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A Study on Livelihood Options among the Tribal in Rayagada District of Odisha

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ABSTRACT

The research study was conducted among randomly selected 120 tribal respondents of Rayagada, district of Odisha to know the priority given by tribal to their livelihood options basing on their practices and experiences. The study revealed that that agriculture as livelihood option was ranked first, followed by government/semi-government/private job, horticulture, animal husbandry, fishery, caste-based occupation, NTFP's collection, agricultural labour and non-agricultural labour, respectively. The mean scores with regard to strength of agriculture, animal husbandry, forestry, fishery and wage labour were estimated as 18.09 ± 0.16, 19.70 ± 0.15, 19.25 ± 0.17, 17.97 ± 0.27 and 19.16 ± 0.16, respectively, with significant difference among them. The mean scores with regard to weakness of agriculture, animal husbandry, forestry, fishery and wage labour were estimated to be 18.89 ± 0.13, 19.25 ±0.17, 16.89 ± 0.13, 17.88 ± 0.22 and 17.98 ± 0.17, respectively, with significant difference among them. The mean scores with regard to opportunity on livelihood options viz. agriculture, animal husbandry, forestry, fishery and wage labour were estimated to as 15.60 ± 0.18, 17.60 ± 0.18, 16.60 ± 0.18, 15.97 ± 0.27, 14.60 ± 0.18, respectively, with significant difference among them. The mean scores with regard to threat were estimated with significant difference among them. The degree of association between annual income and strength was estimated as 0.023. Corresponding values with weakness, opportunity and threat were found to be -0.025, -0.080 and -0.084.

Keywords: Livelihood options, Opportunity, Strength, Threats, Tribal, Weakness

INTRODUCTION

India has the largest tribal population (10.45 crore, constituting 8.6%) in the world, and tribal communities are the integral segment of Indian society. 89.97 per cent of them live in rural areas and 10.03 per cent in urban areas. India, with a variety of ecosystems, presents a varied tribal population throughout its length and breadth depicting a complex cultural mosaic. There are over 500 scheduled tribes in India notified under Article 342 of the Constitution of India, spread over different states and Union Territories of the country. The Scheduled Tribes are notified in 30 States/UTs and the number of individual ethnic groups, etc. notified as Scheduled Tribes is 705. The tribal, since ages have been living in hilly and forest areas. Their livelihood is more dependent on the forest resources that too limited to their habitations. Moreover, they have very limited agricultural and allied activities confining to small water bodies, grassland and vegetation. Their activities are mainly confined to search of prey, hunting and shifting cultivation. They are illiterate, having orthodox nature, faith on dogmas and blind beliefs (Barman *et al.,* 2013). However, with the advancement of science and technologies and accessibility of tribal to the scientific knowhow through different programmes intervened by government, they have started domesticating livestock and doing agricultural and horticultural activities (Datta *et al.,* 2014) and their

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empowerment programmes are in vogue. However, majority of tribal women are at medium to low level of empowerment, mere involvement of women in dairy activities does not imply their simultaneous involvement in making decisions in the concerned activities as doing and deciding are two different facets (Singh *et al.*, 2017). The Tribal, at present are engaged in different income generating activities throughout the day and sustain their day to day livelihood. This study was conducted to know the priority given by tribal to their livelihood options basing on their practices and experiences.

METHODOLOGY

Out of 30 districts in Odisha, Rayagada District was selected for this present study. From three Blocks of the District, 2 villages from each block and 20 respondents from each village, coming to 120 respondents were randomly selected for the study. The standard tools were used to prioritize of livelihood options and SWOT analysis. Zero order Pearson's correlation analysis, Garret ranking and ANOVA were applied to draw inferences.

RESULTS AND DISCUSSION

Nine livelihood options in the tribal communities such as agriculture, horticulture, animal husbandry, collection of NTFP's, fishery, Govt./semi-government /private job, agricultural labour, non-agricultural labour and caste-based occupation were identified. Opinions of government officials working in the tribal study areas have been taken and again triangulated with local tribal people for validating the said nine options. The tribal respondents were asked to rank the above nine livelihood options basing on suitability with respect to more profit, less time consuming, feasibility, compatible to their socio-economic, socio-cultural and socio-environmental factors, availability of technical guidance and support of financial institutions. The data were collected, analyzed statistically with help of Garret's ranking technique and result is shown in the Table 1. Data reveals that agriculture as livelihood option was ranked first, followed by government/semi-government/private job, horticulture, animal husbandry, fishery, caste- based occupation of the respondents, NTFP's collection, agricultural labour and non-agricultural labour, respectively.

Table 1: Prioritization of livelihood options by tribal respondents

S.No	Livelihood Options	Mean Score	Rank
1	Agriculture	72.36	I
2	Horticulture	64.83	III
3	Animal Husbandry	57.24	IV
4	NTFP's collection	36.36	VII
5	Fishery	53.80	IX
6	Agricultural labour	34.63	VIII
7	Non-agricultural labour	32.78	X
8	Govt/Semi govt/Private job	65.11	II
9	Caste-based occupation	45.11	VI

Average values of SWOT scores on different livelihood options are presented in Table 2. Overall mean scores of strength, weakness, opportunity and threats on all livelihood options were calculated as 18.96± 0.08, 18.22 ± 0.82, 16.09 ± 0.10 and 16.18 ± 0.20, respectively. The mean scores with regard to strength of agriculture, animal husbandry, forestry, fishery and wage labour were estimated as 18.09± 0.16, 19.70 ± 0.15, 19.25 ± 0.17, 17.97 ± 0.27 and 19.16 ± 0.16, respectively, with significant difference among them. The strength of animal

Table 2: Mean ± SE of SWOT scores for different livelihood options

Livelihood options	N	Strengths	Weaknesses	Opportunities	Threats
Agriculture	120	18.09^{a}± 0.16	18.89^{c} ± 0.13	15.60^{b}± 0.18	16.95^{b}± 0.47
Animal Husbandry	120	19.70^{b}± 0.15	19.25^{c} ±0.17	17.60^{d}± 0.18	14.60^{a}± 0.18
Forestry	120	19.25^{b}± 0.17	16.89^{a} ± 0.13	16.60^{c}± 0.18	14.95^{a}± 0.47
Fishery	42	17.97^{a}± 0.27	17.88^{b} ± 0.22	15.97^{b}± 0.27	16.88^{b}± 0.22
Wage labour	120	19.16^{b}± 0.16	17.98^{b} ± 0.17	14.60^{a} ± 0.18	17.95^{b}± 0.47
Total	522	18.96± 0.08	18.22 ± 0.82	16.09 ± 0.10	16.18 ± 0.20

*Means with different superscripts along the column (for a factor) indicate significantly (P<0.05)

Table 3: ANOVA of SWOT scores of different livelihood options

Factors	Sum of Squares	df	Mean Square	F
Strength				
Between Groups	213.520	4	53.380	15.889**
Within Groups	1736.926	517	3.360	
Total	1950.446	521		
Weakness				
Between Groups	406.779	4	101.695	36.096**
Within Groups	1456.546	517	2.817	
Total	1863.326	521		
Opportunity				
Between Groups	600.592	4	150.148	600.592**
Within Groups	2148.176	517	4.155	
Total	2748.768	521		
Threat				
Between Groups	951.493	4	237.873	11.892**
Within Groups	10341.580	517	20.003	
Total	11293.073	521		

**p<0.01

husbandry, forestry and wage labour livelihood options were found to be higher than other two livelihood options. However, there was no significant difference between the former three livelihood options. The strength of agriculture and fishery were found similar but numerically the strength of agriculture was higher than that of fishery, which was found to have the lowest strength in the present study (Table 3).

The mean scores with regard to weakness of agriculture, animal husbandry, forestry, fishery and wage labour were estimated to be 18.89 ± 0.13, 19.25 ±0.17, 16.89 ± 0.13, 17.88 ± 0.22 and 17.98 ± 0.17, respectively, with significant difference among them (Table 4). The weakness on animal husbandry and agriculture livelihood options were found to be higher than other three livelihood options. However, there was no significant difference between the former two options. The weakness of wage labour and fishery were found to be similar but stronger than that of forestry, which was found to have the lowest weakness in the present study.

The mean scores with regard to opportunity on livelihood options viz. agriculture, animal husbandry, forestry, fishery and wage labour were estimated to as 15.60± 0.18, 17.60± 0.18, 16.60± 0.18, 15.97± 0.27, 14.60 ± 0.18, respectively, with significant difference among them (Table 4). The opportunity on animal husbandry livelihood option was found to be the highest, followed by forestry. There was significant difference between the former two options. The opportunity of fishery and

Table 4: Zero order Pearson's correlation coefficient among SWOT scores of livelihood options and annual income

Variables		Strength	Weakness	Opportunity	Threats	Income
Strength	Correlation		0.671	0.677	0.529	0.023
	Significance level		.000	.000	.000	.801
	df		118	118	118	118
Weakness	Correlation	0.671		0.644	0.450	-0.025
	Significance level	.000		.000	.000	.788
	df	118		118	118	118
Opportunity	Correlation	0.677	0.644		0.603	-0.080
	Significance level	.000	.000		.000	.387
	df	118	118		118	118
Threats	Correlation	0.529	0.450	0.603		-0.084
	Significance level	.000	.000	.000		.362
	df	118	118	118		118
Income	Correlation	0.023	-0.025	-0.080	-0.084	
	Significance level	.801	.788	.387	.362	
	df	118	118	118	118	

agriculture were found similar but stronger than that of wage labour, which was found to have the lowest opportunity in the present study.

The mean scores with regard to threat of agriculture, animal husbandry, forestry, fishery and wage labour were estimated to as 16.95±0.47, 14.60±0.18, 14.95±0.47, 16.88±0.22 and 17.95±0.47, respectively, with significant difference among them (Table 4). The threat on wage labour livelihood option was found to be the highest among all livelihood options, followed by agriculture and fishery. However, there was no significant difference among the former three options. The threat of forestry and animal husbandry were found to be similar but animal husbandry as a livelihood option has the lowest weakness in the present study.

Pearson's correlation coefficients among total SWOT scores of livelihood options and annual income of respondents are presented in Table 4. The degree of association between annual income and strength was estimated as 0.023. Corresponding values with weakness, opportunity and threat were found to be -0.025, -0.080 and -0.084. None of the above correlations were found to be significant. So it is revealed that very weak association existed between annual income and SWOT of livelihood options viz. agriculture, animal husbandry, forestry, fishery and wage labour. Further, very strong and significant degree of association among four components of SWOT was revealed. The correlation coefficient between strength and weakness was estimated 0.671, which was found to be significant. Corresponding values between strength versus opportunity and strength versus threat were 0.677 and 0.529, respectively which were also significant. Similarly, weakness showed strong and significant relationship with opportunity and threats having estimates of 0.644 and 0.450, respectively. Further, opportunity was found to have strong, positive and significant degree of association with correlation coefficient of 0.603 in the present study.

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