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Occupational Mobility in Farming Sector: An Analysis in Coastal and Tribal Districts of Odisha, India

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ABSTRACT

The continuous migration of Indian rural youth from farming to the non-farming sector has caused concern among the policy makers. If not checked, it is likely to affect the future agricultural activities and thereby future agrarian economy. Present research was carried out during 2020 with a comparative analysis among the respondents of the coastal district (Jagatsinghpur) and tribal district (Mayurbhanj) of Odisha with a randomly chosen sample of 480 respondents, 240 from each district including 120 each from the first-generation (father) and second-generation (son). The study aimed to find out prevalence of intergenerational occupational mobility in farming sector by using transition probability matrix to describe the pattern of mobility and direction of their movement. A statistically significant difference was found between occupations of the first and second generation in both tribal and coastal districts with hhigher occupational mobility in the coastal district. The coastal district showed a 19.17 per cent decrease in the numbers of farmers than the tribal district. The result showed 49 per cent and 62 per cent of absolute mobility rates in intergenerational occupation in tribal and coastal districts, respectively. There was prevalence of both upward and downward mobility in occupation in the farming sector in both tribal and coastal districts of Odisha.

INTRODUCTION

Agriculture supports 58 per cent of the Indian population at present, against about 75 per cent at the time of independence. In that period, the contribution of agriculture and allied sectors, to the GDP of India has fallen from 61 per cent to 15.35 per cent. Between 2000-01 and 2010-11, the number of marginal holdings increased from 75.41 million to 92.83 million (23% rise) and the number of small holdings increased from 22.70 million to 24.78 million (9% rise). Around 85 per cent of the operational holdings in the country are small and marginal, i.e., holdings of less than 2 hectares each. It is estimated that the average size of land holding, which at present is 1.15 hectares, is likely to reduce further by 2020-21 (States of Indian Agriculture, 2015-16). The survey by the Centre for the Study of Developing Societies (CSDS, 2014), Delhi, found that 61 per cent of farmers opined that they would leave farming if they get employment in cities.

Though the country has achieved the agricultural development in terms of food security, it is still being affected by many economic, technical, social and environmental factors in the face of increase in population, declining land resources, increasing demand of food due to rising income with the transition of youth from farming to non-farming sector and global climate change affecting the sustainability of agriculture. As the process of development in industrial and tertiary sector, the occupational structure has been started diversified. People started changing their occupation from one filed to another field for job security and job satisfaction. The occupations which were adopted by the parents now not remained the same in the new generation. There is a paradigm shift in the nature of occupation happening in the

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agriculture in the present scenario. With the climate change effect and other constraints in farming, the new generations are diverted from the farming occupation. Jena & Acharya (2016) found that the variables, Age (X1) & changing expenditure allocation on education (X10) have contributed respectively 49.05 per cent & 33.50 per cent variance to the consequent variable, perceived climate change effect on agriculture (Y11). Climate change largely affects to agriculture due to its dependency on natural resources. This has lead the youth to shift their parental farming occupation to non-farming occupation. The studies on migration behaviour by Kumari et al., (2021) & Maurya et al., (2022) reported certain socio- psychological factors.

With the effect of numbers of factors, the occupation of farming is termed as risk prone to make as occupation. In this context, the efforts were made to find out the prevalence of the occupational mobility in farming sector and its direction with a comparison between tribal and coastal districts of Odisha, which may help the policy makers and experts to retain youth in agriculture.

METHODOLOGY

The state of Odisha was selected as per the purposive sampling technique and the multistage random sampling technique was adopted to select the district, blocks and villages while the random sampling technique was followed for the selection of the respondents. A total of 480 respondents including 240 each from the tribal district (Mayurbhanj) and coastal district (Jagatsinghpur) of Odisha representing 120 each from the first generation (Father) and second-generation (Son) were selected randomly from the total population. The total sample respondents were selected from 16 villages, 8 villages each from the tribal and coastal districts based on 10 per cent proportion of the total population of each village. The study is based on individual and their relationship with the household head. To reduce complexity, the present study has studied only the regular occupations of second-generation (son) and their fathers (first generation) where sons are in any occupation and father must be in farming occupation as their primary occupation. The study has excluded women respondents because it doesn't give information about their father but their husband's occupation. The research study followed the ex post facto design by accessing the causes of its presumed effect on intergenerational occupational mobility in the farming sector. For the study, survey research through a structured interview schedule was considered most appropriate to gather information. Here, the occupations of respondents were classified into six categories viz. professional, teachers and managers, farmers, skilled labour, tenant farmer, agricultural labourer with the score from 6 to 1 respectively as followed by the modified Kuppuswamy scale (Sharma, 2012). This scale was developed to determine socio-economic status of the individual. The scale has facilitated the rank to different occupations by calculating total score considering the factors, education, occupation and income.

The statistical tools like percentage, mean, standard deviation, and paired t test, have been used in this study to make the inferences from the collected data. This study has used a transition probability matrix to describe the pattern of immobility and upward and downward mobility of the second-generation respondents with respect to the occupations of their respective first generation. The absolute mobility rate was calculated to derive how likely respondents from the second generation were to exceed their fathers' family occupation at the same age.

Following Xie & Killewald (2013), let us denote fij as the observed frequency in the i^{th} row (i = 1,…, N) and in the j^{th} column (j = 1,…, N) of a mobility table with N rows and N columns.

Absolute mobility rate = $1 - \frac{\sum_{i=1}^{N} f_{ii}}{f_{++}}$

Where, $\sum_{i=1}^{N} f_{ii}$ is the sum of diagonal cells of the mobility table and $\sum_{i=j}^{N} f_{ii}$ is the grand total of cells of the mobility table.

RESULTS AND DISCUSSION

A perusal of Table 1 showed various mobility patterns of respondents across the generation in the tribal and coastal districts. The tribal district witnessed a 12.50 per cent decrease in numbers of farming occupations in second-generation which indicated the prevalence of occupational mobility in the farming sector shifting from parental farming to non-farming occupations. There was a decrease of 9.16 per cent and 1.66 per cent in occupations of tenants and unskilled agricultural labourers, respectively. From the parental farming occupation, 12.50 per cent from the second-generation respondents chose higher occupations like teacher and managership whereas 13.33 per cent went for the occupation of skilled labour in the tribal area. The coastal area witnessed a downfall of 31.67 per cent in farmers' occupation numbers while there was a decrease of 5.83 per cent and 3.34 per cent in occupations of tenants and unskilled agricultural labours, respectively in the second generation. It was found that there was higher intergenerational occupational mobility in the coastal district than in the tribal district. The coastal district showed a higher 19.17 per cent decrease in numbers of farmers than the tribal district. As farming occupation is mostly associated with risk, uncertainty in quality input availability and proper market linkage, the next generations chose skilled labourer occupations like

Table 1. Distribution of the respondents as per occupational status

Occupation	Tribal		Mobility	Coastal		Mobility
	1st Gen	2nd Gen		1st Gen	2nd Gen	
Professional	0	1(0.83%)	1(+0.83%)	0	2(1.67%)	2(1.67%)
Teacher and Managers	0	15(12.50%)	15(12.50%)	0	24(20.00%)	24(20.00%)
Farmer	69(55.00%)	51(42.50%)	-18(-12.50%)	81(67.50%)	43(35.83%)	-38(-31.67%)
Skilled laborer	0	16(13.33%)	16(13.33%)	0	23(19.17%)	23(19.17%)
Tenants	35(28.33%)	23(19.17%)	-12(-9.16%)	25(20.83%)	18(15.00%)	-7(-5.83%)
Unskilled Agril. labourer	16(13.33%)	14(11.67%)	-2(-1.66%)	14(11.67%)	10(8.33%)	-4(-3.34%)

craftsmanship, plumbers, accountants, drivers, mechanics etc. for better and regularity in income and also due to its wide opportunities throughout the year. The process of urbanisation and industrialisation pushed the second generation of small and marginal landholders to opt for skilled and unskilled labour for getting a better salary in comparison with the profit gained from their parental farming occupation. Intergenerational occupational mobility is highly pronounced in the farming sector and comparatively more in coastal areas than in the tribal area. The spirit toward the change for upward mobility was highly visible among the second generation. The rapid growth of urbanisation and industrialisation has pushed the second generation of small and marginal landholders to opt for skilled and unskilled labour for obtaining regular income.

Table 2 showed the mean occupation of first-generation in the tribal area was 3.09 whereas occupation of the second generation was 3.35 which was higher than the occupational mean score of the first generation. The table found a statistically significant difference between occupations of the first and second generation in the tribal area.

Table 3 showed the mean occupation of the first generation in the coastal area was 3.12 whereas the occupation of the second generation was 4.14 which was higher than the occupational mean score of the first generation. The table found a statistically significant difference between occupations of the first and second generation in the coastal area.

Table 4 showed the distribution of occupations of sons i.e. second generations with respect to occupations of their fathers i.e. first generation in the tribal district. The intergenerational occupation trend showed that 63.77 per cent of respondents from the second generation chose their parental farming occupation whereas the remaining 10.14, 5.80 and 4.35 per cent of respondents went for other occupations like skilled labour, tenants and unskilled labour respectively which indicated the downward intergenerational occupational mobility. It was also observed that 14.49 per cent went for teacher ship and managerial occupation and professional occupation category was occupied by 1.45 per cent which indicated upward occupational mobility of the second generation. 45.71 per cent of the second generation continued their parental farming as tenant farmers whereas 11.43, 17.14, 14.28 and 11.43 per cent opted for occupations like unskilled labour and skilled labour, farming, teacher and manager respectively. 43.75 per cent of respondents from the second-generation continued their parental occupation as unskilled labourers while 18.75 per cent worked as tenant farmers, 18.75 per cent as skilled labour, 12.5 per cent as farmers and 6.25 per cent as teachers and managers to maintain their livelihood. The matrix table revealed the prevalence of both upward and downward mobility in the farming sector with respect to the first and their second generation. An important issue which could be of interest in the Indian context is downward mobility in the intergenerational context; it reflects sons moving to a lower socioeconomic position compared to their parents.

Absolute mobility rate (M) = 1-(151.78/300) = 1-0.51= 0.49 = 49%

It was found that the absolute mobility rate in the intergenerational occupational category in the tribal area was 49%. It is the probability that a son may leave the father's occupational category.

Table 5 showed that 48.15 per cent of respondents from the second generation continued their parental farming occupation whereas 18.52, 6.17 and 2.47 per cent of respondents changed their occupations from cultivator to other occupations like skilled labour, tenants and unskilled labour, respectively, which indicated the downward intergenerational occupational mobility. 22.22 per cent went for teacher ship and managerial occupations and the professional occupation category was occupied by 2.47 per cent which indicated upward occupational mobility of the second generation due to an increase in the educational status of the second generation. The coastal has witnessed 40 per cent from second-generation continued their parental farming as tenant farmers whereas 16, 20, 8 and 16 per cent chose occupations like unskilled

Table 2. Test of significance between first and second generation occupation of Tribal respondents

	Mean	N	Std. Deviation	Std. Error Mean	t value	Sig.
Occupation (1st generation)	3.09	120.00	1.28	0.12	-3.31	0.00
Occupation (2nd generation)	3.35	120.00	1.17	0.11		

Table 3. Test of significance between first and second generation occupation of Coastal respondents

	Mean	N	Std. Deviation	Std. Error Mean	t value	Sig.
Occupation (1st generation)	3.12	120.00	1.32	0.12	-8.68	0.00
Occupation (2nd generation)	4.14	120.00	1.20	0.11		

Table 4. Transition Probability Matrix: Occupational distribution of son in father-son pairs (%) in case of respondents in Tribal district

	Professional	Teacher and managers	Farmer	Skilled labourer	Tenants	Unskilled labourer	Father (Total)
Professional	0	0	0	0	0	0	0
Teacher and Managers	0	0	0	0	0	0	0
Farmer	1(1.45%)	10(14.49%)	44(63.77%)	7(10.14%)	4(5.80%)	3(4.35%)	69
Skilled labourer	0	0	0	0	0	0	0
Tenants	0	4(11.43%)	5(14.28%)	6(17.14%)	16(45.71%)	4(11.43%)	35
Unskilled labourer	0	1(6.25%)	2(12.5%)	3(18.75%)	3(18.75%)	7(43.75%)	16
Son (Total)	1	15	51	16	23	14	120

Table 5. Transition Probability Matrix: Occupational distribution of son in father-son pairs (%) in case of respondents in coastal district

	Professional	Teacher and managers	Farmer	Skilled labourer	Tenants	Unskilled labourer	Father (Total)
Professional	0	0	0	0	0	0	0
Teacher and Managers	0	0	0	0	0	0	0
Farmer	2(2.47%)	18(22.22%)	39(48.15%)	15(18.52%)	5(6.17%)	2(2.47%)	81
Skilled labourer	0	0	0	0	0	0	0
Tenants	0	4(16%)	2(8%)	5(20%)	10(40%)	4(16%)	25
Unskilled labourer	0	2(14.29%)	2(14.29%)	3(21.43%)	3(21.43%)	4(28.57%)	14
Son (Total)	2	24	43	23	18	10	120

labour, skilled labour, farming, teacher and manager respectively whereas their fathers were tenant farmers. 28.57 per cent of respondents from the second generation which was lower in comparison to the respondents of the tribal area continued their parental occupation as unskilled labourers while 21.43 per cent transitioned to tenant farmers, 21.43 per cent to skilled labour, 14.29 per cent to the farmer and 14.29 per cent to teacher ship and managerial jobs to maintain their livelihood. The matrix table revealed the prevalence of both upward and downward mobility in the farming sector with respect to first and second generations. In the face of rapid urbanisation and diversified job opportunities in non-farm sectors, the coastal respondents from the second generation are showing more variation in choosing non-farming occupations rather than their parental traditional occupations.

Absolute mobility rate (M) = 1-(115.48/300) = 1-0.38 = 0.62 = 62%

It was found that the absolute mobility rate in intergenerational occupational category in the coastal district was 62 per cent. It is the probability that a son may leave the father's occupational category. The degree of intergenerational occupational mobility implies that the inherent pros and cons in the occupational status of one generation are transmitted to the next generation. The result was supported by the findings of Tiwari (2016) who revealed that 47.8 per cent of the respondent has chosen their parental occupation and Motiram & Singh (2012) who found that a substantial proportion of sons of low-skilled and low-paid workers remained in the same occupations as their fathers. Iversen et al., (2016) found 58.6 per cent of the sons of agricultural and other labourers were also in the same occupational category. Reddy & Swaminathan (2014) collected evidence from ten villages and found that low intergenerational occupational mobility exists in all ten villages, particularly among big farmers and rural manual workers. It may be due to lack of proper awareness among young generation to adopt farming as occupation and outlook of urban job and life

CONCLUSION

The comparative analysis showed significant occupational mobility in the farming sector from the one generation to its second generation in both tribal and coastal districts of Odisha. The higher occupational mobility in the farming sector was found in the coastal district. The transition probability matrix showed the prevalence of both upward and downward mobility in the farming sector to different non-farm occupations. In the face of urbanisation and diversified opportunities in non-farm sectors, the coastal respondents from the second generation showed comparatively more variation in choosing non-farming occupations rather than their parental traditional occupation. The downward mobility in the intergenerational context reflects that sons moving to a lower socioeconomic position compared to their parents. The process of societal development and industrialisation pushed the second generation of small and marginal landholders to opt for skilled and unskilled labour for getting a better salary in comparison with the profit gained from their parental farming occupation which is also associated with high risk, market and weather uncertainty.

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