

## Analysis of Occupational Structure as an Important Livelihood Activity

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### Abstract

Livelihood is the way of earning money to get basic needs like food, clothes and shelter. In tribal areas of Rajasthan, people earn their livelihood by working in the fields. Work in the fields includes preparing the land for farming, sowing seeds, weeding unwanted plants and harvesting of crops. Farming depends on the season for doing different works. Apart from agriculture, there are also other activities people do in the villages that are called non-farm activities. Some of the non-farm activities included making pots, fishing, milk production, etc. An attempt has been made to study the occupational structure which is the main activity of tribal livelihood. People living in traditional areas are mostly marginalized and in present case they do not confine themselves to one single activity to sustain themselves. In the present study an attempt has been made to examine the occupation as an important activity of tribal livelihood. The present study is confined to tribal sub plan area of Rajasthan and based on secondary data. An attempt was made to construct composite index of occupation structure and livelihood by using the factor loadings of occupation and livelihood variables. Livelihood are regarded as occupations that tribals are engaged in with the main purpose of generating a source of income. The major areas that are considered as source of tribal livelihoods are agriculture, labour participation, animal husbandry and so forth. There is a need to support livelihood activities and skills to contribute to poverty alleviation among the tribal communities.

This research paper is based on research entitled "Socio Economic Changes and Livelihood Pattern of Tribal Sub Plan Area of Rajasthan" under the Impactful Policy Research in Social Science (IMPRESS) awarded by the MHRD/ICSSR.

### Introduction

The concept of a livelihood is widely used in contemporary writings on poverty and rural development, but its meaning can often appear deceptive, either due to ambiguity or to different definitions being encountered in different sources. Livelihood means to a living which straightway makes it more than merely synonymous with income because it directs attention to the way in which a living is obtained. Chambers and Conway (1992) refers that livelihood comprises the capabilities, assets and activities required for a means of living.

According to Hoeck (2001), "Livelihood is an outcome of how people transform natural resource for their own interest through technology, knowledge and symbolic relation." A more precise definition of livelihood is the way of earning living through assets and use of those to sustain in long run (Sarou, 2009). Livelihood activities according to Ellis (1999) are the activities, assets and the access that

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jointly determine the living gained by the rural households.

The important feature of the livelihood definition is to direct attention to the links between assets and the options people possess in practice to pursue alternative activities that can generate the income level required for arrival. For example, lack of education means low human capital, one of several types of asset and this excludes the individual from activities that require a particular level of educational or skill attainment for participation in them.

Livelihood is the way of earning money to get basic needs like food, clothes and shelter. In tribal areas of Rajasthan, people earn their livelihood by working in the fields. Work in the fields includes preparing the land for farming, sowing seeds, weeding unwanted plants and harvesting of crops. Farming depends on the season for doing different works. Apart from agriculture, there are also other activities people do in the villages that are called non-farm activities. Some of the non-farm activities included making pots, fishing, milk production, etc.

### **Review of Literature**

Accumulation of scientific knowledge is a slow and gradual process in which an investigator builds on the works of researchers. Findings and policy outlooks serve as a starting point for the future. The links that can be established between and among studies enrich knowledge and offer policy insights. Anthropologists, sociologists, geographers and historians have made extensive studies in the fields of socio-cultural patterns of the tribes.

Paul S.K. (2005) suggested that agriculture is the primary source of livelihood for the overwhelming majority of tribal population in India. Agricultural modernisation was since long been introduced in the tribal area of West Bengal, primarily with a view to raise the level of income, standard of living and lifestyle of the tribal people.

Mahadik and Sawant (2012) reported that agriculture is the main source of livelihood, it is imperative to guide, motivate and assist the farmers from the disadvantaged area to adopt improved farm technology, which would increase the crop productivity and ultimately the income to achieve the livelihood standard of the farmers.

Heimendorf (1945) examined the conditions of Hill Reddies in Andhra Pradesh. In another study Heimendorf (1948) analysed the conditions of Raj Gonds in Andhra Pradesh, Naidu (1981) studied the conditions of tribals living in Tumkur district of Karnataka, Ramaiah (1981) studied on Koyas of Wrangal in Andhra Pradesh, Thakur (1986) conducted a study on Santhal tribe of Bihar, Mahapatro (1987) investigated into the conditions of the tribals of Koraput district of Orissa, swarup and Bhati (1987) conducted a study on the Thanu tribe of Uttar Pradesh, Amitabh Mitra (1993) conducted a study on Sherpas of West Bengal and Mohana (1993) analysed the living conditions on the Gonds, Koyas, Chenchus and Lambada in Andhra Pradesh.

An attempt has been made to study the occupational structure which is the main activity of tribal livelihood. People living in traditional areas are mostly marginalized and in present case they do not confine themselves to one single activity to sustain themselves. In the present study an attempt has

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been made to examine the occupation as an important activity of tribal livelihood. The present study is confined to tribal sub plan area of Rajasthan and based on secondary data. Tribal Sub Plan area is located between 73°3' and 75°0' East Longitudes and 23°31' and 24°55' North Latitudes in southern part of Rajasthan with an area of 19770 sq kms, which extends over about 210 kms in the North-South and 240 Kms in the East-West directions. It covers three complete districts Banswara, Dungarpur and Pratapgarh, nine complete tehsils, one complete block and 46 complete gram panchayats covering 227 villages of Udaipur, Rajsamand, Chittorgarh, Pali and Sirohi district of Rajasthan.

### **Objectives of the Study**

The objectives of the study are:

1. To analyze the occupational structure of tribals in tribal sub plan area of Rajasthan.
2. To examine the livelihood status of tribals in tribal sub plan area.
3. To see the relationship between occupation structure and livelihood pattern of tribals.

### **Occupational Structure of Tribal Sub Plan Area**

Occupation implies trade or profession. It reveals the nature of economic progress of a country. It is related to agriculture, industry and services. Occupation depends on the degree of economic development. Occupational structure influences many aspects of population in a region. The occupational characteristics of population are reflected in the working force, dependency load, employment and unemployment.

The livelihood system in the tribal area is primarily dependent on combinations of agriculture, forests and labour. Due to very small holding and the very low productivity of the land most tribals are living by maintaining a diversified pattern of occupation. No single activity provides sufficient resources to entirely ensure their livelihood. Women's work is critical for the survival of tribal households both in terms of provisioning food and income as well as in the management of resources.

Occupational structure is a key component of population composition. It gives a proper illustration of ratio of the working and non working population in our country. The spatial distribution of working and non working population has been studied on the basis of data provided by the Census of Rajasthan.

Work involves not only actual work but also includes effective supervision and direction of work. It even includes part time help or unpaid work on farm, family enterprise or in any other economic activity. As per the occupation of the total population, census authorities have been adopted three-fold classification of population i.e. main workers, marginal workers and non workers.

Workers who worked for more than six months (180 days) in the reference period are termed as main workers. Workers who worked for less than six months (180 days) in the reference period are termed as marginal workers. All those who had not worked at all during the last year, were recorded as non workers. Persons engaged in household duties, students, dependents, retired person, rentiers

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and beggars are grouped into non workers. The occupational structure of tribal sub plan area is shown in the table 1:

**Table 1: District Wise Occupational Structure in Tribal Sub Plan Area (2011)**  
(Figures in percentage)

Sr.	District	Main Workers	Marginal Workers	Total Workers	Non Workers
1	Banswara	30.21	20.78	50.99	49.01
2	Chittorgarh	42.54	9.44	51.98	48.02
3	Dungarpur	15.59	30.61	46.20	53.80
4	Pali	29.71	11.63	41.34	58.66
5	Pratapgarh	37.73	17.73	55.46	44.54
6	Rajsamand	31.35	16.28	47.63	52.37
7	Sirohi	30.23	10.28	40.51	59.49
8	Udaipur	26.80	17.71	44.51	55.49

Source: Census of Rajasthan, 2011

The table 1 exhibits that during 2011, Pratapgarh district recorded the highest working population i.e. 55.46 percent. Among them 37.73 percent population was classified as main workers while 17.73 percent population was marginal workers. It is followed by Chittorgarh district, which recorded 51.98 percent of population as total working population (42.54 percent main workers + 9.44 percent marginal workers). Banswara and Rajsamand district stood third and fourth with 50.99 percent and 47.03 percent respectively in the total working population. Although the percentage of main workers is highest in Chittorgarh district with 42.54 percent yet the percent of marginal workers is less in the district with 9.44 percent.

The table 1 also shows that the percentage of non workers was highest in Sirohi district with 59.49 percent which also shows the higher dependency ratio. It is followed by Pali district with 58.66 percent. The main reason behind this is sluggish industrial development and traditional agricultural practices in tribal area.

There is a large variety of occupations. The total workers are classified into following categories:

**Cultivators:** A person is classified as cultivator if they are engaged in cultivation of land owned or held from government or held from private persons or institutions for payment in money, kind or share. Cultivation includes effective supervision or direction in cultivation.

**Agricultural Labourers:** A person who works on another person's land for wages in money or kind or share is regarded as an agricultural labour. They have no risk in the cultivation but merely work on another person's land for wages.

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**Household Industry Workers:** Household industry is defined as an industry conducted by one or more members of the household at home or within the village in rural and tribal areas. The larger proportion of workers in the household industry consists of members of the household. In tribal areas the industry is not actually located at home but it is a greater possibility of the members of the household participating even if it is located anywhere within the village limits. In the urban area industry takes greater prominence, the household industry should be confined to the precincts of the house where the participants live.

**Other Workers:** Workers other than cultivators, agriculture labour or workers in household industry are termed as other workers. Such type of workers are government servants, municipal employees, teachers, factory workers, plantation workers, those engaged in trade, commerce, business, transport, banking, mining, construction, political or social work, priests, entertainment artists, etc.

According to these four categories, the district wise distribution of workers is shown in the table 2:

**Table 2: Category Wise Distribution of Workers in Tribal Sub Plan Area of Rajasthan (2011)**

Sr.	District	Cultivators	Agriculture Labourers	Household Industry Workers	Other Workers
1	Banswara	59.63	21.75	2.16	16.45
2	Chittorgarh	56.46	15.38	1.92	26.24
3	Dungarpur	35.52	28.73	1.95	33.80
4	Pali	29.91	28.17	3.10	39.82
5	Pratapgarh	63.67	20.12	1.15	15.07
6	Rajsamand	37.69	19.35	2.45	40.51
7	Sirohi	29.55	23.30	2.25	44.90
8	Udaipur	39.47	22.18	2.46	35.89

**Source: Census of Rajasthan, 2011**

It is observed from the table 2 that Pratapgarh district has highest 63.67 percent of cultivators followed by Banswara and Chittorgarh districts with 59.63 and 56.46 percent respectively. Apart from this the percentage of agricultural labourers is found highest in Dungarpur district with 28.73 percent and it is followed by Pali and Sirohi districts with 28.17 percent and 23.30 percent respectively.

Household industry category is an important economic activity. In a household industry goods are manufactured, processed, serviced or repaired mainly by the members of the same household generally within their own premises. The workers in household industry are found highest in Pali district with 3.10 percent and it is followed by Udaipur district with marginal difference which is 2.46 percent. The workers in household industry are very low in Pratapgarh district with 1.15 percent.

Other workers constitute the last category. Other workers are those who have been engaged in some

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economic activity during the last one year but are not cultivators or agricultural labourers or in household industry. The table 2 shows that highest percentage of other workers are found in Sirohi district with 44.90 percent which is followed by Rajsamand and Pali districts with 40.51 percent and 39.82 percent respectively.

### Calculation of Occupation Structure Index and Livelihood Index

To derive a composite index from a set of variables, a wide variety of multivariate statistical techniques are available. One needs to look for an alternative dimension reduction technique which will summarize the whole set of information into a manageable form without much loss of the information related to original data. Though the composite index can be built up using simple techniques like ranking and indexing methods, but these techniques have many drawbacks which have been criticized by many researchers like Dandekar Committee (1984), Kundu and Raza (1982) and Sarker (1995). Main drawbacks are arbitrariness and allocation of equal weights.

In this study Principal Component Analysis is used. In this analysis a set of original variables is transformed to a new set of uncorrelated variables called principal components. These new variables are linear functions of the original variables and derived in decreasing order of importance. The objective is to find out only a few components which account for most of the variation in the original data set. It reduces a set of variables to much smaller size without losing the properties of the data.

#### (A) Occupation Structure Index

The occupational structure index is a composite of six variables. The loading structure and other related statistics are depicted in the table 3:

**Table 3: Principal Component Loading and Coefficient of Variation for Occupational Variables**

Sr.	Variables	Mean	Factor Loading	Coefficient of Variation
1	Work Participation Rate	47.33	0.967	11.09
2	Female Work Participation Rate	41.73	0.791	21.51
3	Percentage of Cultivators	43.86	0.940	3.17
4	Percentage of Agriculture Labourers	22.37	0.353	19.88
5	Percentage of Household Industry Workers	2.18	0.714	25.64
6	Percentage of Other Workers	31.59	0.857	3.55

Source: Computed

It is observed from the table 3 that work participation rate has the highest (0.967) loading in the principal component and it explains the maximum correlation. It is followed by percentage of cultivators (0.940) and percentage of other workers (0.857). It is also found from the table 3 that

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percentage of agricultural labourers do not play significant role in occupational structure due to low factor loading with 0.353 which is very low.

The regional disparity in occupation structure has also been examined by coefficient of variation and also shown in the table 3. The table 3 shows that highest variation 25.64 percent is found in household industry workers. It is followed by female work participation rate (21.51 percent) and agricultural labourers with 19.88 percent. The lowest variation is found in percentage of cultivators with 3.17 percent and it is followed by percentage of other workers with 3.55 percent.

### (B) Livelihood Index

Livelihood index is a composite of seven variables. The loading structure and other related statistics are depicted in the tale 4:

**Table 4: Principal Component Loading and Coefficient of Variation for Livelihood Variables**

Sr.	Variables	Mean	Factor Loading	Coefficient of Variation
1	Percentage of households having permanent houses	54.68	0.924	43.90
2	Per capita availability of food grains	0.26	0.845	57.69
3	Per capita availability of land holdings	0.12	0.925	16.67
4	Percentage of households having electricity	60.53	0.907	3.04
5	Literacy Rate	11.14	0.592	34.74
6	Percentage of households having radio	27.19	0.947	33.43
7	Availability of television	59.56	0.552	5.41

Source: Computed

It is observed from the table 4 that number of households having telephone has the highest (0.947) loading in the principal component and it explains the maximum correlation. It is followed by availability of land holding with 0.925 factor loading and the availability of permanent houses with 0.924 factor loading with the minimum difference. Literacy rate do not play significant role in livelihood variables due to lower factor loading value i.e. 0.552.

The regional disparity in livelihood has also been examined by coefficient of variation and also shown in the table 4. The table 4 shows that highest variation 57.89 percent is found in per capita

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availability of food grains. It is followed by percentage of households having permanent house with 43.9 percent and literacy rate with 34.74 percent. The lowest variation is found in percentage of household having electricity with 3.04 percent.

### Relationship between Occupation Structure and Livelihood

An attempt was made to construct composite index of occupation structure and livelihood by using the factor loadings of occupation and livelihood variables. It is presented in the table 5:

**Table 5: Occupational Structure Index and Livelihood Index of Tribal Sub Plan Area**

Sr.	District	Occupational Structure Index		Livelihood Index	
		Value	Rank	Value	Rank
1	Banswara	0.455	2	0.154	8
2	Chittorgarh	0.437	3	0.702	1
3	Dungarpur	0.400	4	0.207	7
4	Pali	0.315	7	0.569	3
5	Pratapgarh	0.471	1	0.342	5
6	Rajsamand	0.394	5	0.581	2
7	Sirohi	0.248	8	0.311	6
8	Udaipur	0.333	6	0.412	4

Source: Computed

Table 5 depicts that the highest value of the district indicates the top position for the both occupation and livelihood index. The value of the occupation structure index varied from 0.248 to 0.471. Pratapgarh district is on the top position with 0.471 value followed by Banswara and Chittorgarh district with 0.455 and 0.437 value respectively. On the other side Sirohi district has the lowest value 0.248 followed by Pali district with 0.315 value.

Table 5 also depicts the index value of livelihood. The value of livelihood varied from 0.702 to 0.154. Chittorgarh is on the top position with a value of 0.702 followed by Rajsamand and Pali district with 0.581 and 0.569 respectively. Banswara district has the poorest condition in livelihood with 0.154 value followed by Dungarpur district with 0.207 value.

According to occupation and livelihood index districts are classified into three groups i.e. high developed, moderate developed and low developed. The district wise classification is shown in the

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table 6:

**Table 6: Clustering of Districts according to Occupation Structure and Livelihood Index**

Sr.	Group	Occupation Structure Index				Livelihood Index			
		Value	Districts			Value	Districts		
			Name	No	%		Name	No	%
1	High Developed	.471-.397	Pratapgarh, Banswara, Chittorgarh, Dungarpur	4	50.0	.702-.519	Chittorgarh, Rajsamand, Pali	3	37.5
2	Moderate Developed	.397-.323	Rajsamand, Udaipur	2	25.0	.519-.336	Udaipur, Pratapgarh	2	25.0
3	Low Developed	.323-.249	Pali, Sirohi	2	25.0	.336-.153	Sirohi, Dungarpur, Banswara	3	37.5

**Source: Computed**

Table 6 shows the clear cut dominance in highly developed in occupation structure with 50 percent districts. The value of high developed in occupation structure ranges from 0.471 to 0.397. It consists of four districts namely, Pratapgarh, Banswara, Chittorgarh and Dungarpur. It is followed by both moderately developed and low developed with 25 -25 percent districts. Rajsamand and Udaipur districts consists of moderately developed with 0.397 and 0.323 value. The low developed with 0.323 to 0.249 value consists of Pali and Sirohi districts.

On the other side Chittorgarh, Rajsamand and Pali districts consist of high developed with 0.702 to 0.519 values in livelihood status. The moderate developed category consists of Udaipur and Pratapgarh districts with 0.519 to 0.336 values. Sirohi, Dungarpur and Banswara districts are the less developed in livelihood status.

#### **Relationship between Occupation Structure and Livelihood**

Occupation refers to the kind of economic activity endeavored by a person regularly for earning money. When someone engages or occupies himself, most of the time, in any economic activity, that activity is known as their occupation. It is related to agriculture, industry and services. Occupational structure influences many aspects of population in a area. The occupational characteristics of population are reflected in the working force, dependency load, employment and unemployment. This occupational structure influences the livelihood.

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Livelihood is the economically productive activity with the primary objective of sustenance and survival of people. People engage in one or the other or a combination of economic activities with the purpose of survival. Tribal livelihood options are traditional and related to food gathering. Their life cannot be separated from their occupation. The economic life of tribals seldom rises from subsistence level to commercial level. They do not produce anything surplus so that, they would increase their wealth, personal income or profit. The relationship between the occupation structure and livelihood is shown in the table 7:

**Table 7: District Wise Comparison of Occupation and Livelihood**

Occupation Structure	Group	Livelihood		
		High Developed	Moderate Developed	Low Developed
High Developed	Chittorgarh	Pratapgarh	Banswara, Dungarpur	
Moderate Developed	Rajsamand	Udaipur	-	
Low Developed	Pali	-	Sirohi	

Source: Computed

Table 7 shows the comparison between occupation and livelihood of tribals. It is surprised to see that there is only one district Chittorgarh which comprises of high occupation structure and livelihood status. On the other side Sirohi district comprises low occupation structure and low livelihood status of tribals. It is seen from the table that although Pratapgarh, Banswara and Dungarpur are occupationally high but their livelihood status is moderate and low respectively.

It is also seen that although Rajsamand and Pali district have high livelihood status but their occupation status is moderate and low. Udaipur is only district which comprises of moderately developed in both occupation and livelihood status.

To examine the relationship between occupation and livelihood, Karl Pearson's Correlation Coefficient is also computed and the correlation coefficient is:

$$r = -0.075$$

The result indicates that the livelihood status of tribals is negatively correlated with occupation structure. Although it is negative yet the relationship between occupation and livelihood is significant at 5 percent level of significance. Thus, livelihood of tribals not only depends on their occupation but other sectors are also equally important for livelihood improvement.

For enhancement of tribal livelihood the main areas that need to be taken into consideration are poverty alleviation, innovative approaches in creating better livelihood opportunities, basic amenities and infrastructure facilities and wage and self employment. In tribal communities, it is vital to ensure that individuals are able to generate sufficient income through which they would be able to improve their living conditions. Therefore, in order to sustain their living conditions, the tribals are required to adopt more than one task or activity.

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**Conclusion**

A livelihood comprises the capabilities, assets and activities required for a means of living. Livelihood signifies the process by which tribal households constructs an increasingly diverse portfolio of activities and assets in order to survive and improve their living. Livelihood are regarded as occupations that tribals are engaged in with the main purpose of generating a source of income. The major areas that are considered as source of tribal livelihoods are agriculture, labour participation, animal husbandry and so forth. There is a need to support livelihood activities and skills to contribute to poverty alleviation among the tribal communities.

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