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Demographic and economic profiling of farm women in relation to crop production technology in mauranipur block of Jhansi district (U.P.)

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Abstract
The current research was carried out in the Mauranipur Block of Jhansi district in Uttar Pradesh between the years 2022 and 2023. Out of these 08 blocks in Jhansi district, the Mauranipur block was selected purposively due to establishment of College of Agriculture as main Extension Source and is providing training to farmers including man and women. 6 villages were selected randomly in Mauranipur block. Twenty farm women have been selected at random from a list of trainee women in each village. Thus, the average sampling population comprised 120 respondents. The data indicated that most farm women were in the middle age group, accounting for 41.67%. About 39.17% had completed primary or middle school education, and 43.33% owned land of medium size. Around 35.00% were classified as having a medium socioeconomic status, while 40.00% reported low levels of social involvement. In terms of psychological and behavioural traits, 40.83% showed medium levels of innovativeness, 44.17% had medium exposure to mass media, and 35.83% had a medium scientific orientation. Additionally, 39.17% had a medium attitude towards adopting better practices, 42.50% participated moderately in extension activities, and 39.17% exhibited medium information-seeking behaviour. Moreover, 37.50% considered the length of instruction to be of medium duration.

Keywords: Socio economic status, farm women, training, social participation, risk orientation

Introduction
Women play a vital role in agriculture and related industries, performing a wide range of tasks within different farming systems. In rural areas, they are involved in both leadership roles and physically demanding work. Their participation is essential as they are engaged in farming activities while also managing household duties.

In India's rural areas, approximately four out of every five women rely on agriculture for a living and contribute significantly to its expansion and development. Women make up about one-third of the agricultural workforce and nearly half of the self-employed farmers. According to research, women carry out more than 70% of tasks on farms and constitute around 60% of the total farming population (Choudhary and Singh, 2003) [6].

In rural India, up to 84% of women rely on agriculture for their living. They represent approximately one-third of the landowners and nearly 47% of the agricultural workers. Women are especially active in specialized farming areas, such as tea plantations (47%), cotton production (46.84%), oilseed cultivation (45.43%), and vegetable farming (39.13%).

Despite their important contributions to the agricultural sector, women often face several challenges that restrict their productivity and limit their ability to fully participate in agricultural development. These challenges include gender-based violence, limited access to education and training, lack of land ownership rights, and insufficient access to credit, technology, and market opportunities. Addressing these issues and supporting women's roles in agriculture is essential for achieving sustainable development goals and fostering economic growth (Lozano, 2023) [21].

Research methodology
This research was carried out in the Mauranipur Block of Jhansi district, Uttar Pradesh, from 2022 to 2023. Jhansi district consists of eight blocks, among which Mauranipur was purposively selected, as it hosts the College of Agriculture, a major extension center that provides training and capacity-building support to both male and female farmers. 6 villages were selected randomly in Mauranipur block. A total representative sample of 120 respondents was obtained by randomly selecting 20 farm women from the list of trainees in each village.

The researcher obtained the data directly through a rigorous,

pre-tested interview plan. Each respondent was approached individually, and the study's goal was communicated before to the interview. After establishing the report, interviews were conducted, and responses were documented appropriately. The data were evaluated with a variety of statistical methods, including frequency, percentage, mean, standard deviation, and Mean Percent Score (MPS).

Results and Discussion
Socio-Economic Attributes of the Respondents
Age

Table 1: Respondents categorized by age n =120

S. No.	Categories	Respondents	
		F	%
1.	Young age	32	26.66
2.	Middle age	50	41.67
3.	Old age	38	31.67
	Total	120	120.00

The coefficient of variation (C.V.) for the age distribution of farm women was found to be 37.07%, demonstrating a large range among different age groups. Table 1.1 reveals that the highest proportion of respondents (41.67%) belonged to the middle-age group, followed by 31.67% in the older age group and 26.66% in the younger age group. This shows that the majority of farm women in the research area were of medium age, with comparatively fewer applicants in the younger and older categories.

The present findings align with earlier studies conducted by Jayashree and Sugirthavathy (1991), Dilbaghkaur *et al.* (2000) [10], Gangaiah *et al.* (2006) [12], Dabar (2009) [7], and Nimoda (2013) [24].

Education

Table 2: Distribution of Respondents Based on Educational Status. n =120

S. No.	Categories	Respondents	
		F	%
1.	Unlettered and formal education	37	30.83
2.	Elementary and upper primary education	47	39.17
3.	Higher education	36	30.00
	Total	120	100.00

The coefficient of variation (C.V.) for the educational profile of farm women was recorded as 57.79 percent, indicating a wide variation across different levels of education. Table 1.2 reveals that the largest proportion of respondents (39.17%) had attained primary or middle-level education, followed by 30.83% who were illiterate or had only basic formal education, and 30.00% who had pursued higher education.

As a result, it can be said that most farm women in the study region had only primary or upper-primary (intermediate) education, followed by those who were illiterate or had only a low level of formal education, and that very few had higher (tertiary) education.(Figure 1.1).

Similar outcomes have been documented by Mahale (1991), Nagabhushanam and Nanjaiyan (1998), Squire and Ntshaliki (2001), and Nimoda (2013) [24].

Size of land holdings

Table 3: Landholding pattern of the respondents n =120

S. No.	Categories	Respondents	
		F	%
1.	Small	32	26.67
2.	Medium	52	43.33
3.	Large	36	30.00
	Total	120	100.00

The C.V. for the landholding profile of farm women was calculated as 36.95 percent, indicating variability across different landholding sizes. As shown in Table 1.3, the largest proportion of respondents (43.33%) possessed medium-sized landholdings, followed by 30.00% with large landholdings and 26.67% with small landholdings.

Therefore, it can be said that the majority of farm women in the research region owned medium-sized landholdings, with large and small landholdings coming in second and third, respectively.

These results concur with the observations made by Nimoda (2013) [24], Kempaiah (1974), and Puhazhendi (2000) [26].

Socio economic status

Table 4: Classification of Respondents Based on Socioeconomic Background n =120

S. No.	Categories	Frequency	%
1.	Low	36	30.00
2.	Medium	42	35.00
3.	High	42	35.00
	Total	120	100.00

The coefficient of variation (C.V.) for the socio-economic status of farm women was 13.04 percent, indicating low variability among the different socio-economic categories. Table 1.4 illustrates that the majority of respondents (35.00%) were in the medium socioeconomic group, while an identical proportion (35.00%) fell into the high group, and the remaining 30.00% belonged to the low socioeconomic category.

As a result, it can be concluded that the majority of farm women in the area under investigation had a medium level of socioeconomic status, followed by those in the high and low categories.

This observation is consistent with the results published by Manjula (1995) and Dabar (2009) [7].

Social participation

Table 5: Respondents by level of social participation n =120

S. No.	Categories	Frequency	%
1.	Low	48	40.00
2.	Medium	38	31.67
3.	High	34	28.33
	Total	120	100.00

The coefficient of variation (CV) for farm women's social participation was 31.06 percent, indicating significant variation across levels of participation. As shown in Table 1.5, the majority of respondents (40.00%) classified into the low social participation category, followed by 31.67 percent

in the medium category and 28.33 percent in the high.

As a consequence, it is possible to determine that in the research area, the majority of farm women had low levels of social participation, with fewer respondents having medium or high levels of involvement.

These findings are in agreement with the observations of Singh (1997), Singh (2001) [30], Bharathamma (2005) [3], and Nimoda (2013) [24].

Innovativeness

Table 6: Innovativeness profile of respondents. n =120

S. No.	Categories	Frequency	%
1.	Low	36	30.00
2.	Medium	49	40.83
3.	High	35	29.17
	Total	120	100.00

The coefficient of variation (C.V.) for farm women's innovativeness profiles was 13.16 percent, demonstrating relatively little variation among different innovativeness groups. As shown in Table 1.6, the majority of respondents (40.83%) demonstrated medium innovativeness, followed by 30.00% in the low innovativeness category and 29.17% in the high innovativeness category. As a result, it could be justified to conclude that the majority of farm women in the study region were classified as medium inventive, followed by low and high. These results are congruent with those of Devalatha (2005) [8] and Nimoda (2013) [24].

Mass media exposure

Table 7: Respondents by level of mass media exposure. n =120

S. No.	Categories	Frequency	%
1.	Low	34	28.33
2.	Medium	53	44.17
3.	High	33	27.50
	Total	120	100.00

The coefficient of variation (C.V.) for farm women's profiles revealed a 19.22 percent difference in exposure to various mass media sources. As indicated in Table 1.7, the majority of respondents (44.17%) fell into the medium mass media exposure category, followed by 28.33 percent in the low and 27.50 percent in the high exposure categories.

This suggests that the majority of farm women in the research area had moderate exposure to mainstream media, with relatively few women reporting low or high levels of exposure. These findings are consistent with those published by Nimoda (2013) [24] and Narmatha *et al*. (2002) [23].

Scientific orientation

Table 8: Scientific orientation profile of respondents. n =120

S. No.	Categories	Frequency	%
1.	Low	36	30.00
2.	Medium	43	35.83
3.	High	41	34.17
	Total	120	100.00

The variation in the scientific orientation of farm women, as measured by the coefficient of variation (C.V.), was 14.36 percent, showing a moderate level of diversity. Table 1.8 shows that most respondents (35.83%) had a medium scientific orientation, with 34.17% in the high orientation group and 30.00% in the low orientation group.

Therefore, it can be concluded that in the research area, the majority of farm women had a medium level of scientific orientation, followed by those with high and low orientations. These results align with those reported by Nimoda (2013) [24].

Attitude towards improved practices

Table 9: Attitude of responders toward improved procedures n =120

S. No.	Categories	Frequency	%
1.	Low	36	30.00
2.	Medium	47	39.17
3.	High	37	30.83
	Total	120	100.00

The coefficient of variation (C.V.) for farm women's attitudes toward improved practices was 10.02 percent, showing relatively little difference amongst groups. According to Table 1.9, the majority of respondents (39.17%) were in the medium attitude category, followed by 30.83 percent in the category of extreme and 30.00 percent in the moderate attitude categories.

Thus, it can be speculated that in the study region, the majority of farm women had a medium degree of attitude toward improved practices, followed by those with high and low attitudes. This discovery is congruent with those published by Nimoda (2013) [24].

Extension participation

Table 10: Extension participation of respondents. n =120

S. No.	Categories	Frequency	%
1.	Low	36	30.00
2.	Medium	47	39.17
3.	High	37	30.83
	Total	120	100.00

The coefficient of variation (C.V.) for farm women's extension participation was 12.31 percent, indicating modest variation across different participation levels. Table 1.10 illustrates that the medium extension involvement group had the highest percentage of responders (42.50%), followed by the high group (30.83%) and the low group (26.67%).

As a result, it is possible to conclude that the majority of farm women in the research region participated in extension at medium levels, with only a few demonstrating high or low levels. These findings agree with those published by Devalatha (2005) [8], Dabar (2009) [7], and Nimoda (2013) [24].

Information seeking behaviour

Table 11: Respondents are distributed based on their information seeking activity. n =120

S. No.	Categories	Frequency	%
1.	Low	30	25.00
2.	Medium	47	39.17
3.	High	43	35.83
	Total	120	100.00

The coefficient of variation (C.V.) for farm women's information-seeking behavior was 7.46%, indicating relatively low variability among groups. According to Table 1.11, the majority of respondents (39.17%) grouped into the medium information-seeking behavior category, followed by 35.83% in the high group and 25.00% in the low category.

Finally, the majority of farm women in the research region reported medium levels of information-seeking activity, followed by high and low levels. These results are similar with those published by Dabar (2009) [7] and Nimoda (2013) [24].

Information Exposure of Respondents

Table 12: Distribution of responders based on the perceived length of training. n =120

S. No.	Categories	Frequency	%
1.	Low	41	34.17
2.	Medium	45	37.50
3.	High	34	28.33
	Total	120	100.00

The coefficient of variation (C.V.) for farm women's perception of training duration was 40.72 percent, reflecting considerable differences among the groups. Table 1.12 shows that the majority of respondents (37.50%) perceived the training as medium in duration, followed by 34.17% who considered it short and 28.33% who viewed it as long.

Thus, it may be predicted that most farm women in the research region perceived the training time as medium, with fewer seeing it as short or long. These findings are consistent with those of Rahman *et al*. (2004) [27] and Nimoda (2013) [24].

Conclusion

The study reveals key insights into the demographics, challenges and needs of farm women. The overwhelming majority of the women were intermediate-aged and had an elementary or middle school education. The majority have medium-sized land holdings and belong to the medium socio-economic status category. They also exhibit moderate levels of social participation, innovativeness, and exposure to mass media.

However, the farm women face several challenges, with the most significant being the scheduling conflicts restricting training attendance programs during peak agricultural seasons (50%), subsequently family-related concerns about long-duration training (48.33%) and the absence of women-centered teaching environments (46.67%). Frustration due to illiteracy and lack of knowledge (45.89%) also emerged as a critical barrier.

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