

Nurturing Mango Farmers: Exploring Training, Knowledge Sources, and Information Channels for Sustainable Agriculture

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ABSTRACT:

Any agricultural technology's ability to be adopted depends on how well farmers are informed about its advantages. The adoption process is also greatly influenced by factors such as gender, caste, education level, and other social issues. To assess the effects of trainings on the production of high-quality seed, availability of climate-resilient rice seeds, informational accessibility regarding seed suppliers, and utilization of IRRI super bags a study was conducted in Krishna district. The study is carried out on analysing the effect of training on level of satisfaction of mango farmers in Krishna district.

Keywords: Mango growers, Training, Knowledge, Information, Mediation and Sources

INTRODUCTION:

The mango, or *Mangifera indica* L., is the most popular and well-known tropical fruit. It is referred to as the "King of the Fruits" because of its excellent flavour, wonderful taste, alluring aroma, appealing colour, and other desirable qualities. The most well-known tropical fruit in the Anacardiaceae family, it is native to Indo-Burma, a region of Southeast Asia. With over

4,000 years of cultivation, it is the oldest fruit in the world. Since the mango has long been closely associated with religious, cultural, artistic, and economic values, it is considered the national fruit of India.

Most Indian states grow mangoes for commercial purposes. On the other hand, the Konkan region of Maharashtra is known for its mangoes because of certain characteristics related to the area. The most significant feature is the cultivar known as "Alphonso," which is the most common in the area. India possesses the greatest diversity of mango germplasm in the world, with over ten thousand different varieties flourishing throughout the nation. "Alphonso" is the most well-liked cultivar and is widely recognized as the greatest Indian mango variety. The west coast of India, which includes the states of Maharashtra, Goa, Karnataka, and Gujarat, is where this cultivar is grown commercially.

Mango production has become increasingly important in recent years due to climatic anomalies and specific socio-economic issues. There are technologies being developed that will undoubtedly aid in increasing mango productivity. Crop management is necessary from flowering to harvest, though, as this will ultimately determine yield and financial returns. It's clear that farmers are making every effort to boost output levels by applying their knowledge and traditional methods. However, due to a lack of scientific understanding and an environment that is supportive of the advised practices, they are unable to make appropriate scientific use of the resources at hand.

Farmers may receive training during a particular stage of crop production that teaches them about best practices. It's also critical to assess farmers' technological knowledge to determine the extent of their knowledge and to schedule extension activities appropriately. Since knowledge is a prerequisite for adoption, it helps to raise farmers' knowledge and awareness of the technologies and, eventually, their adoption. The growers in Maharashtra's Sindhudurg district underwent pre- and post-training evaluations.

Training mango farmers is essential to improve their agricultural practices, increase productivity, and enhance the overall sustainability of mango farming. Here are some key training aspects that should be considered when providing training to mango farmers:

Orchard Management:

a. Tree Pruning: Teach farmers how to properly prune mango trees to improve fruit quality, facilitate air circulation, and control tree size.

b. Pest and Disease Management: Train farmers in identifying and managing common mango pests and diseases through integrated pest management techniques.

c. Fertilization: Provide guidance on soil testing and appropriate fertilization methods to ensure nutrient balance in the orchard.

Irrigation:

a. Efficient Water Use: Educate farmers about water-saving irrigation methods such as drip irrigation and the importance of timing and frequency of irrigation.

b. Monitoring Soil Moisture: Teach farmers how to monitor soil moisture levels to prevent both over- and under-irrigation.

Harvest and Post-Harvest Handling:

a. Harvesting Techniques: Instruct farmers on when to harvest mangoes at the right stage of maturity and how to handle fruit without causing damage.

b. Sorting and Grading: Provide training on sorting and grading mangoes to improve marketability.

c. Storage and Packaging: Teach proper storage techniques to reduce post-harvest losses and maintain fruit quality. Training on packaging for longer shelf life and market appeal is also crucial.

Pest and Disease Management:

a. Identification: Help farmers recognize common mango pests and diseases.

b. Organic and Integrated Pest Management (IPM): Train farmers in the use of organic methods and IPM practices to minimize chemical inputs and their impacts.

Climate-Resilient Farming:

a. Climate Adaptation: Inform farmers about climate change impacts and how to adapt their farming practices to cope with changing weather patterns.

b. Weather Forecasting: Introduce farmers to available weather forecasting tools to better plan and manage their orchards.

Financial and Business Management:

a. Record Keeping: Teach farmers to maintain records of expenses, income, and production to make informed decisions.

b. Market Access: Provide knowledge on market trends, value addition, and market linkages to help farmers access profitable markets.

c. Financial Literacy: Help farmers understand basic financial concepts and budgeting for their operations.

Sustainable Practices:

a. Organic Farming: Encourage organic and sustainable farming practices to reduce the use of synthetic chemicals and promote environmental sustainability.

b. Biodiversity Conservation: Educate farmers on the importance of preserving local biodiversity and beneficial insects.

Safety and Labor Management:

a. Occupational Safety: Ensure that farmers and farmworkers are aware of safety measures in the orchard, such as safe pesticide handling.

b. Labor Management: Train farmers in efficient labor management practices to improve productivity and worker well-being.

Government Schemes and Subsidies:

Inform farmers about government programs, subsidies, and support available for mango cultivation and how to access them.

Group and Cooperative Formation:

Encourage farmers to form or join farmer groups or cooperatives to share knowledge, resources, and collectively access markets and support.

Training should be interactive, practical, and tailored to the specific needs and conditions of mango farmers in a given region. Periodic follow-up and evaluation of training programs are important to ensure that farmers are implementing what they have learned effectively. Additionally, it's crucial to provide ongoing support and access to resources for mango farmers to help them continually improve their practices and enhance their livelihoods.

METHODOLOGY:

Quantitative research design is carried out for the study. The target population taken for the study is mango farmers cultivating in Krishna district. The sample size considered for the study is 1200 farmers. Sampling methods include simple random sampling. Questionnaire is administered to collect the data from farmers.

ANALYSIS

To analyze the effect of training on level of satisfaction of mango farmers in Krishna district:

Dependent Variable = Level of Satisfaction (Y)

Independent Variable = Training (X)

Multiple R value = 0.756

R square value = 0.572

Adjusted R square = 0.571

F value = 1599.953

P value = <0.001**

From the above results it was observed, Multiple R value determines 0.756 (75.6%) as it shows that there exists relationship between the dependent and independent variable. The R square value indicates how much is the total variation in dependent variable is explained by the independent variable and was observed that 57.2% of variation is explained.

As p value is less than 0.05 it indicates that the regression model is significant.

Variables in multiple regression analysis:

Variables	Unstandardized Coefficient (B)	SE of B	Standard Co-efficient (Beta)	T value	P value
Constant	1.363	0.037	-	36.779	<0.001**
TTotal	0.386	0.010	0.756	39.999	<0.001**

The regression equation is

$$Y = 1.363 + 0.386X$$

$$\text{Level of Satisfaction} = 1.363 + 0.386 (\text{Training})$$

FINDINGS

1. From the analysis it was observed that if training increases then the level of satisfaction of farmers also increases.
2. Respondents stated that availability of training, knowledge and information source and status on the following is the advantage to the farmer to get profit, it was observed that information on new mango varieties, soil and water management, irrigation, output market and price, input market prices, tree planting, field management of crops and collective action/farmers organization.
3. Farmers also stated that training and knowledge is always an advantage to the farmers to get profit.

4. Farmers stated that they don't have access to market information. They seek information while discussing with others, observation, and government sources.

SUGGESTIONS:

Based on the analysis of the provided statements, it is evident that training and knowledge play a crucial role in enhancing the satisfaction and profitability of farmers. Additionally, access to information on various aspects of farming is perceived as advantageous by respondents. However, there is a noted concern about limited access to market information. Here are some suggestions to address these findings:

Enhance Training Programs:

Increase the frequency and accessibility of training programs for farmers. This could involve organizing workshops, seminars, and practical sessions on various aspects of farming.

Collaborate with agricultural experts, research institutions, and agricultural extension services to provide specialized and up-to-date training.

Improve Information Dissemination:

Establish reliable channels for disseminating information to farmers regularly. This could include mobile apps, SMS services, or community bulletin boards.

Collaborate with local agricultural organizations to create awareness campaigns and informational sessions.

Market Information Access:

Develop a centralized platform or a mobile application that provides real-time market information, including crop prices, demand trends, and market dynamics.

Encourage farmers to use technology for market information retrieval and provide training on utilizing such tools.

Promote Farmer Networks:

Facilitate the formation of farmer groups or cooperatives to encourage collective action and information sharing among farmers. Establish community-based forums or online platforms where farmers can discuss their experiences, share knowledge, and seek advice from peers.

Government Support: Advocate for increased government support in providing market information to farmers. This could involve lobbying for improved communication channels and funding for information dissemination programs.

Collaborate with government agencies to integrate market information into existing agricultural extension services.

Research and Development:

Invest in research and development initiatives to keep farmers informed about new technologies, crop varieties, and best practices in agriculture.

Foster partnerships between research institutions, universities, and farmers to ensure the practical applicability of research findings.

Empowerment Through Technology:

Provide farmers with training on using digital tools and platforms for accessing agricultural information and market data.

Explore the possibility of creating user-friendly mobile applications that cater specifically to the information needs of farmers.

Feedback Mechanism:

Establish a feedback mechanism to continuously assess the effectiveness of training programs and information dissemination strategies. This could involve conducting regular surveys or focus group discussions with farmers. By implementing these suggestions, there is potential to enhance the overall satisfaction and profitability of farmers by ensuring they have access to relevant and timely information through effective training programs and improved information dissemination channels.

References:

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