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Socio- Economic Variables and its Impact on Agricultural Development among Tribal Farming Community in North-East Hill Region

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ABSTRACT

India as a country may be self-sufficient in food grain production but most of the states are still starving and are unable to produce sufficient foodgrain to meet out their requirements. Almost all the N.E. States are also in the same category where maximum population is of tribals who still live in primitive conditions without basic amenities. In India about 461 tribes are there with the total population of about 677 lakhs who mostly live in hilly and remote areas. Out of that about 147 tribes are there in north east with the total population of about 81 lakhs. Alone in Meghalaya total 13 tribes are there & their population is about 15 lakhs. Major are Khasi, Garo and Jaintia with about 80.33% of the State's total population. A study was conducted in the state of Meghalaya to explain the socio-economic scenario of the tribal farmers and its impact on overall agricultural development. To measure the socio-economics of the tribal farmers 100 point socio-economic status Index (SESI) was developed with three major components *viz.* Personal factors, social factors and economic factors with weighted value of 31,16 & 53 respectively. It is evident from the weighted value that economic factors constribute much more to the overall socio-economic status. For data collection one district from each of three major tribes *viz.* Khasi, Garo and Jaintia was selected and from these three districts three blocks, from each block two villages (one progressive & one non-progressive) and from each village 30 respondents (Total-180, 90 from progressive and 90 from non-progressive villages) were taken for the study. Results revealed that irrespective of Khasi, Garo or Jaintia, progressive villages had high (62.73, 61.50 & 59.93 respectively) SESI value in comparison to non-progressive villages (54.86, 55.0 & 53.13 respectively), all significant at 1% level. But adoption of improved technologies was found to be very low among 73.3% of total respondents followed by medium among 20.5% and high among 6.1%. Though difference between adoption level of progressive & non-progressive farmers was observed but it was non-significant. Reasons for low adoption level among all the categories might be attributed to the complex social system, land tenure system and the remoteness of the area in terms of basic infrastructure and communication facilities where about 27.0% farmers are still practising shifting cultivation. For such a situation promotion of other enterprises *viz.* Piggery, Poultry, Bee-keeping, Goat rearing *etc.* may be suggested as a short term measures where so far neglected areas and downtrodden should be the target. In long run, for improvement in the overall situation land reforms along with intensive educational and capacity building programmes may provide the real base for desired agricultural development in the state of Meghalaya as well as in whole north-east India.

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1. Introduction

Certain variables related to Socio-economics differ in its degree of role and importance from region to region and location to location. Variables, very important for farming community in the plains of India may or may not be important for the tribal farmers of hilly regions. Keeping in view the above fact Socio-Economic Status Index (SESI) for tribal farmers was developed with three major components *viz.* Personal factors, Social factors and Economic factors with weighted value of 31,16 and 53 respectively. Accordingly, Socio-economic status of the tribal farmers and its correlation with dependent variables *viz.* Knowledge level, Risk preference, Extent of information need, Attitude towards improved agricultural technologies and Adoption level was studied so that a feedback could be established to gauze the achievements made in agricultural development and to describe the threats still being faced and opportunities to be exploited for desired development in the region.

2. Methodology

In order to measure the socio-economic status, twenty components were delineated through literature and discussion with the experts. Then 45 experts were requested to assign weightages/percentage score to these twenty components in such a way that the total of these weightages comes to 100 (Table-1). While assigning weightages, the importance of each component as an indicator of socio-economic status was considered by the experts. Based on the responses, the arithmetic means of the components were calculated to obtain the final weightages of twenty components. These components were catagorised into three major categories, *viz.,* personal factors, social factors and economic factors (Bankey Bihari *et al.,* – 1999).

The weightage assigned to twenty components were further divided among the different rating scale categories in each component, based on the experience and expertise of 10 experts.

Table 1. Weighted components of socio-economic status index

Components	Weightage (%)
PERSONAL FACTORS	
Age	6
Education	9
Occupation	5
Marital Status	2
Sources of information used	3
Personality	3
Peer Group Communication	3
SUB TOTAL	**31**
SOCIAL FACTORS	
Type of family	2
Size of family	3
Social participation	4
Social group affiliation	4
Adherence to Social laws and values	3
SUB TOTAL	**16**
ECONOMIC FACTORS	
Credit Orientation	3
Size of holding	12
Fragmentation of holdings	2
Shifting/Settled cultivation	5
House owned	5
Material possession	10
Annual Income	9
Farm Assets	7
SUB TOTAL	**53**
GRAND TOTAL	**100**

The reliability coefficient of the socio-economic status index was calculated by the test-retest method (Guilford, 1984) and was found to be high (0.953). The validity of index was assured by content validity. Dependent variables were measured through different rating scales and then corresponding index scores were calculated. Knowledge about improved agricultural technologies was measured through "teacher test" developed for the purpose. Pre-tested schedules were used for collection of data from total 180 respondents, 60 each (30 from progressive & 30 from non-progressive village) from Khasi, Garo and Jaintia tribes. In Khasi tribe mean SESI score was higher (62.73%) among the farmers in progressive village than the farmers in non-progressive village (54.86%) and the socio-economic difference between the farmers of these two villages was found to be highly significant at 1 percent level (Table-2). It could be seen that farmers in progressive village had significantly higher mean score as compared to farmers in non-progressive village on variables, *viz.* personal factors (21.03 and 19.63) and economic factors (32.23 and 25.80). In Garo tribe also mean SESI score was higher (61.50%) among the farmers in progressive village than the farmers in non-progressive village (55.0%) and the socio-economic difference between the farmers of these two villages was also found to be highly significant at 1 percent level.

Farmers in progressive village had significantly higher mean score as compared to the farmers in non-progressive village on components *viz.* personal factors (21.50 and 19.76) and economic factors (30.70 and 25.66). Same trend had been observed in Jaintia tribe too. The SESI mean score was observed higher (59.93%) among the farmers of progressive village than the farmers in non-progressive village (53.13%) and here also socio-economic difference between the farmers of these two villages was found to be highly significant at 1 percent level. Farmers in progressive village had significantly higher mean score as compared to the farmers in non-progressive village on components, *viz.* personal factors (21.06 and 18.90) and economic factors (29.33 and 25.0) It was interesting to note that irrespective of Khasi, Garo or Jaintia, in all three progressive villages mean score for three major components, *viz.* personal factors (Khasi 21.03, Garo 21.50 and Jaintia - 21.06), Social factors (Khasi - 9.46, Garo - 9.30 and Jaintia - 9.53) and economic factors (Khasi - 32.23, Garo - 30.70 and Jaintia - 29.33) as well as in all three non-progressive villages mean score for three major components *viz.* personal factors (Khasi - 19.63, Garo - 19.76 and Jaintia - 18.90), Social factors (Khasi - 9.43, Garo - 9.56 and Jaintia - 9.23) and economic factors (Khasi - 54.86, Garo - 55.0 and Jaintia - 53.13) respectively, had no significant difference.

Table 2. Socio-economic status index (SESI) scores of the farmers

Tribe	Components	Scores Assigned	Scores obtained				't'
			Progressive Village (n=30)		Non-Progressive Village (n=30)		
			X	SD	X	SD	
KHASI	Personal Factors	31	**21.03**	1.95	**19.63**	**2.04**	2.76**
	Social Factors	16	9.46	1.00	9.43	1.40	0.09
	Economic Factors	53	32.23	4.74	25.80	5.56	4.53**
	SESI	100	**62.73**	5.96	**54.86**	**7.55**	4.77**
GARO	Personal Factors	31	**21.50**	2.20	**19.76**	**1.73**	2.87**
	Social Factors	16	9.30	1.26	9.56	1.27	0.59
	Economic Factors	53	30.70	4.58	25.66	4.24	4.06**
	SESI	100	**61.50**	6.71	**55.00**	**5.71**	3.63**
JAINTIA	Personal Factors	31	**21.06**	1.94	**18.90**	**2.00**	4.62**
	Social Factors	16	9.53	1.27	9.23	1.33	0.79
	Economic Factors	53	29.33	5.89	25.00	4.43	3.20**
	SESI	100	**59.93**	7.05	**53.13**	**6.12**	4.09**

* Significant at 5% level ** Significant at 1% level

Reasons for difference in Socio-economics of progressive and non-progressive villages may be attributed to more large size of land holdings (20.0% in PV, 7.7% in NPV), Settled cultivation (47.7% in PV, 27.7% in NPV) and credit orientation (73.0% in PV, 40.0% in NPV).

In Khasi tribe, of the six differentiating variables, the farmers of progressive village had higher mean scores on all variables in comparison to the farmers of non-progressive village. Variables like risk preference and shifting/settled cultivation were found to be significant at 5% level while extent of information need and attitude were found to be significant at 1% level. In Garo tribe also, of the six differentiating variables, the farmers of progressive village had higher mean scores on all variables in comparison to non-progressive village. Variables like risk preference and attitude were found to be significant at 5% level. In Jaintia tribe, of the six differentiating variables, farmers of progressive village had higher mean scores on all variables except extent of information need, in comparison to non-progressive village. Here no variable was found to be significant (Table-3).

In all three tribes, *viz.* Khasi, Garo and Jaintia, irrespective of progressive or non-progressive villages, Mean score of variables like risk preference (Khasi-86.71 and 80.25, Garo-83.25 and 78.86, Jaintia-81.56 and 78.46), extent of information need (Khasi-87.64 and 82.74, Garo-81.79 and 79.75, Jaintia-81.07 and 81.74) and attitude (Khasi-86.4 and 77.26, Garo-78.4 and 70.93, Jaintia-79.6 and 75.53) had been above 70.00. While the mean scores of remaining three variables *viz.* Knowledge, Adoption and Shifting/Settled cultivation had been observed considerably low.

Table-4 shows that among all six variables, only one variable, *viz.* adoption level has shown significant regression coefficient among the farmers of progressive and non-progressive villages of Khasi tribe and in progressive village of Jaintia tribe. It indicates that socio-economic status has exerted an influence on the overall adoption level of the farmers. Based on the values of partial regression coefficient, R^2 and F ratio indicated that in Khasi (Progressive - 70.1%, non-Progressive - 78.2%) and in Jaintia (progressive -80.7%) of the variations in overall socio-economics could be explained to the variables included for the study. The data suggested that there were other variables to explain the rest (Khasi: Progressive - 29.9%, non-progressive - 21.8%), (Jaintia: Progressive - 19.3%) of the variations. Results support the earlier findings by Sinha *et al.* (1988).

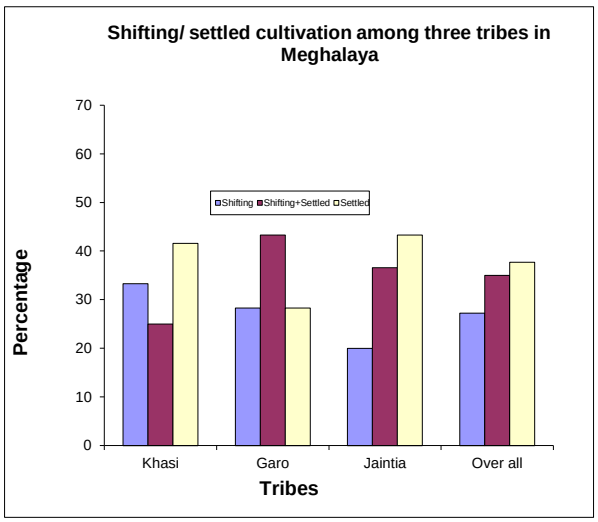

Figure 1.

They reported that extent of adoption was positively and significantly related with socio-economic status.

Conclusion

Results revealed that irrespective of Khasi, Garo or Jaintia, progressive villages had high (62.73, 61.50 & 59.93 respectively) SESI value in comparison to non-progressive villages (54.86, 55.0 & 53.13 respectively) all significant at 1% level. In all three tribes, *viz.* Khasi, Garo and Jaintia, irrespective of progressive or non-progressive villages, Mean score of variables like risk preference (Khasi-86.71 and 80.25, Garo-83.25 and 78.86, Jaintia-81.56 and 78.46), extent of information need (Khasi-87.64 and 82.74, Garo-81.79 and 79.75, Jaintia-81.07 and 81.74) and attitude (Khasi-86.4 and 77.26, Garo-78.4 and 70.93, Jaintia-79.6 and 75.53) had been above 70.00. While the mean scores of remaining three variables *viz.* Knowledge, Adoption and Shifting/Settled cultivation had been observed considerably low.

It clearly indicates that though the farmers possess highly positive/ favourable attitude towards improved agricultural technologies and even ready to bear the risk involved in trying and testing of technologies, high mean score on extent of information need explains the dearth of information/technologies, which restricts the farmers to have wide exposure and go for higher level of adoption of improved technologies. In result, shifting cultivation is still prevalent in the state depicting poor show of agricultural development.

Table 3. Mean scores and standard deviations of dependent variables

Variables	Khasi					Garo					Jaintia				
	Progressive Village (n=30)		Non- Progressive Village (n=30)		't'	Progressive Village (n=30)		Non- Progressive Village (n=30)		't' SD	Progressive Village (n=30)		Non- Progressive Village (n=30)		't'
	X	SD	X	SD		X	SD	X	SD		X	SD	X	SD	
Risk Preference	86.71	7.44	80.25	8.47	2.56*	83.25	8.39	78.86	7.01	2.32*	81.56	6.44	78.46	7.18	1.94
Extent of information need	87.64	4.72	82.74	5.32	3.92**	81.97	7.04	79.75	6.16	1.20	81.07	6.33	81.74	6.29	0.44
Attitude towards improved agril. technologies	86.4	5.81	77.26	7.76	5.44**	78.4	8.84	70.93	12.67	2.64*	79.6	10.67	75.53	11.95	1.18
Knowledge	37.96	23.23	35.08	20.6	0.56	41.63	20.5	33.41	18.43	1.50	32.08	16.57	27.64	14.39	1.10
Adoption	27.51	21.53	24.19	18.64	0.68	31.52	20.9	22.08	19.04	1.71	22.85	17.48	18.18	11.44	1.17
Shifting/ Settled Cultivation	24.85	10.79	17.29	11.30	2.44*	20.8	11.04	19.08	9.07	0.61	24.41	10.11	21.75	10.35	1.08

* Significant at 5% level** Significant at 1% level

Table 4. Partial regression co-efficients of socio-economic status index (SESI) and dependent variables

Variables	Khasi						Garo						Jaintia					
	Progressive Village (n = 30)			Non-progressive Village (n = 30)			Progressive Village (n = 30)			Non-progressive Village (n = 30)			Progressive Village (n = 30)			Non-progressive Village (n = 30)		
	Partial Reg. Coeffts	Std. Error	't'	Partial Reg. Coeffts	Std. Error	't'	Partial Reg. Coeffts	Std. Error	't'	Partial Reg. Coeffts	Std. Error	't'	Partial Reg. Coeffts	Std. Error	't'	Partial Reg. Coeffts	Std. Error	't'
REGRESSION CONSTANT	34.057	19.398	1.755	20.967	15.995	1.310	45.399	12.674	3.582	58.607	15.488	3.784	55.482	15.025	3.692	31.406	19.293	1.627
Risk Preference	0.111	0.095	1.170	0.121	0.096	1.262	0.006	0.083	0.074	0.248	0.162	1.532	0.113	0.120	0.943	0.058	0.174	0.335
Extent of information need	0.050	0.163	0.309	0.060	0.142	0.426	0.116	0.098	1.183	-0.237	0.182	-1.303	-0.155	0.113	-1.375	0.095	0.192	0.494
Attitude towards improved agri/tech	0.042	0.126	0.330	0.116	0.096	1.209	-0.060	0.082	-0.734	-0.138	0.078	-1.776	-0.058	0.069	-0.848	0.064	0.102	0.630
Knowledge level	-0.079	0.104	-0.759	0.010	0.145	0.070	0.066	0.113	0.582	0.097	0.267	0.364	-0.268	0.217	-1.233	-0.423	0.409	-1.034
Adoption	0.273	0.098	2.765*	0.286	0.132	2.162*-	0.213	0.116	1.837	0.026	0.273	0.095	0.673	0.228	2.955*	0.489	0.324	1.510
Shifting/Settled Cultivation	0.109	0.065	1.680	-0.009	0.069	0.139	-0.099	0.064	-0.146	0.134	0.102	1.310	-0.123	0.073	-1.688	-0.063	0.116	-0.547
* Significant R^2 at 5% level		0.701			0.782			0.765			0.394			0.807			0.222	
** Significant F at 1 % level		9.028			13.767			12.520			2.494			16.051			1.098	

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