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### Association between personal, socio-economic and psychological variables of farm women and extent of involvement with respect to decision making

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#### Abstract

The agricultural sector in India is heavily dependent on women's labor, yet their contributions are often undervalued, and their decision-making autonomy remains limited. This study investigates the association between personal, socio-economic, and psychological factors of farm women and their participation in decision-making related to pulse cultivation in the Konkan region of Maharashtra. Using an ex-post-facto research design and a purposive sample of 120 farm women from the Raigad district.

The Chi-square test of independence was employed to analyze the data. The findings reveal a statistically significant association between a farm woman's involvement in decision-making and her size of landholding ( $\chi^2=11.51$ ), social participation ( $\chi^2=10.05$ ), and scientific orientation ( $\chi^2=11.12$ ). Conversely, factors such as age, education, family type, family size, family education status, area under pulses, annual income, information-seeking behavior, use of social media, and self-confidence showed no significant association. These results underscore that while a woman's individual and familial characteristics may not directly influence her decision-making power, her access to productive resources (land) and her engagement in social and scientific networks are critical for her empowerment. The study's findings provide a robust basis for policymakers to design targeted interventions that focus on enhancing women's access to land and promoting their participation in community groups and scientific training.

**Keywords:** Agricultural sector, farm women, women empowerment, decision-making, pulse cultivation, socio-economic factors, psychological factors, chi-square test, landholding, social participation, scientific orientation, policymaking, rural development

#### Introduction

The agricultural sector is a key part of the economy in many developing countries, including India. It plays a vital role in supporting rural livelihoods and national food security. Within this important sector, women are essential contributors, often making up the majority of the agricultural workforce. Recent data shows that women represent about 64.4% of India's agricultural workforce. This highlights their significant involvement in all stages of the agricultural value chain, from growing crops to managing them after harvest. Despite their crucial role, their contributions are often overlooked and undervalued.

Farm women face a major challenge in the ongoing gender inequality in decision-making power and access to important resources. This issue is influenced by systemic factors and is also closely tied to personal, social, economic, and psychological factors. These factors, including a woman's education, family income, scientific knowledge, and self-confidence, greatly affect her ability to assert her independence and take part in decisions related to farming.

Therefore, empowering women in agriculture is not just a matter of fairness; it is also key to promoting sustainable development and ensuring national food security.

While we recognize the important role of farm women, there is a significant gap in the literature regarding how specific factors affect their decision-making autonomy within different agro-climatic zones and crop systems. This study aims to fill that gap by exploring the connection between the personal, socio-economic, and psychological factors of farm women and their participation in decision-making about pulse cultivation in the Konkan region of Maharashtra. Pulses, like green gram and black gram, are essential for dietary protein and improving soil health. However, they need a lot of manual labor for tasks like weeding, harvesting, and post-harvest processing; these tasks are mostly done by women in the region. Focused on the Raigad district, this research will use both qualitative and quantitative methods to determine how much women participate in decision-making. It will also analyze the factors that influence their decision-making processes. By

highlighting the various roles, ongoing challenges, and the level of decision-making autonomy among farm women, the findings aim to inform policymakers in developing strategies that promote gender equality, improve agricultural productivity, and support the empowerment of rural women.

### Methodology

The study was conducted in the Raigad district of Maharashtra where Krishi Vigyan Kendra is in operation for conduct of various extension activities. In which major operational tehsils of KVK Raigad was selected. In this study, a purposive sampling technique was used to select the tahsils, and villages. At the first stage, the Raigad district from the Konkan region was selected. In the second stage, Mahad, Mangoan, Roha and Sudhagad-palli tehsils were selected from the district. The final stage consisted of selecting villages from each selected tehsil. Thus, 120 farm women from 8 villages were selected for this study.

The ex-post-facto research design was used for this study, since the phenomenon has already started and is continuing. Ex-post-facto research is the most systematic empirical enquiry, in which the researcher does not have direct control over the independent variables as their manifestation has already occurred or as they are inherent and not manipulatable. Thus, inferences about relations among variables was made without direct intervention from concomitant variation of independent and dependent variables.

### Results and Discussion

The link between farm women's participation in decision-making around the production and post-harvest management of pulses (dependent variable) and a group of chosen socio-economic and psychological factors (independent variables) was studied and given in Table 1. The independent variables of interest are: age, education, family type, family size, size of landholding, area under pulses, annual income, social participation, information-seeking behaviour, use of social media, self-confidence, scientific orientation, and involvement in agricultural activities. To determine the nature and significance of these associations, the Chi-square test of independence was used. The findings of this statistical analysis, which outline the association between the independent and dependent variables.

Farm women's involvement in pulses production and post-harvest management in decision-making was found to be significantly influenced by the size of landholdings. Larger landholdings provide greater access to resources, diverse cropping options, and modern farming tools, thereby enhancing women's role and authority in decision-making processes. Active participation in community-based groups such as Mahila Mandals and Self-Help Groups (SHGs) was also positively associated with decision-making, as these platforms build confidence, encourage peer learning, and enhance awareness. In addition, exposure to targeted training and scientific knowledge empowered women to integrate traditional practices with modern methods, leading to more informed and proactive decision-making.

Chi-square analysis revealed that landholding size had a statistically significant association at the 0.01 level, while social participation and scientific orientation were significant at the 0.05 level. This indicates that these factors

substantially contribute to women's participation in decisions related to pulse production and post-harvest management.

Conversely, variables such as age, education level, family type, family size, family education status, area under pulses, annual income, information-seeking behavior, self-confidence, and social media usage did not show statistically significant associations with women's decision-making participation. This suggests that demographic, educational, or financial characteristics alone are not the primary determinants of their engagement. Instead, entrenched traditional gender roles, wherein men largely retain authority over agricultural decisions, along with societal pressures and women's limited autonomy in independent decision-making, appear to constrain the influence of these factors.

**Table 1:** Association of personal, socio economical and psychological variables of farm women with respect to participation of farm women in decision making of production and post-harvest management of pulses

Sr. No.	Characteristics	Chi-square	d.f
1.	Age	3.05 <sup>NS</sup>	4
2.	Education	9.62 <sup>NS</sup>	10
3.	Family type	0.23 <sup>NS</sup>	2
4.	Family size	0.98 <sup>NS</sup>	4
5.	Family education status	4.69 <sup>NS</sup>	4
6.	Size of land holding	11.51 <sup>**</sup>	2
7.	Area under pulses	5.55 <sup>NS</sup>	4
8.	Annual Income	1.35 <sup>NS</sup>	4
9.	Social participation	10.05 <sup>*</sup>	4
10.	Information-seeking behaviour	4.30 <sup>NS</sup>	4
11.	Use of social media	1.74 <sup>NS</sup>	4
12.	Self confidence	5.30 <sup>NS</sup>	4
13.	Scientific orientation	11.12 <sup>*</sup>	4

NS= non-significant

\*\* Significant at 0.01 per cent level of significance

\*Significant at 0.05 per cent level of significance

d.f = degrees of freedom

### Conclusion

This study successfully identified key factors influencing the decision-making autonomy of farm women in the context of pulse cultivation in Maharashtra's Konkan region. The findings indicate that while many traditional variables such as age, education, and family structure do not significantly affect a farm woman's participation in production and post-harvest management decisions, certain structural and psychological factors play a pivotal role. The statistically significant associations found with the size of landholding, social participation, and scientific orientation provide actionable insights for promoting gender equality in the agricultural sector. The findings suggest that access to economic resources, engagement in community groups, and knowledge of modern agricultural practices are key drivers of their empowerment. Therefore, to promote gender equality and sustainable agricultural development, policymakers and extension agencies should focus on targeted interventions that improve women's access to land, strengthen their involvement in community organizations, and provide practical scientific training. By focusing on these three critical areas, we can unlock the full potential of farm women, ensuring their rightful place as independent

and influential decision-makers in India's agricultural landscape.

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