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Multidimensional empowerment of women members of farmer producer organizations in Assam: An empowerment index framework

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Abstract

Women's empowerment is a multidimensional concept encompassing economic agency, social participation, decision-making ability and leadership capacity. Farmer Producer Organizations (FPOs) provide an institutional platform through which rural women can obtain access to agricultural inputs, markets, training, information and collective decision-making opportunities. The present study assessed the multidimensional empowerment status of women members of a Women Farmer Producer Organization in Jorhat district of Assam. Primary data were collected from 150 women members using a structured and pre-tested interview schedule. Empowerment was assessed across four dimensions: economic empowerment, social empowerment, decision-making empowerment and leadership empowerment. Descriptive statistical techniques were used to classify respondents into low, medium and high empowerment categories. The findings showed that the majority of respondents belonged to the medium empowerment category across all four dimensions. Economic empowerment was medium for 68.0% of respondents, social empowerment for 64.7%, decision-making empowerment for 74.0% and leadership empowerment for 66.7%. Decision-making empowerment recorded the highest proportion of respondents in the medium category, followed by economic, leadership and social empowerment. The findings indicate that FPO participation provides a favourable institutional environment for improving women's economic, social, decision-making and leadership capabilities. Nevertheless, the predominance of the medium category also indicates considerable scope for strengthening women's transition towards higher levels of empowerment through financial inclusion, capacity building, market access and greater participation in organizational governance. The study provides an empowerment assessment framework for understanding women's multidimensional participation in FPOs in Assam.

Keywords: Women's empowerment, farmer producer organization, empowerment index, economic empowerment, social empowerment, decision-making, leadership, Assam

1. Introduction

Women's empowerment is increasingly recognized as an essential component of inclusive and sustainable agricultural development. Rural women contribute substantially to agricultural production and household livelihoods, yet their access to productive resources, institutional credit, technology, extension services and markets often remains constrained.

Farmer Producer Organizations provide opportunities for small and marginal farmers to participate collectively in production, procurement, marketing and value addition. For women, participation in such organizations can also provide opportunities to improve social networks, access institutional

information, participate in decision-making and develop leadership capabilities.

Women's empowerment cannot be adequately represented by income alone. It encompasses multiple dimensions including economic independence, social participation, decision-making authority and leadership. The Women's Empowerment in Agriculture Index framework similarly emphasizes the multidimensional character of women's empowerment in agricultural contexts.

The source study identified a need for greater empirical evidence concerning the multidimensional empowerment of women participating in FPOs, particularly in Assam and the North-Eastern region. The present paper therefore focuses

specifically on the four empowerment dimensions assessed among women members of a Women Farmer Producer Organization in Jorhat district.

2. Research Gap

Previous research on FPOs has frequently emphasized economic outcomes, market participation, collective action and livelihood improvement. Comparatively less attention has been given to the simultaneous assessment of economic, social, decision-making and leadership empowerment among women FPO members.

This gap is particularly relevant in Assam, where women are actively involved in agriculture and where women-led collective organizations are emerging as mechanisms for strengthening agricultural livelihoods. A multidimensional assessment can provide a broader understanding of the extent to which women members participate in and benefit from such organizations.

3. Objectives

The specific objectives were:

1. To assess the economic empowerment of women members of the selected FPO.
2. To assess the social empowerment of women members.
3. To assess their decision-making empowerment.
4. To assess their leadership empowerment.
5. To compare the empowerment status across the four dimensions.
6. To identify areas requiring institutional intervention for strengthening women's empowerment.

4. Materials and Methods

4.1 Study Area

The study was conducted in Jorhat district of Assam, where a Women Farmer Producer Organization was selected for detailed investigation.

4.2 Research Design

A descriptive and analytical cross-sectional survey design was adopted. Primary information was obtained through personal interviews using a structured and pre-tested interview schedule.

4.3 Sampling Procedure

Jorhat district was purposively selected because of the presence of an active Women Farmer Producer Organization. One Women FPO was subsequently selected, and 150 women members were selected from its membership list using simple random sampling.

4.4 Dimensions of Empowerment

Women's empowerment was assessed using four dimensions:

1. **Economic empowerment**
2. **Social empowerment**
3. **Decision-making empowerment**
4. **Leadership empowerment**

The source manuscript defines economic empowerment in terms of women's ability to access productive resources, generate income, participate in financial decisions and improve economic security.

Social empowerment encompasses participation in

community activities, mobility, social recognition, communication and interaction with institutions.

Decision-making empowerment refers to women's participation in household, agricultural, financial, educational and social decisions.

Leadership empowerment concerns women's ability to organize activities, motivate members, communicate effectively, participate in governance and assume leadership responsibilities.

4.5 Classification of Empowerment

The source study classified composite empowerment scores into low, medium and high categories using the mean and standard deviation approach. The source specifies the categories in relation to the mean and standard deviation.

The present paper therefore treats the four reported empowerment dimensions as component dimensions of a multidimensional empowerment assessment framework.

4.6 Statistical Analysis

Classification of Empowerment Levels

Composite empowerment scores were classified into:

Low scores belong under the categories less than (Mean – Standard Deviation)

Medium scores belong between Mean ± Standard Deviation

High scores belong between Mean + Standard Deviation

The formula of arithmetic mean is given by.

$$\text{Where } \bar{x} = \frac{\sum x}{n} = \frac{\text{sum of all the observations}}{\text{Total number of observations}}$$

$\bar{x}$ = Mean

Standard Deviation: Standard deviation measured the variability of observations around the mean.

$$\text{S.D } (\sigma) = \sqrt{\frac{\sum (x_i - x_{\text{mean}})^2}{n}}$$

Where, S.D = Standard Deviation

x_i = observations

x_{mean} = Arithmetic mean

n = Number of observations

5. Results and Discussion

Women's empowerment is a multidimensional concept that encompasses improvements in economic independence, social participation, household decision-making, and leadership capability. In the present study, empowerment was assessed under four major dimensions, namely economic empowerment, social empowerment, decision-making empowerment, and leadership empowerment. The findings presented in this section are based on the responses of 150 women members of the selected Farmer Producer Organization and are interpreted in the context of existing literature. The reported percentages correspond to the findings presented in the thesis.

5.1 Economic Empowerment of Women Members

Economic empowerment refers to women's ability to access productive resources, generate income, control household finances, participate in financial decisions, and improve their overall economic security. Participation in Farmer Producer Organizations enhances economic empowerment by

facilitating collective input procurement, access to institutional credit, improved market linkages, capacity-building programmes, and value-addition activities.

The analysis revealed that the majority of respondents (68.00%) belonged to the medium level of economic empowerment, while relatively smaller proportions exhibited low and high levels of economic empowerment.

Table 1: Distribution of Respondents According to Economic Empowerment

Economic empowerment	Frequency	Percentage
Low	29	19.3
Medium	102	68
High	19	12.7
Total	150	100

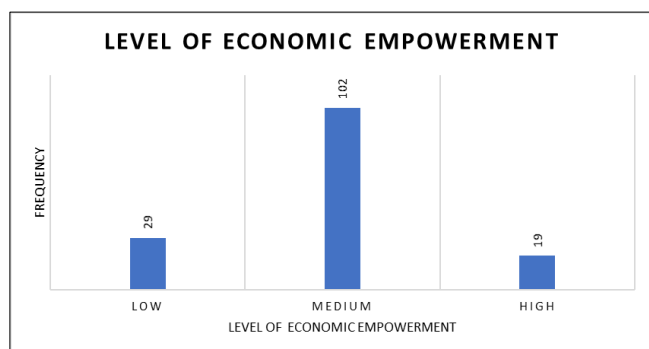


Fig 1: Simple Vertical Bar chart for level of Economic Empowerment among women Members

The predominance of medium economic empowerment indicates that participation in the FPO has positively influenced women's economic conditions but has not yet resulted in complete financial independence for many members. Through collective marketing and access to institutional support, respondents reported improvements in income generation, savings, access to quality agricultural inputs, and opportunities for entrepreneurial activities. Nevertheless, limited ownership of productive assets, dependence on household income, and restricted access to large-scale financial resources continue to constrain women's economic autonomy.

The findings suggest that FPO membership has enhanced women's confidence in managing agricultural enterprises and participating in financial decisions. However, additional interventions such as easier access to formal credit, enterprise diversification, value-addition training, and financial literacy programmes are required to strengthen economic empowerment further.

These observations are consistent with previous studies by Mukherjee *et al.* (2020) ^[5], and Anand *et al.* (2025) ^[2], who reported that participation in FPOs contributed significantly to improvements in income, savings, and financial security among rural women.

5.2 Social Empowerment of Women Members

Social empowerment reflects women's participation in community activities, freedom of mobility, social recognition, communication skills, and interaction with institutions. Participation in Farmer Producer Organizations

facilitates social networking, exposure to extension programmes, group meetings, and collaborative decision-making, thereby improving women's confidence and social identity.

The study revealed that 64.7% of respondents belonged to the medium category of social empowerment, indicating that participation in FPO activities has contributed substantially to improving women's social status.

Table 2: Distribution of Respondents According to Social Empowerment

Social Empowerment	Frequency	Percentage
Low	22	14.7
Medium	97	64.7
High	31	20.7
Total	150	100

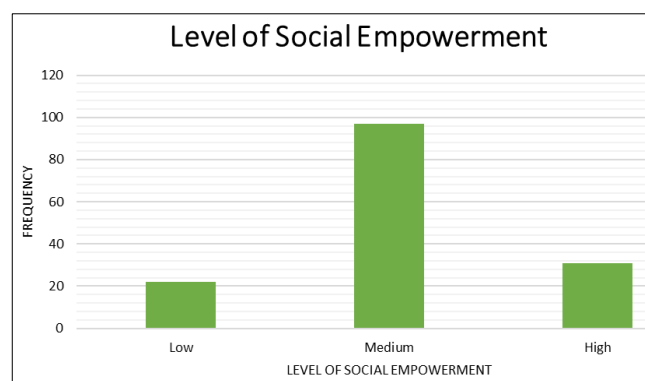


Fig 2: Simple Vertical Bar chart for the level of Social Empowerment among women Members

Women reported increased participation in village meetings, agricultural training programmes, exposure visits, and community-level activities following their association with the FPO. Regular interaction with fellow members enhanced communication skills, expanded social networks, and improved self-confidence.

Despite these positive developments, certain socio-cultural barriers continue to restrict women's participation in public activities. Traditional gender norms, household responsibilities, and limited mobility remain important challenges affecting full social empowerment.

These findings support those of Harrington *et al.* (2023) ^[3], who observed that women-led producer organizations strengthen social inclusion, community participation, and institutional engagement among rural women.

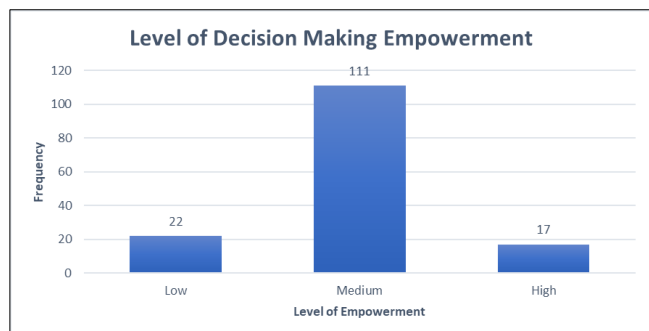
5.3 Decision-making Empowerment

Decision-making empowerment reflects women's ability to participate actively in household, agricultural, financial, educational, and social decisions. Women's participation in decision-making is widely recognized as one of the strongest indicators of empowerment because it reflects increased autonomy and bargaining power within both the household and the community.

The analysis indicated that 74.00% of respondents belonged to the medium level of decision-making empowerment, representing the highest proportion among the four empowerment dimensions.

Table 3: Distribution of Respondents According to Decision-making Empowerment

Decision-making Empowerment	Frequency	Percentage
Low	22	14.7
Medium	111	74.0
High	17	11.3
Total	150	100

**Fig 3:** Simple Vertical Bar chart for level of Decision-making Empowerment among women Member

The relatively higher level of decision-making empowerment suggests that FPO participation has encouraged women to become more actively involved in household financial management, crop selection, purchase of agricultural inputs, children's education, and savings decisions.

Participation in regular meetings, exposure to training programmes, and interaction with extension personnel appear to have strengthened women's confidence in expressing opinions and participating in family decisions.

Nevertheless, complete autonomy has not yet been achieved because major financial investments and land-related decisions often continue to be dominated by male household members.

The findings corroborate earlier studies indicating that collective organizations significantly improve women's participation in household and agricultural decision-making processes.

5.4 Leadership Empowerment

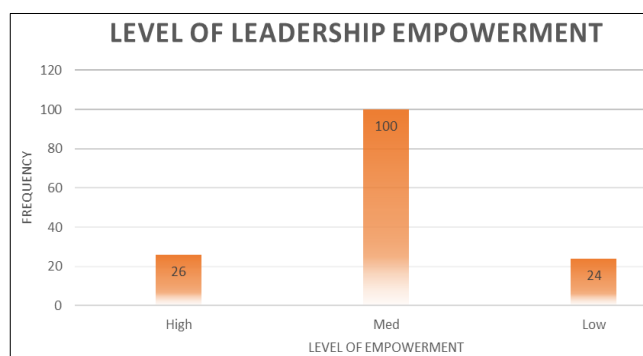
Leadership empowerment refers to women's ability to organize group activities, motivate other members, communicate effectively, participate in institutional governance, and assume leadership responsibilities within community organizations.

The present study showed that 66.67% of respondents belonged to the medium category of leadership empowerment.

Table 4: Distribution of Respondents According to Leadership Empowerment

Leadership Empowerment	Frequency	Percentage
Low	24	16.0
Medium	100	66.7
High	26	17.3
Total	150	100

Women participating in FPO activities demonstrated increased confidence in attending meetings, expressing opinions, coordinating group activities, and interacting with government officials and agricultural extension agencies.

**Fig. 4:** Simple Vertical Bar chart for the level of Leadership Empowerment among women Members

Leadership development has been strengthened through regular organizational meetings, exposure to institutional management practices, and participation in training programmes. However, representation of women in executive decision-making positions remains relatively limited, suggesting the need for additional leadership development initiatives.

Similar findings have been reported by Anand *et al.* (2025) [2] and Harrington *et al.* (2023) [3], who observed that FPO participation improves women's leadership capability and institutional participation.

5.5 Overall Empowerment Status

The four empowerment dimensions collectively indicate that participation in Farmer Producer Organizations has made a meaningful contribution to improving women's socio-economic well-being. Across all dimensions, the majority of respondents were classified under the medium level of empowerment, demonstrating that FPOs have generated positive changes while leaving scope for further improvement.

Table 5: Summary of Empowerment Status

Dimension	Medium Level (%)
Economic Empowerment	68.00
Social Empowerment	64.7
Decision-making Empowerment	74.00
Leadership Empowerment	66.7

Source: Primary survey

Among the four dimensions, decision-making empowerment recorded the highest proportion of women in the medium category (74.00%), followed by economic empowerment (68.00%), leadership empowerment (66.7%), and social empowerment (64.7%). These findings suggest that participation in FPOs has had the greatest influence on enhancing women's involvement in household and agricultural decisions. Although improvements in economic, social, and leadership dimensions were also observed, continued institutional support is required to facilitate progression from medium to high levels of empowerment. The findings demonstrate that Farmer Producer Organizations have emerged as effective institutional platforms for enhancing multiple dimensions of women's empowerment in rural Assam. The predominance of respondents in the medium category across all empowerment dimensions indicates that collective participation has

generated measurable improvements in economic independence, social participation, decision-making authority, and leadership capability. These improvements are attributable to increased access to training programmes, collective marketing opportunities, agricultural information, and institutional support provided through the FPO.

6. Policy Implications

The findings have important implications for policies and programmes supporting women-centered FPOs.

6.1 Strengthening Financial Inclusion

Women members should be provided greater access to formal credit, savings mechanisms and financial literacy programmes to strengthen economic empowerment.

6.2 Capacity Building

Regular training programmes should focus not only on agricultural production but also on financial management, entrepreneurship, value addition, marketing and organizational management.

6.3 Strengthening Market Linkages

Collective marketing and value-addition activities should be strengthened so that women can obtain improved market opportunities and enhance economic returns.

6.4 Promoting Leadership

Women should be encouraged to occupy decision-making and executive positions within FPO governance structures. Leadership development programmes can strengthen confidence, communication and organizational management.

6.5 Strengthening Social Participation

Exposure visits, institutional meetings, training programmes and community-level activities can be used to expand women's social networks and institutional engagement.

7. Conclusion

The present study assessed the multidimensional empowerment status of 150 women members of a Women Farmer Producer Organization in Jorhat district of Assam. Empowerment was assessed across four dimensions: economic, social, decision-making and leadership.

The findings revealed that the majority of respondents belonged to the medium category in all four dimensions. Economic empowerment was medium for 68.0% of respondents, social empowerment for 64.7%, decision-making empowerment for 74.0% and leadership empowerment for 66.7%.

Decision-making empowerment recorded the highest proportion of respondents in the medium category, indicating comparatively greater participation of women in household and agricultural decisions. Economic and leadership empowerment also showed substantial participation, while social empowerment recorded the lowest proportion of respondents in the medium category.

Overall, the findings demonstrate that FPOs can serve as important institutional platforms for strengthening multiple dimensions of women's empowerment. However, the predominance of the medium category across dimensions suggests that further efforts are necessary to move women

from moderate participation towards higher levels of agency and institutional influence.

Strengthening financial inclusion, market access, capacity building, organizational participation and women's representation in FPO governance can contribute to deeper and more sustainable empowerment.

8. Limitations

The study was conducted among 150 women members of one selected Women Farmer Producer Organization in Jorhat district. Therefore, generalization to all women FPO members in Assam should be made cautiously. Further, although the study provides four component dimensions of empowerment, the available source material does not report individual-level scores required to calculate a new numerical composite empowerment index. Consequently, the present paper interprets the four dimensions as a multidimensional empowerment framework rather than claiming a newly computed overall index score.

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