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## Factors influencing adoption of enterprises in the IFS units of Kerala

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### Abstract

Integrated farming system concept relies on integration of several complementary components in a unit such as crop, livestock, poultry etc. Profile characteristics of the IFS farmers has a significant role in the adoption of these enterprises. Therefore, by analyzing these factors, better strategy can be formulated for increasing the adoption of more enterprises in the units, which helps to improve the profitability and productivity from each unit. To find out the correlation between socio economic profile characteristics of IFS farmers in Kerala with their rate of adoption of various enterprises, an investigation was carried out. Three districts were selected randomly from Kerala. Total sample size was 180 IFS farmers. The results indicated that, among the selected variables for studying the profile characteristics, adoption of available component in the IFS units were positively and significantly correlated with farm size, experience in farming, extension agency contact, participation in extension programs, economic motivation at 1% level of significance and risk orientation with 5% level of significance.

**Keywords:** Integrated farming system, correlation, profile characteristics, extent of adoption

### Introduction

Kerala is rich in its diverse resource base. But the agricultural sector in Kerala has undergone significant structural changes in the form of decline in share of Gross State Domestic Product indicating a shift from the agrarian economy (Anon., 2017) [2]. Official figures indicated that majority of the farmers in the state are either marginal and small or even landless with fragmented land holdings (GOK, 2019) [4]. In this context, IFS is a viable option in a land hungry state like Kerala, for ensuring nutritional security, enhancing productivity and increasing income of farm families. According to Innazent *et al.*, (2022) [5], the adoption of an integrated farming system (IFS) helps farm families to achieve food and nutritional security, particularly for small and marginal holdings. Even in extremely sensitive climates, an IFS with accessible resources for farmers can maintain production from the unit with minimal environmental impact (Nair *et al.*, 2019) [8]. The farm wastes are more effectively recycled in IFS and used as a raw material for other components with productive uses (Kote *et al.*, 2020) [6]. Any component of IFS has a significant influence on the livelihood and financial security to the farmers (Minakshi *et al.*, 2019) [7]. In addition to these benefits, IFS also help to reduce the vulnerabilities of mono cropping system and also provides more employment opportunities. This eventually leads to the socio-economic development of the farm families (Chandana *et al.*, 2023) [3]. The selection of components has a significant role in overall productivity of the system. The selection of different components in a unit is primarily based on its complementarity to each other and the ability to meet the diverse needs of the growers. The profile characteristics of the farmers, which depict the socio- economic conditions of the respondents, also thought to have an impact on how different enterprises are adopted within a unit. In light of this, a study was conducted to determine the correlation between profile characteristics of the farmers and their rate of adoption on identified enterprises in an IFS unit. This will enable the extension personnel to develop new policies and programmes based on the traits of the farmers.

### Materials and Method

The study was conducted among 180 integrated farming system units in Kerala. The respondents were selected randomly from three district namely, Kollam, Thrissur and Kannur districts. The study was carried out using an exploratory research design. Considering the background and objectives of the study, relevant variables were chosen for analyzing the profile characteristics of farmers.

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Data collection was done through a well structured, pre tested and standardized interview schedule developed for the intended purpose. The firsthand information was taken from the respondents during the study. The data on the selected variables were analyzed using appropriate statistical tools. To understand the extent of adoption of various enterprises in a unit an adoption index was developed, and further correlation analysis was carried out to identify the factors that influence the adoption of various enterprises in the IFS units of Kerala.

## Results and Discussion

To find the relationship between the extent of adoption of identified IFS components with profile characteristics of the respondents, correlation analysis was conducted and the results are provided below:

**Table 1:** Correlation of extent of adoption of identified IFS components with profile characteristics of respondents.

Independent Variables	Correlation Coefficient
Age	-0.134
Education	0.068
Family size	-0.014
Occupation	0.029
Farm size	0.818**
Experience in farming	0.407**
Mass media exposure	0.076
Extension agency contact	0.309**
Participation in extension programmes	0.299**
Market orientation	0.062
Irrigation potential	0.055
Economic motivation	0.288**
Innovativeness	0.015
Risk orientation	0.190*
Social participation	0.134
Training undergone	0.031
Awareness towards IFS	0.036
Herd size	0.031

\*Significant at 5 percent level

\*\* Significant at 1 per cent level

A glance at the above table (1) indicated, among the selected variables for studying the profile characteristics, adoption of various available component in the IFS units were positively and significantly correlated with farm size, experience in farming, extension agency contact, participation in extension programmes, economic motivation at 1% level of significance and risk orientation with 5% level of significance.

As farm size increases, the chances for expanding the IFS unit of the farmer by adding more components were also increasing. A study conducted by Ponnusamy and Devi (2017) <sup>[9]</sup> also found that, landholding was a key factor for retaining different enterprises in an IFS unit. The experience in farming helps in familiarizing with various practices and hence adoption can be increased. Extension activities conducted in the area had direct effect on gain in knowledge about improved agricultural practices. High rate of contacts with extension personnel might have motivated the farmers in various ways and they might have gained more information about various components. It helped the farmers to adopt those components in their unit. Since IFS contain many components, so each unit had its own risk. When farmers were highly risk-oriented, there was a higher chance that they would adopt more components in their unit. The findings of Akshitha and Dolli (2020) <sup>[1]</sup> indicated that education, land

holding, progressiveness of the farmer and their information seeking behaviour as well as scientific orientation were the factor that influenced the rate of adoption of integrated farming systems in Karnataka. Similar study was conducted by Sunil *et al.* (2023) <sup>[10]</sup> in Kerala and they concluded that IFS required to be updated with more capacity and backed by realistic reforms at all levels which implies the need for long term transformation. Since IFS is a better option for farmers for ensuring livelihood and financial security, new policies and programmes should be implemented by the government after considering the factors that influence the adoption. This way the existing IFS units can be strengthened with more components, results in increased productivity and profitability from the units.

## Conclusion

Integrated Farming System refers to the collection of interconnected components which are interacting with one another in a particular environment. The adoption of different components was influenced by various factors, in which profile characteristics of the farmer has a significant role to play. Based on the results obtained, it can be concluded that farm size, experience in farming, extension agency contact, participation in extension programs and economic motivation was positively and significantly correlated with extent of adoption at 1% level of significance and risk orientation with 5% level of significance.

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## Conflict of Interest: None

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