Livelihood Patterns and Resource Base of Tribals in Koraput and Rayagada District of Odisha

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ABSTRACT

A study was conducted to examine the livelihood patterns and resource base of tribals of Odisha. Farming, forest, wage, migration and service /business were major livelihood patterns, with a very low annual income. High level of illiteracy (68% in males and 95% in females) with small and nuclear family was common features. The level of advance skill was quite low (less than 10%) in comparison to traditional skill like shifting cultivation (all males and more than 80 % in females) that they acquire by inheritance. Sources of farm technologies were villagers and NGOs. Most of them (87.50%) relied on river, stream, open space and pond for bathing. Only 50.83 per cent households had electric connection and others were depending on kerosene for light. Fuel wood, wood, tamarind and mahua *were forest produces of high importance where as leaves; mango kernels, tubers and bamboo were important forest products. Timber, gum and raisin, bark, honey, grasses and mushroom were less important. The households, on an average, owned 1.45 goats, 1.79 cows and 3.68 poultry birds and 0.33 piggeries for their own household purposes such as farm work and food. Tribal households accept the ethnic leadership. Poor education, low resource base and insufficient infrastructure undermine the livelihood patterns; therefore tribals in the study area deserve special attention for strengthening their livelihoods.*

Key words: *Livelihood patterns, tribal, resource base, physical resources, natural resources, financial resources,*

There are 437 tribes in India and Odisha is inhabited by 62 tribes with a total strength of approximately six million (5,915,067) constituting 22.43 per cent of the total State population (*Rajkishore, 2007*). Tribal population is ethnic in composition, smaller in size having subsistence economy based on forest, wages and shifting cultivation. Shifting agriculture on unproductive and uneconomic holdings under un-irrigated condition in the undulating terrains with traditional skill and primitive implements raise only one crop during the monsoon, and therefore, they have to supplement their economy by other types of subsidiary economic activities. They have simple technology, simple division of labour, small-scale units of production and no investment of capital. The production, distribution and consumption are limited to the family. The ability of a household to command sufficient resources for food and basic needs is largely dependent upon social, material and economic conditions (*Chhotray, 2004*). The livelihood strategies of households are determined mostly by their social, demographic, economic and cultural settings. Tribal economy is affected by poverty of the physical environment, ignorance of efficient technique of exploiting natural resources and lack of capital for investment, therefore, lack of food security is a major problem for them. As the socio-economic improvement of the tribals still remains in question in spite of implementation of many developmental projects, the sustainable rural livelihood approach is being adopted to mitigate problems related to development in the region. Investigation on tribal livelihoods necessitates examination of socio-economic settings, the resource base, livelihoods options and supportive systems. In this paper, an attempt has been made to examine the resource base and livelihoods of the tribes of Rayagada and Koraput districts of Odisha.

METHODOLOGY

The study was carried out in two hilly and tribal dominated districts namely; Koraput and Rayagada of

Odisha during 2008-09. Two blocks namely Badunga and Laxmipur in Koraput and Rayagada and Kashipur in Rayagada district were selected for investigation. Two villages in each of the selected blocks and 240 households consisting of 480 respondents (male head and female head) were personally interviewed. Data was collected through structured and pre-tested interview schedule by the investigator with the help of interpreters. Collected data was analyzed and interpreted. The different livelihood patterns of the tribal families were identified and emphasis was laid on resource structure of livelihood patterns.

RESULTS AND DISCUSSION

Livelihood patterns of tribal: Since immemorial, tribal living has passed through different stages under influence of natural and ethnic factors. The genesis of tribal livelihood may be traced back from hunting and forest based livelihood. To counter the sufferings of tribals, development agencies have shown greater attention to improve their living standards. It is felt widely that the vast ethnic group can be productive and can contribute effectively to the nation building, provided their livelihoods get strengthened. It is in the above perspective; analysis of the livelihoods of the tribals is of paramount importance.

The data pertaining to the livelihood of tribal families in Rayagada and Koraput districts of Odisha are presented in Figure-1. A perusal of the data reveals that there were five major livelihood patterns such as; farm, forest, wage, migration and business/ service based. Majority of the tribal families (55.41%) had farm based livelihood followed by wage based (27.48%), forest based (6.67%); migration based (5.41%) and business/ service based (5.00%). Under farm based, three distinct types of livelihoods were observed namely; crop based, horticulture based and animal husbandry based having the share of 88.72 per cent, 10.52 per cent, and 0.75 per cent, respectively. The above finding indicates that at present, the tribal families are more involved in farm sector for their livelihood and big chunk of them have resorted to wage employment.

The analysis of the secondary and tertiary sources of income of tribal households depending on farming presented in the Table- 1 provides very interesting facts that all the tribal households (100%) had forest activities as their secondary or tertiary source of income. Among the sectors that were taken by the tribal households as their secondary livelihood, wage earning (30.83%) topped the list, followed by forest activities (15%), crop production activities (13.33%) and animal husbandry activities (11.67%).

Table 1: Distribution of Secondary and tertiary livelihoods of tribal household (N=240)

S.N.	Primary livelihood	Farming (f)	Wage (f)	Forest (f)	Service/ Business (f)	Migration (f)	Others(f)
	Secondary livelihood						
1.	Farming	-	60 (45.11)	31(15.78)	18 (13.53)	15 (11.27)	9 (6.76)
a.	Crop production	-	57(44.06)	25 (25.42)	16 (13.55)	12 (10.16)	8 (6.77)
b.	Horticulture	-	2 (14.28)	6 (42.85)	2 (14.28)	3 (21.42)	1 (7.14)
c.	Animal husbandry	-	1(100.0)	0 (0.00)	0 (0.00)	0 (0.00)	0 (0.00)
2.	Wage	65 (98.48)	-	1(1.51)	0 (0.00)	0 (0.00)	0 (0.00)
3.	Forest	4 (25.00)	7 (43.75)	-	2 (12.50)	1(6.25)	2 (12.50)
4.	Service/Business	10 (83.33)	0 (0.00)	2 (16.67)	-	0 (0.00)	0 (0.00)
5.	Migration based	4 (30.76)	7 (53.84)	2 (15.38)	0 (0.00)	-	0 (0.00)
	Total	83 (34.58)	74 (30.83)	36 (15.00)	20 (8.33)	16(6.67)	11(4.58)
	Tertiary livelihood						
1.	Farming	-	20 (15.03)	102 (76.69)	1(0.75)	0(0.00)	10(7.51)
a.	Crop production	-	15 (12.71)	95(87.28)	0(0.00)	0 (0.00)	8(6.77)
b.	Horticulture	-	5 (35.71)	7(50.00)	0 (0.00)	0(0.00)	2(14.28)
c.	Animal husbandry	-	0 (0.00)	0 (0.00)	1(100)	0(0.00)	0(0.00)
2.	Wage	1(1.50)	-	63(95.50)	1(1.51)	1(1.51)	0(0.00)
3.	Forest	12(75.00)	4(25.00)	-	0(0.00)	0(0.00)	0(0.00)
4.	Service/Business	2(16.70)	(0)0.00	5(41.66)	-	0(0.00)	1(8.33)
5.	Migration based	5(38.50)	0(0.00)	7(53.80)	0(0.00)	-	1(7.69)
	Total	20(8.33)	24(10.00)	177 (73.75)	2(0.83)	1(0.41)	12(5.00)

*Figures in parentheses are percentage

The predominant livelihood options of the tribals based on agriculture, animal rearing and forest, apart from temporary migration and wage engagement has already been reported by other workers also (*Anonymous, 2008b*).

*Resource base of tribal households:*Resource of an individual decides in great extents the behaviour and outcomes. Livelihood of a household is shaped through a dynamic process involving interaction between various resources, events, govt. policy and programmes. A careful analysis of the resource base of the households can tell to a great extend the relationship between the resource and livelihood and the future of the livelihood. In the above consideration, the resource base of tribal households was analyzed and presented in Table-2 and 3.

The study analyzed five different broad groups of resource namely social, physical, financial, natural and human which are presented in the above tables. The social resources in the study were type of family, family size, access to different leadership, social restriction, participation in community organizations and support from community organizations. The physical resources were housing, facility of bathroom and toilets, road, electric connection and availability of transport. The financial resources were income and average livestock in the family. The natural resources were land holding, irrigation facility, source of drinking water and adequacy of drinking water. The human resources studied in the area were age, level of education and knowledge, skill and ability to work.

Only 88 families (38.66%) of the total sample were found living jointly and the majorities (63.66%) were in nuclear family. The family size of 5-6 members was found to an extent of 39.58 per cent. Village leadership in the form of ethnic leader which was dominant in past also was found prevalent to advice and guide the tribals. Cent per cent households were found using the help of elected leaders under *Panchayat Raj* systems. In all, 4 types of ethnic leaders namely; *Dishari, Jani, Samant* and *Dhandasi* were reported in the villages. *Dishari* declares the time of sowing of crops and worships the village deities on the behalf of villagers. *Jani* act as community cook and also performs *puja* in the hamlets. *Samant* acts like judge and resolves the disputes in the villages. Role of *Dhandasi* is limited to watch and ward of the village property and general security. This leadership put certain social restrictions as it was very common in tribal community. Social restrictions through taboos was found affecting about 69.23 per cent of the tribal households. About 85 per cent of the tribal households had participation in self-help groups through their females and NGOs were found quite active and about 74 per cent of the households participated in their programme. Tribal households enjoyed monetary and non-monetary support from different community organizations.

Capital created by the economic production processes is treated as physical resource. Houses, lighting facilities, transport facility and so on are example of physical resource. The livelihood approach (Carney, 1998) places a lot of emphasis on physical resource, especially on the identification of assets possessed by the rural poor and can be utilized or built upon to increase the resilience and security of their livelihoods. Only less than 50.83 per cent of the households were found to have electricity. There has been a lot of improvement in the housing structure of tribal folk owing to the direct support from government-sponsored projects as 52.50 per cent tribes were having semi *pucca* houses in present study (Table-3). It does not mean, however, that there is an all-round progress in the construction of houses for all tribes. The results obtained from the field data that about 47.50 per cent of the tribal reside in *kutcha* houses. Houses are built with full or partial assistance from the government. No house was constructed with assistance from voluntary organizations, though there are a number of such agencies working in the area. Data presented in the Table-3 also revealed that public transport facility was available with 62.50 per cent households but regular transport facility was available to only 38.33 per cent tribal households. Due to improper transport facility they were facing lot of problems especially during medical emergency and illness. It was seen that 87.50 per cent of the sample population relied on river, stream, open space and pond for bathing; only the remaining 12.50 per cent had bath room facility at home. In the absence of toilet facilities, all the households (100%) used open space for defecation as no household had septic tank facilities in its homesteads. This created a lot of unhygienic condition in their habitat and surroundings.

The annual income of the tribal households was very low and majority of the families (55.00%) were getting only Rs.10000-20000 annually.

Natural resources are sometimes referred to as environmental resources. It comprises land and forests

and other biological resources. Land is the major determinant of the asset status of households and hence, a strategic factor determining their livelihood. Field data showed that 41.66 per cent of the tribal families were landless, around 39.16 per cent of the households owned less than one acre, and 12.50 per cent, 1-2 acres land and only 6.67 per cent had more than 2 acres of land (Table-3). It was found that landless tribal household had taken up farming by using forest land under shifting cultivation and others land on lease basis. It was also observed from the data that only 26.36 per cent land owned by the tribes was irrigated and rest 73.63 per cent land was un-irrigated.

Rivers and streams was the major sources of drinking water for all the families previously, till now about 25.00 per cent of the households were depending upon river and stream for drinking water. Even though, the rivers dry up in the summer season, most of the households relied on sallow wells dug in the river beds for water. Attempts made from the part of the government for supplying drinking water had yielded some results. Hand pumps and public taps, together account for the water supply to about 75.00 per cent of the tribal households, however, hand pump water has high iron content and not liked by households. In public taps, water is supplied from local springs only, hence, this water also is not very safe and causes various water borne diseases like diarrhea, dysentery, typhoid, cholera and intestinal worms.

The households on an average owned 1.45 goats, 1.79 cows and 3.68 poultry birds and 0.33 piggeries for their own household purposes such as farm work and food. It was found that in spite of vast potentiality of livestock enterprise among the tribal, households have not taken up livestock as an important livelihood.

Majority (77.91 % male heads and 72.08 % female heads) of respondents were in the age group of 25-40 years and about 95 per cent female heads were illiterate. Male and female human resource refers to the labour available to the households: its education, skills, and health (Carney, 1988). The male and female heads of the tribal households were found educationally very backward as none from the female and very meager percentage (3.75%) of male were having primary education. Skill and ability to work are the important part of human capital to raise the income level. Hence, evaluation of skill level of target population was thought to be importance in the evaluation of livelihood. Present

Table 2. Resource base of tribal families N=240

Class	No.	%
Nuclear	152	63.33
Joint	88	36.66
< 3	15	6.25
3-4	74	30.83
5-6	95	39.58
> 6	56	23.33
Ethnic leader	108	45.00
Farm leader	0	0.00
Elected leader	240	100.0
Yes	199	82.90
No	41	17.08
NGO	184	76.67
SHG	202	84.61
Village club	92	38.33
High	28	11.67
Medium	40	16.67
Low	61	25.42
No	111	46.25
Monetary	31	12.92
Non-monetary	209	87.08
Pucca	0	0.0
Kutcha	114	47.50
Semi pucca	126	52.50
Yes	30	12.50
No	210	87.50
Yes	0	0.00
No	240	100.0
Gram panchayat	150	62.50
Nearest market	150	62.50
Block office	150	62.50
Village level	210	87.50
Household level	122	50.83
Public	150	62.50
Personal	10	4.16
Regular	92	38.33
Irregular	58	24.16
< 5000	15	6.25
5000-10000	30	12.50
10000-20000	132	55.00
> 20000	63	26.25
Land less	100	41.66
< 1 acre	94	39.16
1-2 acre	30	12.50
>n 2 acres	16	6.67
Irrigated	37	26.42
Non irrigated	103	73.57
Spring	60	25.00
Hand pump	150	62.50
Water supply	30	12.50
Adequate	65	27.08
Inadequate	175	72.91
Milch / Draft animal	1.79	-
Poultry	3.68	-
Goatery	1.45	-
Piggery	0.33	-

study reveled that the most of the tribes unless given proper guidance and information, would follow conservative methods and stick to what they have .Due to low education level, skill and ability level was low in the tribal population. The level of skill oriented works such as civil works, mechanical works, electric works and stitching (less than 10 per cent) was quite low (Table-4) in comparison to traditional skill like shifting (*podu*) cultivation (93% in male and more than 80% in females) that they acquire by inheritance. Poor education has paid low in target group in terms of skill development as education has a higher pay-off for tribes in a changing and modernizing environment than in a traditional society (Schultz, 1964). However the findings indicate that majority of male and female heads had knowledge, skill and ability in shifting cultivation, kitchen gardening and animal rearing.

Table 3. Human Resources: Age, education, knowledge, skill and ability to work N=480

Class	Male head of the family n = 240		Female head of the family n = 240	
	No.	%	No.	%
< 25 years	7	2.91	36	15.00
25-40years	187	77.91	173	72.08
> 40 years	46	19.16	31	12.92
Illiterate	163	67.91	227	94.58
Literate	68	28.33	13	5.41
Primary	9	3.75	0	0.00
Shifting (Podu) cultivation	224	93.33	192	80.00
Vegetable farming	85	35.41	87	36.25
Civil works	31	12.91	17	7.08
Kitchen gardening	73	30.41	118	49.16
Animal rearing	37	15.41	35	14.58
Mechanical works	16	6.67	0	0.00
Leaf plate making	20	8.33	34	14.16
Driving	20	8.33	0	0.00

Support of forest produces to the tribal households : Tribes were initially forest-dwellers depending on the forest for their livelihood. Owing to various reasons, they have lost their free access to forest. Still, all tribal households depend on the forest for several purposes. They collect firewood from nearby forests for their daily requirements. Since most of the households have their houses made of brick stone and tile, the degree of dependency on forest for building materials such as bamboo is not very high. However, families independently or jointly, collect forest products, namely wood, fruits, leaves, flowers and honey, etc. during the appropriate seasons of the year. At least for many tribal households, income from forest products is a source of their livelihood too.

Analysis of availability and importance of forest produce in livelihood revealed that leaves, tamarind, mango kernel, jackfruit, *mahua* and mushroom were seasonal forest produce where as timber, tubers, gums and raisins, bark and grasses were collected rarely. Wood and bamboo were collected often. Fuel wood, wood, tamarind and *mahua* were forest produce of high importance and majority of the households collect those seasonally where as leaves; mango kernels, tubers, and bamboo were important forest produce. Timber, gum and raisins, bark, honey, grasses and mushroom were not so important produces as perceived by tribal families and also not collected by the majority of the households.

CONCLUSION

The study revealed several types of livelihood patterns viz. crop based, wage based, forest based, horticulture based, migration based, service/business based and animal husbandry based prevailing in the area. The studies have brought out the importance of farm sector in terms of percentage of households engaged in cultivation of different crops. It was also observed from the resource base of the tribal households that they were not financially and physically sound and did not have adequate facilities for meeting several basic requirements for a reasonable standard of living. The success of dynamic tribal development depends on factors like improved literacy rate, sustainable socio-economic status, women's empowerment, better health care and other human resources. Therefore, it is much desirable to extend basic amenities, empowering women, enhancing their employment opportunities and providing the transport and communication facilities to tribal households.

For a sustainable livelihood pattern a strong resource base is a pre-requisite and the study revealed that many of the resource base of the tribal households are becoming unproductive and inaccessible. Integrated approach is required to bring back the forest resource to more productive phases. While planning for rejuvenation of forest resources, the preferences and priorities of tribal households should be taken into account. Similarly land is one of the most vital resources for productivity and nutritional security but tribal households are found loosing this valuable resource

owing to shifting (*podu)* cultivation and denial by the Government to have ownership. In order to strengthen nutritional security among the vast section of the farm households, the Government should formulate polity to allot forest land for cultivation and discourage *podu* cultivation through institutional mechanism, incentives and constant monitoring.

Agricultural crop diversification includes promotion of the perennial horticulture crops, either as group activities and/or individual household activities in *podu* land and/or non-*podu* land. It may be promoted on the basis of cluster-approach cultivation to generate commercial volume / critical mass to attract market. Promotion of turmeric, ginger, etc. in podu land; promotion/ conservation of medicinal plants in fallow areas or community forest areas, cashew nuts, both in *podu* land and non-podu land may pay dividends to tribals. Promotion/development of various agro-forestry/ permanent-farming / crop models involving agro-horticulture crops and forest species, crop improvement, crop replacement, crop intensification; conversion of *podu* land into terraced fields, and community forests for NTFPs, etc are some other options which are needed to implemented in the area.

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