Training Need Assessment (TNA) - an analysis on the Project 'Improving Small Farmers' Access to Market in Maharashtra'

G. Raja Shekar[1], Pradip Patil[2], Hemant Kumar Thakre[3] and Aarti Pankhraj[4]

Abstract

This study assessed the training needs of lead farmers selected as part of the project on Improving Small Farmers Access to Market in Maharashtra. In all, 1400 lead farmers representing farmer groups in 8 districts of Maharashtra participated in the TNA. Data were collected by way of Focus Group Discussions. Training needs pertaining to Institutional building, Horticultural crop production, Post Harvest Management and Marketing were studied for designing need based training curriculum and training modules for capacity building of farmers.

Introduction

Horticulture contributes around 28 per cent of agricultural GDP and provides 37 per cent of the total exports of agricultural commodities from 13 per cent of the cultivated area. The sector was valued at $182 billion in 2005, and the processing sub sector contributed $70 billion. By 2015, the Indian food market is predicted to be worth $310 billion. Currently, food processing accounts for 9 per cent of GDP, 19 per cent of total industrial output, and 5 per cent of total exports; the key sub sectors are fresh fruits and vegetables, dairy, and fisheries. The output of fresh fruits and vegetables sub sector totalled 50 million tons and 90 million tons in 2007 and 2008. However, only 2 per cent is being processed. While India accounts for 9 per cent and 11 per cent of global fruit and vegetable production, only 6 per cent of this production is traded across its borders. Crops for which India is assessed to have comparative and competitive advantage are fruits, vegetables, and nuts. Despite this advantage, and the scale of production, India's share of global trade remains low. However, its geographic location provides a significant trade opportunity for high-value crops (HVC) both to the east and west of India.

1 Programme Manager, Centre for Sustainable Agriculture, Tarnaka, Secunderabad

2 Dy. Project Director (Horticulture), Project Management Unit, Agribusiness Infrastructure Development Investment Program, MSAMB

3 Project Manager, Improving Small Farmers Access to Market in Maharashtra, Supported by Asian Development Bank and Implemented by MSAMB

4 Social Development Specialist, Improving Small Farmers Access to Market in Maharashtra, Supported by Asian Development Bank and Implemented by MSAMB.

The present scenario in the Indian Agriculture sector is constrained with outdated technologies and management, lack of investment in linking infrastructure and lack of private sector investment and management in modern marketing infrastructure (such as cold chains, controlled atmosphere storage, and automated grading). With a view to address the above issues, the Maharashtra State Agricultural Marketing Board (MSAMB) is implementing Asian Development Bank (ADB) assisted 'Agribusiness Infrastructure Development Investment Program' (AIDIP). The objective of AIDIP is to establish Integrated Value Chains (IVCs) for Fresh Fruits and Vegetables (FF&Vs), facilitate and further strengthen linkages with farmers, producers and buyers with special focus on inclusion of small and marginal farmers.

The project aims to increase the income of small-scale farmers in the State through access to alternative higher-returns. ADB has routed a grant from 'Japan Fund for Poverty Reduction' for capacity building of farmers through a programme titled 'Improving Small Farmers Access to Market in Maharashtra'. The focus is to enhance integration of small-scale Fresh Fruit and Vegetable (FF&V) farmers, including female and scheduled caste (SC) and scheduled tribe (ST) farmers, into the horticulture value chains in the State.

The regions identified for the purpose of this project in Maharashtra lie in different agro-climatic zones and vary considerably in terms of agricultural production in both volume and variety of horticultural crops. The selected regions are also significant in terms of quantum of produce- which has been flagged for the respective regions. These regions include Nasik and Aurangabad-Amravati which also form the Integrated Value Chains identified under AIDIP.

Components of the Project

The project consists of three broad components. They are as follows.

Component 1: Assistance towards formation of Farmer Groups and Producer Companies, wherein small-scale Fresh Fruit and Vegetable (FF&V) producer-farmers are grouped together to aggregate their produce into larger volumes and linking/integrating these to private sector buyers/purchasers(developed under AIDIP) for ensuring better returns; improving production techniques, systematic improvement of the quality of the produce, increased post harvest activities to give value addition to the produce, etc. The farmer groups may later be integrated/ federated into producer companies for improving professionalism in the operations.

Component 2: Assistance for improving the farmer's capacity to meet market requirements for achieving higher returns for their produce. A broad range of capacity

development skills is envisaged which include business management skills, technical skills, and organizational management skills. The component also includes exposure visits for the farmers to other areas where farmers have successfully formed farmer groups and or producer companies, along with other interventions which has led to successful increase in production and increased income from sale of their produce.

Component 3: Facilitation of Farmer-Buyer Linkages for the small-scale farmers. This component aims to help farmers and buyers identify and develop sustainable partnerships that are outside the traditional marketing system.

Objective

The specific objective of the Study was to assess the knowledge and skill gaps pertaining to production and productivity, post harvest management, marketing and institution building of lead farmers.

Based on Training Needs Analysis, training curriculum and training modules specific to the group would be developed and then Training would be organized for all the lead farmers across the 14 spokes.

Methodology

Two regions in Maharashtra viz., Nashik and Aurangabad-Amaravati were purposively selected for the study since these regions have been proposed for implementing the project based on a Detailed Project Report (DPR) prepared by MSAMB. Three districts from Nashik and five districts from Aurangabad-Amaravati regions were selected for the study. Further all the spokes in each selected district were listed out and 100 lead farmers were selected for the study.

Table 1. Details of Regions selected for Project and Research.

S.No.	Region	Districts	Spokes	Focus crops
1.	Nashik	Jalgoan, Nashik and Ahmednagar	Sinnar, Deola, Sangamner, Chandwad, Anturli, Padalase, Kajgoan, Galangi.	Pomegranate, Grapes, Banana, Onion and Tomato
2.	Aurangabad -Amaravati	Amravati, Akola, Buldhana, Jalna and Aurangabad.	Paithan, Warud, Anjangoan, Balapur, Jalna and Sangrampur	Sweet lime, Lemon,Orange and Banana
	Two regions	8 districts	14 spokes	1400 lead farmers representing farmer groups.

Note: Data collected during the project execution was compiled for the research paper

Mobilizing Farmers: The schedule was prepared in consultation with lead farmers in order to avoid overlapping with social gatherings, festivals and more importantly

agricultural operations. Thus, the summer season was selected for this event as most of the farmers were free from major agricultural operations. In some spokes, leaflets were printed and distributed to lead farmers depicting objectives and activities under the project.

Focus Group Discussion: A focus group discussion is a form of qualitative and quantitative research in which a group of farmers are asked questions to judge their level of knowledge and skills on Institutional building, Production and Productivity, Post harvest technology and Marketing aspects of focus crops. Questions are asked to a group in an interactive manner where participants are free to talk to other group members. The groups were facilitated by Training Specialists, Social Development specialist, Agricultural specialist and Project Manager. The data collected were compiled, analysed and tabulated by using statistical tools *viz.*, frequency distribution and percentages to arrive at meaningful conclusions.

Baseline Survey: Prior to TNA, a base line survey was conducted in all 14 spokes with 1400 lead farmers across the project locations to assess the overall training needs perceived by them. The survey included variables pertaining to socio-economic status, extent of horticultural crops, and constraints faced in production, post harvest management, asset ownership and marketing (Table 2).

Table 2. Over all Training needs perceived by Lead Farmers

S.No.	Training Needs perceived by Lead Farmers	Per cent
1	Horticultural Inputs Management	84.5
2	Value addition and Marketing	78.2
3	Labour Management	76.1
4	Group and Collective operations	73.2
5	Pest and Disease Management	66.6
6	Post Harvest Technology	63.9
7	Convergence with Govt. Line depts	61.6

(Source: Base line survey)

The survey (Table 2) reveals that for all the listed training components, respondents have accorded very high (more than 60%) priority. Respondents interested in group and collective operations is also high as 73.2 per cent of them feel the need for training on this component. Value addition and Marketing also received high priority with 78.2 per cent farmers needing the training. Based on over all training needs perceived by lead farmers, further meetings were organized with an aim to unearth crop specific gaps.

Results and Discussion

The findings of the study are presented below under different aspects including General training needs, Crop specific training needs, Training needs on Institutional building, Training needs on PHM, and Marketing in Tables 3-7. These needs are perceived by the horticultural farmers.

Table 3. General Training Needs on Production and Productivity

Particulars	Rank
Recommended improved plant material/seeds and its source of availability	1
Inputs - source, price, quality, etc	2
Identification of Nutrient deficiency and its management	3
Importance of organic matter application and quantity of application	4
Impact of Chemical fertilizers on soil health	5
Use of bio-agents in crop production	6
Pruning operations – time and methodology	7
Insect identification and its management and difference between beneficial insects and insect pests	8
Disease identification and its management	9

The findings in Table 3 reveal that, across the focus crops, respondents need training on quality inputs (Ranks 1 & 2), Nutrient management (Rank 3), Eco-friendly soil fertility management and impact of synthetic fertilizers on soil health (Rank 4 & 5), Use of bio-agents in crop production (Rank 6), Pruning operations (Rank 7) followed by pest and disease management (Rank 8 & 9).Thus, it can be concluded that getting quality inputs is the most important factor of production which determines good yield.

Table 4. Crop specific Training Needs

S.No.	Crop	Crop specific gaps
1	Citrus	Dieback resistant varieties, Fruit drop in rainy season, Pest resurgence, Soil moisture conservation in rainfed regions, mulching, Alternative crop management methods, Citrus canker management in the month of June/July, Pesticides residue and its impact
2	Banana	Sigatoka leaf spot management, Ratoon crop management, Suckers removal and its periodicity, beekeeping for additional income in banana plantation
3	Pomegranate	Bacterial blight disease, Varietal (Bhagwa) specific crop management practices, important bahar treatment practice, Mulching for soil and water conservation, Cost effective methods of pest and disease management
4	Onion	Unusual flowering and its management/control.

Citrus dieback disease is one of the most important limiting factors of crop production leading to economic loss. Likewise, banana farmers need training on Sigatoka disease management, Pomegranate farmers are more concerned about bacterial blight whereas onion farmers need training on unusual flowering as may be seen in Table 4. It can be concluded that among the biotic factors, diseases (fungal, bacterial and viral) are limiting factors for crop yield and need to be addressed.

Table 5. Training Needs pertaining to Institutional Building

S.No.	Particulars	Percent
1	Concept and guidelines for farmers' group formation and registration	75
2	Documentation and registration process of Producer Company	90
3	Identification of good leaders and their roles and responsibilities	50
4	Function and services provided by Producer Company to its members	89
5	Convergence with other organizations for mobilizing handholding support	67
6	Imparting business skills to members and business plans	79
7	Increasing women's participation	56
8	Laws and legislations and financial management of Producer Company	85
9	Records and its maintenance and book keeping of Producer Company	98
10	Conflict management among the members	63
11	Organization Development	84
12	Financial support and sources	98
13	Roles and responsibilities of Board of Directors	81

Producer Company (PC) is a broad based rural service providing an alternative model to Private limited company and Cooperative Society. Since it is a relatively new intervention and the concept has not yet been proactively popularized by either the State/Central Government, it is imperative to create awareness among the stakeholders. From the study it is revealed that a majority of the respondents were curious to learn about the concept, registration process, services provided to its members, etc. (Table 5). They also felt that convergence with other organizations is imperative for mobilizing initial share capital otherwise it would be a huge amount for the small and marginal producers.

Table 6. Training Needs on Post Harvest Management

S. No.	Particulars	Rank
1	Harvesting index	3
2	Sources of harvesting tools and implements	6
3	Grading and classification of grades for export and local markets	1
4	Cost effective packing material- availability and price.	7
5	Storage methods and structures.	2
7	Small scale processing units for fruits and vegetables	5
8	Transport and precautions to be taken during transport	4
9	Uses of byproducts (Pomegranate)	8

As part of Post Harvest Management, (Table-6) respondents were more concerned about grading for domestic and export market (Rank 1), storage methods and structures for horticultural crops (Rank 2), Harvest Index (Rank 3), transport and precautions to be taken during the transportation to minimize losses (Rank 4), They were also interested to earn additional income by establishing small scale processing units (Rank 5), Source of quality harvesting tools (Rank 6), cost effective packing material, (Rank 7) followed by effective utilization of by-products, particularly pomegranate.

Table 7. Training Needs related to Marketing

S. No.	Particulars	Percent
1	Market intelligence for focus crops	89
2	Suitable varieties for export market (banana)	78.5
3	Skills to negotiate with buyers (Buyers-sellers negotiation/meetings)	85
4	Packing standards for export market	81
5	Information on Govt schemes for pack house, AC containers (Nagpur orange)	78.5
6	Marketing of low grade produce and by-products	
7	Export license	81
8	Crop insurance	80.5
9	Organic certification, standards and export	80

Horticultural farmers in Maharashtra seem more economically motivated since for all the listed 10 paricular relating to training needs on marketing, respondents have accorded very high (more than 70%) priority. Among the listed areas of training needs (Table-7), majority (89%) were interested to learn about market intelligence. Skills to negotiate with buyers were required by 85 per cent, Awareness on export license and packing standards for export (81%), Crop insurance schemes (80.5%), Organic certification and standards and export (80%). Information on Govt subsidies and suitable banana varieties for export market also received high priority with 78.5 per cent of the respondents. Thus, marketing is one of the important areas of training needs perceived by respondents.

Conclusion

In addition to gaps identified in knowledge and adaptation, crop specific training needs were recorded. Accordingly, suitable crop and regional specific training material will be prepared in consultation with experts. The capacity building training programmes would be planned and executed on all identified themes. All the 1400 lead farmers will be trained on Institutional building, Production and Productivity, Post Harvest Management and Marketing through a formal training programme.

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