

# **An Empirical Assessment of Farmers Participation in Agricultural Development Activities**

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## **Abstract**

*For successful, long-term agricultural growth, farmer participation in agricultural planning is seen as a crucial tool. This study aims to better understand the amount, nature, and determinants influencing farmers' participation in agricultural development activities in North 24 Parganas, West Bengal. The study demonstrates that farmers that engage in training, participate in cooperative organisations, and adopt new technologies are more inclined to enhance productivity and adapt to innovative farming practices. People's education, the size of their landholdings, their economic level, their gender, and their social networks all play a role in whether or not they participate. The results suggest that getting farmers involved in a meaningful way is vital for more than just increasing agricultural productivity. It is also important for promoting sustainable farming methods, empowering rural communities, and making sure there is enough food.*

**Keywords:** Farmer, Agricultural Development, Food, Programmes, Farming

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## **I. INTRODUCTION**

Agriculture has always been the backbone of human civilisation. It has provided food and the economic base for countries, especially in agrarian economies like India. Farmers are the main stakeholders in agriculture, thus their active participation is very important for the industry to grow. Farmers have gone from being just cultivators to being involved in development projects, making policy, and adopting new technologies. This shows how important it is for them to be involved in defining the future of agriculture. Farmers' participation goes beyond just growing crops; it also includes making decisions about how to manage the land, how to irrigate, how to use new technology, and how to participate in training programs and community-based agricultural initiatives. Their involvement has a direct effect on production, sustainability, and the general economic health of rural areas.

Technological advancements, government programs, and the adoption of scientific agricultural methods have all had a big impact on the growth of agriculture. Modern agriculture has changed a lot because of things like mechanisation, high-yielding crop types, organic agricultural methods, better irrigation systems, and integrated pest management. But just because these new ideas are out there doesn't mean that farmers will use them and make progress. As a result, participation is a key factor in how well development initiatives work. Policies typically stay theoretical and developmental initiatives don't work as planned if farmers aren't involved. Participation from farmers makes ensuring that programs are based on real-world situations, sensitive to cultural differences, and responsive to the agroclimatic conditions of the area.

Also, getting farmers involved is intimately tied to passing on knowledge and strengthening their skills. Training sessions, workshops, exposure visits, and demonstrations are all common parts of agricultural development activities. They are meant to help farmers learn new skills and gain new knowledge. Farmers not only learn new skills when they take part in these activities, but they also get more confident in trying out new methods and technologies. This empowerment makes it easier for people in the same community to learn from each other, since experienced farmers often serve as role models for others, leading to a chain reaction of new ideas being adopted. In this way, participation is both a process and an end result. It lets farmers be active agents of change and also helps with the larger goal of rural development.

Economic incentives and social recognition are also very important in getting farmers to take part. Farmers are more likely to be active in the formulation and execution of programs that give them subsidies, access to financing, crop insurance, and links to markets. Farmers can share their opinions, voice their concerns, and have a say in decisions when they participate, making sure that development efforts meet their needs and objectives. Also, social capital, community cohesion, and cooperative frameworks make participation even better. Farmers' groups, self-help collectives, and local cooperative societies are places where people can share their expertise, resources, and experiences. This encourages a group effort to improve farming. These networks not only make it easier for farmers to get the resources they need, but they also give them more ability to negotiate in markets, which leads to fair growth.

## **II. CENTRAL ROLE OF FARMERS IN AGRICULTURE**

Farmers are the most important part of the agricultural system. They are in charge of growing crops and raising animals, which are the main sources of food and materials. They produce, care for, and harvest crops every day, and they also keep an eye on the health and productivity of their animals. But their duties go much beyond these simple ones.

### **Producers and managers**

Farmers are producers who decide what crops to grow and what animals to raise. They do this based on things like market demand, the weather, and the resources they have. They also run the farm, which means planning, organising, and managing how resources are used to get the maximum potential yield. To do this, you need to know a lot about farming, managing resources, and economics.

### **Decision-making influenced by multiple factors**

Individual, familial, and community elements all play a role in farmers' decision-making processes. Individual characteristics encompass their understanding, background, and perspective on farming. When members of the same family help out around the farm, it's considered a familial factor. Local resources, support networks, and social and cultural standards are all examples of community factors.

## **III. REVIEW OF LITERATURE**

Abhijeet, et al., (2023). This article seeks to critically re-evaluate the present paradigms controlling agricultural extension services at a time when agriculture is confronting unparalleled problems, such as rising food demands and climate change. These services play a crucial role in connecting agricultural research with actual farming by helping farmers share knowledge, technology, and best practices. A multidimensional evaluation methodology that integrates environmental, social, and economic factors is advocated for in this study, which gives a thorough review of agricultural extension services and their role in agricultural transformation. The paper also acknowledges the essential role that these services play. Improvements in yield or the adoption of new technologies have long been the main indicators of the efficacy of agricultural extension services. Such one-dimensional evaluations, according to this research, fail to capture the myriad of interconnected problems and possibilities facing modern agriculture. Concerning the environment, it has been demonstrated that sustainable agriculture methods are predicated on elements such as water quality, biodiversity, and soil health, which in turn affect the quality and quantity of crops produced. The welfare of farmers, community harmony, and fair distribution of resources are all important social factors to consider.

Thuy, Nguyen & Nga, Ma. (2021). The research team gathered data from 230 samples in different hilly districts in northern Vietnam in order to examine the factors influencing people's participation in the development of agricultural value chains. For its analysis, the essay relies on the EFA and probit models. Our results demonstrate that factors such as income, natural conditions, loan capital, and market significantly influence the level of people's participation in the development of the value chain. We assessed these aspects using the EFA and probit models. To increase public participation in the development of agricultural value chains, the article has proposed a number of options.

Nivievskiy, Oleg et al., (2021). Over the past two decades, significant regulatory and market shortcomings in Ukraine have greatly hindered the growth of small-scale farming. Even more so now, with the land sales ban in place, market failures are making it harder to get finance and access the market. The policy failing in Ukraine's agricultural policy since the 2000s is that it has subtly supported large-scale agriculture while leaving little room for small-scale agriculture to grow. Furthermore, it appears that Ukraine is lacking a strategic vision and an appropriate institutional framework for the development of small-scale farming. In 2021, when the land sales market is projected to open, small-scale farmers may find themselves in a more competitive situation when trying to buy land, adding to the existing policy and development limits. This is so even though less than half of the world's food supply comes from large farms; 9 percent comes from individual farms, and 41.5 percent comes from home farms.

Babura, Bashir et al., (2017). The research looked at how smallholder farmers in Nigeria are helping to keep people's food supplies stable. The term "smallholder farmer" refers to farmers that use primarily family labour and own small parcels of land to cultivate food for sustenance and maybe a couple of income crops. Small holder farmers account for about 80% of Nigeria's farmers. The agricultural sector accounts for a sizable portion of Nigeria's GDP, with small-scale farmers being the most important actors in this sector. How well a small-scale farmer makes use of the most fundamental production resources at his disposal determines his level of success. With nearly all of the country's crop production going through him, he has a major impact on GDP. Almost all of Nigeria's food, with the exception of wheat, comes from small-scale farmers. Politicians in Nigeria and other international organisations have worked hard over the years to boost agricultural output, but so far, their efforts have been in vain. The vast natural resources that Nigeria is blessed with give the country the economic foundation

it needs to achieve food security. The agricultural industry needs a shift in focus, and the peasant farmers who produce Nigeria's food must be repositioned accordingly.

Movaliya, Jignesh. (2016). The Indian economy relies heavily on agriculture. As the country's economy grows, it will play an essential role. The demand to increase production is directly proportional to the rate of human population growth. First, increasing the productivity of currently farmed land; second, increasing the area cultivated by extending agricultural operations to uncultivated areas; these are the two most fundamental ways to boost output. The average size of operational holdings is decreasing daily owing to population pressure, thus there is almost no room to extend the cultivated area. Therefore, boosting productivity is the only method to boost production. Plant safety is at the center of all efforts to increase productivity.

Aref, Farshid. (2011). As a tool for sustainable agricultural development, farmers' participation in planning is much valued. In the framework of agricultural development, this study investigates the matter of farmers' participation. Rural farmers in nine villages in Iran's Fars Province participated in focus group discussions (FGDs) to provide the data used in this research. The results showed that the focus of FGD discussions was more on getting farmers involved in program implementation than on getting their participation in planning and evaluating the procedures or results of agricultural programs. The results of this study could be useful for agricultural program reevaluations in rural areas, according to those in charge of agricultural development.

#### IV. RESEARCH METHODOLOGY

##### Research Design

To determine the level and factors influencing farmers' participation in agricultural development programs, the current study used an analytical and descriptive research approach.

##### Study Area

The investigation was carried out in villages of North 24 Parganas district of West Bengal.

##### Sampling Procedure and Sample Size

In order to choose the respondents, a multistage sampling method was employed. The first step was the deliberate selection of blocks that were highly populated by farmers. The second step involved selecting communities at random to stand in for various agro-ecological zones, such as peri-urban, wetland, and coastal salt. Lastly, a simple random sample procedure was used to choose the farmers. The researchers looked at data from 200 farms as a sample.

##### Sources of Data Collection

Data was derived from both primary and secondary sources. A systematic interview schedule was used to gather primary data, which included questions about socio-economic status, training participation, extension contact, practices adopted, and membership in farmer organizations. Publications, research papers, and district agricultural reports from North 24 Parganas that dealt with irrigation, cropping patterns, and agricultural growth served as secondary sources of data.

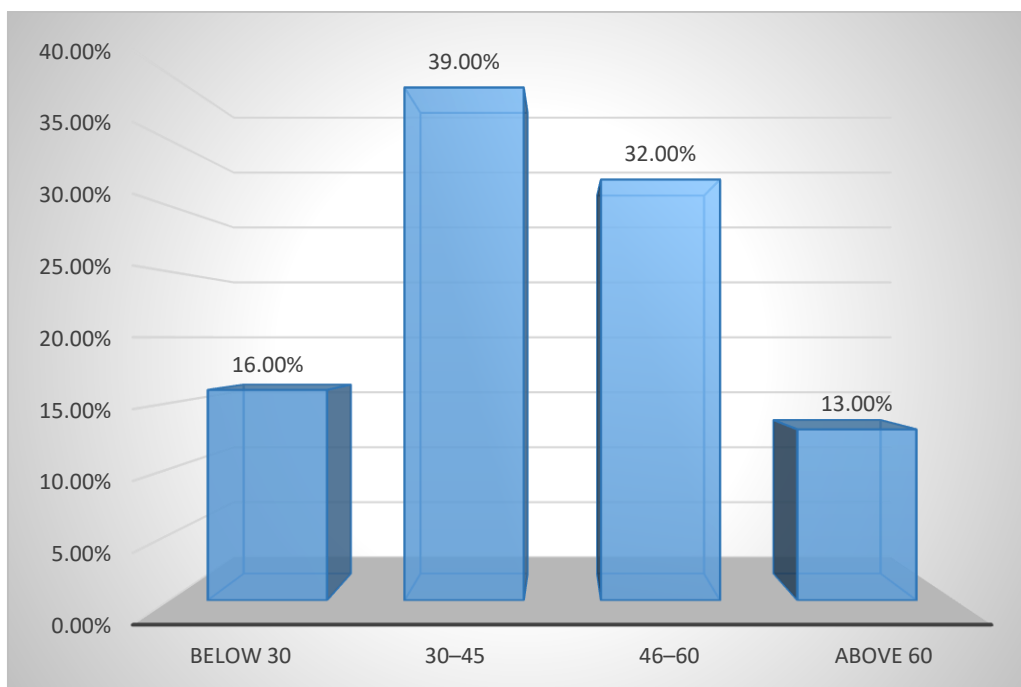
##### Statistical Tools and Techniques

The collected data were processed through tabulation and analysed using percentage analysis to describe participation behaviour. The chi-square test was applied to examine association between Educational Status and Farmers' Participation.

#### V. DATA ANALYSIS AND INTEPRETATION

**Table 1: Age of the respondents**

Particulars	Frequency	Percentage
Below 30	32	16.0%
30–45	78	39.0%
46–60	64	32.0%
Above 60	26	13.0%
Total	200	100%

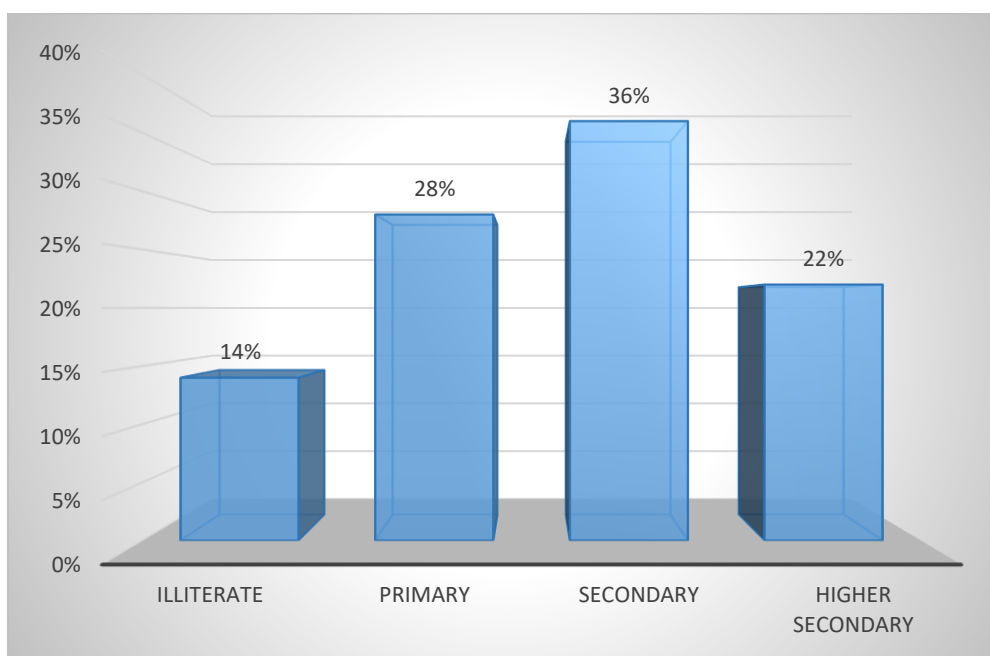


**Figure 1: Age of the respondents**

The findings reveal that majority of the people who answered are between the ages of 30 and 45 (39%), followed by those who are between the ages of 46 and 60 (32%). This suggests that farmers in their middle years are the most important people in farming. There are fewer younger people under 30 (16%) and older people over 60 (13%) who answered the survey.

**Table 2: Educational Status of the respondents**

Particulars	Frequency	Percentage
Illiterate	28	14%
Primary	56	28%
Secondary	72	36%
Higher Secondary	44	22%
Total	200	100%

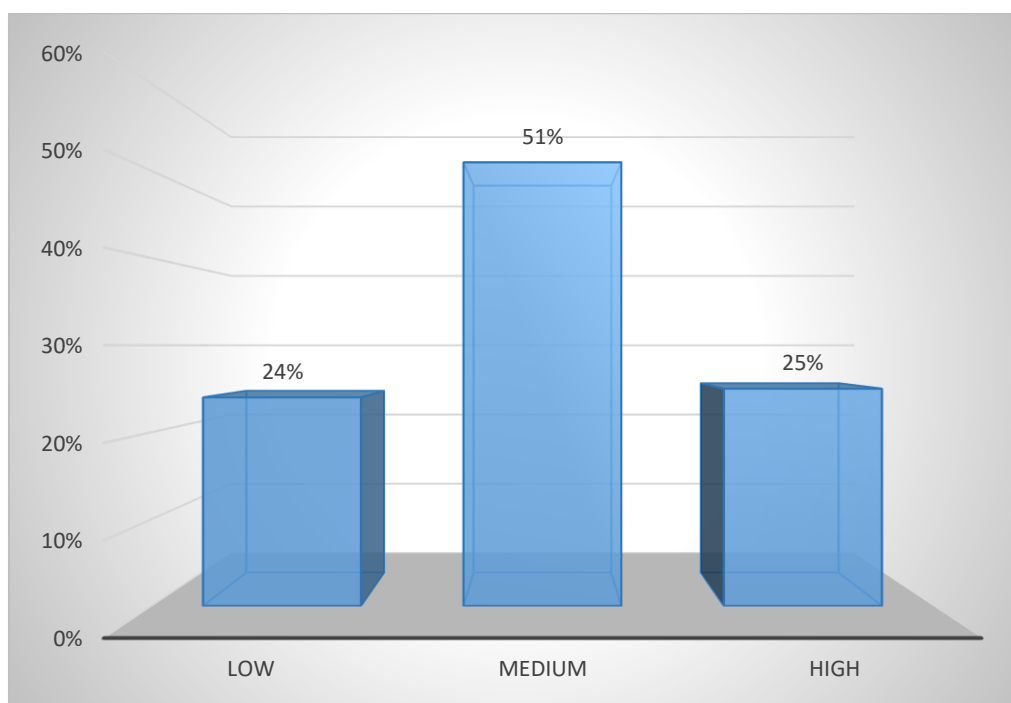


**Figure 2: Educational Status of the respondents**

The educational background of the people who answered reveals that majority of them (36%) have finished high school. A large number of them (28%) finished elementary school, and 22% went on to higher secondary school. But 14% of the people who answered are unable to read or write.

**Table 3: Level of Farmers' Participation**

Particulars	Frequency	Percentage
Low	48	24%
Medium	102	51%
High	50	25%
Total	200	100%



**Figure 3: Level of Farmers' Participation**

There is a moderate amount of participation among the farmers, according to the table (51%). High levels of participation are displayed by about 25% of responders. Low participation is a category that 24% of the population falls into.

**Table 4: Participation in Agricultural Activities**

Particulars	Yes (%)	No (%)
Training Programmes	62%	38%
Demonstration Programmes	58%	42%
Cooperative Membership	54%	46%
Irrigation Management Committees	48%	52%
Government Subsidy Schemes	71%	29%

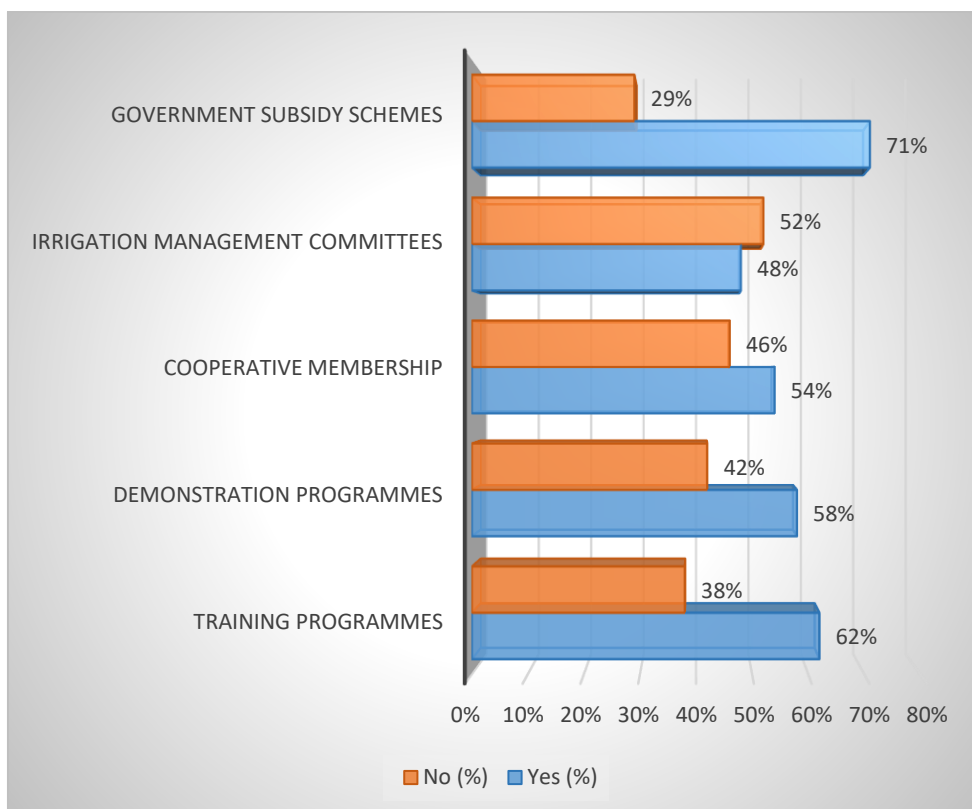


Figure 4: Participation in Agricultural Activities

The data demonstrates that most farmers are involved in more than one farming activity. Government subsidy programs (71%) have the most people involved. It's also good that a lot of people (62%) are taking part in training programs and a lot of people (58%) are taking part in demonstration programs. 54% of the people who answered are members of cooperatives. Participation in irrigation management committees, however, is significantly smaller (48%) than in other organisations.

Table 5: Chi-Square Test showing association between Educational Status and Farmers' Participation

Particulars	N	$\chi^2$ value
Educational Status $\times$ Farmers' Participation	200	12.84

The Chi-square test result ( $\chi^2 = 12.84$ ) shows that there is a strong link between educational level and farmers' participation. This means that how educated a farmer is has a big impact on how much they do on the farm.

## VI. CONCLUSION

The findings of this study indicate that farmers may enhance their production and adopt new technologies if they are involved in legislation, training initiatives, and community projects. Factors such as gender, education level, social networks, and access to resources all affect participation. On the other hand, lack of information, money, and support from institutions might make people less likely to get involved. The results suggest that agricultural expansion will fail if farmers are just considered as people who get policy or technologies. Instead, what they need is a plan that appreciates their knowledge, helps them get beyond problems, and offers them opportunity to get better at what they do. If politicians and development agencies collaborate to foster inclusive, informed, and meaningful engagement, farmers, rural communities, and society as a whole might all benefit from agricultural growth that is sustainable, fair, and strong.

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