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Extent of livelihood security of Kondha tribal community in Rayagada and Koraput district of Odisha

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Abstract

A livelihood is sustainable which can cope with and recover from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation. It is influenced by the Social, Physical, financial, natural and human factors. Increasing industrialization and urbanization has made the livelihoods of the tribal communities unstable and making them insecure and economically deprived. The prevailing situation of hunger, poverty and deprivation experienced by many sections of tribal communities. Hence there was need to assess their livelihood patterns and their extent of livelihood security taking into considerations the various factors affecting them. Hence most tribal populated districts of Odisha were purposively selected to conduct the present study to find out the extent of livelihood security of the tribal farmers. Total four blocks were selected from two districts and in each block two villages were selected, from each village 15 respondents were selected, hence total 8 villages and 120 respondents were selected for the present study. Extent of livelihood security of the tribal farmers in measured using an index developed by Rai *et al.* (2008) was used with slight modifications and other researchers too used it to study the extent of livelihood security. Index consists of eight components namely, Infrastructure status, Housing status, Economic status, Technology status, Health and Hygiene status, Agriculture status, Employment status and Food and nutritional Status. Overall extent of livelihood security was found as Infrastructure status (79.17%), Housing status(41.67%), Economic status (59.17%), Health and Hygiene status (60.83%), Food and nutritional Status(74.17%) comes under medium category, whereas Technology status(71.67%), Employment status (57.5%), Agriculture status(59.17%) comes under low category.

Keywords: Livelihood, tribal, Odisha

Introduction

The sustainable livelihood approach aims to find out about livelihoods to improve the design and implementation of poverty reduction efforts. It helps to analyze opportunities and constraints of the rural poor, builds better understanding of multiple perspectives, identifies what options have better potential to reduce poverty and what enabling conditions, policies and incentives are needed for the poor to increase the range of better livelihood options (Scoones, 1998). Livelihood conceptually connotes the means, activities, entitlements and assets by which people make a living, attempt to meet their various consumption and economic necessities, cope with uncertainties and respond to new opportunities (de Haan and Zoomers, 2003) [3]. The analysis of poverty and prosperity from livelihood point of view to understand rural inequalities has received considerable attention during the last few decades in India and other developing countries (Sharma, 2005) [4]. A livelihood is sustainable when it can cope with and recover from stress and shocks, maintain or enhance its capabilities, assets and entitlements both now and in the future, while not undermining the natural resource base (Chambers and Conway, 1992) [5]. The sustainable livelihood synthesizes all human activities including five core assets: natural capital (land, flora, fauna, forest, pasture, biodiversity etc.) physical capital (housing, vehicles, agricultural machines, communication facilities, transport infrastructure, irrigation works, electricity, markets, clinics, schools, bridges etc.), financial capital (cash assets, remittances, savings, livestock, income levels, variability over time, access to credit, debt levels etc.) and social capital (friends, rights or claims, support from trade or professional associations kin, families, communities, voluntary organizations committees, businesses, political claims etc.) human capital (education, knowledge, labour availability, household size, skills, health etc.) upon which the livelihoods are built (Carney, 1998). The households utilize these assets in their productive activities in order to create income and

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satisfy their consumption needs, maintain their asset levels and invest in their future activities (Scoones, 1998; Nicol, 2000; Ellis and Freeman, 2005) [6]. A person's livelihood refers to their Means of securing the basic necessities-food, water, shelter and clothing- of life". Livelihood can be defined as a set of activities, involving securing water, medicine, food, fodder, shelter, capacity and the clothing to acquire these basic necessities working either individually or as a group by using endowments (both human and material) for meeting the requirements of the self and his/her household on a sustainable basis with dignity. The Kondhs, or the Kui are considered as one of the well-known tribes and the largest tribal community of Orissa with a population of around 1 million. The Kondhas are believed to be from the Proto-Australoid ethnic group.

Their native language is Kui, a Dravidian language written with the Oriya script that were famous in history for their Merial Sacrifice (human sacrifice, but it is not practiced anymore. The Kondha are mainly dept land dwellers exhibiting greater adaptability to the forest environment and natural resources. Therefore, a comprehensive study was carried out with the objective i.e. to measure the extent of livelihood security of Kondha tribal community in Rayagada and Koraput district of Odisha.

Materials and Methods

For the present study, In Rayagada district,Rayagada subdivision is selected and in this subdivision two blocks namely Raygada block and Kashipur and in Koraput district Koraput subdivision has been selected and in this subdivision Koraput block and Semliguda block has been selected. To obtain information and response for the present study 15 respondents were selected from 8 numbers of villages from two districts from each village (4 numbers of villages from each district). Thus total number of respondents was 120.In the present study, the head of the family is considered as respondents. Livelihood security of the tribal farmers was measured in terms of eight components namely, Infrastructure status, Housing status, Economic status, Technology status, Health and Hygiene status, Agriculture status, Employment status and Food and nutritional Status respectively.

$$\text{Livelihood security Index} = \frac{\text{Scores obtained by each respondent}}{\text{Actual total score}} \times 100$$

Based on this index, the respondents were classified in to three categories as given below

Category	Range
Low	($\bar{X} - SD$)
Medium	($\bar{X} \pm SD$)
High	($\bar{X} + SD$)

For measuring the extent of livelihood security the index developed by Rai *et al.* (2008) was used with slight modifications and other researchers too used it to study the extent of livelihood security.

Methods to measure the components influencing the extent of livelihood security to the tribal farmers

There are eight components to measure the extent of livelihood security of tribal farmers. The method to measure each of these components is given below:

A. Infrastructure Status

In the present study, Infrastructure status refers to the availability and accessibility of the respondents to various structural developments in their area like road connectivity, communication sources and institutions respectively. The scores 2 and 1 was assigned to measure road connectivity. Similarly, the responses for communication sources was obtained on dichotomous continuum i.e. in ‘yes’ or ‘no’ by assigning scores of 1 and 0 for positive and negative responses respectively. Whereas in case of institutions a score of 3, 2, and 1 were assigned against the responses. Thus, infrastructure status index was calculated by the following formula.

$$\text{Infrastructure Status Index} = \frac{\text{Obtained score}}{\text{Total score}} \times 100$$

B. Housing Status

In the present study, housing status refers to the actual available facility for all the members of a household to live in a systematic manner. The minimum space requirement of a general household comprises of a bedroom, a kitchen and a hall for each couple with scores 3, 2, and 1 assigned to them. The housing status index was measured in the following manner.

$$\text{Housing Status Index} = \frac{\text{Actual available facility score}}{\text{Requirement}} \times 100$$

C. Economic Status

Economic status here refers to the availability of the capital base (cash, credit/debt, savings, and other economic assets, including basic infrastructure and production equipment and technologies) which are essential for the pursuit of any livelihood strategy. The minimum economic requirement for a household was calculated as Rs 972* 12* number of members in the family. Thus Economic status index was calculated in the given manner.

$$\text{Economic Status Index} = \frac{\text{Actual annual income}}{\text{Requirement}} \times 100$$

*NSS 68th Round Consumer Expenditure Survey, 2011-2012

D. Technology Status

In the present study, technology status is a measure of the availability of relevant information and inputs for the respondents through different sources.

It consisted of six aspects under information and input availability respectively. Each of the aspects were assigned scores 3, 2, 1 and 0, respectively. The total score was compared for each of the respondents by summing the scores recorded. Thus Technology Status Index was calculated as mentioned below:

$$\text{Technology Status Index} = \frac{\text{Obtained score}}{\text{Sum of all the scores}} \times 100$$

E. Health and Hygiene Status

Health and hygiene status refers to general mental and

physical condition (absence of illness or injury). It includes the availability and accessibility of facilities of PHC (Primary Health Centre) vaccination, water purification and storage facilities, public toilet, proper garbage disposal and sanitary latrines etc. The responses were obtained on dichotomous continuum i.e., in ‘yes or No’ form by assigning scores 1 and 0 respectively. Thus, it was measured in the given manner.

$$\text{Health and Hygiene Status Index} = \frac{\text{Obtained score}}{\text{Maximum assigned score}} \times 100$$

F. Agricultural Status

In the present study, Agriculture status refers to the actual productivity of all the enterprises in a farm and its comparison with the expected productivity of each enterprise in an area. Here, the actual productivity of each enterprise was calculated and the total productivity of the respondents. Thus, Agricultural Status was obtained as mentioned below:

$$\text{Agriculture Status Index} = \frac{\text{Actual productivity of (Cereals pulses, oilseeds, vegetables and fruit crop)}}{\text{Maximum assigned score}}$$

i.e., Agriculture status index = $\frac{\text{Actual productivity}}{\text{Expected productivity}} \times 100$

G. Employment Status

For the present study, the employment status of the respondents was determined by calculating out the number of man days per head per year according to the nature of their occupation. The values obtained were approximate based on the responses of the respondents. Thus, employment status would give a measure of the number of days the respondents remain engaged in their occupation expressed in terms of percentage. It was calculated in the given manner.

$$\text{Employment Status} = \frac{\text{Actual employment}}{365} \times 100$$

H. Food avail liability and Nutritional Status

Food availability and Nutritional status refers to as and when sufficient quantities and healthy quality of appropriate, necessary types of food from domestic production, commercial imports, commercial aid programs, or food stocks are consistently available to individuals or within their reach. The individual items calculated and their average was worked out. The rate of consumption of each household was calculated out and it was compared with the average requirement of the food and Nutritional according to ICMR (Indian Council of Medical Research).It was calculated in the following manner.

$$\text{Food availability and Nutritional Status Index} = \frac{\text{Consumption}}{\text{Requirement}} \times 100$$

*NSS Report No: 560: Nutritional Intake in India 2011-2012

$$1. \text{Extent of livelihood Security: } \frac{A+B+C+C+D+E+F+G+H}{8}$$

- Where, A=Infrastructure Status
- B=Housing Status
- C=Economic Status
- D=Technology Status
- E=Health and Hygiene Status
- F=Agricultural Status
- G=Employment Status
- H=Food availability and Nutritional status

Results and Discussion

The extent of livelihood security of the Kondha farmers comprised of eight indices representing eight components of Livelihood security, such as, Infrastructure Status, Housing Status, Economic Status, Technology Status, Health and Hygiene Status, Agriculture Status, Employment status and Food availability and Nutritional Status respectively. From the table 1 it could be observed that, 79.17 per cent of the Kondha Farmers had moderate level of infrastructure status, whereas 12.50 per cent of the respondents have poor level of infrastructure and 8.33 per cent of the farmers are having good level of infrastructure status. The findings present in the table 1 indicates that 41.67 per cent of the respondents are having moderate level of housing status followed by 36.66 per cent of them having poor level of housing status and 21.67 per cent of the respondents having good level of housing status. It is observed from the table 1 that 59.17 per cent of the Kondha farmers had high economic status followed by 39.17 per cent of the respondents have medium level of economic status and 1.66 per cent of the respondents have low level of economic status. The data present in the table 1 indicated that 71.67 per cent of the respondents having low level of technology status followed by 21.67 per cent of the respondents having low level of technology status whereas 6.66 per cent of the respondents have high level of technology status. It could be inferred from the Table 1 that 60.83 per cent of the respondents had medium level of health and hygiene status whereas 35 per cent of the respondents have low level of health and hygiene status followed by 4.17 per cent of the respondents have high level of health and hygiene status. It can be indicated from the table 1 that 59.17 per cent of the respondents had low level of Agricultural status whereas 36.67 per cent of the respondents have medium level of agricultural status followed by 4.16 per cent of the respondents have high level of agricultural status. The data present in the Table 1 indicated that 57.5 per cent of the Kondha farmers had low level of employment status followed by 35.83 per cent with medium level of employment status and only 6.67 per cent of the respondents with high level of employment status. In regard to data from the table 1 that majority of the Kondha farmers around 74.17per cent of the respondents had medium level of food availability and nutritional status, whereas 14.16 per cent of the respondents had high and only 11.67 per cent of the respondents have low level of food availability and nutritional status.

Table 1: Frequency and percentage distribution of respondents according to the components determining the Extent of livelihood security

(n=120)		
Components	Frequency	Percentage (%)
1. Infrastructure status		
Poor (upto 45%)	15	12.50
Moderate (45-75%)	95	79.17
Good (76 and above)	10	8.33
Average 58.37		
2. Housing status		
Poor (upto 45%)	44	36.66
Moderate (45-75%)	50	41.67
Good (76 and above)	26	21.67
Average 52.98		
3. Economic status		
Low (upto 45%)	2	1.66
Medium (45-75%)	47	39.17
High (76 and above)	71	59.17
Average 98.9		
4. Technology status		
Low (upto 45%)	86	71.67
Medium (45-75%)	26	21.67
High (76 and above)	8	6.66
Average 44.29		
5. Health and hygiene status		
Low (upto 45%)	42	35.00
Medium (45-75%)	73	60.83
High (76 and above)	5	4.17
Average 49.79		
6. Agriculture status		
Low (upto 45%)	71	59.17
Medium (45-75%)	44	36.67
High (76 and above)	5	4.16
Average 45.39		
7. Employment status		
Low (upto 45%)	69	57.5
Medium (45-75%)	43	35.83
High (76 and above)	8	6.67
Average 45.49		
8. Food availability and nutritional status		
Low (upto 45%)	14	11.67
Medium (45-75%)	89	74.17
High (76 and above)	17	14.16
Average 59.45		

Overall Livelihood Security Status of the Kondha Farmers

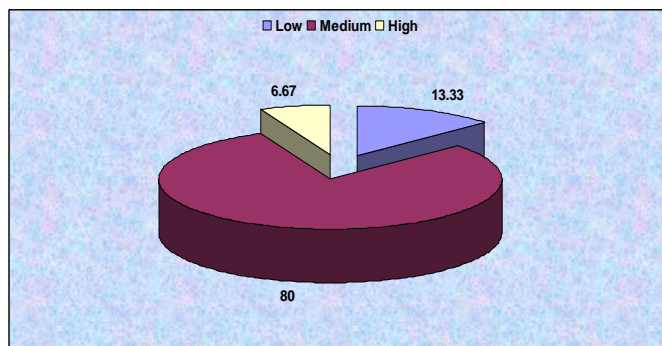
The extent of livelihood security or the livelihood security status was the composite measure of eight indices mentioned above. An index was used to measure the extent of livelihood security of the Kondha farmers by summing up the scores of the individuals indices divided by the total number of indices. The result was worked out which revealed the Extent of Livelihood Security of the respondents.

Table 2: Frequency and percentage distribution of respondents according to the overall extent of livelihood security

n=120			
Category	Frequency	Percentage	Mean
Low (Below 45%)	16	13.33	56.78
Medium (45-75%)	96	80.00	
High (above 76% and above)	8	6.67	
Total	120	100	

A critical analysis of the data furnished in the table 2 revealed that more than half of the Kondha farmers (80.00%) had medium extent of livelihood security, followed by (13.33) per

cent was found to be low and (6.67%) per cent was having low extent of livelihood security.



Percentage distribution of the respondents according to their overall livelihood security status

Major findings regarding the extent of livelihood security indicated that respondents had medium level of livelihood security. The findings of the present study have a number of implications for the administrators and policy makers. Livelihood security index can be used by the development

agencies, extension personnel, policy makers and the government with additional inclusion of relevant components for further research on this area for effective formulation of development strategies. Need based training programmes may be conducted by government and non-government agencies to create awareness about improved agricultural practices and there is need to improve their livelihood security status with affirmative assurance to sustain it in long run.

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