

An Economic Study Of The Role Of The Agriculture Sector In Women's Empowerment With Special Reference To Dehradun District.

Snigdha Tomar¹, Dr. Hemlata Negi²

¹ Department of Economics, Ras Bihari Bose Subharti University, Dehradun, Uttarakhand, India.

Email: snigdha.tomar1@gmail.com

² Assistant Professor of Economics, Department of Economics, Ras Bihari Bose Subharti University, Dehradun, Uttarakhand, India.

Email: negihema591@gmail.com

Abstract

Although agriculture is a significant source of livelihood among the rural women in Dehradun district, its role in empowering the women is dependent on the degree to which the women will gain economic control, institutional access, and decision-making authority. The article discussed how agricultural and allied activities contribute to the economic empowerment of women with special reference to the Dehradun district. The article was based on secondary analysis of selected studies and reports related to Uttarakhand and Dehradun, and focused on the participation of women in farming, access to land, education, awareness of policy, use of technology, dependence on irrigation, market participation and control of agriculture decisions. The results revealed that women were so much engaged in agricultural activities, yet they were not empowered due to poor land tenure, low literacy, poor agricultural policy awareness, poor access to technology, and reliance on male relatives in the family to provide market networking. Dehradun evidence revealed that despite the fact women played a key role in the farming sector, only a small percentage of them operated market networks on their own. The findings indicated that agricultural participation per se was inadequate to empower women unless accompanied by access to credit, training, SHG involvement, market connections, adoption of technology and recognition of women as farmers. Agriculture can only be a significant tool of women empowerment when women are given control over income, assets, markets and farm related decisions...

Keywords: Women empowerment; Agriculture sector; Dehradun district; Market participation; Rural women.

Introduction

Agriculture has continued to be one of the most significant sector of livelihood of rural households in India and the role of women in this sector has been central yet not well appreciated. Women engage in crop production, seed selection, transplanting, weeding, harvesting, post-harvest processing, livestock care, fodder collection, kitchen gardening, and other similar rural activities. Their work is however usually referred to as house hold support and not as a formal economic work. The invisibility creates a large gap between the reality of the actual agricultural labour of women and the fact that they are not recognised as farmers. Therefore, participation alone cannot be seen as the empowerment of women in the agricultural sector, but rather through access to income, ownership of resources, power to make decisions, technology, market linkages and institutional support. Doss et al. (2018) contended that the role of women in agriculture needs to be researched with caution since most people tend to assume that women farmers are all the same.

The growing involvement of women in agriculture has frequently been talked about in terms of feminization of agriculture in India. This trend is linked to the migration of men, rural poverty, the change in labour patterns and the greater dependence of households on the agricultural labour of women. Das et al. (2021) discovered that feminization of Indian agriculture was a pointer of increasing participation of women in farming, but it did not necessarily imply empowerment. In line with this, Sharma & Nayak (2019) explained that the growing agricultural involvement of women was yet to be present with the unequal access to productive resources, limited land rights, low wages, and weak decision-making power. As such, the economic analysis of women in agriculture should not merely be concerned with the labour participation but also whether the women are gaining control over the agricultural income, assets and institutions.

This issue is of special concern in hill and mountain states such as Uttarakhand where women have to bear the burden of work which is exacerbated by the terrain, migration, low levels of mechanization, and dependence on natural resources. Women in these regions typically have to contend with agriculture and livestock, fuel, fodder, water collection and household work. Madan et al. (2020) highlighted the need of women in agriculture and other activities related to it to receive more institutional support due to the fact that women contribution in agriculture, livestock, household food security and rural sustainability were distributed across the farming, livestock, household food security, and rural sustainability. Uttarakhand agriculture is intertwined with animal husbandry,

horticulture, traditional crops, and small scale livelihood activities. In the study of the empowerment of women in the agricultural sector, therefore, it is required to pay attention to both crop-based and allied economic activities. Education, technology and availability of modern farm practices are also determinants of the empowerment of women in agriculture. Mehta et al. (2018) highlighted the importance of agricultural mechanization as a great opportunity that can lead to a decrease in the level of drudgery experienced by women, and the increase in their productivity. However, the majority of women farmers continue to earn their living with manual tools and traditional practices due to the lack of capital, training and ownership of farm resources. Recent literature also found that the result of rural development, especially when women remain marginalized, depends on gender relations in the agricultural sector (Mishra et al., 2024). This necessitates the need to study the role of agricultural participation in the economic empowerment of women in real world situations.

The institutional support, in the form of self-help groups, producer groups, livelihood schemes and training programmes has become a significant pathway to enhancing the role of women in rural economies. Sati (2019) showed that the self-help groups led to socio-economic empowerment of women in Uttarakhand through the improvement of savings, confidence, group participation, and livelihood opportunities. Similarly, Shah et al. (2019) found that women farmers in the tribal setting of Uttarakhand viewed farming as an important occupation, but their status was based on their education, family support, resources, and social conditions. These findings imply that when combined with organization, training, access to financial resources and recognition, agriculture can be used to empower.

At national level, the empowerment of female farmers has been gradually linked with livelihood security, sustainable agricultural practices, and rural transformation. Pallavi et al. (2025) highlighted that to enhance agricultural development and livelihoods in rural India, it is important to empower the women farmers in India. Kovaleva (2021) also related the feminization of agriculture to sustainable development, stating that the involvement of women in agriculture should be supported by providing equal access to resources and decision-making. The resilience of women is also a crucial concern in rural development in Uttarakhand since the risks related to climate also impact the agricultural livelihoods, in particular, the households that are engaged in rearing livestock Berry (2023). This can be further improved by allied farming methods which could further improve the economic status of farm women since Yangchani (2025) showed that vermicomposting can transform the economic status of women in the farms.

In this context, the present article titled “**An Economic Study of the Role of Agriculture Sector in Women Empowerment with Special Reference to Dehradun District**” aimed to examine how agriculture contributed to women’s economic empowerment in Dehradun district. The study focused on agricultural participation, income opportunities, land and asset access, policy awareness, technology use, market participation, and decision-making. It considered agriculture not merely as a source of labour absorption, but as a potential pathway for women’s self-reliance, provided that women gained control over resources, markets, income, and institutional benefits.

Objectives of the Study

To examine the role of agricultural and allied activities in promoting women’s economic empowerment in Dehradun district.

To identify the major constraints limiting women’s empowerment in agriculture, particularly in relation to land access, policy awareness, technology use, market participation, and decision-making.

Methodology

2.1 Research Design

The study was anchored on descriptive and analytical secondary research design in order to explore the economic role of agriculture in empowering women with special reference to Dehradun district. The design was put in the context of agriculture as the main source of livelihood and empowerment as an outcome reflected in the form of income, access to assets, market participation, policy awareness and decision-making. Since the aim was to synthesize the evidence provided in the earlier studies and reports, no field survey, coding, or particular tool of analysis was used. The paper has stuck to the theme of empowerment through agriculture as opposed to overall women development..

2.2 Study Area and Source Selection

The area of core study was selected as the Dehradun district due to the specificity of the title that required the focus on the level of a district. However, the Uttarakhand level studies were also consulted to provide regional context especially since the hill agriculture, the unpaid labour of the women, SHGs, dairy, horticulture and livelihood schemes were closely related with the women empowerment in the state. The sources considered included one study that was specific to Dehradun, two studies that were specific to Uttarakhand, and one recent report on women farmers and organic agriculture. The selection of sources proved helpful to connect the evidence of the district to the overall Uttarakhand situation.

2.3 Variables and Indicators

The key variables were chosen based on the literature reviewed and were matched to the title. Variables in the agriculture-sector encompassed farm participation, working hours, source of irrigation, use of technology, assets of the farm, access to the market, and control of the market network. Indicators of women empowerment were education, income possibility, access to land, policy awareness, financial inclusion, SHG support, household decision making, and agricultural marketing participation. Empowerment was thus not seen as mere employment, but as the capacity of women to be economically recognized, to have access to productive resources, and to be involved in making decisions related to agricultural production and marketing.

2.4 Method of Interpretation

The thematic comparison of the results reported in the selected studies was used to conduct the analysis. The evidence that was specific to Dehradun was taken to be the primary source of the agriculture-sector outcomes, whereas the evidence that was specific to Uttarakhand was used to explain the broader rural and policy conditions. Only numerical findings that were presented in the reviewed sources were used. The interpretation contrasted the role of women in contributing to agriculture with their actual control over land, markets, technology, policy benefits and income related decisions. Therefore, the approach to the research was a direct support of the findings as it analyzed the concept of agriculture as a livelihood practice and as an empowerment strategy.

Results

3.1 Agricultural Participation and Economic Role

The evidence reviewed revealed that agriculture was a key economic foundation of rural women in Uttarakhand and it was the centre of the Dehradun-based analysis. A recent study by the Uttarakhand reported that 62% of rural women were involved in agriculture with 15% of them being involved in animal husbandry and 10% engaging in small enterprises showing that agriculture and allied activities formed the largest area of women economic participation (Maithani, 2025). This justified the assumption in the title that the agriculture sector was significant in the economic contribution of women but the contribution did not necessarily lead to empowerment (Table 1).

Table 1. Women's Participation in Rural Economic Activities in Uttarakhand

Economic activity	Women's participation (%)
Agriculture	62
Animal husbandry	15
Small enterprises	10
Handicrafts	8
Self-help groups	5

Source: (Maithani, 2025).

3.2 Land Access, Education, and Labour Burden

The study that was specific to Dehradun showed that women were highly involved in the agricultural activities, yet they lacked asset-based empowerment. It also discovered that 68% of women worked in family farms and 32% worked as wage labourers; but the land was usually registered in the names of the male family members. The same study found that 42% of women in the fields were illiterate and women worked about 5.5 hours a day in the fields with higher workload during seasonal periods (Painuly & Jaiswal, 2018). It meant that there was high labour involvement and low ownership and educational empowerment (Table 2).

Table 2. Land Access, Education, and Labour Burden among Women Farmers in Dehradun District

Indicator	Reported value
Women working on family farms	68%
Women working as wage labourers	32%
Illiterate women farmers	42%
Average daily farm working hours	5.5 hours
Land ownership pattern	Mostly registered in male family members' names

Source: (Painuly & Jaiswal, 2018)

3.3 Policy Awareness, Technology, and Productive Constraints

The results indicated that the agricultural empowerment of women was limited due to lack of access to information, technology, and infrastructure. The Dehradun study shows that 92% of women farmers were not aware of policies regarding markets, input facilities, and output support, with only 8% having short-term awareness. It further revealed that 56% employed low-level manual tools, 44% employed medium-level tools, and no use of high-level technology was reported. Further, 74% depended on river water for irrigation (Figure 1). These findings revealed that information gaps and poor access to technology weakened agricultural productivity and empowerment of women.

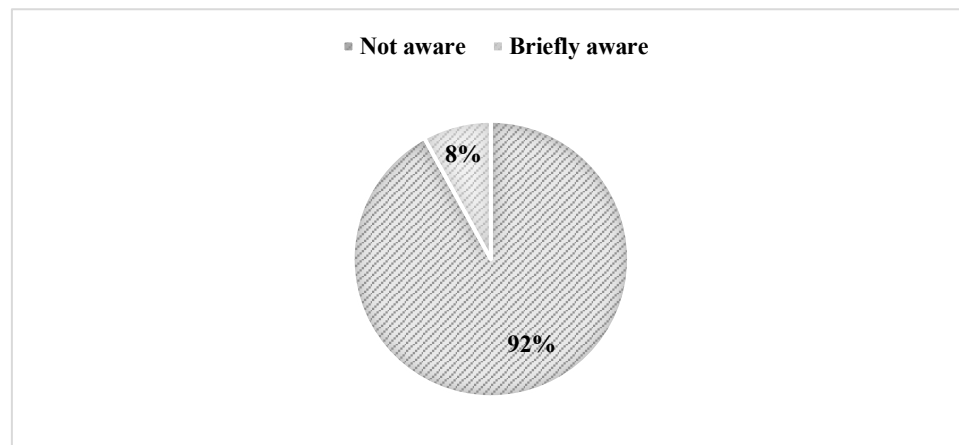


Figure 1. Awareness of Agricultural Policies among Women Farmers

Source: Adapted from Painuly and Jaiswal (2018)

3.4 Market Control and Empowerment Outcome

The results showed that physical access to markets did not necessarily result in women's control over agricultural marketing. Accessibility of the market was reported as 42% high and 40% medium, but only 28% of women managed to access market networks themselves, and 72% depended on male relatives or landlords (Figure 2).

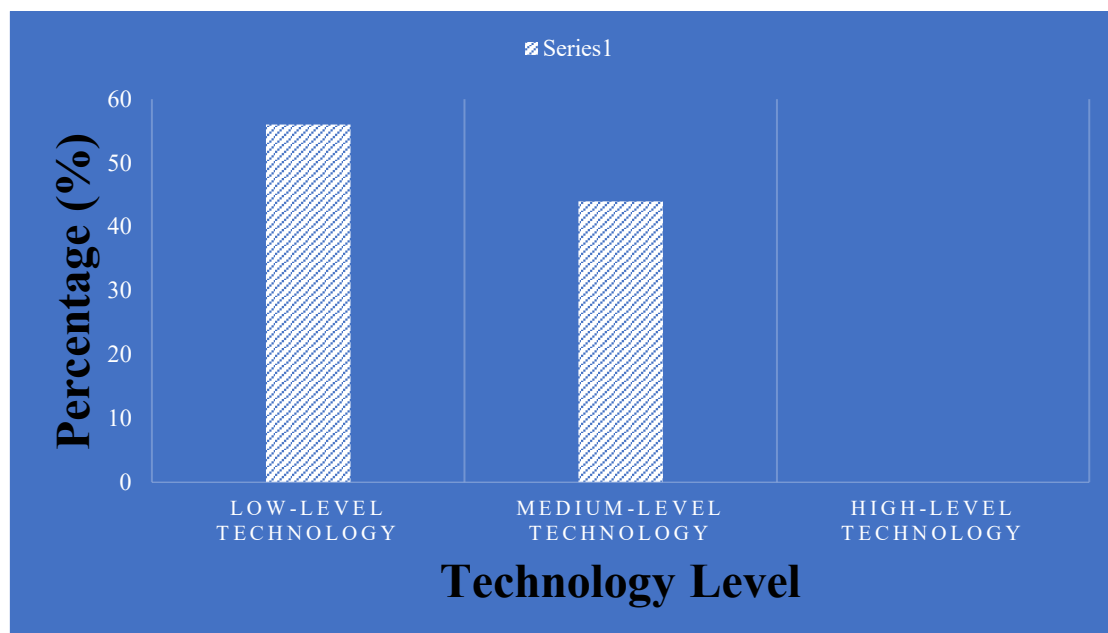


Figure 2. Technology Use among Women Farmers in Dehradun District

Source: (Painuly & Jaiswal, 2018)

This observation was consistent with the broader finding that women farmers in Uttarakhand were able to produce high-value organic and traditional crops, but still had banking, credit, certification, infrastructure, and marketing linkages constraints (Trishulii, 2024). Thus, agriculture was only able to reinforce empowerment when women had control over markets, income and decisions.

Discussion

The results indicated that agriculture had been a core economic activity to the lives of women in the Dehradun district, but its role in empowering women had been partial and uneven. The evidence reviewed showed that women were very engaged in agricultural and allied activities but their involvement did not necessarily translate into ownership, control of income, market control, and institutional access. This helped to substantiate the main argument of the study that agriculture could serve as a channel to women empowerment only when women would go beyond labour contribution and have access to productive assets, information, markets, credit, technology, and power to make decisions.

The findings supported the fact that the agricultural activities of women were significant. Evidence at Uttarakhand level revealed that 62% of rural women were involved in agriculture, 15% in animal husbandry, and 10% in small enterprises. This proved that agriculture and other related activities constituted the biggest foundation of economic involvement by women. But the results of the Dehradun-specific studies indicated that economic value of this participation was limited by poor control of resources. Even though 68% of women had registered land in the names of male relatives, and 32% of women had registered as wage labourers, land was generally registered in the names of male family members. This meant that the labour of women was seen in the production but not in the ownership. Thus, the fact that they were agricultural workers had not necessarily turned into a formal status of farmers.

Another factor of empowerment that emerged was education and awareness. The illiteracy of 42% of women farmers was a crippling limitation to their access to schemes, access to market information, access to agricultural policies, record keeping or even negotiation with buyers. This had a strong connection to policy unawareness where 92% of women farmers were unaware of government policies on market, inputs and output. This degree of ignorance meant that poverty or unemployment was not the only reason that left these people but it was rather their marginalization by information systems. Lack of policy knowledge meant that women were not able to fully enjoy subsidies, agricultural training, market support, credit facilities or productivity enhancing schemes.

Another revelation in the paper was the fact that the empowerment of women was limited by low access to technology and dependence on irrigation. About 56% of women operated low level manual tools, 44% operated medium level tools and no use of high level technology was reported. This meant that the physical labour of women in agriculture was still physically demanding and labour intensive. In addition, 74% relied on river water to irrigate their farms, so their productivity was at the mercy of the natural supply of water. These findings revealed that women had to be empowered in agriculture by ensuring that they were invested in the right technology, support of irrigation and training. The fact that the working hours of women would be increased, would not make them feel empowered unless there was an increase in productivity, income and control of output.

The other critical concern was the involvement in the market. The results showed that 42% and 40% of the respondents had high and medium market accessibility respectively, but only 28% of the women were able to access market networks by themselves. About 72% depended on the male relatives or landlords in making decisions regarding markets. This proved that there existed a high difference between access to markets and control of markets. Women could literally access markets and they often were not engaged in price negotiation, contact with buyers, and making sale decisions and handling income. Therefore, the agricultural empowerment was yet to be complete as women were still being concentrated in the production process and men still dominated the marketing and financial processes of the value chain.

The current findings were consistent with research findings that women empowerment in agriculture was determined by market orientation, collective organization, institutional support and control of agricultural decisions. Gupta et al. (2017) also highlighted the significance of market-oriented farming systems to empower women, which was consistent with the current finding that weak market-network control reduced economic agency of women. Mukherjee et al. (2020) demonstrated that producer organizations based on women in Uttarakhand enhanced the wellbeing of livelihoods, which supports the necessity of collective marketing organizations in Dehradun. Shinogi et al. (2021) discovered that SHGs enhanced the empowerment of women farmers in Uttarakhand, whereas Rana et al. (2010) also found the role of SHGs in Uttarakhand. Kashyap & Kamboj (2022) supported the role of animal husbandry interventions to the hill women, which was in line with the role of allied agriculture. Joshi et al. (2021) found that agricultural activities of hill women were associated with empowerment, whereas Baruah (2021) confirmed that poor awareness of agricultural schemes limited women farmers. Rashida & Mercykutty (2020) also demonstrated that the women-focused agricultural schemes have the potential to enhance the capacity of farm women when effectively implemented.

Overall, the discussion revealed that agriculture had established a significant economic foundation to women in Dehradun district, but empowerment was limited by structural inequalities. Women provided labour, time and skill, but they still had minimal control over land, policies, technology, markets and income. Thus, it is only when agriculture sector is supported by land rights, financial inclusion, SHG participation, market training, technology access, irrigation support, and women being recognised as farmers and not as unpaid family labourers that women could empower themselves.

Conclusion

The Agriculture in the Dehradun district turned out to be an important economic foundation of the women but the empowering effect was not automatic. The contribution of the women was significant to the farming and other related activities, but the role of women was mostly limited to the labour-intensive production and not ownership, marketing, financial control, or formal recognition as farmers. The evidence indicated that the participation of women in agriculture was undermined by limited land rights, low education, low awareness of the policy, limited access to technology, reliance on natural sources of irrigation and weak control over market networks. One key observation was that the empowerment of women was less dependent on the amount of hours they spent working in the farmland and more on their access to information, productive resources, institutional support, and decision-making power. Despite the large number of women who worked on family farms, the decision making of the land and market was dominated by the male family members. This lowered their economic autonomy and suppressed the revolutionary power of farming. Enhancing the empowerment of women in the agriculture sector of Dehradun thus needs specific policy intervention. The land rights of women, agricultural training, SHG involvement, access to credit, market-linkage assistance, adoption of technology, irrigation facilities, and women being recognized as independent farmers should be given greater attention. The only way in which agriculture can become a potent tool of women empowerment is by ensuring that women have the control over income, assets, markets and decisions.

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