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A Study on Relationship of Characteristics and Performance of Guava Farmer Interest Groups in Tamil Nadu

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Assessing the performance of existing Farmer Interest Groups (FIG) could instill the livelihood promotion among the rural agrarian masses through upgraded group approaches. The study was conducted on guava FIG of Dindigul district, Tamil Nadu, India with a specific objective of identifying the performance determinants of FIG. About 100 FIG members were taken as respondents during the study. Multiple regression and step-down regression analyses were used to interpret the results. The results indicated that FIGs express medium to high-level performance in their members' perception. It also revealed that FIG member's, occupational status, decision making pattern, extension participation, status of operational holding and family support were the major contributing variables towards the performance of FIG.

Key words: FIG, Step-down regression, Performance and variables.

Farmer Interest Group (FIG) is a self-managed, independent group of farmers with a shared goal and interest. The members work together to achieve this goal by pooling their existing resources, gaining better access to other resources and to share the resulting benefits. Farmer groups have the added bonus of developing social cohesion and confidence building within the community providing a social focal point for the community. FIG is not a legal body; it is registered informally under the State Department of Agriculture or Horticulture on the basis of the nature of FIG. It will be either formed by the local villagers on their own for risk sharing in farming or by the efforts of some cosmopolites such as NGOs, State Agriculture Department for the provision of government benefits to the FIG and to develop the group as a representative one in the villages (Krishi sutra 2, 2013).

Some of the notable characteristics in FIG are, number of members in the FIG will be 15 to 20. This is keeping in view the experiences acquired out of SHGs promotion in the country. Age should be above 18 and should be the resident of village. Only one member from one household may be considered for FIG and no one person can be a member in more than one FIG. From the perspective of equity, this is important. If there is joint family, multiple memberships are possible based on one member per 'Chula'. Due to its' long implementation period and gaining importance of group approaches, it is opt to study the FIG activities and its' performance analysis. Assessing the performance of existing FIGs could lead to frame the comprehensive strategy to inculcate the livelihood promotion among the rural agrarian masses through upgraded group approaches. Hence a study has been attempted with the following specific objective of finding out the association between the selected independent variables with the dependent variable 'Performance of FIG'.

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Material and Methods

For this study, ex-post facto research design was followed. Dindigul district of Tamil Nadu, India was purposively selected. Variety of crops have been cultivated in the district due to the favorable climatic conditions, the effective functioning of the Farmers' Interest Group on Guava in Old Ayakudi village of Palani block is considered worthy to be studied and also familiarity of the student researcher with the study area.

Old Ayakudi is one of the well-known guava markets in South India. Among several blocks of Dindigul district, Palani block was selected due to more farm holdings under guava and large number of guava growers. The registered members of Old Ayakudi Guava Farmer Producer company were selected as samples for the study. Hence, among thousand registered members ten per cent of the population were taken as samples i.e., one hundred respondents were selected at the rate of ten members per FIG using simple random sampling technique around five villages namely, old Ayakudi, Vaeppanvalasu, Eramanayackanpatty, TKN Pudhur and Rookvarpatty. Responses on the nominated independent variables were obtained by way of three point continuum i.e., most relevant, relevant and irrelevant from around 35 Agricultural Extension Scientists serving in various governmental (under several cadre in Tamil Nadu Agricultural University, Indian Agricultural Research Institute, Central Institute of cotton research, Sugarcane Breeding Institute and Central Agricultural University) and private organisations (like private educational institutions,

free-lance researchers, NGOs, KVKs *etc.*) as Judge's opinion. Sixteen independent variables were finalized using standard deviation method and taken up for the study. Multiple regression analysis and backward regression approach were applied for better understanding of the results.

Results and Discussion

The overall outcome of the FIG was calculated by the performance factor. Hence, an attempt was made to study the performance of FIG by using six sub-variables namely, mobilizing support, exploitation resistance, identifying market opportunities, business orientation, marketing network and responsibility sharing. The individual score was cumulated and overall score of the performance was calculated. The information collected was analyzed and findings are presented in Table 1.

Table 1. Overall performance of FIG (n = 100)

Category	Number	Per cent
Low performance	14	14
Moderate performance	68	68
High performance	18	18
Total	100	100

It could be concluded that moderate to high level performance was expressed by 84.00 % of the sample. From the field interaction with FIG members, it was understood that majority of the growers who belong to the middle-aged category had gained knowledge through participation in almost every extension-oriented program hence, it influenced the response. This finding is substantiated by the findings of Arun (2014), who indicated that, middle aged farmers were more knowledgable than the younger and older farmers. Conversely, the older farmers had experience, but they were not inclined to accept new knowledge.

Level of influence of independent variables on performance of FIG

Sixteen independent variables such as, educational status, occupational status, farming experience, status of operational holding, farm size, trust among members, decision making pattern, extension participation, initiative capacity, self-confidence, family support, attitude towards FIG activities, periodicity of contact with peer group, experiences in group activities, meetings attended in FIG and support received from FIG have been taken up for the study. Multiple regression analysis was used to identify the degree of relationship between the independent variables with that of the 'Performance of FIG'.

It was observed from the Table 2 that the sixteen independent variables with the performance of FIG taken on multiple regression analysis gave the R2 (Co-efficient of multiple determination) value of 0.546. Hence, it could be inferred that the selected independent variables put together contribute 54.66 % of the total variation in the performance of FIG. The independent variables like status of operational holding (X4), extension participation (X8) and family support (X11) had contributed positively and significantly at 0.05 level of probability towards

Table 2. Contribution of FIG members' characteristics with Performance of FIG (n = 100)

Independent variables (X)	'r' values	Regression co-efficient	't' value
Educational status (X_1)	0.302**	0.670	1.376
Occupational status (X_2)	-0.149^{NS}	-1.648	-2.186*
Farming experience (X_3)	-0.175^{NS}	-0 .068	-0.737
Operational holding (X_4)	0.261**	5.779	2.548*
Farm size (X_5)	0.970^{NS}	0.007	0.126
Trust among members (X_6)	0.371**	0.860	0.790
Decision making pattern (X_7)	-0.360**	-1.024	-4.438**
Extension participation (X_8)	0.405**	0.525	2.312*
Initiative capacity (X_9)	0.266**	0.276	0.333
Self confidence (X_{10})	0.111^{NS}	-0.049	-0.270
Family support (X_{11})	0.363**	0.596	2.366*
Attitude towards FIG activities (X_{12})	0.340**	0.380	0.890
Periodicity of contact with peer group (X_{13})	0.277**	0.154	0.208
Experiences in group activities (X_{14})	0.089^{NS}	-0.590	-0.580
Meetings attended in FIG (X_{15})	0.303**	1.188	1.185
Support received (X_{16})	0.217*	3.036	1.523

R2 = 0.546 F = 6.173**

** - Significant at one per cent level

* - Significant at five per cent level

NS - Non Significant

performance of FIG whereas occupational status (X2) and decision making pattern (X7) had contributed negatively and significantly at 0.05 and 0.01 level of probability respectively towards the performance of FIG.

It could be justified that, majority of respondents possessed their own land (X4). This might be due to the reason that, the possession of own land was the condition imposed by the organizers of the FIG at the earlier stage, "the persons who are all interested in joining Guava FIG should possess minimal land holding of two acres". This finding is supplemented by FAO's Fisheries and Aquaculture technical paper (2011).

Further the variable 'extension participation (X8)' had contributed positively towards the performance. It is observed that the FIG members were much interested to participate in extension activities such as result demonstration, method demonstration, campaign, exhibition, seminar, trainings, group meetings, farmers' day and tours organized by the stakeholders of state agriculture, horticulture departments and that might be the reason for medium to high level of their extension participation and this could have exhibited a positive significant relationship with the performance of FIG. This finding was validated by the work of Salifu *et al.* (2010) that 'Participation by farmers in these groups was mainly in anticipation for government and non-governmental support rather than an initiative of the community'.

Almost all the respondents got moderate level of Family support (X11), which contribute positively towards the performance of FIG. Guava farming is the primary occupation of the family in the study area and it is being served as a livelihood and hence, resulted in such an outcome. This finding strengthens the proposed idea of FAO's International conference on 'Realizing the potential of Agricultural Innovation in Family Farming' (2012).

Occupational status (X2) had contributed negatively towards the performance of FIG and significant at five percent level of probability. As that of my survey results, more than half of the respondents had farming as their main profession, but nearly one-third of them involved in business and few percentage of them was acting as commission agent too. This might be the convincing reason for its negative contribution towards the performance of FIG. This finding is further strengthened by the findings of Adong *et al.* (2007) and Suresh *et al.* (2014).

Decision making pattern (X7) had contributed negatively towards the performance of FIG and significant at one percent level of probability as decision making pattern was from low to medium level among the samples. Due to the medium level of education of the respondents the members of FIG do not possess the complete knowledge on group activities. Hence, they rely upon individual decision even though they belong to group. This finding is in contrary with the report of Wales rural observatory's discussion paper, (2011) *i.e.,* 'high number of farmers were enthusiastic about the support and guidance received through discussion groups, they perceive the group as confirmation panel of their farm decisions'. Likewise, Elavarasi (2012) reported that 'women entrepreneurs least preferably took their independent business decisions'.

Further strengthening of the study required some powerful statistical tools hence; serious effort has been took to cull out the major contributing variables towards the change of performance of FIG through the backward regression approach. 'In medical sciences, the backward regression analysis tool was used to identify the risky antibodies among various antibodies' (Knuppel *et al*. 2012). Likewise, with the help of backward regression approach, occupational status (X2), status of operational holding (X4), decision making pattern (X7), extension participation (X8) and family support (X11) were identified as the major contributing variable towards the performance of FIG as evident from the Table 3, which inferred that the independent variables such as, occupational status (X2), status of operational holding (X4), decision making pattern (X7), extension participation (X8) and family support (X11) were influencing the R2 value with their contribution of about 47.20 %. Hence, all the other independent variables contribute only to the extent of about 7.40 %.

Table 3. Maximum contributing independent variables on performance of FIG activities by Backward regression approach

Independent variables	't' value	Significant values	Ranking order
Decision making pattern	-0.268	0.000	
Extension participation	0.248	0.000	1
Family support	-0.353	0.001	
Occupational status	0.340	0.001	2
Status of operational holding	0.284	0.002	3

Conclusion

The study found that FIG member's perception regarding performance was medium to high-level. The decision making pattern and extension participation holds first rank with its major contribution towards performance of FIG activities followed by family support and occupational status in the second rank position whereas, status of operational holding occupies third rank. On the basis of salient findings of this study, certain broad implications were drawn and presented here i.e., creating special regular markets in old Ayakudi exclusively for selling graded guava with integration of major regional traders in and around the state. Likewise, responsibility sharing and involving all the FIG officials and FIG members in decision making process provides soothing environment and motivates the members to follow up FIG activities, FIG members should feel the importance of being in group and should consciously adopt the scientific trainings for reaping fullest benefits. Hence, communicating the benefits of FIG to fellow agrarians in order to maximize the number of members in FIG also needed. It is concluded that any relevant research studies on Farmer Interest Groups in mere future shall yield promising results by inculcating these identified maximum contributing variables as well.

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