Social and spatial factors of livelihood diversification of marginal and small landholding households in rural Jharkhand, India

Ashish Aman Sinha[1] and *Hari Charan Behera[2]*

Abstract

The article aims to address both the social and spatial factors to establish relation between livelihood diversification and income distribution through a study in Jharkhand in the eastern Indian region. We have considered only small and marginal landholders for our study as they constitute more than 85 per cent of the total number of landholders in the state. The purpose of selecting Jharkhand state in eastern India is its high incidence of poverty and backwardness particularly among the agricultural communities in the country. These agricultural communities are from different social groups such as the Scheduled Castes (SCs), the Scheduled Tribes (STs) who belong to the lower rung of the social category; and Other Social groups, which include   the Backward classes and from general social category. Further, the state has five administrative divisions distributed in different geographical regions. Therefore, we considered three major administrative divisions such as North Chotanagpur, Palamu and Paschimi (West) Singhbhum with heterogeneous social composition for our study. Considering poverty, backwardness and diversity in the regions and historical connection to social and ethnic issues of underdevelopment, the study is important from the perspective of social and spatial categories and livelihood diversification.

Keywords: Marginal and Small Landholdings, Livelihood Diversification, Spatial Factors, Social Categories

1.0   Introduction

Land has been always considered a valuable asset, and it contributes to a substantial proportion of household income in agrarian society. At the time of economic socks, the same land acts as

[1] Assistant Professor, Jindal Institute of Behavioural Sciences, Jindal Global University, Sonipat, Haryana, Email: ashishamansinha@gmail.com

[2] Associate Professor, Sociological Research Unit, Indian Statistical Institute, Giridih, Jharkhand, Email: haricharan@isical.ac.in

Corresponding author's email: ashishamansinha@gmail.com

capital assets; the owner of the land sells or mortgages against credit. But situation of agrarian household becomes critical when it owns has meagre land holding. In that case landholders adopt different strategies, often diversified, to maintain their respective livelihoods. Livelihood diversification suggests the strategies adopted with different set of income generating activities as means of survival. The data from agricultural census of India (2015) reveals that out of 145 million landholdings in India, around 79 per cent are marginal landholders (< 1 ha land size) with an average of 0.39 ha. only and 18 per cent are the small landholders (between > 1 ha. and < 2 ha. of land) with an average holding size of 1.41 ha. (GoI 2015). The high percentage of marginal and small landholding household and the observed 57 per cent growth in number of marginal landholders and 29 per cent growth in the number of small landholders between 1990 and 2015 reflect the increasing concentration of small and marginal landholdings (GoI 2019). That underscores the substantial reliance on subsistence income derived from the land. Therefore, the families depend on other sources. No doubt, the size of land holding plays a significant role in determining livelihood diversification strategies. Marginal and small land holders tend to engage in a higher level of livelihood diversification compared to large farm holders (Habib et al. 2023).

There are ample literature and data that shows that SCs and STs in India are the most vulnerable in terms of access to land landholdings in the country (Bakshi 2008; Kumar 2018 and Mohanty 2001) and therefore access to livelihood. (Behera et al. 2022; Reddeppa 2022:17 and Sinha et al. 2021). It is noticed that the SCs bear the lowest landholding size, whereas, the STs do not have adequate access to irrigation as well as the other means of agricultural production (Bakshi 2008; Beteille 1972; Kumar 2018; Mohanty 2001 and Sankaran 1996). From Agricultural Census, 2015 (see GoI 2019) we get data on the percentage distribution of operational holdings among SCs. It is recorded that 76.06 per cent are marginal landholders with an average operational size of 0.37 ha. and 14.24 per cent are small landholders with an average operational average size of 1.40 ha. Among STs 58.18 per cent are marginal landholders with an average operational size of 0.48 ha and 23.5 per cent are the small landholders with an average operational land size of 1.42 ha. in India. According to the agricultural census, 2015 marginal (55.72 %) and small holding (44.40 %), the percentage of net irrigated area to net sown area was reported much higher among SCs than STs. For STs, marginal and small holdings have been recorded at 25.34 per cent and 24.17 per cent respectively. It is to be mentioned that Jharkhand constitutes 26.21 per cent of tribal population (Scheduled Tribes) and 12.08 per cent of Scheduled Caste (SC) population of the total population (GoI 2011). Higher percentage of families from the above social categories is either agriculturists or agricultural labourers. In Jharkhand 65.98 per cent landholding households are marginal holders and 14.94 per cent are the smallholders; they occupy 24.40% and 18.43% of the total operational area of the state respectively (GoI 2019). The average marginal landholding size is 0.38 ha. and average size of small holding is1.36 ha. (ibid.). Among SCs 79.28 per cent are marginal landholders and they occupy 38.81 per cent of total operational area with 0.40 ha average landholding size whereas, 11.09 per cent SC households are small landholders possessing 19.35 per cent of total operational land with an average size of 1.34 ha. In case of STs, they possess 18.22 per cent of total operational land holding as marginal holders and 16.48 per cent operational area as small landholders. ST families contribute 62.12 per cent share as marginal landholding household with average size of 0.42ha and 17.14 per cent household as small landholding household holds average size of 1.36 ha;

among the others social categories 72.93 per cent households are marginal and 14.24 per cent households are small landholding households; they occupy 27.56 per cent land as marginal landholders and 20.21 per cent as small landholders of the total operational area. The average size of marginal landholding households of other social groups is 0.36 ha. and of small landholding households 1.36 ha. (ibid.). Considering the above facts, irrespective of social categories, majority of landholders belongs to marginal and small size groups. It is also reported by various studies and reports that majority of rural population is poor and depend on agriculture and forest for their livelihood, particularly the scheduled castes and scheduled tribes in rural area of Jharkhand. (Behera et al. 2022; Islam and Ryan 2016; Mahato and Gaurav 2023; Singh et al. 2012; Sinha et al., 2021; Tripathy and Khan 2018 and Yogi et al. 2017). Due to higher dependency on agriculture and forest, they face various challenges in terms of their livelihoods (Behera et al.2022; Singh et al. 2012 and Sinha et al. 2021). These challenges include dependence on agriculture and forest resources for their livelihoods, unstable income due to low productivity, infertile land, backward technology, and climate changes, and limited access to credit (Behera et al. 2022). Additionally, the non-timber forest products (NTFPs) sector, which plays a significant role in the livelihoods of tribal and rural communities, faces constraints in terms of marketing and market chain. (Bara 2022). The above constraints affect the subsistence income of the rural households of Jharkhand and thereby lead to occupational shift from agriculture to non-farm activities such as daily wage activities (Sinha et al. 2021). The transition does not imply that the primary occupation has been entirely disregarded The transitional adaptive strategies of rural households include diversifying their income-generating activities, such as engaging themselves in daily-wage earning activities or pursuing other non-farm activities. (Asfaw et al. 2017; Kumari and Ramana Murthy 2022 and Sinha et al. 2021).

Livelihood strategies involve activities for making a living. Having more diverse ways to earn money helps to handle risks and deal with unexpected events, and thereby making households less vulnerable. The choice of livelihood strategy of household depends on socio-economic characteristics, environmental endowments, and on entitlement available at its disposal (Kamwi et al. 2015). The income generating activities has been considered as the most effective livelihood activities in the rural household (e.g. Davis et al. 2010) for gathering subsistence, income, accumulation of wealth and reduction of risk factor (Nielsen et al. 2012). In the areas, where there is limited availability of finance and the role of financial service delivery mechanism is weak; people use natural, physical, human and social assets to earn livelihood (Ma et al. 2018). People use one or more than one activity based on the ability to perform economic activities and generate an income for living.

Several studies emphasise that income diversification strategies in rural households vary across different income groups (see Cavendish 2000 and Reardon 1997). Their studies focused on livelihood generating assets, income and livelihood sources (e.g. Brown et al. 2006; Jansen et al. 2006 and Van den Berg 2010). There are some study adopts livelihood assets and income-based approaches to analyse various activity choices and their corresponding income levels (Ellis 2000). Additionally, some of them examines social factors such as caste and class (Berry 1993 and Hart 1995), as well as landholding status, to understand how these factors influence livelihood diversification (Shah 2004 and Sheth 2002). On the other hand wider literature is found on environment entitlement (Leach et al. 1999 and Mearns et al. 2000) and some of studies brought the concept of 'capital' as assets such as social, natural, financial, human physical capitals as determinant of livelihood diversification (cf. Bebbington 1999;

Carney 1998; and Scoones 2009 & 1998). The available studies are lacking to integrate the social structure of rural society for livelihood diversification where it plays vital role in labour distribution and economic activity of households. Except few, like Ellis (2000), others established that social institutions such as caste, gender, and families play a crucial role in shaping distinct livelihood strategies aimed at diversifying income opportunities. Likewise, social proscriptions on permissible course of action also determine choices of occupation. The contemporary linkage between the caste and occupation choice is captured by Shah (2004) and Sheth (2002). Sheth (2002) has also established the relation between the occupational choices on the basis of landlessness and varying size of landholdings in the peasant class in rural India. But there are limited studies which focus on the regional distinction and its impact on the livelihood diversification. To understand these dynamics, our focus is to examine the role of social category and spatial category (i.e. regional dimension) on livelihood diversification (income generating activities). Further, the objective is to see if the livelihood diversification has any relation with the income distribution as regional dimension.

Therefore, the study considers the most common livelihood portfolio like agriculture, forest, daily wages, livestock or animal husbandry, National Social Assistance Programs (NSAP) and others noticed in the villages of Jharkhand (Sinha et al. 2021). Here the agricultural based activities include the household members involved in agriculture on their operational landholding. Activity daily wages includes daily wage labours and daily wage skilled labours as well as daily wage agricultural labours. Livestock activity includes any activity concerning to livestock rearing and animal husbandry for the purpose of income generation. Forest based activity includes income from the sales of minor forest produce by households. The Others sources of income are earned by a household through jobs in the private or government institution regular or contract basis and earn income as salary as well as petty business. The NSAP are the welfare policy of state and the Union government to support an individual by providing income support monthly/periodic through direct transfer benefit such as old age pension, widow pension, scholarships, and tribal welfare and support pension etc.

Historically, the role of social category and social position of the households and regional distinction have influence on the livelihood diversification and income generation (Elmqvist and Olsson 2006; Hatlebakk 2012; and Nkedianye et al. 2020). In order to understand the effect in the present context, the authors choose the following three hypotheses.

1.1   Null Hypotheses

1. There is no difference in the livelihood diversification between social categories
2. There is no difference in the livelihood diversification between spatial categories.
3. There is no relation between livelihood diversification and actual income distribution.

1.2   Data and Methodology

For the study the state Jharkhand in India is taken into consideration which is in the eastern part of the country.

Three districts namely, Giridih, Latehar and Paschimi Singhbhum were selected randomly with one each from North Chotanagpur division, Palamau division and Kolhan

division of Jharkhand. From Giridh district three villages Beldih and Charakmara from Ganday block and Pokhariya village from Birni Block were selected. From Latehar District, four villages namely Huntar, Pandepura, Tarwadih and Kone were selected.   Only one village-Patta Guirawas was selected from Paschimi Singhbhum for the study (see figure 1). Altogether, 1157 households were selected; out of that, 571 households are from Latehar district, 366 households from Giridih district and 220 households for Paschiami Singhbhum district. A household is considered as a unit of analysis for this study. The questionnaires have been used as a tool for household data collection.
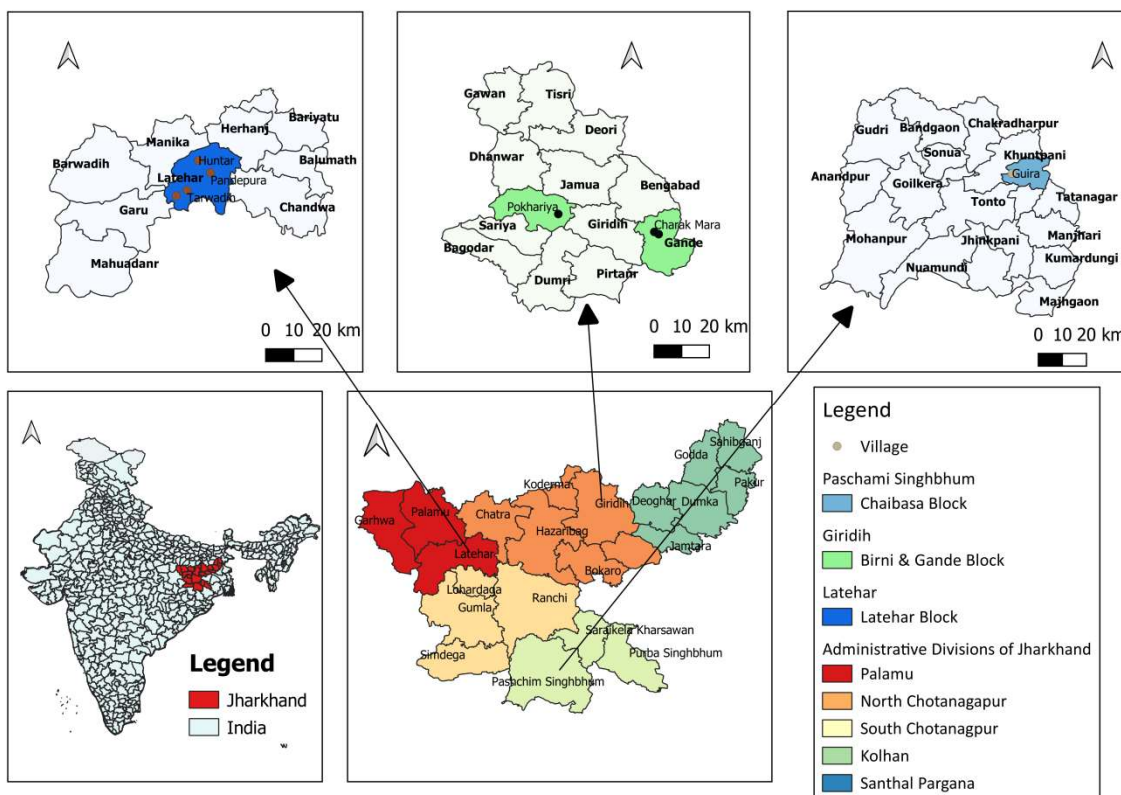
Source: Map created by Authors to depicting the location of the study area.

Figure 1: Geographical location of the study area.

1.3   Result

1.3.1   Landholding classification

In this article households are distributed among the two landholding peasant groups on the basis of land under possession by a household. The land under possession included land owned, land leased-in while excluding the land leased-out by a household. The ownership rights possessed by a household are brought under the owned land. The land under dispute is not taken either in the land under possession or the land owned. The land under possession is further classified into land under cultivation and unused land for the given period. The unused land includes current fallow land and barren land (table 1). Therefore, the households

possessing agriculture land below and equal to 2.47 acres (less than equal to one ha.) are considered as marginal landholding households or the marginal landholders; the households possessing land above 2.47 acres (one ha.) and below 4.94 acres (two ha.) come under the small landholding households. This classification is based as per the standard classification of Agriculture Census of Government of India. The person with above one hectare of land is also considered a small landholder.

Table 1: Land holding classification and distribution among the social groups

Division	Peasant classification	Social Category	Stats	Land under possession (acres)	Total Owned land (acres)	Leased-in land (acres)	Land under cultivation (acres)	Unused land (acres)
Paschimi Singhbhum	Marginal landholders	SC	Mean	0.20	0.20	0.00	0.0	0.20
			Std. Dev.	-	-	-	-	-
		ST	Mean	1.21	1.21	0.00	1.2	0.05
			Std. Dev.	0.57	0.56	0.02	0.6	0.20
		Others	Mean	0.61	0.69	0.00	0.5	0.15
			Std. Dev.	0.67	0.77	0.00	0.7	0.11
	Small landholders	SC	Mean	-	-	-	-	-
			Std. Dev.	-	-		-	-
		ST	Mean	4.64	4.55	0.09	4.2	0.40
			Std. Dev.	3.43	3.44	0.37	3.5	0.80
		Others	Mean	-	-	-	-	-
			Std. Dev.	-	-	-	-	-
Giridih	Marginal landholders	SC	Mean	0.69	0.56	0.13	0.5	0.15
			Std. Dev.	0.52	0.46	0.29	0.5	0.35
		ST	Mean	1.04	0.95	0.13	0.7	0.37
			Std. Dev.	0.80	0.62	0.51	0.5	0.69
		Others	Mean	1.16	1.01	0.20	0.8	0.32
			Std. Dev.	0.85	0.82	0.49	0.6	0.56
	Small landholders	SC	Mean	3.63	3.63	0.00	2.5	1.13
			Std. Dev.	1.00	1.00	0.00	0.5	1.03
		ST	Mean	3.51	3.96	0.00	1.6	1.96
			Std. Dev.	0.93	1.77	0.00	1.2	1.08

		Others	Mean	4.69	4.13	0.17	2.5	1.78
			Std. Dev.	4.42	7.22	0.64	1.9	2.85
Latehar	Marginal landholders	SC	Mean	1.29	1.14	0.14	1.2	0.07
			Std. Dev.	0.48	0.27	0.36	0.3	0.27
		ST	Mean	1.37	1.35	0.03	1.3	0.07
			Std. Dev.	0.66	0.66	0.13	0.7	0.19
		Others	Mean	1.13	1.11	0.03	0.9	0.19
			Std. Dev.	0.70	0.70	0.19	0.6	0.40
	Small landholders	SC	Mean	4.00	4.00	0.00	4.0	0.00
			Std. Dev.	1.32	1.32	0.00	1.3	0.00
		ST	Mean	4.31	4.29	0.02	3.9	0.38
			Std. Dev.	3.81	3.80	0.19	3.4	1.56
		Others	Mean	4.21	4.74	0.14	2.9	1.28
			Std. Dev.	2.30	2.92	0.46	1.6	2.19
Total	**Marginal landholder**	SC	**Mean**	**0.80**	**0.67**	**0.13**	**0.7**	**0.14**
			Std. Dev.	**0.57**	**0.49**	**0.30**	**0.5**	**0.33**
		ST	**Mean**	**1.23**	**1.20**	**0.04**	**1.1**	**0.15**
			Std. Dev.	**0.68**	**0.64**	**0.27**	**0.6**	**0.41**
		Others	**Mean**	**1.11**	**1.05**	**0.09**	**0.9**	**0.24**
			Std. Dev.	**0.78**	**0.76**	**0.34**	**0.6**	**0.47**
	Small landholder	SC	**Mean**	**3.82**	**3.82**	**0.00**	**3.3**	**0.57**
			Std. Dev.	**1.07**	**1.07**	**0.00**	**1.2**	**0.90**
		ST	**Mean**	**4.35**	**4.34**	**0.04**	**3.9**	**0.47**
			Std. Dev.	**3.60**	**3.61**	**0.25**	**3.4**	**1.41**
		Others	**Mean**	**4.22**	**4.72**	**0.15**	**2.8**	**1.44**
			Std. Dev.	**3.08**	**4.63**	**0.52**	**1.7**	**2.41**

Source: Authors' calculation based on field data

Land possession includes both owned and leased-in land. Leased-in land exists mainly in the form of oral tenancy. The average land owned by the SCs, STs and Other Social categories are 0.67 acres, 1.20 acres and 1.05 acres, with variations of 0.49 acres, 0.64 acres

and 0.76 acres respectively. The average leased-in land among the marginal landholders of different social categories such as SCs, STs and Others social categories are: 0.13 acres, 0.04 acres and 0.09 acres with the variation of 0.30 acres, 0.27 acres and 0.34 acres respectively. Average size of landholding of marginal SCs, STs and Other categories landholders is 0.80 acres, 1.23 acres, and 1.11 acres respectively with the variations of 0.57 acres among SCs households, 0.68 acres among ST households, and 0.76 acres among the Other Social categories households. The SCs, STs and Other social groups form the small landholding groups on an average own 3.82 acres, 4.34 acres and 4.72 acres.   Whereas, the average land leased-in by these households is 0.00 acre among SCs, 0.04 acres (with variation of 0.25 acres) among STs and 0.15 acres (with variation of 0.52 acres) among the *Other social categories* households (table 1).

In Paschimi Singhbhum district, among the marginal landholding SC households, the average size of land under possession is 0.20 acres and   unused land is 0.20 acres. There are no such land leased and land under cultivation found among marginal landholders belonging to SC communities in the district. Among the STs, the average marginal landholding size is 1.21 acres and the average size of small landholding is 4.64 acres. Among the others the average landholding size is 0.61acres.

In Giridih district, the average landholding size of land under possession of marginal SC households is 0.69 acres and the average landholding size of smallholders of the same community is 3.63 acres. The average size of land owned by and leased-in among marginal SCs is 0.56 acres and 0.13 acres respectively. The average size of land under cultivation among the marginal holder SC is 0.50 acres and the average size of unused land in the same community is 0.15 acres. In case of SC small landholders, the average size of land under possession and total land owned are 3.63 acres each. Whereas the average size of land under cultivation and land unused is 2.5 acres and 1.13 acres respectively. Among, the ST marginal landholders, the average size of land under possession and land owned is 1.04 acres and 0.95 acres respectively; and average size of land leased-in is 0.13 acres. The average size of land under cultivation and land unused is 0.7 acres and 0.37 acres respectively among the marginal landholding ST households in Giridih district. Similarly, among the small landholder ST households in the said district, the average size of land under the possession and land owned is 3.51 acres and 3.96 acres respectively. In case of the marginal landholders of the Other communities an average size of land under possession, land owned and land leased-in is estimated at 1.16 acres,   1.01 and 0.20 acres respectively. The small landholders have an average land size of 4.69 acres under possession, 4.23 acres as owned and   0.17 acres as land leased-in.

Similarly, in Latehar district, marginal SC landholders, possess an average size of 1.29 acres and   own an average size of 1.14 acres. The average size of land leased-in is recorded 0.14 acres.

The average size of land under possession and total land owned are 4.00 acres each. Whereas the average size of land under cultivation and land unused is 2.5 acres and 1.13 acres respectively. Among the ST marginal and small land holders   the average size of land under possession and land owned is 1.37 acres and 4.31 acres respectively. The average size of land owned among the marginal and small landholding ST households in Latehar district is 1.35 and 4.29 acres respectively. In case of Other communities, the average land under possession

among the marginal landholder is 1.13 acres and among the small landholders, it is 4.21 acres. The average size of land owned among the marginal landholders of other communities is 1.11 acres and among the small landholders of same communities is 4.74 acres in the said district (table 1).

Table 1: Distribution of landholding groups among the different social groups

District	Social categories	Marginal landholders (in%)	Small landholders (in %)
PaschimiSinghbhum	SC	0.79	0.00
	ST	80.16	100.00
	Others	19.05	0.00
	Total	15.73	17.55
Giridih	SC	18.50	8.33
	ST	24.45	25.00
	Others	57.05	66.67
	Total	39.83	14.69
Latehar	SC	3.93	1.81
	ST	33.15	65.66
	Others	62.92	32.53
	Total	44.44	67.76
Total	SC	9.24	2.45
	ST	37.08	65.71
	Others	53.68	31.84
	Total	76.58	23.42

Source: Authors' calculation based on field data

Out of the total 1046 households, 76.58 per cent are marginal landholders and 23.42 per cent are small landholders. Among the total marginal landholding households, 9.24 per cent are SC households, 37.08 per cent are ST and 53.68 per cent are households belonging to *Other social categories* (table 2). Among the small landholding groups, only 2.45 per cent SC households are small landholders. In the case of ST households 65.71 per cent households and among *Other social categories*, 31.84 per cent households belong to small landholding groups (table 2). Out of total marginal households 15.73 per cent is from Paschimi Singhbhum district, out of which 0.79 per cent is from SC communities, 80.16 per cent from ST communities and 19.05 per cent from *Other communities*. Whereas out of total households, 17. 55 per cent is small holders. Giridih district shares 39.38 per cent of total marginal households, where 18.50 per cent belongs to the SCs, 24.45 per cent to the STs and 57.05 per cent to the *Other communities*. Giridih contributes 14.69 per cent small landholding household out of total small households; among them 8.33 per cent is SCs, 25 per cent is STs, and 66.67 per cent households belong to other communities. Marginal households from Latehar district are recorded 44.44 per cent; this consists of 3.39 per cent SC households, 33.15 per cent ST households, and 62.92 per cent households from other social group. Similarly, 67.76 per cent of

small landholding households is from Latehar district; out of which 1.81 per cent belongs to SCs, 65.66 per cent to STs and 32.53 per cent to the Other communities.

1.3.2 Social category and Livelihood diversification

Here the agriculture based activities include the household members involved in agriculture on their own land. Daily-wage earning activities include daily-wage skilled and unskilled labours as well as daily-wage agricultural labours. Livestock activity includes any activity concerning to livestock rearing and animal husbandry for the purpose of income generation.

Table 2: Landholding class and income generating activates

Division	Peasant classification	Social categories	Percentage of households in different income generating activities					
			Agriculture	Daily Wage	Live stock	Others	Forest	NSAP
PaschimiSinghbhum	Marginal landholder	SC	0.00	100.00	0.00	0.00	0.00	0.00
		ST	46.23	33.17	0.00	7.04	1.01	12.56
		Others	20.00	54.29	0.00	17.14	0.00	8.57
	Small land holder	SC	-	-	-	-	-	-
		ST	53.16	22.78	0.00	12.66	0.00	11.39
		Others	-	-	-	-	-	-
Giridih	Marginal landholder	SC	39.80	59.18	0.00	0.00	0.00	1.02
		ST	44.00	50.67	0.00	1.33	0.00	4.00
		Others	43.85	38.24	0.27	16.84	0.00	0.80
	Small land holder	SC	50.00	50.00	0.00	0.00	0.00	0.00
		ST	47.06	47.06	0.00	5.88	0.00	0.00
		Others	46.81	19.15	0.00	34.04	0.00	0.00
Latehar	Marginal landholder	SC	33.33	33.33	0.00	26.19	2.38	4.76
		ST	29.35	26.63	0.54	11.96	14.95	16.58
		Others	45.15	38.37	0.90	11.06	2.48	2.03
	Small land holder	SC	37.50	25.00	0.00	37.50	0.00	0.00

		ST	33.02	25.62	0.31	25.00	8.95	7.10
		Others	45.38	13.45	4.20	27.73	2.52	6.72
Total	Marginal landholder	SC	71.62	98.65	0.00	14.86	1.35	4.05
		ST	89.86	80.74	0.68	20.27	19.26	31.08
		Others	87.29	76.94	1.18	27.76	2.59	3.53
	Small land holder	SC	100.00	83.33	0.00	50.00	0.00	0.00
		ST	97.52	67.70	0.62	57.14	18.01	19.88
		Others	97.44	32.05	6.41	62.82	3.85	10.26

Source: Authors' calculation based on field data.

From table 3, it is evident that marginal landholding households belonging to 71.62 per cent SC, 89.56 per cent ST and 86.28 per cent *Other social categories* are involved in agriculture; while 98.65 per cent 80.81 per cent and 77.21 per cent from the respective categories are engaged in daily-wage activities. Among the small landholders 83.33 per cent of SC, 67.70 per cent of ST and 32.05 per cent of *Other households* are engaged in daily wage activities, and 100.00 per cent, 97.52 per cent and 95.00 per cent respectively in agricultural activities respective among these three categories (table 3). In Paschimi Singhbhum district, 100.00 per cent of SC households, 33.17 per cent ST households and 54.29 per cent of other households under marginal landholders are engaged in wage activities. Under this category, no case of SC household is recorded engaged in agriculture though 46.23 per cent ST and 20.00 per cent other households are engaged in agriculture. Under this category 7.04 per cent ST households are engaged in other activities, and only 1.01 per cent in forest activities and 12.56 per cent in NSAP. From others category under this landholding group only 8.57 per cent is recorded benefitting from NSAP. Among the small holder STs in Paschimi Singhbhum district, 53.16 per cent households are engaged in agriculture, 22.78 per cent in daily wages, 12.66 per cent gets income from other sources and 11.39 per cent gets benefits from NSAP (table 3).

Similarly, in Giridih district, among marginal landholders 59.18 per cent SC households are involved in daily wages, 39.80 per cent SCs households in agriculture and only 1.02 per cent SC households get benefits from the NSAP. Among ST marginal holders in Giridih district, 44 per cent households are engaged in agricultural activity, 50.67 per cent in daily-wage earning works, 1.33 per cent households in other sources income and 04 per cent households earn from the NSAP (table 3). In the case of marginal holder households from *Other communiies* in Giridih district, 43.85 per cent are engaged in agriculture, 38.24 per cent in wages and 0.27 per cent in livestock, 16.84 per cent in other sources of income, and 0.80 per cent in NSAP (table 3). Among small landholders from the SC social category, 50 per cent are engaged in daily wages and agriculture. Similarly, among the small landholders of STs in Giridih district, 47.06 per cent households earn income from agricultural activity and daily

wages, 5.88 per cent households from other sources. In case of small landholding households from the *Other communies* in Giridih district, 46.81 per cent households are engaged in agriculture, 19.15 per cent engaged in daily wages and 0.00 per cent in livestock, 34.04 per cent in the others. In Latehar district, among marginal landholders from SC communities 71.62 per cent are engaged in agriculture, 98.65 per cent in daily wages and 14.86 per cent in *Other sources*, 1.35 per cent in forest activities and 4.05 per cent in NSAP. Among the small landholders among the SCs in Latehar district, 100 per cent households are engaged in agriculture, 83.33 per cent in daily wages and 50 per cent in other sources. This means diversification of occupations. Similarly, among ST marginal landholding householders in Latehar district, 89.86 per cent   earn their income from agricultural activity, 98.65 per cent from daily wages, 14.86 per cent   from other sources, 1.35 per cent from forest activities and 4.05 per cent households from NSAP (table 3). In case of marginal landholding households from *Other communities* in Latehar district, 87.29 per cent earns their income from agriculture, 76.94 per cent from daily wages and 1.18 per cent from livestock, 27.76 per cent from other sources, 2.59 per cent from forest and 3.53 per cent from NSAP. Among small landholder STs, 97.52 per cent earns their income from agriculture and 67.70 per cent from daily wages. In Latehar district, 57.14 per cent of total small landholding ST households, 57.14 per cent are engaged in other activities, 18.01 per cent in forest activities and 19.88 per cent in NSAP. Similarly, among small holders belonging to *Other communities* in Latehar district, 97.44 per cent households earn their income from agricultural activities, 35.05 per cent from daily wages, 6.41 per cent   from livestock and 62.80 per cent from other sources. There are 3.85 per cent households out of total small holding households in *Other communities* who earn their income from forest and 10.26 per cent from NSAP (table 3).

1.3.3   *Social category and its effect on the livelihood diversification*

Table 3: Social category and its effect on the livelihood diversification

ANOVA (between the groups)

Social categories	Sum of Squares	Df	Mean Square	F	Sig.
Agriculture	1.738	2	.869	17.088	.000
Forest	.073	2	.036	20.618	.000
Daily Wage	6.001	2	3.001	22.109	.000
Livestock	.006	2	.003	1.820	.162
Others	1.985	2	.992	11.389	.000
NSAP	.369	2	.185	13.752	.000

Source: Author's calculation

To understand the effect of the livelihood diversification and relative income with the social category *One way ANNOVA model* is applied between the social categories (see table 4). The result reveals that there is significant difference in determining each activity among each social category except livelihood activity which is not significant at 95 CI.

1.3.4 Spatial category and its effect on the livelihood diversification

To approach the second hypothesis that spatial category has no effect on the livelihood diversification, one way ANNOVA is applied between special categories (Kolhan–Paschimi Singhbhum: 1, North Chotanagpur–Grirdih: 2, and Palamu – Latehar: 3 as nominal variable). The results in table 5 show that there is significant difference in determining each activity among each special category at 95 CI. That means there are significant differences among special categories in diversifying livelihood activities.

Table 4: Spatial category and the livelihood diversification

<div align="center">

ANOVA (Between Groups)

</div>

Spatial category	Sum of Squares	Df	Mean Square	F	Sig.
Agriculture	5.019	2	2.510	52.278	.000
Forest	.148	2	.074	43.672	.000
Daily Wage	12.620	2	6.310	48.545	.000
Livestock	.009	2	.005	2.891	.056
Others	.650	2	.325	3.680	.026
NSAP	.665	2	.333	25.262	.000

Source: Authors' calculation based on field data

Figure 2 elaborates the distribution of income generating activities among the spatial region (Paschimi Singhbhum, Giridih, and Latehar). It shows that 64 per cent of total households in Paschimi Singhbhum district, 83 per cent in Giridih district and 85 per cent in Latehar district are engaged in agriculture. Similarly, 68 per cent households in Paschimi Singhbhum, 84 per cent households in Giridih district and 75 per cent households in Latehar district earn their income from daily wages. The access to NSAP is high at Paschimi Singhbhum (24% households) than Latehar (21% households); it is only 03 per cent of total households in Giridih district (figure 2).
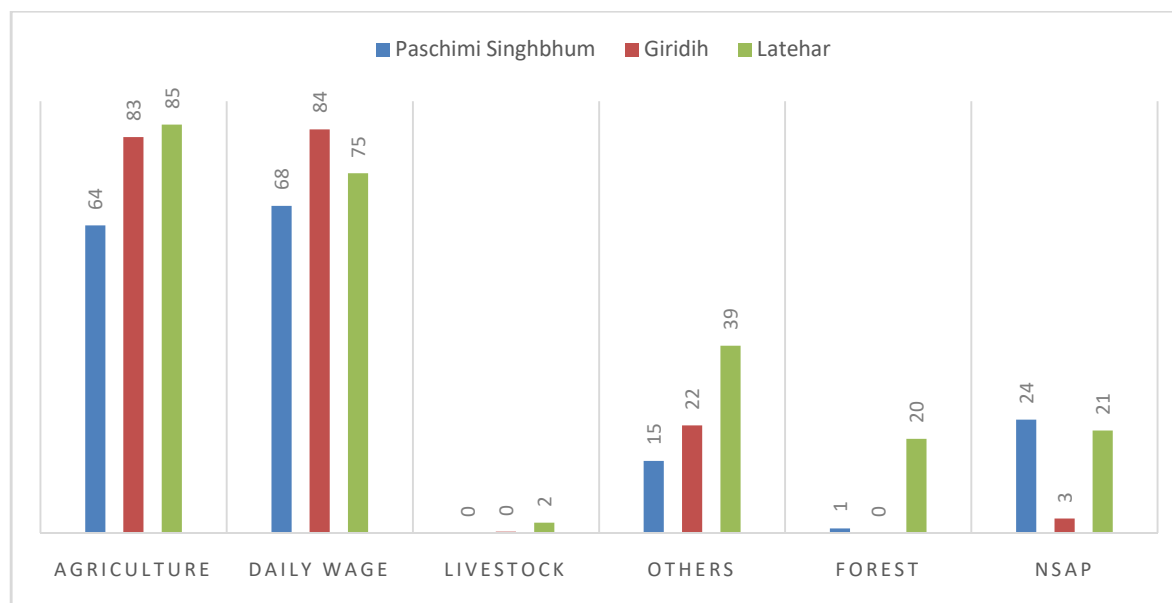
Figure 1: Income generating activities among the districts

1.4 Social Category wise livelihood diversification and effect on the income distribution

Figure 3 tests first and second null hypotheses. It shows that for the marginal landholding SC households, 10 per cent of the total income comes from agriculture, 85 per cent of income from daily wages, 04 (four) per cent from other income sources and only 01 (one) per cent from the NSAP. For the marginal ST households 22 per cent of total income comes from agriculture, 57 per cent from daily wages, two per cent from forest, 12 per cent from other sources and seven per cent NSAP. Similarly, among the others, 62 per cent of income comes from daily wages, 18 per cent from agriculture, 19 per cent from other sources, and one percent each from livestock and NSAP. In case of non-marginal SCs, 19 per cent of the total income comes from agriculture, 58 per cent from daily wages, 22 per cent from other sources and 6 per cent from NSAP.
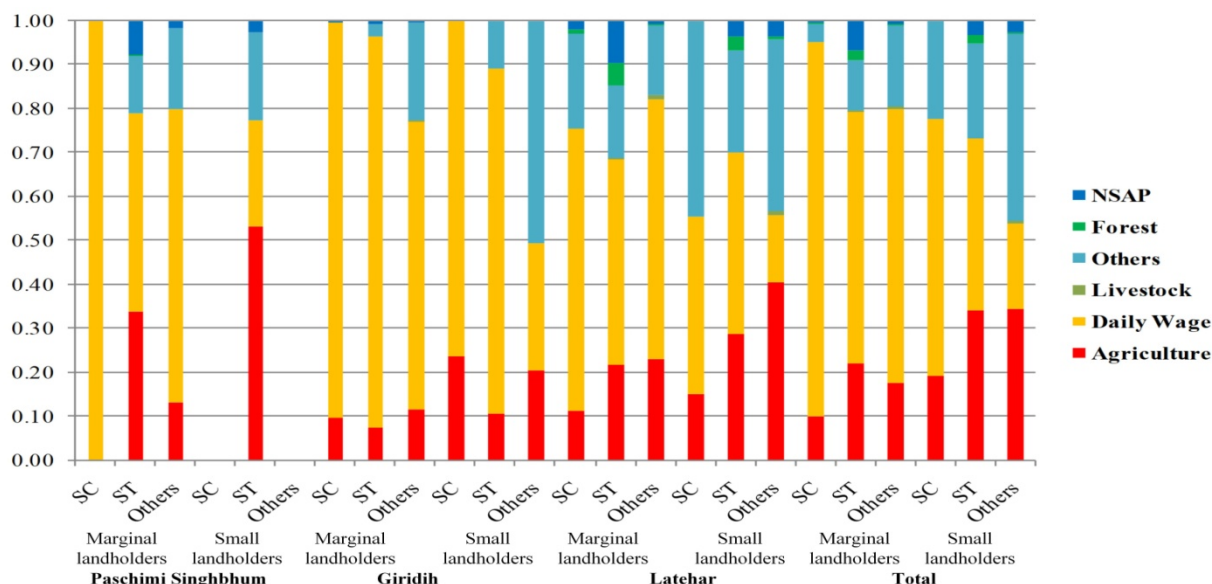
Figure 3: Relative income distributions among social groups within landholding groups

Small landholder ST households earn 34 per cent of their income from agriculture, 39 per cent from daily wages, 22 per cent from other sources and 03 (three) per cent from NSAP. Smallholding households earn 34 per cent income from agriculture, 20 per cent from daily wages and 43 per cent from other sources. There are 34 per cent of the income from total income earned from agriculture, 45 per cent from daily wages and 13 per cent from Other sources, and 0.08 per cent from NSAP among the marginal landholding ST households of Paschimi Singhbhum District. For the marginal holders of Other communities in Paschimi Singhbhum district, 13 per cent of total income comes from agriculture, 67 per cent from daily wages, 18 per cent from other sources and 8 per cent from NSAP. In Giridih district, for the marginal landholding SC households, agriculture shares 10 per cent and wages share the rest 90 per cent of income. In case of marginal ST holders in Giridih district, 89 per cent of the total income comes from daily wages, 07 (seven) per cent from agriculture, three percent from other sources and one per cent from NSAP. For SC households of marginal landholding group, 64 per cent of the total income comes from daily wages, 11 per cent from agriculture, and 22 per cent from other sources. For the same groups in Latehar district, 47 per cent of the income share comes from daily wages, 22 per cent from agriculture, 16 per cent from other sources, 10 per cent from NSAP. For the Other community of marginal landholding groups, 59 per cent income comes from daily wages, 23 per cent income share from agriculture, (01) one per cent from livestock, 16 per cent from other sources and one percent from NSAP. For small landholding SC households, 40 per cent of the total income comes from daily wages, 15 per cent from agriculture, and 45 per cent from other sources. In case of small holder ST households in Latehar district, 41 per cent of the income share comes from daily wages, 29 per cent from agriculture, 23 per cent from other sources, 03 (three) per cent from forest and 04 (four) per cent from NSAP. For small landholding households of *Other category* 15 per cent share of income comes from daily wages, 41 per cent from agriculture, 01 (one) per cent from livestock, 39 per cent from other sources and 04 (four) per cent from NSAP.

However, relative income distribution is different from the actual income distribution for each household based on livelihood diversification. The correlation between total annual

income and number of activities a household engaged for income generation has no significant correlation (table 6). This is because people from the lower social category, particularly the SCs who are mainly marginal landholders with the lowest average landholding size diversify their income generating activities by engaging in daily-wages, social security scheme (NSAP) and others. This adaptive strategy of diversifying the income generating activities is local coping mechanism for survival efforts based on subsistence income.

Table 6: Correlation coefficients

Correlations

Particulars		Total annual income	Number of activity access
Total annual income	Pearson Correlation	1	-0.014
	Sig. (1-tailed)		0.324
	N	1046	1046
Number of activity access	Pearson Correlation	-0.014	1
	Sig. (1-tailed)	0.324	
	N	1046	1046

Source: Author's calculation

1.5   Discussion

When diversification is considered as subject of discussion in the context rural economy it is usually taken as farm based activities and off-farm activities for livelihood and income (Ellis 2000). The reason for choosing alternative options by a household is to cope up with risk associated with farm activities such as low productivity due of adverse climatic change, land degradation, fragmentation of land as ancestral property, conflict over land, etc. The situation becomes more complex among the households with meagre landholding (small and marginal landholders) where low per capita holding and production obtained is rarely sufficient for subsistence. Thus, in order to secure their survivals, the alternative options are usually taken into account. Increasing number of peasant households and extreme agro-climatic condition of rural areas in Jharkhand encourage engagement in non-agricultural wages. It is not a sign of prosperity in agriculture, rather it is a process of *depeasantisation* as these wages are earned through migration and other mean (Basole & Basu 2011; Byres 1981; and Ramachandran & Rawal 2010).

The diversification is broadly understood with choosing more than one activities as income generating avenues. Having larger proportion of landholding as marginal land holding, there are some other factors such risk associated with seasonality or climatic condition (Agarwal 1990 and Chambers et al. 1981), credit market failure (Barrett et al. 2001; and Ellis 2000 & 1998), limited   access to level of capital associated with household (see Scoones 1998) which determine   diversification of livelihood. This apart, social, institutional, political, economic and environmental conditions also act as determinant of livelihood diversification. (Bebbington 1999; Carney 1998; and Ellis 2000).

In India's rural economy, production system, access to assets such as land, as well as economic activity closely follow the social hierarchal system (Mohanty 2001). Moreover, large proportion of non-marginal landholdings belong to upper castes; the landless and landholdings of peasant class are largely shared in rural society by Scheduled castes and Scheduled tribes (Beteille 1972 and Sankaran 1996). Though land being the socially as well as economically valued assets, its importance and at the same time, unequal distribution maintain the hierarchical structure and strengthen the basis of dominance of the privileged groups to access other income generating avenues. Its unequal distribution helps to maintain the hierarchical structure and strengthen the basis of dominance of the privileged groups by perpetuating inequality and deprivation in various socio-economic spheres. This argument is supported by the results obtained as the SC category has comparatively lower average landholding as compared with *Other catergory* among both marginal and small landholding households. Similarly, average land under cultivation is also observed comparatively less among SCs than the STs and Other social category. The study identifies that the STs have relatively higher size of landholdings compared to the *Other groups*. It could be possibly due to the fact that the state has a number of protective laws that meant to safeguard its people against land alienation (Sundar 2009). In case of leased-in, again SC communities possess comparatively less as compared with marginal landholding households of STs and Other Social communities. It is also identified the higher landholding households as well as social groups who are at higher position in social hierarchy are involved in comparatively higher number of activities than their those who are not.

If we look at the activities in specific, the relation between access to each activity and social categories, the study presents clear hierarchical differences. The hierarchical difference is represented on the basis of proportion of household of each social categories engaged in the particular livelihood activities. In case of daily wages activities, irrespective of landholdings, SC households reveal higher proportion of involvement than the ST and Others households. It is identified that out of the income share obtained by households from each social category daily wages contribute lager share than the rest of the livelihood activities. Other category has higher proportion of households engaged in agriculture, followed by ST and SC with the least. It is also observed that irrespective of landholdings SC has least number of households engaged in other income sources than STs and Other category. Thus, we reject our fist null hypothesis by observing that for each activity involvement of households by social categories has greater influence. This is also supported by the ANOVA result that there is significant difference in determining each activity in each social category. Sundar (2009) however, supports the above arguments that the state's industrial policy and the vision documents have favoured industrialisation leading to exploitation of natural resources. In the case of marginal and small landholdings by households of all social categories, share of income from daily wages and agriculture is higher among the *Other social group* along with income from other sources. It is also observed that higher is the size of landholding, greater is the number of income earning avenues.

The second hypothesis argues that the spatial or regional variation has no effect on livelihood diversification. The ANOVA result supports to reject the null hypothesis. The result establishes that there are significant differences among regions for livelihood diversification (also see Elmqvist & Olsson 2006; and Tsujita and Oda 2012). However, relative income

distribution is different from the actual income distribution for each households based on livelihood diversification. This is because people from the lower social category, particularly the SCs who are mainly marginal landholders with the lowest average landholding size diversify their income generating activities engaging themselves in daily-wage earning activities and others. This adaptive strategy of diversifying the income generating activities is local coping mechanism for survival based on subsistence income.

1.6 Conclusion

The study emphasises how social dynamics, economic variables, and diversification of livelihoods are intricately related in rural India. It illustrates how access to opportunities and resources is shaped by social hierarchies, especially caste and class, which sustains disparities in income distribution and livelihood outcomes. Groups that are marginalised, like Scheduled Castes and Scheduled Tribes, have major obstacles when trying to access land and other sources of income, which forces them to adopt adaptable tactics like daily-wage activities.

The analysis underscores the importance of considering multiple determinants of livelihood diversification, including climatic conditions, access to credit, and household characteristics. Livelihood diversification emerges as a crucial coping mechanism for rural households, especially those with limited landholdings, to mitigate risks associated with agriculture and secure their survival. Furthermore, the study challenges prevailing notions of agricultural prosperity as a measure of rural development, particularly in regions like Jharkhand characterised by extreme agro-climatic conditions and increasing peasant households. The prevalence of non-agricultural wages, driven by migration and other means, underscores the need for holistic approaches to rural development that address structural inequalities and promote inclusive economic growth. The findings also highlight the significance of social categories in determining livelihood activities and income distribution. Clear hierarchical differences emerge, with certain social groups exhibiting higher proportions of engagement in daily-wage labour. Despite their greater involvement in income-generating activities, marginalised communities continue to face challenges in accessing resources and opportunities, perpetuating cycles of poverty and inequality. Overall, the study underscores the importance of addressing the root causes of poverty and inequality to promote inclusive rural development. By empowering marginalised communities, enhancing access to credit and strengthening social protection mechanisms, policymakers can create enabling environments for building resilient livelihoods and improving well-being in rural areas.

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