

International Journal of Agriculture Extension and Social Development

Volume 9; Issue 8; August 2026; Page No. 482-485

Received: 02-05-2026
Accepted: 08-06-2026

Indexed Journal
Peer Reviewed Journal

Socio-personal, socio-economic, communicational and psychological characteristics of rural women and their participation level in agricultural activities

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DOI: <https://www.doi.org/10.33545/26180723.2026.v9.i8g.4050>

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Abstract

The present study was conducted during 2022 in Karwi of Chitrakoot district, Uttar Pradesh, to assess the participation level of rural women in agricultural activities. An ex-post facto research design was adopted and a multistage random sampling procedure was followed. Eight villages were randomly selected and 15 rural women from each village were selected, resulting in a total sample of 120 respondents. Participation level was assessed across major agricultural activities, including pre-harvest, post-harvest, household, livestock and marketing activities. The findings revealed that most respondents were middle-aged (56.66%), married (70.83%), belonged to OBC category (35.83%), had medium family size (70.83%), medium farming experience (48.33%), medium annual income (54.17%) and marginal landholdings (45.83%). Extension participation level was predominantly medium (42.50%), while television, Agriculture Development Officers, Subject Matter Specialists and KVKs were important sources of agricultural information. The respondents showed the highest knowledge of weeding and harvesting (100.00% each), followed by irrigation (93.33%) and seed treatment (80.00%), whereas knowledge was comparatively low regarding marketing (20.00%), manure and fertilizer application (33.33%) and plant protection (35.83%). Similarly, women's participation level was highest in weeding and harvesting (100.00% each), followed by sowing (65.00%), irrigation (39.16%) and land ploughing (35.00%).

Keywords: Rural women, agricultural participation level, farm activities, women empowerment, agricultural knowledge, extension services

Introduction

Rural women are an integral part of the agricultural economy and play a significant role in sustaining farm production and rural livelihoods. Their contribution extends across a wide range of agricultural and allied activities, including seed selection, sowing, transplanting, weeding, fertilizer application, plant protection, harvesting, threshing, storage and post-harvest processing. In addition, women actively participate in livestock care, fodder collection, feeding and cleaning of animals, compost preparation and household-level processing of agricultural produce. Thus, rural women contribute not only as agricultural labourers but also as cultivators, farm managers and participants in farm-related decision-making. However, much of their work remains unpaid and under-recognized, as agricultural responsibilities are performed simultaneously with household and childcare duties. The Food and Agriculture Organization (FAO, 2026) [2] recognizes women as important contributors to agrifood systems and rural livelihoods, emphasizing their role in crop production, livestock management, food processing and household food security.

Despite their substantial contribution to agriculture, rural women often face constraints related to access to land, productive resources, agricultural information, extension services, improved technologies, credit and markets. Their

participation level in agricultural activities is influenced by socio-personal, socio-economic, communicational and psychological characteristics, as well as prevailing social and cultural conditions. A better understanding of these factors is essential for strengthening women's participation level and ensuring their effective inclusion in agricultural development programmes. Therefore, the present study was undertaken to assess the socio-personal, socio-economic, communicational and psychological characteristics of rural women and to determine their participation level in various agricultural activities. The study is expected to provide useful information for agricultural extension agencies and rural development organizations in designing suitable interventions for enhancing the participation level, skills and decision-making capacity of rural women in agriculture.

Materials and Methods

The present study was conducted during 2022 in Karwi of Chitrakoot district, Uttar Pradesh, to assess the participation level of rural women in agricultural activities. An ex-post facto research design was adopted for the study, as the independent variables under investigation had already occurred and could not be manipulated by the researcher. Karwi was selected randomly from the blocks of Chitrakoot district, considering the availability and substantial

involvement of rural women in agricultural activities. The study area is characterized by a predominantly rural population dependent on agriculture and allied activities. The major crops grown in the area include paddy, wheat and pulses. The climatic conditions are generally hot during summer, while agricultural activities are influenced by the seasonal rainfall pattern of the region.

For selection of respondents, a multistage random sampling procedure was followed. From Karwi, eight villages, namely Sangrampur, Barampur, Chitra, Shivrampur, Khutaha, Kushwaha Basti, Ranipur and Manoharganj, were selected randomly. A village-wise list of rural women involved in agricultural activities was prepared with the assistance of local sources and available records. From each selected village, 15 rural women were selected randomly, resulting in a total sample of 120 respondents. Thus, equal representation was ensured from all eight selected villages, with 15 respondents from each village. The sampling procedure was adopted to obtain a representative sample of rural women participating in different agricultural operations in the selected study area. Participation level of Rural Women in Agricultural Activities: Participation level refers to the involvement of rural women in various agricultural and allied activities. In the present study, participation level was measured under five major categories: pre-harvest activities, post-harvest activities, household activities, livestock activities and marketing activities, which were further classified into specific activities.

Results and Discussion

Socio-Personal, Socio-Economic, Communicational and Psychological Characteristics of Rural Women

Age: The findings revealed that the majority of respondents (56.66%) belonged to the middle age group (35–55 years), followed by old respondents (23.33%) and young respondents (20.00%).

Gender: All respondents (100.00%) were female, indicating complete representation of women in the study.

Caste: The highest proportion of respondents belonged to the OBC category (35.83%), followed by General (25.83%), ST (20.00%) and SC (18.33%) categories.

Education: The majority of respondents (35.00%) had education up to the middle level, followed by primary education (33.33%). Illiterate and higher secondary and above respondents each constituted 12.50%, while 6.66% had high school education.

Marital Status: A majority of respondents (70.83%) were married, whereas 29.16% were unmarried.

Family Size: Most respondents (70.83%) belonged to medium-sized families (6–12 members), followed by small families (16.66%) and large families (12.50%).

Family Type: The majority of respondents (60.00%) belonged to joint families, while 40.00% belonged to nuclear families.

Housing Pattern: Three-fourths of the respondents

(75.00%) lived in pucca houses, followed by 25.00% living in mixed houses. None of the respondents lived in kuccha houses.

Farming Experience: Nearly half of the respondents (48.33%) had medium farming experience (5–10 years), followed by low experience (26.66%) and high experience (25.00%).

Annual Income: More than half of the respondents (54.17%) belonged to the medium-income category (₹50,000–1,00,000), followed by low-income (29.17%) and high-income (16.66%) categories.

Land Holding: The largest proportion of respondents (45.83%) were marginal farmers having up to 1 ha of land, followed by small farmers (33.33%), medium farmers (15.00%) and large farmers (5.83%).

Extension Participation level: The majority of respondents (42.50%) had medium extension participation level, followed by low (35.83%) and high (21.66%) levels.

Sources of Information: Television was the most commonly used source of information (98.34%), followed by Agriculture Development Officers (100.00%), Subject Matter Specialists (91.66%), Krishi Vigyan Kendra (80.00%), Krishi Patrika (66.66%), cooperative agencies (65.00%), agricultural scientists (61.11%), newspapers (35.00%), internet (33.33%) and radio (28.33%).

Attitude towards Agriculture: The majority of respondents (56.60%) had a medium level of attitude towards agriculture, followed by low (29.16%) and high (14.16%) levels.

Knowledge of Agricultural Activities: The respondents had the highest knowledge regarding weeding and harvesting (100.00% each), followed by irrigation (93.33%), seed treatment (80.00%), land ploughing (72.50%), sowing (61.66%), seed selection (54.16%), plant protection (35.83%), manure and fertilizer application (33.33%) and marketing (20.00%). Thus, knowledge was relatively high for basic crop production operations but comparatively low for fertilizer management, plant protection and marketing activities.

These findings are broadly supported by Sowjanya *et al.* (2016) ^[8], who reported that socio-economic characteristics such as age, income and landholding influenced women's participation level in farming; Shaikh and Shinde (2019) ^[6], who observed higher knowledge of routine agricultural operations but lower knowledge of marketing and some production practices; and Buraka and Sreenivasarao (2018) ^[1], who emphasized the importance of knowledge and information empowerment among rural women. Similar importance of extension participation level and socio-economic factors in women's agricultural involvement was also reported by Kaur *et al.* (2021) ^[3] and Patel and Dwarka (2025) ^[5].

Participation level of rural women in agriculture activities

The findings revealed that rural women had the highest

participation level in weeding and harvesting (100.00% each), followed by sowing (65.00%), irrigation (39.16%), land ploughing (35.00%), plant protection (26.66%), manure and fertilizer application (21.66%) and seed selection (12.50%). Thus, women were more actively involved in labour-intensive activities than in technical and input-related

operations. Similar findings were reported by Singh *et al.* (2018)^[7], Manimekalai *et al.* (2021)^[4] and Patel and Dwarka (2025)^[5], who observed greater participation level of rural women in weeding, sowing, harvesting and other crop-production activities.

Table 1: Distribution of respondents according to selected characteristics (N = 120)

S. No.	Characteristic	Category 1	f (%)	Category 2	f (%)	Category 3	f (%)	Category 4	f (%)	Category 5	f (%)
1	Age	Young	24 (20.00)	Middle	68 (56.66)	Old	28 (23.33)	—	—	—	—
2	Gender	Male	0 (0.00)	Female	120 (100.00)	—	—	—	—	—	—
3	Caste	ST	24 (20.00)	SC	22 (18.33)	OBC	43 (35.83)	General	31 (25.83)	—	—
4	Education	Illiterate	15 (12.50)	Primary	40 (33.33)	Middle	42 (35.00)	High school	8 (6.66)	Higher secondary+	15 (12.50)
5	Marital status	Married	85 (70.83)	Unmarried	35 (29.16)	—	—	—	—	—	—
6	Family size	Small	20 (16.66)	Medium	85 (70.83)	Large	15 (12.50)	—	—	—	—
7	Family type	Nuclear	48 (40.00)	Joint	72 (60.00)	—	—	—	—	—	—
8	Housing pattern	Kuccha	0 (0.00)	Pucca	90 (75.00)	Mixed	30 (25.00)	—	—	—	—
9	Farming experience	Low	32 (26.66)	Medium	58 (48.33)	High	30 (25.00)	—	—	—	—
10	Annual income	Low	35 (29.17)	Medium	65 (54.17)	High	20 (16.66)	—	—	—	—
11	Land holding	Marginal	55 (45.83)	Small	40 (33.33)	Medium	18 (15.00)	Large	7 (5.83)	—	—
12	Extension participation level	Low	43 (35.83)	Medium	51 (42.50)	High	26 (21.66)	—	—	—	—
13	Attitude	Low	35 (29.16)	Medium	68 (56.60)	High	17 (14.16)	—	—	—	—
14	Information sources	Newspaper	42 (35.00)	Radio	34 (28.33)	TV	118 (98.34)	Krishi Patrika	80 (66.66)	ADO	120 (100.00)
		Scientist	74 (61.11)	Internet	40 (33.33)	Cooperative	78 (65.00)	SMS	110 (91.66)	KVK	96 (80.00)
15	Knowledge	Ploughing	87 (72.50)	Seed selection	65 (54.16)	Seed treatment	96 (80.00)	Sowing	74 (61.66)	Manure & fertilizer	40 (33.33)
		Irrigation	112 (93.33)	Weeding	120 (100.00)	Plant protection	43 (35.83)	Harvesting	120 (100.00)	Marketing	24 (20.00)

Table 2: Activity-wise participation level of rural women in agricultural activities (N = 120)

S. No.	Agricultural activity	Yes – f	Yes – %	No – f	No – %
1	Land ploughing	42	35.00	78	65.00
2	Selection of seed	15	12.50	105	87.50
3	Sowing	78	65.00	42	35.00
4	Manure & fertilizer application	26	21.66	94	78.34
5	Irrigation	47	39.16	73	60.84
6	Weeding	120	100.00	0	0.00
7	Plant protection	32	26.66	88	73.34
8	Harvesting	120	100.00	0	0.00

Note: f = Frequency; % = Percentage

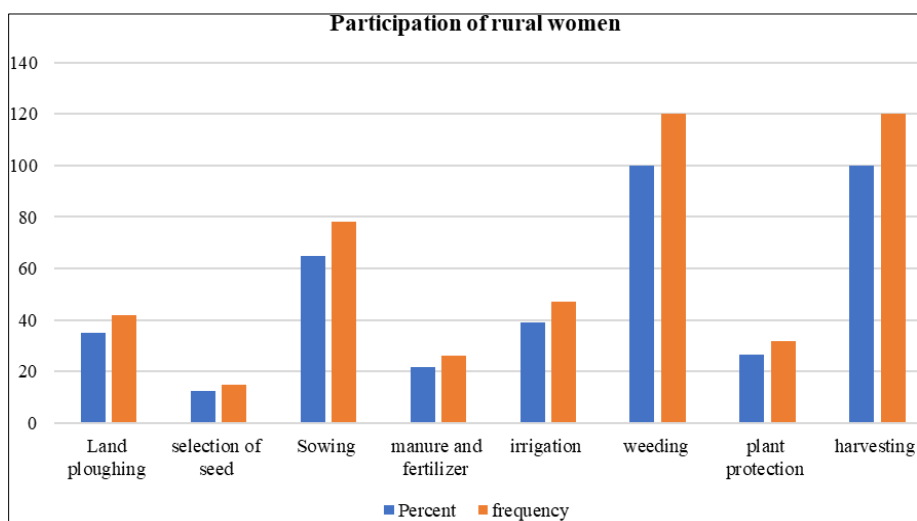


Fig 1: Participation level of rural women in different agricultural activities

Conclusion

The study concluded that rural women played a significant role in agricultural activities, particularly in labour-intensive operations such as weeding and harvesting, where participation level was universal (100.00%), followed by sowing (65.00%) and irrigation (39.16%). Most respondents were middle-aged, married, belonged to medium-sized joint families, had medium farming experience and income and possessed marginal landholdings. Extension participation level was predominantly medium, while television, Agriculture Development Officers, SMS and KVKs were important sources of agricultural information. Although women demonstrated good knowledge of basic agricultural operations, their knowledge and participation level were comparatively low in seed selection, manure and fertilizer management, plant protection and marketing. Therefore, strengthening women-oriented extension services, practical training, technical knowledge and access to agricultural information could enhance their participation level in decision-oriented and technical agricultural activities.

Acknowledgment

The author sincerely expresses gratitude to the Associate Professor, Department of Technology Transfer, Mahatma Gandhi Chitrakoot Gramodaya Vishwavidyalaya, Chitrakoot, Satna (M.P.), for valuable guidance, constructive suggestions, encouragement and continuous support throughout the research work. The author is also thankful to all colleagues, field assistants and labourers for their cooperation and assistance during data collection and other stages of the study. Their valuable support contributed greatly to the successful completion of this research work.

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