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The impact of intergenerational occupational mobility in farming sector in tribal and coastal district of Odisha

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Abstract
India is losing more than 2,000 farmers every single day with large scale migration of rural youth to urban areas for non-farm occupations. In this situation some mechanism is to be developed for reinforcing the emotional attachment of the migrant children for non-farming occupations quitting their parental farming occupations, so that the disenchantment scenario can be controlled to some extent. The present study entitled "A Comparative Study on Intergenerational Occupational Mobility in Farming Sector in Coastal and Tribal Districts of Odisha" was carried out from July 2016 to March 2017 with a perceptual and comparative analysis among the respondents of coastal district (Jagatsinghpur) and tribal district (Mayurbhanj) of Odisha state with the total sample of 240 respondents out of which 120 each from tribal and coastal selected through proportionate random sampling in an intention to find out the impact of intergenerational occupational mobility in farming sector. The study found that the independent variable, technological development contributed higher variance to the dependent variable occupational mobility i.e. change in occupation across the generation in tribal district while technological, economic and social development had contributed higher variance to the dependent variable occupational mobility in coastal areas.

Keywords: Coastal, occupation, perception, tribal, youth

Introduction
India's economic security continues to be predicated upon the agriculture sector, and the situation is not likely to change in the foreseeable future. Even now, agriculture supports 58% of the population, against about 75% at the time of independence. While the country has made large strides in achieving the agricultural development goals of food security, availability and accessibility, it is still being challenged by many social, economic and environment factors such as increase in population, declining land resources, increasing urbanisation, increasing demand of food due to rising income and transition of youth from farming to non-farming sector and global climate change which are ultimately affecting the sustainability of agriculture and lead to change in intergenerational occupational mobility in farming sector This situation has recently led to fresh thinking on the developmental approach in the agriculture sector. The need for focusing on the welfare and prosperity of farmers has gained prominence. Liang and Lu (2014) [5] explained that the direction of occupational mobility is a key factor that influences life Satisfaction and cannot be ignored. From the perspective of occupational mobility direction, we can conclude that upward mobility has a significantly negative effect on life satisfaction. From the perspective of occupational mobility direction, the coefficients of occupational mobility in the models are less than 0, which means that upward mobility negatively affects life satisfaction. Hancock *et al.* (2013) [4] stated that a low degree of intergenerational occupational mobility implies that the advantages and disadvantages inherent in the occupational status of one generation are transmitted to the next generation. A situation of low mobility across generations may be favourable for families that are in fortunate socio-economic circumstances, but in the case of families that are less fortunate, low mobility often entails "social exclusion, material and human capital impoverishment, and restrictions on the opportunities and expectations that would otherwise widen their capability to make choices.

Materials and Methods
For the study, total 240 respondents including 120 from coastal and 120 from tribal district of Odisha were chosen from the total population through proportionate random sampling. The total samples were taken from 16 villages in which 8 from coastal and 8 from tribal district on the basis of 10% proportion from each villages.

Table 1: Sampling Procedure (Multistage Random Sampling)

Step	Items	Level	Approach
1	State (1)	Odisha	Purposive
2	District (2)	Jagatsinghapur(Coastal) Mayurbhanj(Tribal)	Random
3	Block (4)	Kujang, Tirtol, Kaptipada, Bangiriposi	Random
4	Gram Panchayat(16)	Bad bisole, Badgudugudia, Notto, Sarat, Sorisapal, Bangiriposi, Nischinta, Dighi, Bagoi, Talapada, Zillanasi, Badabalikani, Amberi, Gopalpur, Katra, Patilo	Random
4	Village(16)	Bhalubasa, Benipur Notto Gourchandrapur, Betjharan, Kalliami, Nischinta, Darakantia, Sandhapur, Talapada, Saharadia, Badabalikani, Arilo, Derakana, Jaganathpur, Kotian	Random
5	Respondents (240)	120(Tribal) 120(Coastal)	Proportionate stratified Random

Various statistical tools like percentage, mean, standard deviation, cv and regression analysis have been used in this study to make inferences from the collected data on impact of intergenerational occupational mobility in farming sector in coastal and tribal areas of Odisha. 'C' is indicating to coastal whereas 'T' is indicating tribal area.

Results and Discussion

Here, an attempt was made to find out impact of intergenerational occupational mobility in the farming sector with respect to technological, economic, social development, development aspiration and scientific orientation among the respondents of tribal and coastal district. Covariance analysis and multiple regression analysis were used to find out the impacts on respondents due to occupational mobility across the generations in tribal and coastal district.

Table 2: Covariance analysis of impact of intergenerational occupational mobility of both tribal and costal area respondents.

Category		Technological development	Economic development	Social development	Development Aspiration	Scientific Orientation
Tribal	Mean	6.22	8.78	13.5	6.72	8.51
	N	120	120	120	120	120
	Std. Deviation	1.39	1.86	2.74	1.25	1.51
	Std. Error of Mean	0.13	0.17	0.25	0.11	0.14
	CV%	22.28	21.19	20.30	18.53	17.77
Coastal	Mean	7.99	11.59	16.91	7.76	8.72
	N	120	120	120	120	120
	Std. Deviation	2.02	2.82	4.24	1.03	1.68
	Std. Error of Mean	0.18	0.26	0.39	0.09	0.15
	CV%	25.26	24.34	25.07	13.26	19.23
Total	Mean	7.10	10.19	15.204	7.24	8.61
	N	240	240	240	240	240
	Std. Deviation	1.94	2.77	3.95	1.25	1.60
	Std. Error of Mean	0.13	0.18	0.26	0.08	0.10
	CV%	27.35	27.18	25.98	17.32	18.53

The above table 2 depicted higher mean i.e. 13.5 in social development in tribal area where as the coastal area witnessed higher mean score of 16.9 in social development followed by economic development. The table showed higher percentage of coefficient of variation in technological development (22.28%) and economic development (21.19%) in tribal and higher percentage in technological development (25.26%), social development (25.07%) followed by economic development (24.34%) in coastal areas. This pointed out that the intergenerational occupational mobility has an impact on better social status, improvement in health, education, income and standard of living with the rapid orientation of scientific cultivation, farm mechanisation and scientific approach for better living. This encourages for changing the occupation from farming to non-farming sector for better status and standard of living with the help of scientific orientation, better education and cosmopoliteness.

Table 3: Multiple regression analysis of impact of IOM with occupational mobility (Tribal Respondents)

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-1.181	.537		-2.199	.030
Technological Development	.198	.057	.320	3.459	.001**
Economic Development	-.037	.056	-.080	-.654	.514
Social Development	-.017	.037	-.055	-.469	.640
Development Aspiration	-.073	.081	-.106	-.900	.370
Scientific orientation	.087	.059	.153	1.459	.147

Dependent Variable: Occupational Mobility

Table 4: The Square of error estimate

R	R Square	Adjusted R Square	Std. Error of the Estimate
.552	.424	.385	.618

**.significant at the 0.05 level

From the above table 3, it was observed that the independent variable, technological development contributed higher variance to the dependent variable occupational mobility i.e. change in occupation across the generation. With the occupational mobility from the first generation to second generation, the tribal respondents had witnessed the impact in their technological development. This was mostly due to their gradual increase in extension participation and better access to modern technologies with better educational status. With stepping into next generation from the parental generation, the tribal district respondents witnessed better adoption of modern technologies which helped them to increase their productivity and production in agriculture with adoption of high yielding varieties and better cultivation practices.

The result showed that 42.4 per cent variance of dependent variable occupational mobility was explained by the combination of predictors, technological development, economic development, social development, development aspiration, scientific orientation of tribal respondents.

Table 5: Multiple regression analysis of impact of IOM with occupational mobility (Coastal Respondents)

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-2.366	.952		-2.484	.014
Technological Development	.223	.066	.349	3.407	.001**
Economic Development	-.138	.057	-.300	-2.425	.017**
Social Development	.103	.043	.337	2.391	.018**
Development Aspiration	-.248	.142	-.197	-1.748	.083
Scientific orientation	.153	.084	.199	1.823	.071

Dependent Variable: Occupational mobility

Table 6: Adjusted R Square Estimate

R	R Square	Adjusted R Square	Std. Error of the Estimate
.620	.491	.429	0.568
Predictors: (Constant), scientific, aspi, technology, eco, social			

** significant at the 0.05 level

The table 5 found that technological, economic and social development had contributed higher variance to the dependent variable occupational mobility in coastal areas. Technology Modernisation and adoption of farm mechanisation and better credit facilities had significantly increased the productivity and production which alternatively resulted in better income which motivated the second generation to aspire for non-farming occupations instead of their parental farming occupation for better social status. The cosmopoliteness which refers to extent of contact with out side of the society and better communication had made the first generation oriented for better education for their next generation. With better education, the new generations were highly oriented towards diversified job opportunities rather choosing their parental farming occupation in the coastal areas.

The table depicted that 49.1 per cent variance of dependent variable occupational mobility was explained by the combination of above predictors, technological development, economic development, social development, development aspiration, scientific orientation of coastal respondents.

Table 7: Summary of Canonical Discriminant Functions

Category		Predicted Group Membership	Total	
		1	2	
Count	Tribal	99	21	120
	Coastal	31	89	120
%	Tribal	82.5	17.5	100.0
	Coastal	25.8	74.2	100.0

78.3% of original grouped cases correctly classified.

Table 8: The Eigenvalues of lambda

Eigenvalues			
Eigenvalue	% of Variance	Cumulative %	Canonical Correlation
.588[a]	100.0	100.0	.609
Wilks' Lambda			
Wilks' Lambda	Chi-square	df	Sig.
.630	108.980	5	.000

The eigenvalue is found as 0.588 showing that 58.8 percent of variance in the impact of intergenerational occupational mobility on tribal and coastal respondents was explained by the function. The canonical correlation values showed that there was significant difference between the impact of occupational mobility from first to second generation among tribal and coastal respondents.

Here, the Lambda of 0.630 had a significant value (Sig. = 0.000); thus, the means of impact of intergenerational occupational mobility in farming sector on tribal respondents appeared to differ to that of coastal respondents.

Table 9: Multiple regression analysis of socio-economic variables with impact of intergenerational occupational mobility

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	44.552	9.521		4.679	.000
Age	.187	.828	.016	.226	.821
Education	2.713	.833	.266	3.257	.001**
Occupation	-1.830	.739	-.250	-2.476	.014**
Family size	1.336	1.717	.049	.778	.437
Land Holding	.934	1.273	.098	.734	.464
Housing type	2.273	2.402	.076	.947	.345
Annual Income	1.695	1.284	.147	1.320	.188
Credit facility	-.104	.921	-.008	-.113	.910
Communication Network	.733	.632	.097	1.158	.248
Institutional Network	-1.758	.725	-.228	-2.425	.016**
Market linkage	.886	1.205	.057	.736	.463
Cosmopoliteness	.215	.647	.029	.331	.741
Extension Participation	.376	.492	.067	.763	.446
Progressiveness	-1.443	.701	-.254	-1.684	.024**

Table 10: Square Adjusted R Square Std. Error of the Estimate

R	R Square	Adjusted R Square	Std. Error of the Estimate
.475	.341	.287	8.060
Predictors: (Constant), independent variables			

**. Significant at the 0.05 level

The above table depicted that the independent variables like education, occupation, institutional network and progressiveness of first generation had significantly contributed to the dependent variable generational impact in the process of occupational mobility in the farming sector. Increase in education, created a remarkable orientation in adopting modern technologies of cultivation and farm mechanisation in farming sector and enhanced their decision making ability. With the occupational change from parental to next generation, it created better linkage with the line departments and outer societies making them more cosmopolitans in searching for better occupation to make better standard of living. The intergenerational occupational change leaded to better institutional linkage which helped them to plan for their farm with better utilisation of available resources. It was resulted with increase in productivity and production in farming sector. Progressiveness in making up to date with the latest technology had multiplied the impact of intergenerational occupational mobility in technology, economic and social development aspects with better scientific orientation. The table showed that 34.1 per cent variance of dependent variable impact of intergenerational occupational mobility was explained by the combination of independent variables.

Conclusion

The research study found that the intergenerational occupational mobility in farming sector has facilitated the technological development in tribal area where as technological, social and economic development in costal district of Odisha. Though occupational mobility in farming sector will affect the future agriculture, it has resulted a significant impact on technological, social and economical development of people with the occupational diversification and intervention of modern technologies and gradual adoption of mechanisation in agriculture and allied sector. The cosmopoliteness which refers to extent of contact with out side of the society and better communication had made the first generation oriented for better education for their next generation.

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