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Study on sustainable livelihood security of Tribal people through animal husbandry practices in Tripura, India

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ABSTRACT

Livelihoods of tribal communities should be perceived as various and multi-faceted rationally chosen activities that a tribe's people undertake to support themselves and not in urban or modern terms of employment, jobs, work place or cash income. In this backdrop of fact, the study has been conceptualized with overall objectives to assess the tribal people's sustainable livelihood status in relation to animal husbandry practices in Tripura state of India. Total120 respondents from four tribal groups were collected randomly from 4 blocks under Dhalai and Sephaijala district of Tripura, India. The data was collected with the help of pre-tested designed interview schedule, complied, tabulated and analysed through statistical tools with the help of IBM SPSS 25.0 software for conclusion. The findings depicted that the livelihood security of tribal farmers were significantly related ($p>0.05$) with age, education, occupation, livestock holding, mass media exposure and highly significant ($p<0.01$) with family income, decision making pattern, attitude towards dairy farming, knowledge level in small animal and poultry farming and adoption index in farming practices in the functional area of the state of Tripura, India.

1. Introduction

A tribe is a group of people who inhabit jungle regions and small communities. They are illiterate, poor, barely clothed, typically dark and frail, and completely confined to their own community. They hunt and forage for roots, shoots, and fruits for their vegetarian diet and roast animals for their non-vegetarian food. They are also completely blind to the political and economic conditions of their country and actively oppose all development efforts. Practically every state and union territory have them. The regionwhich is completely underdeveloped, is home to tribes and typically reside in secluded hamlets or villages. The socioeconomic, educational, and cultural development of tribes varies. On one end of the scale, there are certain tribes that have embraced a modern way of life, while on the other; others are still living in a primitive manner. The study of livelihood security of tribal farmers on animal husbandry practices is of utmost important in order to identify and mitigate the gap in between the required knowledge and possessed knowledge. Ramya *et. al.* (2017) revealed that, mass media exposure, education, land holding and annual income positively significant relationship and fatalism had shown negatively significant relationship with livelihood security of tribal farmers. Barela *et. al*. (2018) found that, majority of respondents in case of economic security (52.50%), Food security (47.50%), health security (43.33%), institutional security (40.83%) comes under low category and in case of education security (49.17%), infrastructure security (46.67%) respondents come under medium category, whereas 51.67% of respondents in social security comes under high category and overall livelihood security index 48.33% of the respondents comes under low category. Kumar*et. al.* (2018)observed that 82.92% more than four fifth of the respondents had medium to high level of livelihood security and the overall average livelihood security index value was 0.61. Pradhan *et. al.*(2021) found that age and family type had negative and significant correlation with livelihood security of respondents while family size was negative and non-significant correlated. Chauhan *et. al*. (2022) revealed that infrastructural security (78.28 per cent) contributedmost in improving the overall livelihood security of farmers, whereas social security

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(28.33%) contributed the least to improve the overall livelihood security of farmers.Dagar*et. al.*(2022) observed that the livelihood security of the respondents was associated with access to resources, access to technological information, maeket and regular income, risk factor and decision taking ability.Prashanthi*et. al.* (2022) found that there was a positive significant relationship between education and livelihood security at 1% level of significance ($p<0.01$) and other independent variable found no significance at 5% level ($p<0.05$). Reddy *et. al.* (2022) revealed that majority of the farmers (57.14 %) were in the category of medium level of livelihood security followed by high level (24.00%) and low level of livelihood security (18.86%).

2. Materials and Methods

The present research was conducted in the month of September to October of 2022 in the state of Tripura. The respondent's were interviewed, and their responses were gathered in accordance. Prior to the interview, some time was spent getting to know the responders in each hamlet.The respondentshaving some exposure to animal husbandry farming were selected randomly. Considering these criteria, 30 respondents each from Reang and Chakma tribes were selected from Dhalai district and 30 each from Debbarma and Jamatia tribes from Sepahijala district. In this way, total 120 respondents were selected for the study. A total of 18 independent variables were selected to assess the livelihood security through animal husbandry practices in Tripura.. The variables were measured with the help of Livelihood security index developed by Ponnusamy (2006) and Eqbal (2012). The statistical methods used in the study include ANOVA and correlation analysis. The software used was IBM-SPSS 25.0 for analyzing the data.

3. Results and Discussion

Comparative study on livelihood components

Livelihood security among selected tribal communities has been compared in the T**able-1.** Significant differences were observed between the estimates of the Reang (3.10±0.41) and Jamatia (4.70±0.35) tribes in cases of food security and livelihood components, whereas significant differences were also observed in the cases of the Debbarma (2.23±0.25) and Chakma (3.13±0.22) tribes in cases of economic security. This shows that Reang is a backward tribe as they werestill struggling for food security whereas Debbarma is a progressive tribe among the tribes taken under study. In terms of health security, Debbarma (5.53±0.09) differed significantly from Jamatia (5.53±0.10) and Chakma (5.17±0.11) which shows that Debbarma being a developed tribe had access to the modern health care facilities and they had better knowledge than their counterparts under study. Significant differences in social security wereobserved among the three tribes of Debbarma (2.57±0.14), Jamatia (2.07±0.12) and Reang (1.67±0.13). Significant differences were also observed in Reang compared with Debbarma, Jamatia, and Chakma in terms of both infrastructure and institutional security. It was clear from the study that Reang and Chakmawere less developed than other two tribes under study. The results were in accordance with Eqbal *et. al*. (2012) who had found that the overall extent of livelihood security of the respondents was found to be 36.10% whereas 15.42% of the respondent was having high level of overall livelihood security. Shwetha*et. al.* (2019) revealed that half of the farmers belonged to average level of livelihood security, 33.34% of farmers belonged to better and 26.66% of the respondents belonged to poor level of livelihood security.

Table 1. Comparative study on livelihood components among selected tribal communities in Tripura state of India

Sl. No.	Livelihood component	Mean±SE				F value
		Reang (n=30)	Debbarma (n=30)	Jamatia (n=30)	Chakma (n=30)	
1	Food security	3.10^{a}±0.41	3.87^{ab}±0.50	4.70^{b}±0.35	3.53^{ab}±0.38	2.669
2	Economic security	2.50^{ab}±0.27	2.23^{a}±0.25	2.57^{ab}±0.19	3.13^{b}±0.22	2.573
3	Health security	5.43^{ab}±0.13	5.53^{b}±0.09	5.53^{b}±0.10	5.17^{a}±0.11	2.458
4	Social security	1.67^{a}±0.13	2.57^{c}±0.14	2.07^{b}±0.12	1.67^{a}±0.13	10.844**
5	Educational security	3.70^{a}±0.21	6.30^{b}±0.17	6.30^{b}±0.17	6.33^{b}±0.14	56.196**
6	Institutional security	1.27^{a}±0.25	2.47^{b}±0.25	2.07^{b}±0.18	1.93^{b}±0.23	4.731**
7	Infrastructural security	6.37^{a}±0.29	7.17^{b}±0.10	7.20^{b}±0.10	7.00^{b}±0.08	5.236**

Means with different superscripts across a row differ significantly

**Means vary significantly with $p<0.01$

Correlation between independent and dependent variables

It is evident from Table 2 that out of 18 independent variables only five variables viz. mass media exposure (0.261), extension participation (0.244), extension contact(0.280), attitude towards dairy farming(0.316) and adoption index in farming(0.514) had highly significant and positive relationship with livelihood security.

Livelihood security was found to be significantly and positively correlated with attitude towards dairy farming, which implied that they were interested in dairy farming because they had good livelihood security that may include the health outcomes gained from different livestock products and meeting the children's educational expenditures with income from dairy farming. Livestock security was significantly and positively correlated with mass media exposure, because it has a positive impact on society by educating and informing people. As a result, the four tribes under study can educate themselves about many elements of life and acquire information.

Livelihood security was positively and significantly correlated with extension contact and participation which suggests that people might learn new technologies and information from extension workers, enhance their skills and use this knowledge and competence to increase their income.

Livelihood security was also significantly and positively correlated with the adoption index in farming which suggests that, the tribes under study are interested in adopting new technology that will help them in farming.

4. Conclusion

The findings can be very useful for the planners and policy makers of the respective area in improve their abilities and use this knowledge and competence to boost their socio-economic status. The study has clearly indicated that improvement of livelihood status of the respondents, making it clear for the policy makers to address these issues for socio-economic upliftment of the concerned tribes of the state Tripura in particular and India in general.Similar kinds of research must be undertaken in the tribal communities throughout the nation and in different tribes and the results must be used for formulating different programmes to mitigate the challenges.

Table 2. Kendal tau-b Correlation coefficient between independent and dependent variables

Sl. No.	Independent variables	Livelihood Security
1	Age	0.081
2	Sex	0.082
3	Occupation	-0.142
4	Educational Qualification	-0.028
5	Family Type	-0.120
6	Family Size	-0.091
7	Marital Status	0.058
8	Land Holding	-0.088
9	Gross family income	0.052
10	House Type	-0.071
11	Mass Media Exposure	0.261**
12	Extension Participation	0.244**
13	Extension Contact	0.280**
14	Attitude towards dairy farming	0.316**
15	Knowledge level in small animal farming	0.021
16	Knowledge level in poultry farming	-0.027
17	Decision making pattern	-0.007
18	Adoption index in farming	0.514**

**Correlation is significant at the 0.01 level (2-tailed)

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