Assessing the training needs of farmers of Indore district, Madhya Pradesh

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ABSTRACT

This study assessed the training needs of farmers in the Indore district of Madhya Pradesh to inform the design of effective training programmes. A total of 100 farmers were randomly selected from 10 villages across three Tehsils (Indore, Sanwer and Hatod). Data were collected through face-to-face interviews using a structured schedule with 20 training aspects rated on a three-point scale: 'Most relevant', 'Relevant' and 'Least relevant'. Demographic analysis revealed that respondents were relatively young, with an average age of 31.67 years and possessed varied farming experience (average 11.78 years) and landholdings (average 4.37 hectares). The assessment of training needs indicated a strong preference for integrated pest and disease management (55.00% interest) and integrated nutrient management (48.00% interest), ranking first and second respectively. Other high-priority areas included organic farming technology (45.00%) and crop production management (43.00%). These findings underscore the farmers' focus on fundamental agricultural practices while indicating a limited immediate demand for highly specialized or modern technologies in the region.

Keywords: Farmer training; training needs assessment; agricultural practices; Indore district

INTRODUCTION

Training is a constantly habitual and continuous activity. It carries about semi-permanent change in an organization. Skills, knowledge and attitudes are the three major areas involved in the training activity (Patil et al 2018). Caffarela (2002) noted that a systematic process of farmers' training must include needs assessment, goal and objectives setting, organizing instructional methods and techniques, monitoring and evaluation.

A training needs assessment is primary element to determine who needs to be trained, where training is needed, what training needs to be taught and conducted (Rikku and Chakrabarty 2013). Farmer training is directed towards improving their job efficiency in farming. The kind of education, that is called as training, is not for knowing more but behaving differently (Sajeev et al 2012).

The present research was planned for knowing the training needs of the farmers from Indore district of Madhya Pradesh state so that training programmess could be planned effectively.

METHODOLOGY

Three Tehsils from Indore district of Madhya Pradesh viz Indore, Sanwer and Hatod were selected purposively for the proposed study. Shakkarkhedi and Mangliya villages from Indore; Muradpura, Satlana, Dakachya, Mawalakhedi, Brahmankhedi and Silodiya from Sanwer and Baghana and Mairkhedi were selected randomly and ten farmers were randomly chosen from each selected village. Thus total sample size of respondents was 100.

A structured interview schedule was prepared with 20 training aspects and three levels of priority: 'Most relevant', 'Relevant' and 'Least relevant', for the data collection regarding training needs assessment. It was pre-tested with respondents from non-sample area. Data were collected from selected area by face to face interactions with the respondents. Collected data were analysed with frequencies and percentages.

RESULTS and DISCUSSION

Demographic characteristics of the respondents: Respondents in the study ranged in age from 17 to 50 years old, with an average age of 31.67 years. This indicates that most participants were relatively young, suggesting a higher likelihood of positive engagement in future training programmes. Data in Table 1 show that most of the respondents (35.00%) were educated up to 10th standard followed by 25.00 per cent who were educated up to 12th standard. Eighteen per cent respondents were diploma holders or graduates and 12.00 per cent were post-graduates. Just 10.00 farmers were under 10th standard. Farmers in the study had a wide range of experience, from a minimum of 3 years to a maximum of 35 years, with the average farming experience recorded at 11.78 years. Regarding land ownership, the minimum landholding was 2 hectares and the maximum was 10 hectares. The average landholding among participants was found to be 4.37 hectares.

Training needs assessment: Training needs were assessed using a three-point scale: 'Most relevant', 'Relevant' and 'Least relevant'. A 'Most relevant' response was considered a positive indication of a desired training topic. The specific training needs identified by participants are detailed in Table 2.

Data clearly show the farmers' training preferences. Out of 20 possible topics, the majority of farmers (55.00%) were most interested in integrated pest and disease management, ranking it first. This was closely followed by integrated nutrient management, preferred by 48.00 per cent of farmers and ranked second. Forty five per cent farmers expressed a need for organic farming technology training, placing it at third rank. Crop production management for soybean, potato, wheat etc was desired by 43.00 per cent of farmers, securing the fourth rank. Irrigation management was considered important by 39.00 per cent of farmers, ranking fifth, while livestock management was preferred by 36.00 per cent of farmers, ranking sixth. Finally, four topics: weed management, post-harvest management/processing, mushroom production and vermicompost production, all received equal preference from 27.00 per cent of farmers, sharing the seventh rank. Conversely, interest in certain advanced or niche training areas was notably low.

Table 1. Educational level of the respondents

Educational level	Respondents (n = 100)	
	Frequency	Percentage
Below 10th standard	10	10
10th standard	35	35
12th standard	25	25
Diploma holders/graduates	18	18
Post-graduates	12	12

No farmers showed interest in innovative technologies like hydroponics or vertical farming. Similarly, very few expressed a desire for training in specific areas: only 2 per cent for fish farming, 3 per cent for kitchen gardening/terrace gardening and 4 per cent for protected cultivation/greenhouse technology. Similarly low interest (5%) was observed for sericulture or the production technology of medicinal and aromatic crops.

Bihare et al (2022) conducted a study on tribal farming community in the Barwani and Khargone districts of Madhya Pradesh and reported that they required continuous education to stay aware of fast-paced developments in agriculture for utilizing technologies and new tools to upgrade operations and increase their income.

A study by Singh et al (2009) in Madhya Pradesh, which surveyed farmers on 14 different crop production training areas, found specific priorities. Farmers most desired training in plant protection, which ranked first, followed by weed management (second) and seed technology (third). Additionally, fertilizer application, organic farming and soil water conservation were identified as highly needed, ranking fourth, fifth and sixth respectively.

In the Raisen district of Madhya Pradesh, Dubey et al (2018) assessed the farmers' training needs to enhance the adoption of fertilizer recommendations based on soil health cards. The findings indicated that the knowledge level of farmers who had received soil health cards (SHCs) was not satisfactory. Furthermore, most SHC holders expressed a desire for training to better understand both the SHC itself and how to apply fertilizers according to soil test results.

In a study conducted by Mishra et al (2017) in Vidisha district, Madhya Pradesh, wheat growers' training needs were assessed, revealing that 67.60 per

Table 2. Respondent preferences for specific training needs related to agriculture and related fields

Aspect	Respondents (n = 100)	
	Frequency	Percentage (rank)
Crop production management for soybean, potato, wheat etc	43	43 (IV)
Weed management practices	27	27 (VII)
Integrated nutrient management (INM)	48	48 (II)
Integrated pest and disease management	55	55 (I)
Irrigation management	39	39 (V)
Post-harvest management/processing	27	27 (VII)
Apiculture	20	20 (IX)
Sericulture	5	5 (XI)
Vermicomposting	27	27 (VII)
Mushroom production	27	27 (VII)
Organic farming	45	45 (III)
Production technology of fruit crops	20	20 (IX)
Production technology of flower crops	15	15 (X)
Production technology of vegetable crops	22	22 (VIII)
Production technology of medicinal and aromatic crops	5	5 (XI)
Livestock management	36	36 (VI)
Innovative technologies like hydroponics/vertical farming	0	0 (XV)
Protected cultivation/greenhouse technology	4	4 (XII)
Kitchen gardening/terrace gardening	3	3 (XIII)
Any other/specify (fish farming)	2	2 (XIV)

Multiple responses

cent had high training needs, 22.80 per cent had medium needs and 9.60 per cent had low needs. Among 12 agricultural practices for wheat production, training on improved varieties was most desired, ranked first. Disease control was ranked second, followed by seed rate (third), weed management (fourth), manures and fertilizers application (fifth), irrigation (sixth), insect pest control (seventh) and seed treatment (eighth). This prioritization indicates a high emphasis on improved varieties, given their direct applicability in field adoption. Other practices, including sowing time, sowing distance, harvest and post-harvest and field preparation, were ranked ninth through twelfth.

Naruka et al (2016) conducted a study in Neemuch district, Madhya Pradesh, which revealed that growers frequently required training on soil treatment with chemicals and the application of insecticides, weedicides and fungicides. Conversely, training on high-yielding varieties, field preparation and appropriate harvesting and threshing methods was considered less important, as most growers already possessed sufficient knowledge and skills in these areas.

CONCLUSION

This study in Madhya Pradesh's Indore district pinpointed key training needs for local farmers. Findings show a young, receptive farming community prioritizing integrated pest and disease management and integrated nutrient management, reflecting practical concerns for crop and soil health. Strong interest was also seen in organic farming technology and crop production management. However, advanced areas like hydroponics and protected cultivation garnered minimal interest. These results suggest that current training initiatives should focus on foundational agricultural practices, aligning with farmers' immediate needs to boost participation and adoption, ultimately enhancing regional agricultural productivity.

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