RELATIONSHIP BETWEEN PROFILE CHARACTERISTICS AND KNOWLEDGE GAINED

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Indian Agriculture has made impressive strides in the development of new plant varieties, cultivars, hybrids and production and standardization of plant protection techniques.

However, quick dissemination of technological information from the Agricultural Research System to the farmers in the field and reporting of farmers' feedback to the research system is one of the critical inputs in the Transfer of Agricultural Technology (Sharma, 2003). Farmers can no longer depend on the conventional and time consuming manual dissemination of technological messages.

To reach over 110 million farmers, spread over 500 districts and over 600 blocks is an up hill task. The diversity of agro-ecological situations adds to this challenge further. Farmers needs are much more diversified and the knowledge required to address them is beyond the capacity of the grass root level extension functionaries.

It is in this context that artificial intelligence based computer programmes called Expert System receive a great deal of attention by virtue of its dynamic, heuristic strategies and ensure a speedier and more effective transfer of farm technologies.

Keeping these ideas in view, a study was undertaken with the following objectives.

1. To study the knowledge gain due to exposure to the various treatments.
2. To study relationship and influence of the profile characteristics of the subject (rubber growers) with the knowledge gain using the various treatments.

Materials and methods

A computer based Expert System for rubber protection technologies (RUBEXS-04) was developed using knowledge engineering and software engineering components. Multiple group randomized design was used to establish adequate relationship (independent variable) between the profile characteristics and knowledge gain (Dependent variables).

The service area of Rubber Board Regional Office, Mannarkkad, Kerala state was selected for the study. Out of the 60 existing rubber producers societies in this region, three societies were randomly selected. A sample of 40 rubber growers from each society was drawn randomly. Thus a sample of 120 rubber growers formed the total sample for the study.

Four different treatments such as human experts without discussion, human experts with discussion, RUBEXS-04 without discussion and RUBEXS-04 with discussion was selected by the researchers. These Treatments were tested for their relative effectiveness. Each treatment was replicated thrice. Considering 10 respondents per replication there were 30 respondents per treatment. Thus a total of 120 respondents were the subjects for the four treatments.

'Before-After' techniques of measurement was used to find out the effect of a particular treatment.

Suitable statistical techniques such as 't' test, correlation analysis and multiple regression analysis were used to analyse the data.

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Perception about the Modern Information Communication Technology (MICT)	0.068NS
Innovativeness	0.139NS
Social participation status	0.023NS
Value orientation	0.106NS
Self confidence	0.215NS

NS: Non-significant, **: Significant at 0.01 per cent level, *: Significant at 0.05 per cent level, @: found to have missing relationship and not amendable for statistical analysis.

From the above results, it could be inferred that rubber being the traditional crop in the study area, most of the subjects were born and brought up in the predominantly rubber belt and hence, their prime age and experience in rubber cultivation might have increased their knowledge gain. Likewise, the respondents who were having more area under rubber cultivation might have had high information seeking behaviour to know more about their plantation. The similar trend of increased possession of modern electronic gadgets and familiarity in using computer would have increased the knowledge gain related to pests and diseases of rubber crop.

The influence of the 15 independent variables towards the knowledge gain was studied and the results presented in Table 3.

It could be observed from the Table that all the 15 independent variables together explained 25.80 per cent of variation towards knowledge gain which was significant at one per cent level.

The partial regression co-efficient value was found to be positive and significant for the variable experience in rubber cultivation at 0.01 level of significance. Majority of the subjects possessed 11-12 years of experience in rubber cultivation. The practical experience put forth by them would have influenced their knowledge gain.

The findings however were in contradiction to the findings of Anandaraja (2002) who reported that farming experience had no significant influence on knowledge gain.

Table 3. Influence of independent variables towards knowledge gain (Y1)

Variables	Partial regression coefficient	Standard error	't' value
Age	0.04878	0.038	1.281
Education status	-0.04825	0.348	-0.139
Occupational status	0.16700	0.453	0.369
Area under rubber cultivation	0.30500	0.178	1.715
Experience in rubber cultivation	0.07649	0.033	2.322
Annual income	-0.22900	0.290	-0.788
Communication status	-0.08621	-.092	-0.933
Information seeking behaviour	0.05367	0.034	1.573
Possession of modern electronic gadgets	0.03229	0.118	0.273
Training undergone on computer	@	@	@
Familiarity in using computer	0.29800	0.378	0.790
Perception about the Modern Information Communication Technology (MICT)	0.24500	0.321	0.764
Innovativeness	0.59500	0.443	1.343
Social participation status	0.15700	0.165	0.950
Value orientation	-0.00190	0.073	-0.026
Self confidence	0.22400	0.277	0.809

R2 = 0.258, F = 2.405**, NS = Non-significant, ** = Significant at 0.01 per cent level, * = Significant at 0.05 per cent level @ found to have missing relationship and not amenable for statistical analysis.

continued page on 30

nursery raising, masala, *papad, badi, dalia, suji,* potato chips making, tailoring, animal feed making, leaf cup plate making, bakery, goat rearing, dairy cooerative, pisciculture, floriculture. Apart from this, 100 trainings covering 3205 beneficiaries were conducted in nutrition education and fruit and vegetable preservation for awareness generation about nutrition. The pre-post knowledge and skill analysis of these trainings elicited that 45 per cent of women started preservation of different foods which improved health status of children and family members. The project had marked impact on socio-psychological aspects and social empowerment of women farmers. SHG approach has developed leadership qualities, group confidence, strength and enabled farm women to initiate any new venture in a group. Majority of the women have become member of SHGs for the first time and expressed satisfaction to be a member of the group. The system of mandatory contribution strengthened the habit of saving / thrift leading to capital augmentation. The small earnings gained were being utilized purposefully for betterment of their home and living conditions. The project has resulted into a successful model of women empowerment which can bring miracles in improving the quality of life of rural women.

Conclusion

The SHGs are a viable alternative to achieve the objectives of rural development and to get community participation in all rural development programmes. The possible outcome of women's empowerment through SHGs at household level are self-employment (assured wage employment through the year), sustainable livelihoods, improved health and education, enhanced social dignity and better status of women. The empowerment of women through SHGs would lead to benefits not only to the individual women and women's groups but also for the family and community as a whole through collective action for development. They assume the role of decision makers in major and deciding aspects of the family and village. Organization of farm women into self help groups can go a long way towards bringing women in the mainstream of development. "Empowerment is not just for meeting their economic needs but also for more holistic social development".(AER)