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Livelihood status of tribal farmers of Dharni taluka of Melghat region

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Abstract

The present study on "Livelihood status of tribal farmers of Dharni taluka of Melghat region" was conducted in the Dharni taluka of Melghat region of Amravati district of Maharashtra state. The exploratory design of social research was used for the study. Total 150 tribal farmers were selected as sample for study by stratified sampling method. The data were collected by conducting personal interview of each tribal farmers with help of structured interview schedule. Careful analysis, tabulation and classification of the data were done. The findings of independent variable show that, it is concluded that, 55.33 per cent of the tribal farmers had belong to middle age group. 63.34 per cent of tribal farmers had completed higher school. The distribution pertaining to land holding indicates that 53.33 per cent of tribal farmers had small type of land holding of 1 to 2 ha. More than one third of tribal farmers (34.67%) had agriculture + Labour type of occupation. In case of farming experience, 66.00 per cent of tribal farmers had more 20 years for farming experience, 66.67 per cent of the respondents had medium family size (4 to 6 members). 48.67 per cent of the tribal farmers had Rs 87000-118000 annual Income. They had low source of information 79.33 per cent. In case of type of soil most of the tribal farmers had shallow and moderately deep type of soil for cultivation. 26.67 per cent had no source of irrigation for cultivation. Almost all the tribal farmers from Dharni talukas followed the cropping pattern i.e. Cotton+Tur, Maize, Rice, Soybean in kharif season. Out that 80.00 per cent of tribal farmers followed wheat and gram cropping pattern in rabi season and 13.33 per cent of the tribal farmers followed maize and summer groundnut as cropping pattern in summer season.76.67 per cent of the tribal farmers had 110 to 160 percent cropping intensity. In case of livestock possession 26.67 per cent of tribal farmers had poultry as a livestock possession. In case of psychological variable, they had low innovativeness and economic motivation it has found to be 73.34 per cent and 54.00 per cent respectively and 90.67 per cent of tribal farmers had low social participation.

Among the selected independent variables for study namely age, education, land holding, occupation, farming experience, annual income, soil type, source of irrigation, innovativeness and economic motivation were found to be positively significant with livelihood status of the tribal farmers at 0.05 level of probability and, family size, source of information, cropping Pattern, cropping intensity and livestock possession were found to be positively and highly significant with livelihood status of the tribal farmers at 0.01 level of probability therefore the null hypothesis were rejected for these variables, While the variable social participation did not show any significant association with the livelihood status of the tribal farmers, therefore the null hypothesis was accepted for these variables.

Keywords: Livelihood status, Tribal farmers, Melghat region

Introduction

India has a tribal population of 104.28 million and Maharashtra has the second largest number of tribal populations in the country. The total tribal population living in the geographical boundary of the State estimated to be 10.33 million, which is 10.1 per cent of the total population of the state. The tribal people constitute the most deprived and neglected section of the population in the state. The tribes mostly live in three inaccessible hilly and remote forest regions of the state, i.e., in the Sahyadris, the Satpudas and Eastern Gondwana. The geographical limitations contribute to the underdevelopment and their marginalization process. The tribal communities are scattered in 15 districts of the state and in 73 talukas. Though they have inhabited these contiguous tracts historically, in the recent years they have become a minority in several of these areas. The state is quite unique in having certain pockets covered under the Fifth Schedule of the Indian Constitution which provides for special safeguards and guarantees for the tribals. The State is having 50,757 sq. Km under the Tribal Sub-Plan which is 16.52 per cent of the total geographical area (3,07,313 Sq.km.) of the state. The State houses 46 Scheduled Tribes and the tribal population is largely concentrated in the western hilly Districts of Dhule, Nandurbar, Jalgaon, Nashik and Thane (Sahyadri Region) and the eastern districts of Chandrapur, Gadchiroli,

Bhandara, Gondiya, Nagpur, Amravati and Yavatmal (Gondwana Region). Main tribes in the State are the Bhills, Gonds, Mahadeo Kolis, Pawras, Thakurs and the Varlis. There are three tribes *Viz*, the Kolams (Yavatmal District), the Katkaris (mainly in Thane and Raigad Districts) and the Madia Gonds (Gadchiroli District), which have been notified as Primitive Tribes by the GOI.

Tribals of Vidarbha

The Vidarbha region of Maharashtra state consists of 11 districts with a large tribal population. Among the major tribes in this region include Gonds form the largest group and has ethinically related tribes like Pradhans, Kolams having with some cultural similarities. They are from the Dravidian group, while Tribalss from Amaravati, came from Kaularian group of tribes. Gond tribe has many sub tribes mainly include Raj Gonds, Madia Gonds, Dhurve Gonds and Khatulwar/Khatole Gonds and Naik Gonds. The Kolm tribes have been classified as primitive tribe, due to low levels of acculturation as compared to their co-tribes or other tribes. The third primitive tribe from Maharashtra is Katkari, which is from western Maharashtra. In Gadchiroli district Gond, Madia Gond, Pardhan and Kolam these tribes are the primitive tribes and in Yavatmal district Kolam, Andh, Gond and Pardhan these are primitive tribes.

Methodology

The present study was conducted in Dharni taluka of Melghat region of Amravati district of Vidarbha region in Maharashtra state. The exploratory design of social research was used for the study. Total 150 tribal farmers from 15 villages of Dharni taluka were selected as sample for study by stratified sampling method. In the context of present study, Data were collected with the help of pre-tested, well-structured interview schedule.

Results

Personal, situational, communicational, and psychological characteristics of tribal farmers

The study of profile was made with reference to age, education, land holding, occupation, farming experience, family size, annual income, source of information, soil type, source of irrigation, cropping pattern, cropping intensity, livestock possession, economic motivation, innovativeness and social participation.

The findings pertaining to the distribution of tribal farmers on these characteristics are presented in the succeeding paragraphs.

Table 1: Distribution of the tribal farmers according to Age

Sr. No.	Age	Tribal farmers of Dharni taluka (N=150)	
		Frequency	%
1	Young	30	20.00
2	Middle	83	55.33
3	Old	37	24.67
	Total	150	100.00

It was observed from Table no 1 that, near about half 55.33% of the tribal farmers were belonged to middle age (36 to 50 years) group category, followed by 24.67% were belonged to old age (Above 50 years) group category while 20.00% of the tribal farmers were found in young age (Up to 35 years).

Table 2: Distribution of the tribal farmers according to Education

Sr. No.	Education	Tribal farmers of Dharni taluka (N=150)	
		Frequency	%
1	Illiterate	02	01.33
2	Primary school	06	04.00
3	Middle school	21	14.00
4	High school	95	63.34
5	Higher secondary School	21	14.00
6	College/ University	05	03.33
	Total	150	100.00

The results from the Table 2, pertained that, more than fifty (63.34%) of the tribal farmers were educated up to high school, 14.00% of the tribal farmers were educated up to higher secondary school. About 03.00% of the tribal farmers have education up to college or university level, 14.00% of them were educated up to middle school level, and 04.00%were educated up to primary school level. The very merger percentage (01.33%) of tribal farmers had under illiterate education category.

Table 3: Distribution of the tribal farmers according to Land holding

Sr. No.	Land holding	Tribal farmers of Dharni taluka (N=150)	
		Frequency	%
1	Marginal	30	20.00
2	Small	80	53.33
3	Semi-medium	40	26.67
4	Medium	00	00.00
5	Large Above	00	00.00
	Total	150	100.00

It was seen from data presented in Table 3 that, higher percent (53.33%) of the tribal had small size of land holding (1.01 to 2.00 ha.), followed by 26.67% of the tribal farmers had Semi-medium size of land holding (2.01 to 4.00 ha.), 20.00% of them had Marginal size land holding (upto 1.00 ha.) None of the tribal farmers had medium (4.01 to 10.00 ha.) size land holding. It was also noticed that none of the tribal farmers had large size of land holding (above 10.01 ha.) category.

Table 4: Distribution of the tribal farmers according to Occupation

Sr. No.	Occupation	Tribal farmers of Dharni taluka (N=150)	
		Frequency	Percentage
1	Agriculture	51	34.00
2	Agriculture + Labour	52	34.67
3	Agriculture + subsidiary occupation	36	24.00
4	Agriculture + business	07	04.66
5	Agriculture + service	04	02.67
	Total	150	100.00

From Table 4 it was observed that, more than one third per cent of the tribal farmers (34.67%), involved in agriculture + labour activities followed by 34.00% of them involved in agriculture activities, 24.00% of the tribal farmers involved in agriculture+ subsidiary occupation, 04.66% of them involved in agriculture + business, only 02.67% of them involved in agriculture + service activities category from Dharni taluka.

Table 5: Distribution of the tribal farmers according to their Farming experience

Sr. No.	Farming experience	Tribal farmers of Dharni taluka (N=150)	
		Frequency	%
1	Low	04	02.67
2	Medium	47	31.33
3	High	99	66.00
	Total	150	100.00

The data presented in table 5 shows that 66.00% of tribal farmers had high (above 20 years) farming experience followed by 31.33%of them had medium (11 to 20 years) farming experience and 02.67% of tribal farmers had low (up to 10 years) of farming experience from Dharni taluka.

Table 6: Distribution of the tribal farmers according to their Family size

Sr. No.	Family size	Tribal farmers of Dharni taluka (N=150)	
		Frequency	%
1	Small	06	04.00
2	Medium	100	66.67
3	Large	44	29.33
	Total	150	100.00

The data presented in Table 6 revealed that, higher per cent (66.67%) of the tribal farmers had medium size of family with 4 to 6 members in the family, while 04.00% tribal farmers had small size of family with 3 members in the family, whereas remaining 29.33% of the tribal farmers were from large family size with more than 6 members in the family from Dharni taluka.

Table 7: Distribution of the tribal farmers according to their Annual income

Sr. No.	Annual Income	Tribal farmers of Dharni taluka (N=150)	
		Frequency	%
1	Low	53	35.33
2	Medium	73	48.67
3	High	24	16.00
	Total	150	100.00

It was revealed from Table 7 that, more than one third of the tribal farmers (48.67%) had annual earning up to Rs. 87,000/- to 1,18,000 /-. followed by 35.33% of the tribal farmers were at annual income range of Rs. Up to 87,000 and 16.00 per cent of them belonged to income range of above Rs. 118,000/-

Table 8: Distribution of the tribal farmers according to their Source of information

Sr. No.	Source of information	Tribal farmers of Dharni taluka (N=150)	
		Frequency	%
1	Low	119	79.33
2	Medium	26	13.33
3	High	05	03.34
	Total	150	100.00

It was pointed from the Table 8 that, majority (79.33%) of tribal farmers were using low level of sources of information. followed by 13.33% of them uses medium level of sources of information and remaining 03.34% tribal farmers were using high level of sources of information.

Table 9: Distribution of the tribal farmers according to their Type of soil

Sr. No.	Type of soil	Tribal farmers of Dharni taluka (N=150)	
		Frequency	%
1	Very shallow	00	00.00
2	Shallow	106	70.67
3	Moderately deep	44	29.33
4	Deep	00	00.00
5	Very Deep	00	00.00
	Total	00	00.00

It was observed from Table 9 that, most of the tribal farmers (70.67%) cultivated crop in shallow type of soil, followed by (29.33%) of tribal farmers cultivated crop in moderately deep type of soil in Dharni taluka.

Table 10: Distribution of the tribal farmers according to their Source of irrigation

Sr. No.	Category	Tribal farmers of Dharni taluka (N=150)	
		Frequency	%
1	No Irrigation Source	40	26.67
2	River	20	20.00
3	Canal	25	13.33
4	Well	30	20.00
5	Tube well	25	16.67
6	Farm Pond	05	03.33
	Total	150	100.00

It was observed from Table 10 that, nearly one third of the tribal farmers (26.67%) had no source of irrigation, followed by 20.00% of tribal farmers had well as a source of irrigation. 16.67% of tribal farmer had tube well as s source of irrigation. 13.33% of tribal farmers had canal as a source of irrigation and 20.00% of tribal farmers had river as a source of irrigation. Very few (03.33%) had farm pond as a source of irrigation.

Table 11: Distribution of the tribal farmers according to Cropping pattern

Sr. No.	Cropping Pattern (Season)	Tribal farmers of Dharni taluka (N=150)
1	Kharif	Cotton+Tur (5:1), Maize, Tur, Soyabean 150 (100.00%)
2	Rabi	Wheat and Gram 120 (80.00%)
3	Summer	Maize and summer groundnut 20 (13.33%)

It was observed from Table 11 that, almost all the tribal farmers from Dharni talukas followed the cropping pattern i.e. Cotton, Tur, Maize, Soybean in kharif season. Out that 80.00 per cent of tribal farmers followed wheat and gram cropping pattern in rabi season and 13.33 per cent of the tribal farmers followed maize and summer groundnut as cropping pattern in summer season.

Table 12: Distribution of the tribal farmers according to Cropping intensity

Sr. No.	Cropping Intensity	Tribal farmers of Dharni taluka (N=150)	
		Frequency	%
1	Low	29	19.33
2	Medium	115	76.67
3	High	06	04.00
	Total	150	100.00

It was observed from Table 12 that, most of the tribal farmers 76.67 per cent were having cropping intensity up to 150% followed by 19.33% of tribal farmers were having cropping intensity above 100% and very few tribal farmers (04.00%) were having cropping intensity above 100 to 150%.

Table 13: Distribution of the tribal farmers according to their Livestock possession

Sr. No.	Category	Tribal farmers of Dharni taluka (N=150)	
		Frequency	%
1	No animal	20	13.33
2	Cow	15	10.00
3	Buffalo	25	16.67
4	Sheep/Goat	30	20.00
5	Poultry	40	26.67
6	Bullock	20	13.33
	Total	150	100.00

Table 13 concluded that less than one third 26.67% of the tribal farmers had poultry as a livestock possession, followed by 20.00%of tribal farmers had sheep/goat as a livestock possession, 16.67% of the tribal farmers had buffalo as a livestock possession,10.00% of the tribal farmers had cow as a livestock possession, 13.33% of the tribal farmers had bullock as a livestock possession and 13.33% of the tribal farmers had no livestock possession.

Table 14: Distribution of the tribal farmers according to Innovativeness

Sr. No.	Innovativeness	Tribal farmers of Dharni taluka (N=150)	
		Frequency	%
1	Low	110	73.34
2	Medium	26	17.33
3	High	14	09.33
	Total	150	100.00

The data presented in Table 14 revealed that, majority (73.34%) of the tribal farmers belonged to low innovativeness category, followed by 17.33% of them belonged to medium innovativeness category and 09.33% of the tribal farmers belonged to high innovativeness category.

Table 15: Distribution of the tribal farmers according to Economic motivation

Sr. No.	Economic motivation	Tribal farmers of Dharni taluka (N=150)	
		Frequency	%
1	Low	81	54.00
2	Medium	57	38.00
3	High	12	08.00
	Total	150	100.00

The data presented in Table 15 revealed that, half of the (54.00%) of the tribal farmers belonged to low economic motivation category, followed by 38.00% of them belonged to medium economic motivation category and only 08.00% of the tribal farmers belonged to high economic motivation category.

Table 16: Distribution of the tribal farmers according to Social participation

Sr. No.	Social participation	Tribal farmers of Dharni taluka (N=150)	
		Frequency	%
1	Low	136	90.67
2	Medium	14	09.33
3	High	00	00.00
	Total	150	100.00

From Table 16 it was observed that, most of the (90.67%) of the tribal farmers had low level of social participation. followed by 09.33% of them had medium level of social participation and none of the tribal farmers had high level of social participation.

The relationship between selected characteristic and the livelihood status of tribal farmers

The correlation used to study the strength of relationship between selected independent variables and dependent variable. The personal profile characteristics of the respondent tribal farmer considered as independent variable, while livelihood status was considered as dependent variable. Karl Pearson's correlation coefficient and Spearman rank order correlation coefficient (r) were worked out to find the degree of relationship between each independent variable and dependent variable. The findings to this aspect are presented in Table 17.

Table 17: Coefficient of correlation between selected characteristic of tribal farmers with their livelihood status (N=150)

Sr. No.	Independent Variables	Variables code	'r' Value
1	Age	X_1	0.1752*
2	Education	X_2	0.2022*
3	Land holding	X_3	0.1745*
4	Occupation	X_4	0.1776*
5	Farming experience	X_5	0.1664*
6	Family size	X_6	0.2750**
7	Annual Income	X_7	0.1596*
8	Source of information	X_8	0.2417**
9	Soil type	X_9	0.1813*
10	Source of Irrigation	X_{10}	0.2132*
11	Cropping Pattern	X_{11}	0.2223**
12	Cropping intensity	X_{12}	0.2078**
13	Livestock possession	X_{13}	0.5698**
14	Innovativeness	X_{14}	0.1623*
15	Economic motivation	X_{15}	0.1612*
16	Social participation	X_{16}	0.1056NS

NS- non-significant **significant at the 0.01 level of probability *significant at the 0.05 level of probability

It was observed from Table 17 that, among the selected independent variables namely age, education, land holding, occupation, farming experience, annual income, soil type, source of irrigation, innovativeness and economic motivation were found to be positively significant with livelihood status of the tribal farmers at 0.05 level of probability and, family size, source of information, cropping Pattern, cropping intensity and livestock possession were found to be positively and highly significant with livelihood status of the tribal farmers at 0.01 level of probability therefore the null hypothesis were rejected for these variables, While the variable social participation did not show any significant association with the livelihood status of the tribal farmers, therefore the null hypothesis was accepted for these variables.

Multiple regression analysis

Correlation can only indicate the existence or non-existence of relationship between variables. Multiple regression analysis was carried out to know the contribution of the selected independent variable in the dependent variable. On the basis of values of correlation coefficient (r) and relevance of variable i.e. nominal and ordinal, we had applied step down regression and depend upon the coefficient of determination (R2) value regression analysis presented below in Table No. 18.

Table 18: Multiple regression analysis between selected characteristic of tribal farmers with their livelihood status (N=150)

Sr. No.	Independent Variables	Regression coefficient (bi)	S.E. of bi	't' Value
1	Age	0.044937	0.038595	1.1644^{NS}
2	Education	0.356068	0.149186	2.3867*
3	Land holding	0.833112	0.697786	1.1939^{NS}
4	Occupation	0.553698	0.272454	2.0322*
5	Farming experience	0.056694	0.047138	1.2027^{NS}
6	Family size	0.522762	0.198798	2.6296**
7	Annual Income	0.482658	0.032545	3.5548**
8	Source of information	0.069224	0.039972	1.7318^{NS}
9	Soil type	0.970826	0.569006	1.7061^{NS}
10	Source of Irrigation	0.220336	0.342214	0.6438^{NS}
11	Cropping Pattern	0.045715	0.966348	0.5318^{NS}
12	Cropping intensity	0.008776	0.020171	0.4350^{NS}
13	Livestock possession	0.503005	0.105107	4.7856**
14	Innovativeness	0.045794	0.111522	0.4106^{NS}
15	Economic motivation	0.061705	0.045461	1.3573^{NS}

R^2=0.4373

NS- Non-significant, **Significant at the 0.01 level of probability, *Significant at the 0.05 level of probability

It was observed from Table 18 that, the coefficient of determination (R^2) of the independent variables was 43.73 per cent of total variation in the livelihood status was explained by the selected 15 independent variables. It is observed that the 't' test of significance indicates that the regression coefficient (β-value) was found to be highly and positively significant for family size, annual income and livestock possession at 0.01 level of probability. The variable namely Education and occupation were found to be positively and significantly with the livelihood status of the tribal farmers at 0.05 level of probability, it is therefore the null hypothesis for these variables were rejected. While the variables namely age, land holding, farming experience, source of information, soil type, source of irrigation, cropping pattern, cropping intensity, innovativeness and economic motivation did not show any significant association with the livelihood status of the tribal farmers, therefore the null hypothesis was accepted for these

variables.

Conclusion

In the relational analysis of the present study the variables namely age, education, occupation, farming experience, annual income, source of irrigation, cropping pattern, cropping intensity, innovativeness and economic motivation were found to be positively significant with livelihood status of the tribal farmers and land holding, family size, source of information, soil type and livestock possession were found to be positively and highly significant with livelihood status of the tribal farmers therefore the null hypothesis were rejected for these variables, While the variable social participation did not show any significant association with the livelihood status of the tribal farmers, therefore the null hypothesis was accepted for these variables.

So, the age, education, land holding, occupation, farming experience, annual income, source of information, soil type, source of irrigation, cropping pattern, cropping intensity, livestock possession and economic motivation, contact with outside world and benefits derived through various government schemes were play significant role in livelihood status of tribal farmers.

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