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DETERMINANTS OF KNOWLEDGE AND ADOPTION OF AGRICULTURAL PRACTICES BY ANDH TRIBAL

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Abstract:
A series of changes in the production techniques transformed the primitive food gathering and hunting economy into settled agricultural economy; departure from the colonial approach to tribal development would involve proper undertaking of proto-science based production system of tribal communities and protecting them from the onslaught of tribal and non-tribal rich. A large number of anthropologists have studied shifting cultivation. But most of them do not enable us to understand us its scientific base. Tribal production techniques and their social systems were in harmony with nature. Thus, It is obvious and necessary to analyze and understand the determinants of tribal's knowledge about recommended agricultural practices and the level of adoption of these practices made by them.

Methodology:

The study is mainly based on the descriptive research design namely Exploratory Research Design. The study was conducted in Malegaon, Barshitakli and Patur Tahsil of Washim and Akola districts of Vidarbha in Maharashtra State respectively. The district has 13 tahsils and tribe community particularly `Andh' mainly inhabits in these tahsils. For adequate representative of different areas in Tahsil and then the villages were arranged and the list of 98 villages was obtained from the Revenue department. The list was meticulously scrutinized and the list of villages having landless and landholder `Andh' tribal was separately prepared. About one third villages i.e. 30 villages were sampled by equal method of random sampling technique. A list of `Andh' tribes both landless and landholder (farmers) residing in the selected villages was obtained from Patwari of respective area. Normally twenty to forty five Andh households reside in each village. Thus from the list so obtained 10 per cent sample of the population i.e. Andh tribe respondents were selected proportionately by random sampling.

To find out determinants, the coefficient of correlation and path analysis was worked out.

FINDINGS:

Determinants of knowledge

To know the relationship of personal, socio-economic, situational profile of 'Andh' tribal and knowledge and adoption relational analysis has been made and is presented in Table 1. It is observed from Table 1 that, education (r=0.141), family size (r=0.169), land holding (0.356), social participation (0.244), annual income (r=0.301), socio-economic status (r=0.210) and extension contact (r=0.314) were positively significant. Which clearly implies that increased level of these variables helped to make favourable changes in knowledge. On the same line Rathod and Khonde (2001) have also made the conclusion that tribal farmers at Dharni in Amravati (MS) had low level of knowledge about soil and water conservation practices of agriculture and its change too was relatively low.

The path analysis was carried out with nine independent variables, and knowledge of Andh tribal respondents regarding agriculture as a dependent variable to estimate the direct effect produced by each of the independent variable as well as the indirect effect produced by them through other variables on knowledge of Andh tribal respondents. It is apparent from Table 1, that the variables namely extension contact (0.185); land holding (0.179); annual income (0.127); family size (0.113) and education (0.098) have caused maximum direct effect on knowledge of Andh tribal regarding agriculture. While the remaining independent variables have comparatively small direct effect. When we critically studies, the total indirect effect of the independent variables of knowledge of the 'Andh' tribal respondents farmer it is observed that land holding, social participation, occupation, annual income, SES; extension contact variables exerted maximum positive indirect effect on the knowledge of the Andh tribal respondent in agriculture, family size; education and age however also found to have

exerted least indirect effect on the knowledge of respondents.

As far as the variables showing maximum indirect effect were concerned it was noted that the land holding was the most important variable amongst all other variables. It showed not only the maximum direct effect but also indirect effect of maximum number of the variables, that is six out of nine which have exerted indirect effect through land holding by the Andh tribal farmer respondent that is why the total effect of land holding was positive and highly significant. The path analysis thus reveals that the land holding contributed significantly to the knowledge of the respondents and the same has produced maximum positive direct effect, significant total effect and substantial indirect effect through other variables namely annual income, extension contact, SES, social participation, occupation, age, family size and education of the Andh tribal respondents. Hence land holding is viewed as much genuine. It indicates that these variables influence the extent of knowledge level possessed by Andh tribal.

This was due to the nature of tribal; the feeling that knowledge which no fruitful as they do not possess any piece of land. But the noteworthy thing observed was that the old age tribal were very much eager to gain the knowledge about agriculture. While the age, family size had found not any significance with extent of knowledge of Andh tribal respondents. These findings are in line with the Chauan et al (1994), Dhanorkar (1998) and Patil et al. (2000) revealed that there was significant relationship between land holding and knowledge. Tailor et al. (1998) and Patil et al. (2000) have found education significantly related to knowledge that supports the findings of present study. Sukhthankar Committee (1992) had observed the same education status in tribal areas of Maharashtra and has recommended to formal, informal and vocational education to tribal in Maharashtra.

Determinants of Adoption

The data regarding correlates and path coefficient of adoption quotient is presented in Table 2. It is found from Table 2, that variable education (r=0.166), occupation (r=0.147), family size (r=0.162), social participation (r=0.192), annual income (r=0.302), socio-economic status (r=0.252) and extension contact (r=0.326) were significantly and positively related (at 0.01 probability level) with adoption of agricultural practice and recommendations from concerned agencies. It indicated that these personal, socio-economic and situational characteristics shows desirable effect on the extent of adoption. It is also noticed that this group is mostly governed by a set of behavioural conventional norms, orthodox thinking and strongly adherence to the norms and hence a very few people exert exceptional adoption behaviour. From the findings, it is concluded that although Andh tribal respondents are more traditional minded conservative and believed only in indigenous technologies, if proper direction, guidance and suggestions provided to them the extent of adoption can be maximized noticeably. These findings are in contrast with Kulkarni and Bhusari (1993) who reported that there was no relationship between education and adoption. Kapgate (1994) reports Non significant relationship between land holding and extent of adoption. Extension contact has been reported to be not related to the extent of adoption by Sushma et al. (1981) has also found non significant relationship of SES and farm size with extent of adoption of tribal.

Path analysis was carried out with independent variables and adoption as dependent variable to estimate direct effect. Total indirect effect and maximum substantial effect produced by each of the independent variables through other variables on adoption by the Andh tribal farmers the results of path analysis are presented in Table 2. It is evident from Table 2, that among all independent variables the five variables namely extension contact (0.196); land holding (0.147); annual indome (0.133); education (0.109) and family size (0.107) have caused maximum direct effect on adoption of the Andh tribal farmers. The remaining independent variables also the contributed but comparatively small direct effects on adoption. The data in Table 2, revealed that the total indirect effect of, the independent variables namely land holding, social participation, annual income; occupation, SES, extension contact, education, family size and age exerted maximum positive direct effect on adoption of Andh tribal farmers in descending order of magnitude. However no variables was found to have exerted negative indirect effect on the adoption of the Andh tribal farmers.

As far the independent variables showing maximum indirect effect were concerned it was noted that land holding was the most important variables. It showed not only the maximum direct effect but also indirect effect through maximum number of variables that is four out of nine. The SES followed this,

which was also important, because it too showed the indirect effect of maximum variables that is three out of remaining five, which have exerted indirect effect on adoption. That is why total effect of land holding was positive and highly significant. The path analysis, thus reveals that the land holding contributed significantly to the adoption of the Andh community respondents and the same has produced, showed maximum positive direct effect, significant total effect and substantial indirect effect through other variables namely family size, annual income, extension contact, SES, social participation, occupation, education and age of the Andh tribal respondent in descending order. Hence the Andh community farmers of the study area should view land holding and SES as much genuine in adoption.

Table 1: correlates and path analysis of Knowledge

Sr. No.	Correlates	Correlation Coefficient	Direct effect	Total Indirect effect	Maximum substantial effect
1	Age	0.047	0.009	0.033	-0.027 (2)
2	Education	0.141*	0.098	0.0478	0.025 (5)
3	Occupation	0.105	-0.07	0.181	0.038 (7)
4	Family size	0.169**	0.112	0.057	0.026 (5)
5	Land holding	0.356**	0.179	0.207	0.066 (7)
6	Social Participation	0.244**	0.057	0.186	0.056 (5)
7	Annual Income	0.301**	0.126	0.174	0.077 (5)
8	SES	0.210**	0.054	0.156	0.0594 (5)
9	Extension contact	0.314**	0.184	0.129	0.064 (5)

* Significant at 0.05 probability Level.

** Significant at 0.01 probability Level.

Table 2: Correlates and path coefficient of Adoption

Sr. No.	Correlates	Correlation Coefficient	Direct effect	Total Indirect effect	Maximum substantial effect
1	Age	0.040	0.0120	0.028	-0.031 (2)
2	Education	0.166**	0.1085	0.057	0.029 (9)
3	Occupation	0.147**	-0.490	0.196	0.046 (9)
4	Family size	0.162**	0.106	0.055	0.269 (7)
5	Land holding	0.035	0.146	0.212	0.084 (9)
6	Social Participation	0.192**	-0.0004	0.197	0.055 (5)
7	Annual Income	0.302**	0.133	0.169	0.076 (5)
8	SES	0.252**	0.088	0.163	0.058 (5)
9	Extension contact	0.326**	0.195	0.130	0.063 (5)

* Significant at 0.05 probability Level.

** Significant at 0.01 probability Level.

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