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Understanding the training needs of farm women in Parbhani, Maharashtra

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Abstract
This study assessed the training needs of farm women in the Marathwada region to enhance the accessibility and effectiveness of agricultural training initiatives. Conducted in Parbhani and Manwath tehsils of Maharashtra using an ex-post-facto research design, the study employed simple random sampling to select 120 respondents from villages with high female agricultural participation. Data were collected via structured interviews and analyzed using frequency and percentage. The findings indicate high training needs in agronomical areas such as IPM, IDM, and fertilizer management, while horticultural and vegetable production needs were moderate. Dairy farming revealed significant interest in disease management, whereas goat rearing, postharvest, and poultry practices showed minimal demand. Entrepreneurship skills, particularly in financial management and marketing, emerged as critical gaps. Additionally, organic farming and awareness of government schemes for women were identified as priority areas. These insights can inform focused training and policy interventions to support rural women's agricultural engagement and livelihood enhancement.

Keywords: Farm women, agricultural training, training accessibility, training needs, illiteracy, Women in agriculture, training needs assessmen, agronomy, entrepreneurship, IPM, IDM, dairy farming, organic farming, rural development

Introduction
In India, agriculture serves as the main occupation for those living in rural areas and is a crucial means of earning a living. Women make up almost half of the population, with 84 percent of rural women relying on agriculture. They account for 33 percent of those who cultivate and 47 percent of agricultural workers (Women in agriculture in India, 2025). Agriculture serves as the foundation for numerous economies, depending not just on the physical labor involved but also on the knowledge of those who work the land. Within this expansive field, women's roles in farming are both crucial and varied. Yet, the traditional narrative frequently neglects the vital contributions of women on farms, who take on duties that go well beyond farming to include managing households, caring for livestock, and fostering community development. Acknowledging the critical role women play in agriculture, it is essential to address and meet their specific training needs. This discussion delves into the varied and necessary training requirements for women in farming, with the goal of not only improving their agricultural abilities but also empowering them as key drivers of sustainable and resilient farming communities. Training involves acquiring specific skills to enhance job performance. It systematically enhances knowledge and abilities, enabling trainees to execute their tasks more effectively and efficiently upon completing the training (Shyam *et al*., 2016) [7]. The primary objectives of training are to boost an individual's capability, capacity, productivity and performance. Any training program begins with identifying training needs, with needs assessment being the crucial initial step in organizing any training initiative. A training needs assessment involves identifying performance requirements and the gap between the required performance levels and the current performance levels. (Venkatesan and Vijayalakshmi, 2015) [8] their study examined the training requirements of women involved in farming across different agricultural tasks, such as growing vegetables at home, setting up nurseries, raising livestock and poultry, and processing food.

The results showed that a large proportion of these women had moderate to high needs for training in these areas.
If there is a discrepancy between the desired and actual performance, a needs assessment investigates the causes of this gap and methods to bridge it (Deka *et al*., 2020) [1]. Conducting training needs assessments helps determine the significance of changes in knowledge, skills, attitudes and behaviors that will most significantly impact achieving organizational or individual goals. Therefore, the present study was conducted to identify the perceived training needs assessment of farm women working in the agricultural sector in the Parbhani and Manwath tehsils of Parbhani district of Maharashtra.

Methodology
Farm women training needs was assessed in nine areas viz., Agronomical aspects, Horticultural activities, Vegetable production, Dairy, Goat rearing, Postharvest management practices, Poultry management, Entrepreunership and others which included a total 42 different sub-areas in farming. Responses were taken on three point continuum i.e. most needed, needed and least needed with respective scores as 3, 2 and 1. The summation of scores obtained by the respondents over each statement in each sub-area constituted the level of perceived training needs. The study was carried out purposively in two tehsils of Parbhani district of Maharasthra namely Parbhani and Manvat which had considerable population of farm women. Sampling method for the present study, 120 nos of farm women enagaged in Agricultural activies. A pilot study was conducted and a schedule in the local language was developed for data collection based on research objectives, employing a pre-tested interview schedule. The study included 120 participants and data analysis was carried out using a frequency and percentage.

Results and Discussion
The results in the table no. 1 reveals that the majority of farm women (74.16%) feel they need training, likely to improve farming techniques or management skills. A smaller group (13.33%) perceives an urgent need for training, while 12.50% believe they don't require any. Similar results were reported by Dhaka *et al*. 2017 [2] amongst the women farmers of Rajasthan in their study. Similar findings have been reported by Patel and Thakkar (1991) [5]. This suggests a significant demand for educational programs tailored to varying levels of experience and knowledge.

Table 1: Distribution of farm women based on training needs

S. No	Category	Frequency	Percentage
1.	Most needed (<22)	16	13.33
2.	Needed (22-54)	89	74.16
3.	Not needed (>54)	15	12.50
	Total	120	100.00

The training needs of farm women in relation to improved agricultural practices included the major practices of agriculture viz., Agronomical aspects, Horticultural activities, Vegetable production, Dairy, Goat rearing, Postharvest management practices, Poultry management, Entrepreunership and others. Similar works were done by Purnananda *et al*., 2024 [6], Harshit and Yadav 2023 [3], Idiku., 2019 [4].

Agronomical Aspects
Farm women express a clear need for training in pest and disease management, with (75.00%) indicating Integrated Disease Management (IDM) and (74.20%) indicating Integrated Pest Management (IPM) as "most needed." They also highly need training in fertilizer management (50.80%) and biofertilizer utilization (49.20%).

Horticultural Activities
A significant portion of women feel that training in horticulture is not needed, especially for pruning and training (52.50%) and harvesting and grading of fruits (53.30%). This could suggest that these practices are not common for them or that they feel they have sufficient knowledge.

Vegetable Production
For vegetable production, there is a moderate need for training, with the highest "most needed" percentages in scientific cultivation methods (31.70%), nursery preparation (30.80%), and plant protection (30.00%). A substantial percentage of women (41.70% to 44.20%) also feel these trainings are not needed.

Dairy
A large number of women feel that training in dairy management is not needed. Over half of them see no need for training in calf management (55.00%), fodder cultivation (54.20%), and milk storage/marketing (55.00%). However, a high percentage still identify a need for training in disease management and veterinary services, both at (40.00%).

Goat Rearing
Women see very little need for training in goat rearing, with over (89.00%) indicating "not needed" across all subcategories.

Postharvest Management
They see little need for training in traditional postharvest practices like drying (89.20%), threshing (87.50%), and winnowing (85.00%). However, they express a higher need for training in protection of grains from insects (41.70%).

Poultry Management
Similar to goat rearing, a very high percentage of women feel that training in poultry management is not needed, with "not needed" percentages ranging from (81.70% to 82.50%).

Entrepreneurship
A large number of women identify a strong need for training in entrepreneurial skills. Over (53.00%) identify financial management as "most needed," and over (43.00%) see a great need for training in marketing and sales.

Other Categories
In the "Other" category, there's a strong desire for training on understanding government schemes for women, with (85.80%) marking it as "most needed." Women also show a high need for training in organic farming (45.80%).

The distribution of farm women based on their training needs in agricultural activities. (N=120)

Sr. No	Category	Frequency (%)		
		Not Needed	Needed	Most Needed
I	**Agronomical aspects**			
1.	Preparation of compost	28 (23.30)	50 (41.70)	42 (35.00)
2.	Seed management	26 (21.70)	40 (33.30)	54 (45.00)
3.	Use of advanced sowing equipment	24 (20.00)	44 (36.70)	52 (43.30)
4.	Biofertilizer utilization	17 (14.20)	44 (36.70)	59 (49.10)
5.	Fertilizer Management and recommendation	17 (14.20)	42 (35.00)	61 (50.80)
6.	Irrigation technology	23 (19.20)	56 (46.70)	41 (34.10)
7.	Irrigation scheduling	24 (20.40)	53 (44.20)	42 (35.40)
8.	IPM (Integrated Pest Management)	10 (8.30)	21 (17.50)	89.00 (74.20)
9.	IDM (Integrated Disease Management)	10 (8.30)	20 (16.70)	90 (75.00)
10.	Modern Farm Equipments	22 (18.30)	60 (50.00)	38 (31.70)
II	**Horticultural Activities**			
1.	Pruning and training	63 (52.50)	26 (21.70)	31 (25.80)
2.	Harvesting and grading of fruits	64 (53.40)	25 (20.80)	31 (25.80)
III	**Vegetable production**			
1.	Scientific method of vegetable cultivation	50 (41.70)	32 (26.60)	38 (31.70)
2.	Preparation of nursery	53 (44.20)	30 (25.00)	37 (30.80)
3.	Plant protection measures	54 (45.00)	30 (25.00)	36 (30.00)
4.	Harvesting and grading of vegetable	54 (45.00)	30 (25.00)	36 (30.00)
IV	**Dairy**			
1.	Calf management	66 (55.00)	15 (12.50)	39 (32.50)
2.	Fodder cultivation and feed management	65 (54.20)	16 (13.30)	38 (31.70)
3.	Storage of milk and marketing	66 (55.00)	17 (14.20)	37 (30.80)
4.	Disease management	61 (50.80)	11 (9.20)	48 (40.00)
5.	Veterinary services/vaccination	61 (50.80)	11 (9.20)	48 (40.00)
V	**Goat Rearing**			
1.	Kid management	107 (89.20)	6 (5.00)	7 (5.80)
2.	Preparation of feed	108 (90.00)	5 (4.20)	7 (5.80)
3.	Disease management/vaccination	107 (89.20)	5 (4.10)	8 (6.70)
4.	Meat and milk marketing	108 (90.00)	5 (4.20)	7 (5.80)
VI	**Postharvest Management Practices**			
1.	Drying	107 (89.20)	8 (6.70)	5 (4.20)
2.	Threshing	105 (87.50)	10 (8.30)	4 (3.20)
3.	Winnowing	102 (85.00)	14 (11.70)	4 (3.30)
4.	Grain storage methods	55 (45.80)	38 (31.70)	27 (22.50)
5.	Protection of grains from insects/pest	40 (33.30)	30 (25.00)	50 (41.70)
6.	Preparation of milk products	59 (49.20)	32 (26.70)	29 (24.10)
7.	Value addition and preservation	54 (45.00)	41 (34.20)	25 (20.80)
VII	**Poultry Management**			
1.	Housing and infrastructure	99 (82.50)	12 (10.00)	9 (7.50)
2.	Feeding and nutrition	98 (81.70)	11 (9.20)	11 (9.10)
3.	Control of diseases	98 (81.68)	12 (10.00)	10 (8.22)
VIII	**Entrepreneurship**			
1.	Marketing & Sales Channels	13 (10.83)	55 (45.83)	52 (43.34)
2.	Financial Management	11 (9.20)	45 (37.50)	64 (53.30)
3.	Digital Skills for Farm businesses	20 (16.70)	59 (49.20)	41 (34.10)
4.	Leadership & Business Management Skills	16 (13.36)	61 (50.82)	43 (35.82)
IX	**Others**			
1.	Organic farming	25 (20.82)	40 (33.34)	55 (45.86)
2.	Application and use of Drone technology	26 (21.70)	69 (57.50)	25 (20.80)
3.	Understanding govt. schemes for women	7 (5.90)	10 (8.30)	103 (85.80)

Conclusion

The research highlights the varied and essential training requirements of women in agriculture, acknowledging their complex roles that extend beyond conventional farming tasks. The results emphasize the importance of customizing training programs to cater to different age groups, considering preferences for training venues, lengths and schedules, and synchronizing training content with seasonal farming activities. The focus on experiential learning techniques and the inclusion of various training methods further amplify the potential effectiveness of agricultural training. Ultimately, recognizing and addressing the unique needs of farm women can lead to their empowerment, thereby supporting the development of sustainable and resilient farming communities.

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