than the others.

Forest Department has taken out many developmental programmes under the World Food Programme (WFP) in the *Pirah* area. Check dams have been constructed at neighbouring villages like Gonasika, Upara Raidhia along with Kadalibadi to harvest water for paddy and horticulture. In the study village, under the *podu* prevention scheme, Forest Department took over 89.2428 hectares (28 percent) of *podu* land in the patches of *khandiapidha*, *hatikana*, *chhatamba*, and *doboladiha* for plantation purpose (see Table 3.4 in chapter III). In 2005, 43.89 hectares out of 89.2428 hectares have been leased out to Rungta Mining Company by Forest Department for compensatory afforestation. Around 37,417 plants were planted (see Plate 5.7). Species planted were *chakunada* (cassia tora), *simili* (bombax ceiba), *karanja* (pongamia glabra), *panasa* (artocarpus heterophyllus), *mehegani* (swietenia spp.), *piasala* (pterocarpus marsupium), *harida* (terminalia chebula), *bahada* (terminalia bellirica), *anal* (phyllanthus emblica), *sisu* (dalbergia sissoo), *chara* (buchanania lanzan), *akasia* (acacia auriculiformis), *arjuna* (terminalia arjuna), *babul* (acacia nilotica subsp. indica), *asana*

(terminalia alata), baunsha (dendrocalamus strictus), sirishi (alangium salvifolium), jamu (syzygium cumini), bela (aeglemarmelos) and phanphana (oroxylum indicum).

Plate 5.7: Official Notice for Plantation by Forest Department



These species are aimed at providing timber and NTFP to the Juang. A well was dug to provide safe drinking water to the people. But it's dried up in the study village the very next year after its digging.

According to Forest Department personnel, plantations of above trees are carried out to generate income (NTFP) for the Juang, who are indeed not much concerned about it. What bothers them is the plantation field was previously a community *podu* land for cultivation. Moreover, many of the tree saplings in the plantations are dead or dying due to lack of care by the forest officials. So the afforestation is not beneficial for the Juang, as the forest watchman Bhimsen Juang, said that, “forest officials cut all harida (*terminalia chebula*) trees, which were left deliberately on the *podu* land by Juang during cultivation, to plant saplings”. By doing so the officials made the plantation land completely vacant for future inspection by their higher authorities, and also earned some money by selling the timber to contractors.

According to the forest officials, when a Juang is caught for timber theft, on humanitarian grounds no action is taken against him. But according to Juang, they are harassed by the forest officials; even cases are filed although there is no real offence. Lack of patrolling and regular supervision of the forest makes it easy for the smugglers to steal timber. In this process sometimes officials catch Juang and penalise them, as forest officials' involvement with contractors and smugglers makes the Juang difficult to prove their non-involvement in forest degradation.

VIII

In this given scenario community resources cannot be protected by Government only by imposing restrictions on the practice of shifting cultivation. The purpose of protecting these resources cannot be achieved unless and until participatory measures is taken up to involve the local population in their own development. For example, Forest Department owns at present about one fifth of the country's landmass (Guha and Gadgil, 1996). But still the forest cover in the country has decreased from about 35 percent to about 8 percent in the recent decades. Environmental conservationists argue the commercial forestry has contributed significantly to the destruction of biological diversity and to an increase in soil erosion and floods. As it has already been mentioned in the beginning, the indigenous cultural practices are the best mode of preservation and management of community resources. It is primarily the tension and conflict between the community and the governance system which has taken away the community ownership over local natural resources to the detriment of natural resources. It pushed the governments to rethink about the management of community resources. This can be clearly seen in the participatory measures taken up by Government like PESA and Forest Rights Acts. These measures are not defined and explained clearly as we have seen through this study. Undoubtedly, these systemic loopholes need to be plugged by making sure that community resource management becomes primarily a community's concern and not exclusively that of government officials. It has been seen that cultural and religious activities are the primary concern of the community which revolves around their use and management of CPRs. Now it is clear from the observations made in the study that the external factors are mostly responsible for the degradation of CPRs. In support to this, for example, environmentalists like Fernandes, Menon and Viegas (1988) feel that external factors are mostly responsible for the depletion of forest resources.

Even with an abundance of community resources with them from time immemorial the Juang have never thought of exploiting the resources, although they have a feeling that common properties are imperishable. Traditionally, they had a very rational and controlled mechanism to use and manage common properties through the traditional institutions such as *Desha* organization, *Pirah* organization, and village council (*barabhaika*). *Desha* and *pirah* are the traditional, regional, and territorial socio-political units of the Juang which are managed and headed by their respective leaders. These leaders, in the past, played key role in territorial conflicts in intra and inter village managements. Though, now-a-day, they do not have any legal functional power, they continue to enjoy the respect of people.

As natural resources within the village territory are judicially managed and utilized by the community people, the role of traditional village council (*barabhaika*) is significant from Juang point of view. *Barabhaika*, being the corporate authority of the village, owns and manages all the communal property of the village, like village territory, *podu* land, streams, pond, cremation ground, grazing ground, *majang*, village common fund, etc. It is the caretaker of cultural values, ethics, customs and traditions in the village. It makes equitable distribution of economic assets, like *podu* land among the families considering the needs and capacity of each family. After independence, community resources are being privatized and degraded by the intervention of non-tribals, and the State. Hence, traditional institutions lost their power to manage CPRs. However, the imposition of Panchayat Raj System, autocratic nature of Forest Department, developmental measures, participation in elections, establishment of democratic set up and the rapidly changing socio-political environment in the country in the post-independence period have affected the base of traditional political system. The modern institutions have less significant role as we have seen from CPRs management point of view, such as the functions of Forest Department, present governance system and its development measures, which are largely unsuitable to tribal culture and environment. Though certain privileges and concessions are given to Juang to ensure their ownership and rights over community natural resources, in reality they cannot exercise it due to institutional failure. Hence, it is obvious that the traditional institutions can only function for the betterment of the community and the upkeep of natural resources.

End Notes:

ⁱ *Kanjipani, Budhighar, Fulbadi, Panasasasa, Bali, Baragarh, Saria, Hatisila, Dumuria, Kaptadiha, Nadam, Somgiri, Alang, Budhakhaman, Khajuribani, Badapada, Sapananji, Pitanali, Kaliapani and Gudimarada*

ⁱⁱ *Tangarapada, Kansa, Kodipasa, Duarsuni, Gungi, Champei, Pandapada, Jamudia, Pandadhar, Roduan and Kundhei*

ⁱⁱⁱ *Rebena, Kusumajodi, Gumura, Talapada, Budipada, Karda, Rangamatia, Satakosia, Gola, Lola, Banura, Ranipada, Masinajodi, Pichula, Ekkulia and Maraguda*

CHAPTER VII

CONCLUSION

This thesis explains the relationship between Juang and their natural resources, which they treat and use them as common property resources (CPRs) for eking out their livelihood. The previous chapters explain the Juang methods of managing their natural and other resource. It further explains how the Juang adapt to the changing resource contexts. In spite of interventions by the State and privatization of land and resources, the Juang negotiate with the new changes and continue to eke out their livelihood. The Juang respond to these changes by suitably altering their traditional institutions. The study village (Kadalibadi) comprises the Juang and Gauda. Juang consider natural resources as gifts of nature and, hence, treat them as common property. Common property like *podu* land, grazing ground, cremation ground, open land, orchard land, water and forests are perceived by Juang as their community property that they collectively own. It explains how the status of natural resources in the study village has changed over time.

The Juang have a holistic approach to the management of CPRs. They use their indigenous knowledge and social arrangements to utilize and manage natural resources. The Juang conserve these resources using their customary practices and institutional mechanisms, as they depend on them for their survival. Juang feel the moral responsibility to do so. CPRs are seen in the context of locally prevailing animism, ancestor worship, socio-cultural and religious beliefs. Their attitude towards the sanction of supernatural permission in all kinds of utilization and management systems reflects their close relation with nature. An important finding of the thesis is that the Juang consider Government property as common property as it is within their territory.

I

The objective of the thesis is to understand the change in cultural aspects and its relation to the utilization and management of CPRs. The study also focuses on the significance of CPRs to the communities that depend on them for survival and institutions that are involved in utilization and management of them. The changing

developmental dimensions in context of CPRs are achieved by taking a case study of Kadalibadi village in *Satakhandia Pirah* of Keonjhar districts, Odisha.

The assumptions in the study are that people have their own logic in considering a resource as CPR, in contrast to the understanding of the government, and in the utilization and management of such CPRs. This operates on the internal logic of the community that uses CPRs. This logic is hinged to their perception, management and resource utilisation. Common property for the community is one that is shared and that belongs to the community collectively. Natural resources are respected in the form of supernatural beings. If resources are to be appropriated and used sustainably, these beings have to be appeased in culturally prescribed ways. The logic of the Juang's or any traditional community in the utilization of such resources is misunderstood by the State. The State constantly attempts to regulate people's use of resources. Further, the State introduces development programmes without considering people's logic of sustainable use of resources. In order to grasp how people perceive, utilize and manage natural resources, an understanding of the user's logic becomes essential to prevent further depletion of resources.

The study further assumes that outside interventions in common property resource affects the people's ownership and their utilization. Hence, people negotiate with the changing circumstances to utilize the common property. In the process they redefine their relationship with natural resources by perceiving the States property as common property. Government proposes that the community has lost their ownership over natural resources as these resources belong to the State, but people feel the moral responsibility to take care of the resources available within their reach, as they earn their livelihood from them. Hence, they have an interest in their upkeep and conservation.

This study is based on the perception of the Juang. It explains how people perceive common property resource and their management and utilization patterns based on their cultural knowledge. However, a gap exists between the Governments understanding and Juang perception and their logic of resource use. Ideally the Government should take into consideration the community's logic of using resources. The interventions, if made by considering the logic of the Juang it would be easy for

the community to comprehend the scope of the development programmes. When interventions are made by the State without understanding the Juang perception and logic of use of natural resources, it leads to confusion for the community. When new resources are introduced into the community, simultaneously to utilize these resources, new practices are required. At this juncture a gap exists between new resources and the existing traditional methods of utilizing resources. In the changed context, the Juang do not have the knowledge of the new resources and its practices. What the Juang have in the new context is their traditional knowledge and practices. Hence, to make sense of the new resources which is akin to new and unknown world, the Juang attempt to decipher them using their traditional cultural knowledge and practices. It is somewhat similar to approaching or understanding the unknown through the known.

In the new context, the resource use pattern by the Juang though has not changed much; the form of use has changed. Some of the resources have acquired monetary value in the market. They use the new resources and accommodate them in their cultural knowledge using their cultural logic, thereby making it normatively accepted. They extend their belief, faith, rituals and gratitude to the new resources, by this process they make it fit into their system. In order to avoid the cultural imbalance within the community and environment, any aspect taken out of its context needs to be replaced by another cultural mechanism. Development measures have to progress along people's logic of resource use, if new intervention has to become operational and participatory. Anything new to the community should be demonstrated to people in a way that they can culturally adjust to it.

II

Historically, the Juang have made use of natural resources in ways that are socially, culturally and ecologically sustainable. Traditionally, the Juang had perception towards property as one that is communal. During the King's rule and the colonial period they have been introduced to the concept of private property ownership. The ownership pattern was imposed upon them by the State. Gradually, property owned by the community has shifted to the State (*sarkari*, according to Juang), wherein the individual derived ownership rights through the State.

With the interventions of colonial and post-colonial rule, Juang perception towards property began altering. It changed from a communal ownership to private ownership. Hence, the Juang distinguish between private, community and government property. Land survey and settlement operation and strict forest laws enhanced the process of privatization of common property resources. The privatization of CPRs in the name of development, settled cultivation, diversion of grazing land for the purpose of community development, plantation in the *podu* land and distribution of *guda* land for horticulture are constraints for the Juang to practice their livelihood. These changes are introduced by the State with the idea of strengthening the livelihood options of the Juang. The consequence of these interventions resulted in the depletion and degradation of CPRs on which the Juang depend for their survival.

Land use is categorized based on the soil composition, vegetation type, and podu cycle. This categorization and groupings helps them to define their territory which is managed by *barabhaika*, the village council and *Pirah* council. Intra and inter village disputes are settled by the *Pirah sardar*. The Juang customary management system like *paichala* strengthens the village fund (*gan bua*). Traditionally the village territorial limitations are relaxed during podu cultivation, hunting, MFP collection, and grazing and they are restricted within the *Pirah* territory.

The Gauda were helped by the Juang to have a foothold in the study village as a humanitarian gesture. However, Gauda have encroached upon the common property land of the Juang. Eight per cent of waste land is encroached by 20 per cent of Gauda households. The Gauda have encroached the CPR lands by bribing revenue officials during survey and settlement operation and in the process they possessed land. During the redistribution of land seven per cent of *guda* land is given to 21 Juang families for private horticultural development. This conversion of CPR land to private land is a major change found in the study village. Further, Forest Department has taken over 28 percent of *podu* lands (9 patches) for social forestry plantation on the ancestral cultivable *podu* land of Juang.

The ancestral settlement site is also occupied by the Gauda. This is the root cause of conflict between the Juang and the Gauda. Gauda households are closer to the wet

land and horticulture land which helps them to exploit the CPRs. In this context, the concept of *niche* is not found in the study village as there is encroachment and competition between the Juang and Gauda. The grazing land is degraded in the name of conversion and reservation for development purposes. We have found that 68.4 percent of this land is reserved for future development purposes. Six Juang families have 4.6 per cent of land for homestead. Twenty seven per cent of grazing land is merged with the village forest. This has led to the reduction of grazing land; hence, the cattle are deprived of fodder. Currently, through settled cultivation they get paddy straw for the purposes of thatching and fodder. Hence, they are not totally dependent on grasslands for these purposes but they still preserve and protect whatever patches of grasslands exist within their territory. Among the other CPRs, since cremation ground is declared as protected land, villagers search for their alternative option of cremation activity in the forest or *podu* land closer to their settlement. Juang settlement is connected by the footpath and open land which were managed by the members of *majang*, but at present due to the outsider's intervention in the name of development of footpath and open land by Panchayat, the bond between the *bandhu* villages have weakened.

We have seen the privatisation of *podu* land by revenue and Forest Departments in the name of development has reduced the access of land by the Juang. The Juang have a sentiment attached to the land as their ancestors depended on it. At present, 40 Juang household are only accessing 15 per cent of *podu* land for their livelihood.

The community plays a major role in the selection of sites, its distribution, selection of crops, fixing the time of sowing and harvesting with the help of secular and religious head. Plots are distributed according to the family need, size and cultivating capacity of the family. Here temporary ownership of this land is given to the cultivating family and later it reverts to the community after a certain period of cultivation. Separately, communal plots (*ganaria ekan*) are allotted to young men (*kangerki*) and women (*selanki*) of the *majang*, which they cultivate on a cooperative basis. The produce from these plots are utilized as funds to entertain and buy gifts for boys and girls coming from the *bandhu* villages. As *podu* cultivation is labour consuming the community has developed its ways and means to solve the problem of labour exchange during the cultivation. In their community, factors like mutual help,

exchange of labour, reciprocity has facilitated the success of the shifting cultivation cycle. For example, helpless widows and physically challenged persons in the village are given *podu* plots so that they are not a burden on other people in the village. The villagers collectively cultivate the *podu* lands allotted to these disabled persons. The people who worked on the *podu* land were offered a mid day meal for their services.

The communal plots (*ganria ekan*) are cultivated by the villagers collectively on a cooperative basis. The produce of these plots are kept in common village fund (*gan bua*) to be spent for entertaining guests, meeting expenses for common village disputes, litigations, arranging communal rituals, feasts and festivals, paying annual land revenues, and any kind of customary tributes, granting aids and advancing loans to the villagers at the time of need and meeting various contingent expenses when required. At present, community land is degrading due to privatization by government officials and encroachment by outsiders. Hence, there is a shortage of communal land to cultivate.

The Juang cultivate the *podu* land in three consecutive years, namely *surilok*, *bualok* and *nala*. During these three years they mostly do mixed cropping like *rasi*, *sulur*, *suturi*, *gadari*, *batatas*, *bua*, *kudu*, *akayang*, *kudu*, *gingari*, *kesada*, *kalar*, etc. An important reason for mixed cropping is that the crops grown in the patch have different periods of maturation and are harvested one after another. The scientific view is that the crops derive benefits from the associations of each other. The pulses are the source of nitrogen fixation. Millets and cereals are soil binder. The climbing pulses like *suturi* and *kalar* get support on *gingari*. The photochemical smell of one plant keeps insects and pests affecting the other plants away. After the three year cultivation they leave *podu* land fallow for three to four years to regain the fertility of land. This depicts the Juang's understanding and efficient communal management of land.

In comparison to the labour invested, the productive output from *podu* cultivation is very minimal, which hardly sustains three to four months in a year. But the process of *podu* cultivation keeps them occupied for about three quarters of a year. The output from this cultivation is always uncertain and unpredictable, as it depends upon the climatic conditions, wild animals and birds, pests and diseases. Population pressure on

land, prohibition and restriction by Government further limited the area and scope of *podu* which compelled them to cultivate the small area available to them continuously by shortening the recuperative period from eight years to three to four years at present. This has aggravated the situation further by causing serious damage to the soil and natural environment. Gradually the production has declined.

The Juang have adopted settled cultivation due to the influence of Gauda. Settled cultivation gives a higher yield of crops on which the Juang sustain for seven months. The Juang have started cultivating at the valley bottom, besides the stream, for summer (*kharif*) and winter (*rabi*) crops. Though the *bila* land gives more yields, the Juang do not have enough land and knowledge to cultivate it. Therefore, forest and forest products offers them additional source of livelihood in comparison to wage labour, agricultural labour, migrant labour, timber collection, small business and government service. Along with shifting and settled cultivation, forest produces as CPRs are major support to the community during lean period. In the village 90 percent of households depend on NTFP collection which provides them a safety net. The average household income of Juang is Rs.537, which varies annually. During summer and winter they invest maximum time and manpower in the collection of NTFPs. The contribution of sale proceeds of *sal* leaf, *sal* seed, mango, mango kernel, *mushakani* root and *patalagaruda* root to the household income is quite important. For household consumption they use mushroom, jackfruit, *pitalu* and mango kernel. During NTFPs collection 92.4 per cent are collected individually, whereas earlier the whole community used to collect the NTFPs collectively and shared it amongst the households. The change is because of the introduction of market economy to develop the households and not the community. This also shows the lack of togetherness of the *kutumba* as well as the community.

The method of collection, harvest and management of forest resources are based on rational and controlled process of management. The utilization processes of forest resources convey their management and conservation skills. They categorize forest based on their tree composition, forest position on hills, its size and religious beliefs. They do not cut the fruit bearing trees even if it is in the *podu* field as well as in the locality, because they treat them as their children. While collecting various plants or their parts, they apply certain practices like they bury the upper portion of the tubers

in the pit and cover it with soil so that it will regenerate. They do not cut the trees which they are fond of, like the *mahua* and *kusuma* plant, even though they may need it urgently. They collect fruits, leafy vegetables, roots required for one day. So that products are not exhausted in a short time. Certain areas in the ecosystem like *salo* are never harvested for any purpose, so that the trees get maximum protection to grow and decayed plants are left for decomposition. Their controlled way of resource exploitation is a sound management method. For example, they reuse the timbers used for temporary constructions even if fresh timber is available nearby. This shows their conscious attitude towards the use of forest CPRs. Juang culture is linked to its local ecosystems and, hence, they have sound knowledge and skills for the management of their resources not only for their own sake, but for the sake of entire forest and the environment as well.

III

In Juang community the process of social-cultural arrangements and supernatural sanctions in their utilization pattern of resources restricts the growth of individualism. Traditional practices and its cultural relevance in the context of CPR land and forest are important factors for its management. They are emotionally attached to the natural resources which make them quite possessive to treat it as their own communal property. They worship number of deities residing in the hills, forests, fields and streams. In all major rituals they pay homage to these deities to seek their blessings and protection. Particularly, in the *Pirah puja* festival held in July-August they pray to the forest and hill deities. Fear towards supernatural powers and ancestors allow them to keep the environment safe from degradation. Sanctions of supernatural power are required in every aspect of their life. They perform rituals during the selection of new settlement site. They first establish the *Gramasiri* and construct the *majang* before the shifting of whole village. Their strong attachment towards their land forces them to perform the rituals in each and every aspect related to new house construction, for example their non-acceptance towards the concrete house made by TISCO under IAY. It is because these houses were not constructed according to their supernatural and cultural belief system.

Similarly, they perform number of rituals related to the selection and distribution of *podu* land. Major one is *Pus-Punai* or *Magha Poda* festival when they perform rites to honour the ancestors (*pitruki*), village goddess (*Gramasiri*), other gods and goddesses, ghosts and sprits dwelling in hills, forests and streams by offering cooked food. During this process simultaneously they chant hymns for the prosperity of the villagers and seek blessings against disease, death, misfortune and calamities. In this festival paddy contributed by the *nagam* is considered sacred and is stored to be used as ritual seeds by all the families of the village on the first day of sowing. In this festival during the felling of trees *nagam* cuts the first tree from his plot using his sacred axe. Then others start debushing and felling the trees in their respective plots. This clearing operation is called '*laka deilak*'. *Nagam* uses the sacred fire of *majang* to set fire in the plot, following which others do the same which is called *panja poda*. *Tritia* festival is the symbol of beginning the sowing of crops, which is kept in *majang*, by the religious head, followed by others.

Amba nua and *nua khai* are the festivals observed during the harvest by worshipping village deity. They observe these communal rituals and offer the seasonal fruits to the deities and ancestral sprits before they are consumed. This acts as a survival measure. For example, in the *amba nua* (new mango eating) festival they offer green mangoes to the deities and ancestral sprits before first eating. Similarly, in *asadi paraba*, they offer *bangrur* (*kusuma*) fruits to the deities before eating the same. If such a ritual would not exist, these fruits would probably have been already consumed by the time the lean period begins. The ritual, thus, is a survival measure and ensures food security. There are other such rituals to control the use of food resources. New paddy is consumed after observing *nua khai*, new pulses, vegetables, millets and tubers are consumed only after observing *kalarb*. Similarly, *siali* fruit, cakes made out of cereals and millets are consumed only after the observance of *pus punei*.

The clan totems are conserved and honoured. They are tabooed for consumption by clan groups. Like *baningbak* clan do not consume *kusuma* fruit and flower and *temrembak* clan people do not consume tender fruits. Food restrictions are strictly observed by religious functionaries like *boita*, *dangu* and *pradhan*. They do not eat *kudu* and *kundui* (fruits), *akayang* (millets) and *galangsing* (honey) during rituals. The use of honey is a taboo for them at any time, because of a sacred feeling attached to it.

Food restrictions related to different health conditions, age, and sex acts as a mechanism of conservation. For example, a type of mushroom is not consumed by the unmarried youths and kids, for the fear that fever may attack a family member. Unmarried youths can take new food stuff of any type of crops, fruits, and seeds in any village other than their own, even when the formal rituals are not observed, but married people cannot do so, because there might be health problems in the family. It implies that they need supernatural sanctions and support for indigenous resource management practices for example, the ritual of rain making festival.

Sacred grove (*salo*) is conserved for the sacredness attached to it and it is regarded and worshiped in remembrance of their ancestors. Trees are protected with religious sanctions, so that no one can use any plant species of this area. Thus, the species in *salo* gets maximum protection. Safeguarding of totemic plants, animals, sacred groves and fruit bearing trees are viable approach of indigenous method for forest protection conservation and management. Thus, customary practices strengthen the bond of friendship, goodwill and good neighbourhood among the neighbouring Juang villages. For example, it is found during the management of footpath and open land.

IV

Can Government or external agencies protect the environment and forest by enforcing restrictions on the use of forest resources and practice of shifting cultivation, which is the major part common property of Juang, particularly when they have been managing their communal properties through the inherited rights and traditional institutions? The failure of understanding of the logic of the users and the unclear structure and function of new institutions leads to the insecurity of livelihood options among the traditional forest dwellers like the Juang.

According to Chopra, (1990) three factors are significant in the context of traditional management of CPRs in India, like community organizations, community set norms and various forms of community management function at different levels that have declined due to population pressure, state intervention and operation of market forces, which is found similar in the study village as well. Community organizations like *kutumba* (members of the whole community), village common fund (*gan bua*),

majang (mandaghara), *barabhaika* (village council), and community forest management institution like (*Kadalibadi Jangala Surakhya Samiti*) play a major role in CPR management, as we have seen in chapter five. Community norms like *paichala* (customary payment), *thengapali* (watch and guard system), and *padia* (a system of grazing) are decided by the community which is followed by all without any violation. Now-a-day norms of the institutions are violated due to population pressure, as the number of households increased from 21 to 50 in the village, and intervention by outsiders. State intervention through different developmental measures, encroachment of CPRs and individualisation of NTFP collection, introduction of market economy have severely affected the condition of CPRs.

Role of kinship organization is becoming weak because now-a-day as we have seen 92.4 percent of forest products are individually collected. Collective labour exchange and cooperation was there in their traditional podu cultivation which is not found in private settled cultivation. As according to S.P Rout (1969) the main objective of the *majang* is to carry on the Juang solidarity. But we have found that it is degrading due to the above reasons along with the intervention of Forest Department in the matters of village council which sits in the *majang*. Change in reciprocity and social behaviour among the community leads to the decline of traditional institutions. Lack of collective investment in the form of labour, service and money for its maintenance also leads to its weak functioning of *thengapali*, *padia*, *ganaria ekan*, *gan bua*, and *paichala*. Village common fund and customary payments are not functioning properly due to their replacement by self help groups supported by VSS, etc. The village forest protection committee (KJSS) runs by the membership contributions and funds collected from fine are still a shining example of collective effort of the village community to protect and conserve forest resources. VSS, on the other hand, which is supported by the Forest Department depends on the support of Forest Department and can sustain so long as it receives support from the external sources. One of the reasons for the degradation of CPRs is the decline in collective involvement in their maintenance.

V

There is no formal village council at present in the village because it has no recognition by the Forest Department, Panchayat and *palli* sabha. So they do not have formal village head. The active members of VSS are the influential people supported by Forest Department. There is always a conflict between different new institutional member, like the VSS and Panchayat members, representing the village in *palli* sabha, Panchayat sabha, and *pidha* sabha, etc. Functions and decisions taken in zilla parishad and *palli* sabha are not known to the villagers due to the above reasons. This shows that the management practices at the local level are most of the time reversed by the governing authority.

As it has already been mentioned in the study, the indigenous cultural practices are the best mode of preservation and management of community resources. It is primarily tension and conflict between the community and the governance system, which has taken away the community ownership over local natural resources. This has restricted the Juang to think positively about the management of community resources. It is clearly strengthened in the measures taken up by Government like PESA and Forest Rights Acts. These measures are not defined and explained clearly as we have seen through this study. For example, Odisha government had conformed, though not fully, to the provisions of the Central PESA Act while modifying its Panchayat Raj Institution Acts. Mandatory provision in the Central Act, which ensures tribal communities control over natural resources, granting licenses for minor minerals and their exploitation and acquisition of land by government for development projects which is proposed to be enforced through Gram Sabhas have not been conformed yet.

Undoubtedly, these systemic loopholes need to be plugged by considering the peoples' logic, who are the direct users of the resources. Efforts have to be made to make sure that community resource management becomes primarily a community's concern and not exclusively that of government officials. It has been seen that cultural and religious activities are the primary concern of the community which revolves around their use and management of CPRs. Now, it is clear from the observation made in the study that the external factors are mostly responsible for the degradation

of CPRs. In support to this, environmentalists like Fernandes, Menon and Viegas (1988) feel that external factors are mostly responsible for the depletion of forest resources.

The modern institutions have less significant role as we have seen from CPRs management point of view, such as the functions of Forest Department, present governance system and its development measures which are mostly unsuitable to tribal culture and environment. Though certain privileges and concessions are given to Juang to ensure the ownership and rights over community natural resources, in reality they cannot exercise it due to institutional failure. Hence, it becomes obvious that the traditional institutions can only function for the betterment of the community.

The purpose of protecting these resources cannot be achieved unless and until participatory measures is taken up to involve the local population in their own development. For example, Forest Department owns at present about one fifth of the country's landmass (Guha and Gadgil, 1996), but still the forest cover in the country has decreased from about 35 percent to about 8 percent in the recent decades. Environmental conservationists argue that the commercial forestry has contributed significantly to the destruction of biological diversity and to an increase in soil erosion and floods.

Even with an abundance of community resources with them from time immemorial they have never thought of exploiting the resources, although they have a feeling that common properties are imperishable. Traditionally they have a very rational and controlled mechanism to use and manage common properties through the traditional institutions, such as *Desha* organization, *Pirah* organization, and village council (*barabhaika*). *Desha* and *Pirah* are the traditional, regional, and territorial socio-political units of the Juang which are managed and headed by their respective leaders. These leaders play key role in resolving territorial resource conflicts in intra and inter village managements. Now-a-day they do not have functional powers but continue to enjoy the respect of people.

As natural resources within the village territory are judiciously managed and utilized by the community, the role of traditional village council (*barabhaika*) is significant

from Juang point of view. *Barabhaika* being the corporate authority of the village owns and manages all the communal property of the village, like village territory, *podu* land, streams, pond, cremation ground, grazing ground, *majang*, *ganaria ekan*, *gan bua*, etc. It is the caretaker of cultural values, ethics, customs and traditions in the village. It makes equitable distribution of economic assets like *podu* land among the families considering the need, size and capacity of each family. After independence, community resources are being privatized and degraded by the intervention of non-tribals, and the State. Hence, traditional institutions lose their power to manage CPRs. However, the imposition of Panchayat Raj System, autocratic nature of Forest Department, developmental measures, participation in elections, establishment of democratic set up and the rapidly changing socio-political environment in the country in the post-independence period have affected their base of traditional political system.

VI

Rational and controlled use of CPRs is the feature of Juang management. The utilization processes of resources do convey their management and conservation skills. The important role of CPRs is in reducing income disparities when other sources of livelihood fail. For example, all the households in the study village have poor income, less access to markets and are closer in location to the forests. Household data represents NTFP collection as a subsistence activity. CPRs are providing the basis of income generation for households with multiple options. For the economic development of Juang, socio-cultural and religious setting in relation to existing CPRs needs to be understood and recognized, that would be sustainable.

Further inquiry can be taken up to know how to sustain CPRs and traditional knowledge within a community, within a particular environmental and cultural setting, when outside impacts are unavoidable. Many scholars are doubtful about the future survival of the traditional tribal lifestyle and some claim that it may hamper the communities' development in other directions and their integration into civil society (Patnaik, 2003). Verrier Elwin with a vast research experience and a deep personal knowledge of and affection for the tribes of India, called it a "sort of abstract power dwelling in the tribe so long as it does not turn from its traditional customs and beliefs

(Elwin, 1954). The point Elwin stated as back as in the late 1950s is still valid in its core. He demands for the understanding and respect for tribal communities without which no policy and laws can impact on their social situation. He says this process leads them to a situation like, “progress into nothingness” (Elwin, 1954). For decades, tribals have been alienated from their cultural setting and tradition by outside interventions which adversely impact on their resource utilization and management practices. On the other way it leads to the loss of their cultural identity.

Regarding the degradation of CPRs, the alternative solutions suggested by Demtez and Johnson as privatization of CPRs are confirmed to be wrong through our study. Also Hardin’s suggestions in favour of giving full authority to an external agency, usually the State, to regulate the commons is also wrong as per our study. Even though PESA Act is accepted by the State but actual power is not given to the traditional institutions because of the dilution in the State Act as mentioned in the fifth chapter. By this process, the State retains the power with itself. *Gram Sabha (palli Sabha)* lost its authority to ownership, control and management of natural resources in Schedule V areas. Empowering the people over natural resources leads to its better access and management. In situations where the State became inefficient, there is a case for strengthening community organizations by creating institutions that can manage common property.

Social scientists who think about the possibilities and practical options to preserve CPRs have to be conscious of the fact that the social and cultural survival of a community is to a large extent related to them (Patnaik, 2003). Economic self-reliance and retaining self-identity in the use and management of common property resources are difficult to maintain a socio-ecological equilibrium to face the challenges, as far as the degree of outside impact is concerned. Meeting the demands of the Forest Department and the tribal economic development through government intervention in the present context is a threat to the existence of CPRs (Patnaik, 2003).

Our study thus reinforces the theoretical position held in the thesis that for better management and conservation of natural resources, including forests, the government and other agencies involved in the business of development need to understand the logic of the users of the resources, as they are the ones who have interest in their

upkeep and conservation. Unless this perspective is not internalized into the programmes and interventions of the government and other agencies, the health of the natural resources and their conservation only remains a mirage. In fact, this approach can ensure a healthy partnership and trust between the traditional forest dwellers and the government and other agencies. This can ensure a better and healthy environment for the natural resource dependent communities.

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THESIS SYNOPSIS

MANAGEMENT OF COMMON PROPERTY RESOURCES AND THE DIMENSIONS OF DEVELOPMENT IN A JUANG *PIRAH* OF KEONJHAR DISTRICT OF ORISSA

Submitted to The University of Hyderabad for the award of the Degree of Doctor of
Philosophy in Anthropology

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Introduction

Various communities across the world have evolved their own social institutions and cultural mechanisms for utilizing their natural resources. Very often this utilization process of resources forms an integral part of their culture. Anthropologists are in a privileged position to study the social and cultural mechanisms by which communities have managed their commons¹. Common properties are the resources accessible to the whole community of a village and to which no individual has exclusive property rights. They consist of village pastures, community forests, wastelands, common threshing grounds, waste dumping places, watershed, drainage, village ponds, tanks, rivers/rivulets, and river beds, etc., (Jodha,1986). Its survival depends upon the character of the communities and the institutions that have evolved around CPRs. These local natural resources are of more social, cultural and economic value to the dependent population, and are vital assets for the community. These properties are not openly accessible and outside communities are not allowed to use these resources.

But due to outsiders' involvement in the form of privatization, encroachment and development, depletion of resources and decline of management, community properties are under crisis. The significant outcome of different studies proposes that for the management of CPRs, participation of the local people is required. Management in this context implies human intervention in a common property resource system with a view to restore it, conserve it, or to sustaining its productivity, and regulating its use. The intervention could be in the form of application of labour and material inputs, creation of institutions or modification of existing institutions, enhancement of laws and so on (Katar Singh, 1996).

To manage these natural resources communities use their cultural knowledge in a continued way. People adjust to natural changes by using their cultural knowledge. In a natural setting, people negotiate regularly with nature using this knowledge to sustain their livelihoods. However, when people are introduced to new intervention made by the State, the relationship between people and their resource alters. It leads to

¹ A "common" is any resource that belongs to the public domain and is used by all those who depend on it. Put differently, when anyone uses a shared resource one is using a common. Commons can be better managed when its management responsibilities can be shared by a geographically localized community or communities.

a break in the nature-culture relationship. People are forced into a new setting which is unfamiliar to them. This has serious implication for both people and the environment (Siva Prasad 2001). This leads to depletion of community's natural resources.

I

The depletion of natural resources and its impact on the local communities were highlighted in the works of Jodha (1986), Fernandes and Menon (1987), Chambers (1989), Guha (1989), Nadkarni (1989), Gadgil (1993), Agarwal (1999), and Siva Prasad (2002). They clearly point out that development of a uniform process of reduction in diversity leads to resource depletion and decline in traditional management systems of resources. It ultimately is leading to destruction of traditional institutional arrangements, which facilitated the sustainable use of resources earlier (Karanth, 1992).

One reason for deterioration is outsiders' intervention in the local CPRs. Increased uncertainty in the property rights is another reason. Suppose a community thinks that they together own the forest which their forefathers passed on to them, but if the community does not possess any legal document regarding the forest, its rights to the resources are insecure. When people are uncertain of their rights to a piece of property, they hesitate to make the investments to protect and improve it. If the security of CPRs is uncertain then the collective responsibility of the people and its management system may collapse.

A further reason for the degradation of CPRs is that management practices at the local level are sometimes reversed by Governing authority. It is found that a number of States in the Sahel, Western Africa, for example, imposed rules, that in effect destroyed communal management practices in the forests. Villagers stopped operating their authority to punish those who violated locally instituted rules (Thompson et. al 1986; Somonathan 1991; Baland and Platteau 1996).

Social norms of behaviour, established on reciprocity, can be breakable. Institutions based on reciprocity are especially fragile in the face of growing opportunities for private investment in substitute resources (Dasgupta 1993 and 2003; Campbell et. al.

2001). This is a case where institutions deteriorate when traditional systems of management collapse and are not replaced by institutions that can act as substitutes, the users of CPRs become neglected. Balasubramanian and Selvaraj (2003) have found that one of the oldest sources of irrigation in a sample village in southern India, 'village tank', deteriorated over the years due to a gradual decline in collective investment in their maintenance.

History tells us that CPRs can be expected to decline in importance in tandem with economic development (North and Thomas 1973). Ensminger's (1990) study of the privatization of the common grazing lands among the Orma in north-eastern Kenya established that the transformation took place with the consent of the elders of the tribe. She attributed this to cheaper transportation and widening markets, which made private ownership of land more profitable. The elders were from the economically stronger families. She found that privatization brought out inequality within the tribe. In view of this, designing and adopting new institutions to solve CPR problems are a difficult task, no matter how homogeneous the group is, how well informed the members are about the conditions of their CPR, and how deep-rooted are the generalized norms of reciprocity.

The question arises as to how to prevent their over exploitation in view of the population growth. The rapid population growth can trigger resource depletion, if institutional practices are unable to adapt to the increased pressure on resources. The growth in rural population has been accompanied by the increased deforestation and reduced fallows.

Keeping the above questions in mind a theoretical model was evolved to understand Juang perception towards common property, private property and Government property in relation to their natural environment. The theoretical framework adopted in this study assumes that people who utilize common property resources have their own logic in considering a resource as common property, in contrast to the understanding of the government, and in the utilization and management of such CPRs. This operates on the internal logic of the community that uses CPRs. This logic is hinged to their perception, management and resource utilisation. Common property for the community is one that is shared and that belongs to the community

collectively. Natural resources are respected in the form of supernatural beings. If resources are to be appropriated and used sustainably, these beings have to be appeased in culturally prescribed ways. The logic of the Juang or any traditional community for that matter in the utilization of such resources is misunderstood by the State. The State constantly attempts to regulate people's use of resources. Further, the State introduces development programmes without considering people's logic of sustainable use of resources. In order to grasp how people perceive, utilize and manage natural resources, an understanding of the user's logic becomes essential to prevent further depletion of resources.

The study further assumes that outside interventions in common property resource affects the people's ownership and their utilization. Hence, people negotiate with the changing circumstances to utilize the common property. In the process they redefine their relationship with natural resources by perceiving the States property as common property. Government proposes that the community has lost their ownership over natural resources as these resources belong to the State, but people feel the moral responsibility to take care of the resources available within their reach, as they earn their livelihood from them. Hence, they have an interest in their upkeep and conservation.

In the new context, the resource use pattern by the Juang though has not changed much; the form of use has changed. Some of the resources have acquired monetary value in the market. They use the new resources and accommodate them in their cultural knowledge using their cultural logic, thereby making it normatively accepted. They extend their belief, faith, rituals and gratitude to the new resources, by this process they make it fit into their system. In order to avoid the cultural imbalance within the community and environment, any aspect taken out of its context needs to be replaced by another cultural mechanism. Development measures have to progress along people's logic of resource use, if new intervention has to become operational and participatory. Anything new to the community should be demonstrated to people in a way that they can culturally adjust to it.

II

In this regard, our study proposes to analyse the management of CPRs, in general, and its sustainable utilisation in the context of extensive tribal development of the Juang in Odisha². In order to test the validity of the theoretical perspective, fieldwork – using the traditional anthropological methods, i.e., participant observation, key informant and unstructured interviews, and case studies – was carried out for one annual cycle among the Juang of Kadalibadi village, one village out of seven villages of *Satakhandia Pirah*, which comes under Gonasika Gram Panchayat in Banspal Block of Keonjhar districts, Odisha. *Pirah* is the federation of traditional, territorial socio-political unit of the Juang.

Objectives of the Study

1. To examine the changing pattern of utilization and management of CPRs in the study village.
2. To explore the socio-economic impact of CPRs management in terms of livelihood support and the problems faced by various sections of the village communities.
3. To understand the change in the cultural aspects in the context of CPRs management in the study village.
4. To understand the impact of development programmes on the Juang livelihoods
5. To understand the role of institutions and their implications in CPRs management.

Methodology and Study Area

Satakhandia Pirah villages come under the Scheduled V Area. Keonjhar district has extensive forest cover and consists of 46 Scheduled Tribes and Juang are concentrated more in Banspal than Telkoi, Ghatagaon and Harichandanpur Blocks. The researcher collected secondary information from the Juang Development Agency and also held discussions with officials and NGOs to identify the *Pirah* for undertaking the field study in a village. In order to select the *Pirah* and the study village the following criteria were adopted: 1. Presence of wider forest cover, 2. Implementation of development programmes, 3. Forest conservation and development programmes, 4. Presence of plain land cultivation, and 5. Presence of traditional institutions that are

² The name of the State was officially changed from Orissa to Odisha from November 04, 2011. Hence, in the entire text Odisha was used instead of Orissa. Similarly the name of the language was also changed from Oriya to Odia.

playing an important role in resource management, utilisation and conservation. As a part of pilot study, the researcher visited four *Pirah* villages where the *Pirah sardar* lived. In the process, it was observed that *Satkhandia Pirah* that comes under Gonasika Gram Panchayat³, Banspal Block, was more suitable for the research than the other three *Pirahs*. In order to identify the study village, the researcher visited all the seven villages of the *Pirah* before selecting Kadalibadi that is found more suitable and satisfying all the above criteria.

Major criteria for selection of the village are the presence of forest, CPR land and traditional institutions, like *kutumba* (kinship organisation), *majang* (community house), *barabhaika* (village council), etc., relating to CPR management. Common properties like village forest, stream, well, tube well, open land, fruit bearing trees, cultivable waste lands and degraded forest, un-demarcated forest, hilly areas, irrigated and un-irrigated land, grazing land and wastelands are found in the study village. It has 23.3 hectares of forest, including 2.05 hectares of village forest. State has undertaken different developmental interventions, like Vana Surakya Samiti (VSS), Juang Development Agency (JDA), and other Constitutional measures to strengthen community institutions, like *gram sabha*. Juang have community forest protection committee named *Kadalibadi Jangal Surakya Samiti*, which comes under Community Forest Management system (CFM).

The village has fifty households, forty are Juang and the rest are Gauda. This has provided a framework for identifying the quantum of CPR availability to the village community and also helped in rapport building. Techniques, like participant observation, resource mapping, social mapping, structured and unstructured interviews, key informant interviews, informal interviews, were used in collecting primary data. The study employed detailed checklist (interview guide), census schedule, recording of oral histories and case studies in data collection.

Secondary data were also collected through sources like books, periodicals, magazines, articles from journals gathered from different libraries and institutes, online journals and internet websites, Census records, official government documents,

³ Incidentally, Juang claim that Gonasika was the place of their origin.

land and forest records, etc. Information on the extent of land under various heads of land-use, including village CPRs, was collected from district, block and village records. Due to the ambiguity in the records, we have verified community access to various types of land-use – viz., forestlands, community cultivated land, wastelands, village grazing lands, water bodies, croplands, open village site, cremation ground, etc., with the people to understand the existence of CPRs in the village. Besides this, group and personal discussions were held with a cross section of the local people and government officials. Quantitative information with regard to demographic aspects, economic aspects and utilization pattern of resources are gathered.

Data collected through participant observation, interviews with key informants and also to establish a link between the researcher and the village community in the field. Detailed census schedules were used to collect data regarding their socio-cultural and economic life, land holdings, occupational patterns, etc. Intensive discussions, formal and informal discussions were held with the officials, NGOs, and other functionaries to understand the present resource use, utilization and conservation pattern, impact of external interventions and developmental programmes, etc. Case study method is used to gain insights into the cultural perceptions of resource use and management practices as well as associated beliefs, conceptions and taboos and conflicts over CPRs. Visual aid, camera, was used for taking photographs of various natural resources, cultural and religious festivals. Tape recorder was used for recording the interviews of government officials and villagers.

Significance of the Study

The significance of the study lies in understanding the Juang cultural perceptions and social institutions for managing access to and use of CPRs. The study aims at understanding the reason in utilizing and managing natural resources by the Juang. This understanding can contribute to better strategies for sustainable development. The study focuses on the impact of external interventions, including developmental activities, on the traditional ways of life and livelihood systems and on the existing resources in the village. In order to incorporate cultural and environmental considerations in developmental planning, there is a need for formulating a comprehensive strategy for CPR based development planning and management. This study would provide a broad normative framework for resource planning and

development based on the proactive participation of the community and by taking into consideration their cultural perceptions and values.

Chapter Scheme

The first chapter ‘Introduction’ deals with the study and its introduction to the reader. It presents a broad review about the study out of which problems and hypothesis are drawn to examine. This chapter outlines a theoretical framework for this study. Objectives of the study are stated in this chapter followed by methods, tools and techniques of data collection, and criteria of selecting the field village, etc.

Detailed information about the study village, demographic and geographic aspects, symbiotic relation between Juang and other communities with the ecosystem are given in the second chapter ‘Village Profile’. Socio-economic aspects in relation to the forest land, agricultural practices, habitation, social organisation, annual working calendar, religious beliefs and practices are described.

The third chapter ‘Different dimensions of CPRs in the study village’ tries to identify the Juang perception of property in traditional and present context. It discusses the use and management of common properties within the village territory like grazing land, open land, waste land, shifting cultivated land, cremation ground, mountain land and water bodies. Traditional practices and its cultural relevance in the context of CPLRs management are analysed. The existing CPLRs are in the threatened state due to privatization and intervention of outsiders. Hence, its degradation is described from the Juang point of view.

The fourth chapter ‘Utilization of CPRs in the study village’ is an analysis of the forest and other resources and their utilisation in relation to cultural practices of the Juang. Forest categorization, ecological classification, cultural ecology, NTFP and its impact on Juang livelihood are discussed here. We have tried to find out the cultural aspects of forest CPRs, sacred grove, and fuel wood management practices.

The fifth chapter ‘Status and management of CPRs in the study village’ deals with the structure and function of traditional and modern institutions in CPRs management in the study village. It comprises the role of traditional organizations in which every

organization has a specific place and role to play in decision making process. The study analysed the importance of village level institutions, like kinship organization (*kutumba*), village common fund, *majang*, *barabhaika* (village council), Community Forest Management institution (Kadalibadi Jangala Surakhya Samiti) in CPRs management. In the name of Juang development the institutions like Forest Department, revenue department, Juang Development Agency (JDA), Panchayati Raj system, Vana Surakhya Samiti (VSS) and non-governmental organizations plays a supportive role to the community.

The sixth chapter concludes the study findings and attempts validate the theoretical framework adopted in the study.

III

Important Findings of the Study

This study is based on the perception of the Juang. It explains how people perceive common property resource and their management and utilization patterns based on their cultural knowledge. However, a gap exists between the Governments understanding and Juang perception and their logic of resource use. When new resources are introduced into the community, simultaneously to utilize these resources, new practices are required. At this juncture a gap exists between new resources and the existing traditional methods of utilizing resources. In the changed context, the Juang do not have the knowledge of the new resources and its practices. What the Juang have in the new context is their traditional knowledge and practices. Hence, to make sense of the new resources which is entirely new and unknown world, the Juang attempt to work out using their traditional cultural knowledge and practices. It is somewhat similar to approaching or understanding the unknown through the known.

In the new context the resource use pattern by the Juang though has not changed much, the form of use has changed. Some of the resources have acquired monetary value in the market. They use the new resources and accommodate them in their cultural knowledge using their cultural logic, thereby making it normatively accepted. They extend their belief, faith, rituals and gratitude to the new resources, by this process they make it fit into their system. In order to avoid the cultural imbalance

within the community and environment, any aspect taken out of its context needs to be replaced by another cultural mechanism.

Traditionally, the Juang had perception towards property as one that is communal which was socially, culturally and ecologically sustainable. During the King's rule and the colonial period they have been introduced to the concept of private property ownership. The ownership pattern was imposed upon them by the State. Gradually, property owned by the community has shifted to the State (*sarkari*, according to Juang), wherein the individual derived ownership rights through the State.

With the interventions of colonial and post-colonial rule, Juang perception towards property began altering. It changed from a communal ownership to private ownership. Hence, the Juang distinguish between private, community and government property. Land survey and settlement operation⁴ and strict forest laws enhanced the process of privatization of common property resources. The privatization of CPRs in the name of development, settled cultivation, diversion of grazing land for the purpose of community development, plantation in the *podu* land and its distribution for horticulture are constraints for the Juang to practice their livelihood. These changes are introduced by the State with the idea of strengthening the livelihood options of the Juang. The consequence of these interventions resulted in the depletion and degradation of CPRs on which the Juang depend for their survival.

The Gauda were allowed by the Juang to access their ancestral land in a humanitarian gesture. However, Gauda have encroached eight per cent waste land by bribing revenue officials during survey and settlement operation. During this process seven per cent of *guda* land is given to 21 Juang families for private horticultural development. This conversion of CPR land to private land is a major change found in the study village. Further, Forest Department has taken over 28 per cent of *podu* lands

⁴ After the Orissa land survey and settlement Act 1958, several changes were introduced in the land classification. As shifting cultivation has been the major source of livelihoods for the tribals, the Government of Orissa is yet to recognize it as a legitimate land use and has declared all such cultivation areas, including forest land, as Government land. During the Survey and Settlements, the shifting cultivation lands on hill slopes were categorized as government land, with no recognition of tribal rights over it, either individual or collective (UNDP, cited Kumar, 2008).

(nine patches) for social forestry plantation on the ancestral cultivable *podu* land of Juang.

The ancestral settlement site is also occupied by the Gauda. This is the root cause of conflict between the Juang and the Gauda. Gauda households are closer to the wet land and horticulture land which helps them to exploit the CPRs. In this context, the concept of *niche* is not found in the study village as there is encroachment and competition between the Juang and Gauda. The grazing land is degraded in the name of conversion and reservation for development purposes. We have found that 68.4 per cent of this land is reserved for future development purposes. Six Juang families have 4.6 per cent of land for homestead. Twenty seven per cent of grazing land is merged with the village forest. This has led to the reduction of grazing land; hence, the cattle are deprived of fodder. Currently, through settled cultivation they get paddy straw for the purposes of thatching and fodder. Hence, they are not totally dependent on grasslands for these purposes but they still preserve and protect whatever patches of grasslands exist within their territory. Among the other CPRs, since cremation ground is declared as protected land, villagers search for their alternative option of cremation activity in the forest or *podu* land closer to their settlement.

We have seen the privatisation of *podu* land by revenue and Forest Departments in the name of development has reduced the access to land by the Juang. The Juang have a sentiment attached to the land as their ancestors depended on it. At present, 40 Juang household are only accessing 15 per cent of *podu* land for their livelihood.

The community plays a major role in the selection of sites, its distribution, selection of crops, fixing the time of sowing and harvesting with the help of *nagam* and *pradhan*. Plots are distributed according to the family need, size and cultivating capacity of the family. Here, temporary ownership of this land is given to the cultivating family and later it reverts to the community after three years cyclic period of cultivation gets over. Separately, communal plots (*ganaria ekan*) are allotted to young men (*kangerki*) and women (*selanki*) of the *majang*, which they cultivate on a cooperative basis. The produce from these plots are utilized as funds to entertain and buy gifts for boys and girls coming from the *bandhu* villages. As *podu* cultivation is labour consuming, the community has developed its ways and means to solve the

problem of labour exchange during the cultivation. In their community, factors like mutual help, exchange of labour, reciprocity has facilitated to carry on shifting cultivation cycle. For example, helpless widows and physically challenged persons in the village are given *podu* plots so that they are not a burden on other people in the village.

The communal plots (*ganria ekan*) are cultivated by the villagers collectively on a cooperative basis. The produce of these plots are kept in common village fund (*gan bua*) to be spent for entertaining guests, meeting expenses for common village disputes, litigations, arranging communal rituals, feasts and festivals, paying annual land revenues, and any kind of customary tributes, granting aids and advancing loans to the villagers at the time of need and meeting various contingent expenses when required. At present, community land is degrading due to privatization by government officials and encroachment by outsiders. Hence, there is a shortage of communal land to cultivate.

The Juang cultivate the *podu* land in three consecutive years, namely *surilok*, *bualok* and *nala*. During these three years they mostly do mixed cropping like *rasi*, *sulur*, *suturi*, *gadari*, *batatas*, *bua*, *kudu*, *akayang*, *kudu*, *gingari*, *kesada*, *kalar*, etc. An important reason for mixed cropping is that the crops grown in the patch have different periods of maturation and are harvested one after another. The scientific view is that the crops derive benefits from the associations of each other. The pulses are the source of nitrogen fixation. Millets and cereals are soil binder. The climbing pulses like *suturi* and *kalar* get support on *gingari*. The photochemical smell of one plant keeps insects and pests affecting the other plants away. After the three year cultivation they leave *podu* land fallow for three to four years to regain the fertility of land. This depicts the Juang's understanding and efficient communal management of land.

In comparison to the labour invested, the productive output from *podu* cultivation is very minimal, which hardly sustains three to four months in a year. But the process of *podu* cultivation keeps them occupied for about three quarters of a year. The output from this cultivation is always uncertain and unpredictable, as it depends upon the climatic conditions, wild animals and birds, pests and diseases. Population pressure on

land, prohibition and restriction by Government further limited the area and scope of *podu* which compelled them to cultivate the small area available to them continuously by shortening the recuperative period from eight years to three to four years at present. This has aggravated the situation further by causing serious damage to the soil and natural environment. Gradually the production has declined.

The Juang have adopted settled cultivation due to the influence of Gauda. Settled cultivation gives a higher yield of crops on which the Juang sustain for seven months. The Juang have started cultivating at the valley bottom, besides the stream, for summer (*kharif*) and winter (*rabi*) crops. Though the *bilaw* land gives more yields, the Juang do not have enough land and knowledge to cultivate it. Therefore, forest and forest products offers them additional source of livelihood in comparison to wage labour, agricultural labour, migrant labour, timber collection, small business and government service.

Along with shifting and settled cultivation, forest produces as CPRs are major support to the community during lean period. In the village 90 per cent of households depend on NTFP collection which provides them a safety net. The average household income of Juang is Rs.537, which varies annually. During summer and winter they invest maximum time and manpower in the collection of NTFPs. The contribution of sale proceeds of *sal* leaf, *sal* seed, mango, mango kernel, *mushakani* root and *patalagaruda* root to the household income is quite important. For household consumption they use mushroom, jackfruit, *pitalu* and mango kernel. During NTFPs collection 92.4 per cent are collected individually, whereas earlier the whole community used to collect the NTFPs collectively and shared it amongst the households. The change is because of the introduction of market economy to develop the households and not the community. This also shows the lack of togetherness of the *kutumba* as well as the community.

The important role of CPRs is in reducing income disparities when other sources of livelihood fail. For example, all the households in the study village have poor income, less access to markets and are closer in location to the forests. Household data represents NTFP collection as a subsistence activity. CPRs are providing the basis of income generation for households with multiple options. For the economic

development of Juang, socio-cultural and religious setting in relation to existing CPRs needs to be understood and recognized, that would be sustainable.

The method of collection, harvest and management of forest resources are based on rational and controlled process of management. The utilization processes of forest resources convey their management and conservation skills. They categorize forest based on their tree composition, forest position on hills, its size and religious beliefs. They do not cut the fruit bearing trees even if it is in the *podu* field as well as in the locality, because they treat them as their children. While collecting various plants or their parts, they apply certain practices like they bury the upper portion of the tubers in the pit and cover it with soil so that it will regenerate. They do not cut the trees which they are fond of, like the *mahua* and *kusuma* plant, even though they may need it urgently. They collect fruits, leafy vegetables, roots required for one day. So that products are not exhausted in a short time. Certain areas in the ecosystem like *salo* are never harvested for any purpose, so that the trees get maximum protection to grow and decayed plants are left for decomposition.

In Juang community the process of social-cultural arrangements and supernatural sanctions in their utilization pattern of resources restricts the growth of individualism. Traditional practices and its cultural relevance in the context of CPR land and forest are important factors for its management. They are emotionally attached to the natural resources which make them quite possessive to treat them as their own communal property.

They perform number of rituals related to the selection and distribution of *podu* land. Major one is *Pus-Punai* or *Magha Poda* festival when they perform rites to honour the ancestors (*pitruki*), village goddess (*Gramasiri*), other gods and goddesses, ghosts and sprits dwelling in hills, forests and streams by offering cooked food. *Tritia* festival is the symbol of beginning the sowing of crops, which is kept in *majang*, by the religious head, followed by others. *Amba nua* and *nua khai* are the festivals observed during the harvest by worshiping village deity. They observe these communal rituals and offer the seasonal fruits to the deities and ancestral sprits before they are consumed. This acts as a survival measure. For example, in the *amba nua* (new mango eating) festival they offer green mangoes to the deities and ancestral

sprits before first eating. Similarly, in *asadi paraba*, they offer *bangrur* (*kusuma*) fruits to the deities before eating the same. If such a ritual would not exist, these fruits would probably have been already consumed by the time the lean period begins. The ritual, thus, is a survival measure and ensures food security. There are other such rituals to control the use of food resources. New paddy is consumed after observing *nua khai*, new pulses, vegetables, millets and tubers are consumed only after observing *kalarb*. Similarly, *siali* fruit, cakes made out of cereals and millets are consumed only after the observance of *pus pune*.

Sacred grove (*salo*) is conserved for the sacredness attached to it and it is regarded and worshiped in remembrance of their ancestors. Trees are protected with religious sanctions, so that no one can use any plant species of this area. Thus, the species in *salo* gets maximum protection. Safeguarding of totemic plants, animals, sacred groves and fruit bearing trees are viable approach of indigenous method for forest protection conservation and management. Thus, customary practices strengthen the bond of friendship, goodwill and good neighbourhood among the neighbouring Juang villages. For example, it is found during the management of footpath and open land.

But Government's restriction to use their resources keeps them away from their traditional practices which damage their relation with resource and nature. The study confirms that enforcing restrictions on the use of forest resources and practice of shifting cultivation, particularly when they have been managing their communal properties through the inherited rights and traditional institutions, is the cause of resource degradation. The failure of understanding of the logic of the users and the unclear structure and function of new institutions leads to the insecurity of livelihood options among the traditional forest dwellers like the Juang.

According to Chopra, (1990) three factors are significant in the context of traditional management of CPRs in India, like community organizations, community set norms and various forms of community management function at different levels that have declined due to population pressure, state intervention and operation of market forces, which is found similar in the study village as well. Community organizations like *kutumba* (members of the whole community), village common fund (*gan bua*), *majang* (mandaghara), *barabhaika* (village council), and community forest

management institution like (*Kadalibadi Jangala Surakhya Samiti*) play a major role in CPR management, as we have seen in chapter five. Community norms like *paichala* (customary payment), *thengapali* (watch and guard system), and *padia* (a system of grazing) are decided by the community which is followed by all without any violation. Now-a-day norms of the institutions are violated due to population pressure, as the number of households increased from 21 to 50 in the village, and intervention by outsiders. State intervention through different developmental measures, encroachment of CPRs and individualisation of NTFP collection, introduction of market economy have severely affected the condition of CPRs.

Role of kinship organization is becoming weak because now-a-day as we have seen 92.4 per cent of forest products are individually collected. Collective labour exchange and cooperation was there in their traditional *podu* cultivation which is not found in private settled cultivation. As according to S.P Rout (1969) the main objective of the *majang* is to carry on the Juang solidarity. But we have found that it is degrading due to the above reasons along with the intervention of Forest Department in the matters of village council which sits in the *majang*. Change in reciprocity and social behaviour among the community leads to the decline of traditional institutions. Lack of collective investment in the form of labour, service and money for its maintenance also leads to its weak functioning of *thengapali*, *padia*, *ganaria ekan*, *gan bua*, and *paichala*. Village common fund and customary payments are not functioning properly due to their replacement by self-help groups supported by VSS, etc. The village forest protection committee (KJSS) runs by the membership contributions and funds collected from fine are still a shining example of collective effort of the village community to protect and conserve forest resources. VSS, on the other hand, which is supported by the Forest Department depends on the support of Forest Department and can sustain so long as it receives support from the external sources. One of the reasons for the degradation of CPRs is the decline in collective involvement in their maintenance.

There is no formal village council at present in the village because it has no recognition by the Forest Department, Panchayat and *palli sabha*. So they do not have formal village head. The active members of VSS are the influential people supported by Forest Department. There is always a conflict between different new institutional

member, like the VSS and Panchayat members, representing the village in *palli sabha*, Panchayat *sabha*, and *Pirah sabha*, etc. Functions and decisions taken in *zilla parishad* and *palli sabha* are not known to the villagers due to the above reasons. This shows that the management practices at the local level are most of the time reversed by the governing authority.

Undoubtedly, these systemic loopholes need to be plugged by considering the peoples' logic, who are the direct users of the resources. Efforts have to be made to make sure that community resource management becomes primarily a community's concern and not exclusively that of government officials. It has been seen that cultural and religious activities are the primary concern of the community which revolves around their use and management of CPRs. Now, it is clear from the observation made in the study that the external factors are mostly responsible for the degradation of CPRs. In support to this, environmentalists like Fernandes, Menon and Viegas (1988) feel that external factors are mostly responsible for the depletion of forest resources.

The modern institutions have less significant role as we have seen from CPRs management point of view, such as the functions of Forest Department, present governance system and its development programmes which are mostly unsuitable to tribal culture and environment. Though certain privileges and concessions are given to Juang to ensure the ownership and rights over community natural resources, in reality they cannot exercise it due to institutional failure. Hence, it becomes obvious that the traditional institutions can only function for the betterment of the community. Traditionally they have a very rational and controlled mechanism to use and manage common properties through the traditional institutions, such as *Desha* organization, *Pirah* organization, and village council (*barabhaika*). *Desha* and *Pirah* are the traditional, regional, and territorial socio-political units of the Juang which are managed and headed by their respective leaders. These leaders play key role in resolving territorial resource conflicts in intra and inter village managements. Now-a-days they do not have functional powers but continue to enjoy the respect of people.

As natural resources within the village territory are judiciously managed and utilized by the community, the role of traditional village council (*barabhaika*) is significant

from Juang point of view. *Barabhaika* being the corporate authority of the village owns and manages all the communal property of the village, like village territory, *podu* land, streams, pond, cremation ground, grazing ground, *majang*, *ganaria ekan*, *gan bua*, etc. It is the caretaker of cultural values, ethics, customs and traditions in the village. It makes equitable distribution of economic assets like *podu* land among the families considering the need, size and capacity of each family. After independence, community resources are being privatized and degraded by the intervention of non-tribals and the State. Hence, traditional institutions lose their power to manage CPRs. However, the imposition of Panchayat Raj System, autocratic nature of Forest Department, developmental measures, participation in elections, establishment of democratic set up and the rapidly changing socio-political environment in the country in the post-independence period have affected their base of traditional political system.

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