

# Training Module on Value Chain Extension





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The work described here was undertaken as part of the on-going, Government of Odisha funded project 'Increasing Productivity of Rice Based Systems and Farmers' income in Odisha'.

## Training Module on Value Chain Extension

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Suggested Citation: IRRI and CRISP (2020) Training Module on Value Chain Extension, Los Banos, Philippines, International Rice Research Institute and Hyderabad, India, Centre for Research on Innovation and Science Policy.

**February 2020**

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## Preface

Agriculture is critical to the overall development and transformation of Odisha. With crops covering 35 per cent of the state's geographical area and more than 60 per cent of its workforce depending on farming for livelihood, the welfare of Odisha's people cannot be separated from its agriculture. The State Government is keen to increase agricultural production and raise incomes and productivity by leveraging science and technology, improving resource use efficiency, diversifying to high value agriculture and supporting efficient functioning of agricultural markets.

Extension and Advisory Services (EAS) play a major role in strengthening technical, managerial and organisational capacities of farmers, who need frequent renewal of capacities to deal effectively with the evolving challenges faced by rural communities. Based on a systematic Capacity Needs Assessment of EAS in Odisha, undertaken by the Centre for Research on Innovation and Science Policy (CRISP) and the International Rice Research Institute (IRRI) in 2018-19, a strategy was developed to address the identified capacity gaps.

Based on the prioritised capacity needs and recommendations from the Department of Agriculture and Farmers' Empowerment (Government of Odisha), CRISP and IRRI have developed this module on value chain extension. It was pilot tested in a Training of Trainers Workshop organised during 5-7 September 2019 at the Institute on Management of Agricultural Extension (IMAGE), Bhubaneswar, Odisha.

We hope that this training module would be used by facilitators in agricultural training centres and faculty of agricultural extension in the state of Odisha for developing capacities of extension functionaries to enable them to offer better support, advice and guidance to farmers and farmer organisations in gaining better value for their produce through successful engagement in the value chains.



**Rasheed Sulaiman V**



**Ranjitha Puskur**

## Acknowledgements

This publication has been developed by the Centre for Research on Innovation and Science Policy ([www.crispindia.org](http://www.crispindia.org)) and the International Rice Research Institute ([www.irri.org](http://www.irri.org)) with funding support from the Department of Agriculture and Farmer Empowerment (DAFE), Government of Odisha. We sincerely acknowledge the support of Dr Saurabh Garg, IAS, Principal Secretary-Agriculture, Government of Odisha, and Dr M Muthukumar, IAS,

Director, Agriculture & Food Production, DAFE, Government of Odisha, for their valuable support in development of this training module.

Dr Onima V T, Research Officer, led the development of this module with support from other members of the CRISP team (Ms Nimisha Mittal and Dr Rasheed Sulaiman V) and Dr Ranjitha Puskur from IRRI. Our sincere thanks to them and to all those who contributed ideas, cases, experiences, tools and frameworks related to linking farmers to markets,

especially Dr Partha R Das Gupta (Advisor Emeritus, Syngenta Foundation for Sustainable Agriculture), Dr G V Ramanjaneyulu (Director, Centre for Sustainable Agriculture) and Dr NK Barik (Senior Scientist-Agricultural Economics, ICAR-Central Institute of Freshwater Aquaculture), who also served as resource persons during the Training of Trainers (ToT) workshop we organised on this topic.

The ToT workshop was held during 5-7 September 2019 at the Institute on Management of Agricultural Extension (IMAGE), Bhubaneswar, Odisha, with a select set of participants identified by DAFE. We sincerely thank the participants of this ToT workshop for their inputs on the content as well as the process suggested in this training module.

We appreciate the contributions of Dr Mukund Variar, State Coordinator, IRRI, Odisha, for his support in organizing the training and development of the module. Our special thanks to Mr Kishor Kumar Behera, Senior Specialist-Partnership Management, IRRI, for his support in organising the ToT workshop.

# Background

This Module is intended to assist trainers engaged in capacity development of the agricultural Extension and Advisory Services (EAS) staff on linking farmers to more efficient value chains. Extension, related to markets and prices, traditionally had low priority as the focus so far has been mostly on enhancing productivity of crops and other enterprises. Only recently has EAS started advising farmers on how to market farm produce. This includes education on better understanding of what the market demands (quality, price trends), mobilizing farmers for group

marketing, and establishing market linkages. Having a market orientation implies linking farmers to more efficient value chains and this indicates that EAS must meet the needs of a range of actors – not just farmers. It also involves activities, such as value chain mapping and analyses, stakeholder facilitation, developing and implementing quality standards, negotiating contracts and quality standards with processors, and finding solutions for logistical problems, like storing, packaging, and transporting of produce.

## Module Overview

This training module has a number of sub-modules and all of them are made up of a number of sessions, each embarking upon specific topics in value chain extension.

- Unit I: LINKING FARMERS TO MARKETS
- Unit II: UNDERSTANDING MARKETS
- Unit III: AGRICULTURAL VALUE CHAINS
- Unit IV: VALUE CHAIN INTERVENTIONS - I
- Unit V: VALUE CHAIN INTERVENTIONS - II
- Unit VI: VALUE CHAIN ANALYSIS
- Unit VII: CHALLENGES AND LIMITATIONS OF VALUE CHAIN EXTENSION

Most sub-modules/units are arranged in the following order: starts with objectives, then introduction of the content, followed by a detailed discussion on the content, and finally providing examples through Cases. References/further reading, tools and exercises are provided at the end of each unit. The outline of the four-day training programme has also been provided in the module for ready reference.

## How to use this training module

This four-day training of trainers (TOT) module is designed for approximately 25-30 participants. Trainers/Facilitators can use the material and exercises in this module, and can also add locally relevant cases and examples while designing and

implementing training programmes. To remain relevant, the trainers need continuous updating so that they stay aware of new material and sharpen their training skills. Many topics and techniques described in this module are accompanied by training notes (e.g., tips for facilitators). These provide information to help trainers understand why a topic is important or how specific techniques will enhance learning by the participants.

## Module Performance Outcomes

The expected outcome of this training module is the development of competent and confident trainers having the skills necessary to design and implement a training programme on value chain extension.

Needless to say, facilitating an effective training course on value chain extension not only involves understanding the technical content on agricultural value chains and the role of extension, but also a range of communication techniques to facilitate interaction and cross learning among the participants/trainees. In other words, an effective trainer should be conversant with a variety of topics and, at the same time, be competent enough to be a good facilitator.

A trainer should review the material ahead of time and plan the appropriate approach to introduce the different topics and the amount of time that is needed for each session.

### **Tips for Facilitator - Guiding principles for conducting an effective training programme**

- *Correct selection of participants for a training programme is vital to the success of any workshop.*
- *Clarity in communicating all aspects of the training programme to the participants prior to reaching the venue is critical. This could begin with the introductory invitation letter itself – explaining the purpose of the workshop and highlighting the importance of attending it.*
- *Once the participants affirm their availability to attend the training programme, it is important to continuously engage their interest by sending them relevant materials, such as the background paper, self-assessment questionnaire, programme schedule, and brochure periodically.*
- *The logistics should be undertaken by the organizers so that the participants are not hassled by any of the minor details and have no deterrents with regard to attending/not attending.*

### **Tool kit**

**Training Materials:** For executing the training programme the following materials are required for trainers and trainees: Training module, card sheet in different colours, poster papers, sketch pens, marker pens, white boards, white board markers, offset paper, board pins, booklet, hand out, books and literature related to market linkage and value chain.

**Training Aids:** Multimedia projector, microphone, projection screen, laptop, computers, printers, scanner, digital camera, voice recorder, etc.

**Training Methodology:** The training programme will be implemented using the participatory approach mentioned here. Some of the major methods that will be used during the different sessions are: Interactive lectures with multimedia presentation and participation through Q & A, group and individual exercises, general lectures and lectures followed by discussion, brain storming, small and large group discussions, experience sharing, market visits, etc.

## Suggested Outline of the Training Programme

DAY 1		
<b>Session 1 0930-1030</b>	<b>Introduction to the Workshop</b>	
	Welcome	
	Self-Introduction - Participants	
	Training Objectives and Outcomes	PPT
<b>Session 2 1030-1300</b>	<b>Linking farmers to Markets and Role of EAS</b>	
1030-1115	A day in the life of a desperate farmer	Video Card Exercise
1115-1130	Tea Break & Group Photo	
1130-1300	Linking Farmers to Markets through Value Addition	Case Analysis Group Work Plenary
	Different forms of Linking Farmers to Markets	PPT
	Role of EAS	PPT
	Q & A	
1300-1400	Lunch Break	
<b>Session 3 1400-1630</b>	<b>Introduction to Value Chain</b>	
1400-1515	Traditional Marketing Vs Value Chain Marketing	PPT
	Why we need Value Chains? Value Chain Actors	
	3 Cases of Value Chain Development	PPT and Group Work
1515-1530	Tea Break	
1530-1630	Value Chain Actors	PPT
	Role of EAS in Value Chain Development	PPT
	Q & A	
	Sharing of Experiences	Participants
DAY 2		
0915-0930	Recap	
<b>Session 4 0930-1100</b>	<b>Value Chain Interventions - 1</b>	
0930-1100	Learning from Reflection: Example of Value Chain Up-Gradation	Guest Speakers <i>(Experts with knowledge and experience in particular topics)</i>
	Q&A	
1100-1115	Tea Break	
<b>Session 5 1115-1300</b>	<b>Value Chain Interventions - 2</b>	
1115-1300	Learning from Reflection: An Example on Developing Ecologically Secure Value Chains	Guest Speaker
	Q&A	
1300-1400	Lunch Break	
<b>Session 6 1400-1530</b>	<b>Value Chain Interventions - 3</b>	
	Enhancing Value and Role of EAS ICTs, Mobilising Farmers, Contract Farming, Organised Retail	PPT Video Cases Discussion
	Q&A	

1530-1545	Tea Break	
<b>Session 7 1545-1630</b>	<b>Value Chain Interventions - 4</b>	
1545-1615	Enhancing Value and Role of EAS Pro-Poor Value Chain Development, Gender and Value Chains, Establishing Business Linkages	PPT Cases Discussion
	Q&A	
	Sharing of Experiences	Participants
<b>DAY 3</b>		
0915-0930	Recap	
<b>Session 8 0930-1100</b>	<b>Value Chain Analysis and EAS</b>	
0930-1100	Value Chain Analysis – Tools and Frameworks Building Capacities: How to Strengthen Capacities on Value Chain Extension Check Lists on Value Chain Analysis	
1100-1115	Q&A	
1115-1130	Tea Break	
<b>Session 9 1130-1300</b>	<b>Challenges in Value Chain Development</b>	
1130-1230	Limitation and Common Mistakes Beyond Value Chains	PPT
1230-1300	Q&A	
1300-1400	Lunch Break	
<b>Session 10 1400-1700</b>	<b>Fieldwork/Exposure Visit</b>	
1400-1700	Fieldwork Guide: Do's and Don'ts Divide into Groups - Producer Organisations/Contract Farming/Direct Marketing/Establishing Business Linkages/ICT in Value Chain Key Questions for Exposure Visit/Fieldwork Visit Market	
<b>DAY 4</b>		
0915-0930	Recap	
<b>Session 11 0930-1130</b>	<b>Key Learnings from Fieldwork</b>	
0930-1100	Presentations/Plenary	
1100-1130	Q&A	
1130-1145	Tea Break	
<b>Session 12 1145-1300</b>	<b>Feedback/Key Learnings from Training</b>	
1145-1215	Trainers' Feedback	
1215-1245	Trainee Feedback	
1245-1300	Sharing Experiences	
1300-1400	Lunch	
<b>Session 13 1400-1530</b>	<b>Valedictory Session</b>	
1400-1500	Certificate Distribution	
1500-1530	Concluding Remarks/Vote of Thanks	

# Contents

<b>UNIT I</b>	<b>LINKING FARMERS TO MARKETS</b>	<b>1</b>
<b>UNIT II</b>	<b>UNDERSTANDING MARKETS</b>	<b>17</b>
<b>UNIT III</b>	<b>AGRICULTURAL VALUE CHAINS</b>	<b>29</b>
<b>UNIT IV</b>	<b>VALUE CHAIN INTERVENTIONS - I</b>	<b>51</b>
<b>UNIT V</b>	<b>VALUE CHAIN INTERVENTIONS - II</b>	<b>73</b>
<b>UNIT VI</b>	<b>VALUE CHAIN ANALYSIS</b>	<b>99</b>
<b>UNIT VII</b>	<b>CHALLENGES AND LIMITATIONS OF VALUE CHAIN EXTENSION</b>	<b>117</b>

## List of Figures

No.	Title	Page
1	Classification of markets	21
2	Organisational structure of farmer society, VFPCCK	25
3	Organisation of farmers' market, VFPCCK	25
4	Generic value chain	30
5	Four-piece puzzle of value chain	31
6	Traditional supply chain (left); and value chain (right)	33
7	Supply chain strategy for growing individual slices of the pie	34
8	Value chain strategy for cooperatively growing the pie	34
9	Value chain levels	36
10	Three dimensions of the value chain process	36
11	Value chains as part of market system frameworks	37
12	Types of extension services	39
13	AE Model, SFI	43
14	ICT services for agriculture	53
15	Transparent & digitized food grading system with AI technology	60
16	Relevant actors and their relationships in promoting PMCA in Nepal	62
17	Schematic diagram depicting traditional value chain in Madhya Pradesh before intervention	65
18	Schematic diagram depicting Ajeevika Fresh Retail Stores linked vegetable cluster value chain model	65
19	Ninjacart connecting farmers and retailers	67
20	GBCs and their impact along the value chain	81
21	Illustrative value chain and possible entry points for removing gender- based constraints	82
22	Schematic diagram depicting the traditional value chain in Purnia	83
23	Schematic diagram depicting the aggregation and marketing model in Purnia	84
24	The marketing model developed by CSA, Hyderabad	86
25	Support services rendered by FPO	86
26	Schematic diagram depicting the traditional backyard poultry value chain in Kesla	88
27	Schematic diagram showing the linkages between the smallholder and cooperatives in the smallholder cooperative value chain in Kesla	88
28	Major components of MLE, SFI	91
29	Value chain analysis	100

30	Components of the Farmbook Suite of ICT Tools	106
31	ValueLinks methodology	107
32	The LINK toolkit	108
33	Competitiveness Diamond	119
34	Connecting farm and industry through value chain	121

## List of Tables

No.	Title	Page
1	Comparison of production-oriented services and MOAAS	8
2	Drivers and challenges in the Indian Food Value Chain	33
3	Potential benefits of business linkages for large firms, local business communities, and small-medium enterprises	79
4	Value chains (Old and New Methods)	102
5	Steps involved in VC D (Oversees Development Institute 2009)	102
6	Advantages and disadvantages of modern agricultural value chains	118

## List of Boxes

No.	Title	Page
1	Agricultural marketing in Odisha	18
2	Value chain thinking	31
3	Interview: Dr Sukhpal Singh, February 2019	32
4	Value chain vs. Supply chain	34
5	Factors affecting participation of the poor in common commercial markets	35
6	Examples of how farmers are leveraging their web presence to access markets	55
7	Interview with Dnyaneshwar Bodke, Abhinav Farmers' Club	75
8	How to integrate gender in a value chain intervention	80
9	Characteristics of gender equitable and competitive agricultural value chains	82
10	Value chain analysis	101
11	Value chain analysis vs. Sub-sector analysis	101
12	Upgrading in value chain	103
13	Value chain obstacles and constraints	120
14	Action Steps in managing value chain relationships, strategy decisions aimed at maximizing performance	120

## List of Cases

No.	Title	Page
1	Linking the poor to markets through value addition – the case of IDEI	9
2	Odisha tribals turn mango entrepreneurs	11
3	Farmers' Market organized by VFPC, Kerala	24
4	Lead Farmer Platform by Dr. Reddy's Foundation (DRF), Hyderabad	41
5	Smallholders' one-stop partners: Agri-Entrepreneurs (AE) by Syngenta Foundation, India (SFI)	42
6	Reliance Fresh: Supermarket driven agri value chain	43
7	Puthari Farmers' Producer Company Limited (PFPC): FPC mentored by Krishi Vigyan Kendra (KVK)	44
8	Mahagrapes: Marketing partner to farmer cooperatives	44
9	FarmerNet – Sri Lanka	52
10	Agribolo-Digital Platform in value chain	59
11	Commodity grading with AI technology, Intello Labs	60

12	Farmer kiosks – ITC e-Choupal in India	60
13	Strengthening the existing horticulture value chain in Nepal	61
14	Direct marketing by farmers	63
15	Farm Grocer at Ambala, Haryana	64
16	Ajeevika Fresh retail stores linked vegetable cluster value chain model in Madhya Pradesh	64
17	Ninjacart connecting farmers and retailers	66
18	Suguna poultry production through contract farming	67
19	African dairy value chain	81
20	Maize aggregation and Marketing Value Chain Model in Purnia (Bihar)	82
21	Strengthening marketing for natural and organic produce through Sahaja Aharam Producer Company Ltd. (SAPCO)	85
22	Smallholder Co-operative Poultry Value Chain Model in Kesla (Madhya Pradesh) by PRADAN	87
23	Development of supply chain for medicinal and aromatic plants in India: Experience from ATMA	89
24	Syngenta Foundation, India – Jawhar Project, Maharashtra	90
25	Making markets work for women in Bangladesh	92



# Unit I: Linking Farmers to Markets

## Objectives

- Discuss the concept of agricultural market and Market Oriented Agricultural Advisory Services (MOAAS);
- Illustrate the importance of linking farmers to markets, and the role of extension in this endeavour;
- Clarify the role of MOAAS.

### Tips for Facilitator

- *The facilitator should set the scene for the four-day workshop by introducing the objectives of the workshop and emphasising the need for creating effective value chains in the agriculture sector.*
- *He/she can use a short video, 'A day in the life of a desperate farmer' (see Exercise 4) which realistically showcases one of the major problems farmers of our country face. This can be followed by an ice breaker exercise so as to get the participants ready for the training.*
- *The facilitator should guide the participants in a participatory exercise in order to establish a few do's and don'ts (for instance, keeping mobile phones on silent mode) for the duration of the workshop so as to ensure optimum utilization of time and resources.*
- *He/she should emphasise that the training programme is not on agricultural marketing, nor about value addition/processing of farm produce, and not intended to make trainers/trainees 'specialists' on value chain development.*
- *He/she should apprise the participants that this training programme is pitched towards gaining adequate expertise on assisting farmers and other actors (both core and supporting) for developing an effective agricultural value chain.*

for transport and storage, and inadequate government assured purchases have all resulted in the distress sale of farm produce. Even though the National Commission on Farmers (2004) had recommended accessibility to regulated markets for farmers within a radius of 5 km (corresponding market area of about 80 sq km), the situation on the ground is very disappointing. If effective marketing solutions are implemented, the surplus farm produce could be transferred to deficit areas and better prices could be realized.

In India the entire agricultural marketing system is controlled by numerous intermediaries who deprive both farmers, especially smallholders, and the end consumers. The participation of farmers in agriculture markets is limited to only local mandis (small/village marketplaces). Linkages between farmers and markets call for major attention as it is now understood that production support activities of small farmers must be linked to market demand, and that production activities must be looked at within the context of the whole value chain and the linkages, or business relations, within that chain. The present scenario demands greater coordination between farmers, processors, retailers and other players in the value chain. Globalization and trade liberalization in India has brought rapid transformation in terms of increasing concentration in processing, trading, marketing and retailing in the agri-food system. Also there is major drift in the consumption pattern, and consumers are increasingly concerned about food safety and quality.

## Introduction

In the last few years, farmers have protested by dumping their perishable farm products on highways, and this novel method has captured headlines consistently. Lack of remunerative prices, poor logistics

*In the recent past, tens of thousands of farmers across the nation walked hundreds of kilometres raising their woes, and how poor product prices and lack of direct market linkages have negatively impacted the incomes of agricultural communities.*

*The three agricultural marketing channels in India are state trading, cooperative marketing, and private trade (GOI 2007). Governmental organizations, such as the Food Corporation of India (FCI), Cotton Corporation of India, Jute Corporation of India, and National Agricultural Cooperative Marketing Federation (NAFED), along with specialized commodity boards, which are crop-specific to rubber, tea, coffee, tobacco and spices, carry out state trading, where the state is involved in the procurement. Cooperative marketing exists for commodities with high-asset fixity, such as milk and fruits (like grapes and bananas). Here, members belonging to cooperatives sell their produce by way of specialized supply/value chains. A significant part of agricultural marketing happens through private trade. The Agriculture Produce Marketing Committee (APMC) often referred to as 'mandi' is the primary market infrastructure found in all states (except Jammu and Kashmir, Bihar, Kerala and Manipur). Their primary function is to regulate market practices, such as weighing, methods of sale, methods of grading, and methods of payment. To date, there are 7246 functioning mandis in India.*

**Source:** Pingali 2019

Farmers increasingly need knowledge and skills to compete in the new farming environment. They need to develop or adopt new technologies, diversify their production, and identify and exploit new market opportunities. Extension efforts need to be directed towards developing skills and strengthening the capabilities of small-scale farmers – to become more competitive and profitable. Over the past few years, there has been a shift in the EAS approach from merely providing technical advice to enhancing production, to provision of advice related to marketing farm products. In this unit, you will see some of the basic concepts pertaining to agricultural markets, MOAAS, value chains, and the role of extension personnel in linking farmers to effective markets.

## Discussion

We are witnessing a transformation in the way food production, processing, and distribution are organised world-wide. This transformation is triggered by:

- Increasing income and changing food consumption towards high value agri-products;
- Increasing urbanisation and organised retailing;
- Tightening food safety and quality requirement;
- Supply chain integration in the agri-business sector.

**Marketing** can be defined as the commercial functions involved in transferring goods from producer to consumer. Marketing is not just the final transaction of receiving a cheque. The marketing process includes all the activities for creating, communicating, delivering and exchanging offerings (products and services) that satisfy customer needs or requirements, and thereby, have value for customers.

**Agricultural marketing** is a set of business activities that are performed in the flow of products from the beginning of agricultural production to the end stage, that is, into the hands of consumers.

**Market orientation** means a business approach or philosophy that focuses on identifying and meeting the stated or hidden needs or wants of customers.

**Linking farmers to markets** can embrace a whole range of activities, from the very small and localized to the very large. Types of linkage can be categorized in various ways. It could be: farmer to domestic trader, farmer to retailer, linkages through a leading farmer, linkages through co-operatives, farmer to agro-processor; farmer to exporter and contract farming (Shepherd 2007). The concept does, however, assume the development of long-term business relationships rather than support for ad hoc sales.

**Extension and Advisory Services (EAS)** consists of all the different activities that provide the information and services that farmers and other actors in rural settings need and demand. The activities assist the stakeholders in developing their own technical, organizational, and management skills and practices so as to improve their livelihoods and well-being. EAS recognizes three important elements: the diversity of actors in extension and advisory provision (public, private, civil society); much broadened support to rural communities (beyond technology and information sharing), including advice related to farm, organizational, and business management; and facilitation and brokerage in rural development and value chains (GFRAS 2012).

**Market Oriented Agricultural Advisory Services (MOAAS)** include a highly diverse range of services from technical know-how, understanding of markets, their requirements, and business management to organizational development, and facilitation of change in value chains. This illustrates the diversity of advisory service needs for creating increased competitiveness among the diverse actors in value chains (Chipeta et al. 2008).



Farmers are under pressure to produce what is demanded by buyers rather than relying on markets to absorb whatever they produce.

Small farmers generally lack technical knowledge to meet market requirements; many do not have knowledge of demand, quality and prices. Forced to operate in local markets, where the weighing systems are faulty and agents charge high brokerage, the producer gets only a fraction of what the final consumer pays. There is an increasing body of evidence – worldwide – that clearly shows that farmers gain if they are organized and their capacity/(ies) to understand markets and plan their production are enhanced.

Extension and Advisory Services (EAS) have a great role to play in supporting farmers to help them access the right markets, help them understand and maintain the quality standards demanded for their products at these markets, and also help them gain a fair share in the price paid by the consumer. To develop sustainable and effective markets, EAS should support not only farmers, but other actors in the agricultural value chain too.

## Agricultural marketing

Agricultural marketing includes all the activities and services involved in moving an agricultural product from the farm to the consumer who buys the product. In this way, agricultural marketing includes activities such as:

- Production planning;
- Growing and harvesting;

- Cleaning, grading and packaging;
- Storage and transport;
- Distribution;
- Advertising; and
- Sales.

## Different ways to access markets

There are different ways and options to sell farmers' produce to buyers. This includes selling directly to those who visit farms during harvest time, or they may decide to take their produce to the nearby village market and sell to traders, or directly to consumers. Farmers can also send or take their produce to a more distant market. In some countries, farmers may have relationships with traders who have provided them with some form of credit, and they must therefore sell at least part of their produce through those traders. It is not always a best option to sell their produce in the nearby market.

While selling farm produce, farmers must consider a number of factors, such as the costs involved in the marketing of the produce, including transport, packaging, and labour. Farmers must also consider the physical losses due to shrinkage and deterioration, which may be incurred during the transport of the produce to different markets. A key consideration in making the decision on where to sell is the farmers' expectations of prices, which may be obtained from different types of markets.

**Farmers selling directly to consumers:** This is one of the major options for those farmers selling directly to the consumers that come to their doorstep or the

farmer's garden. Farmers can take their products to either the nearby market or urban market to sell their products. In this approach, farmers receive more profit than selling straight to traders or middlemen. However, he/she will be deprived of time spent in the farm doing productive work. Similarly, they will have to bear the risk associated with price fluctuation, losses, etc.

For example, Bhaskar Kamble, a grape farmer from Nashik, Maharashtra, taps the potential of the internet to sell his produce directly to consumers through a website called [bestgrapes.co.in](http://bestgrapes.co.in) (Pujara 2017).

**Farmers to traders:** When traders are interested in meeting farmers to purchase their produce, they visit the farm for negotiations and other formalities. Traders need various commodities, according to the demands of the market, and will be interested in purchasing from the farmers if they can make some profit by selling in the market. In a few places, where there is no road access up to the farmer's land, farmer will have to carry their produce up to the road. They use various available resources such as power tiller, animals, human carriers, etc., to carry their produce to the road to make it available to the traders. They usually agree on the specified place to exchange their goods. Nowadays, due to rapid expansion in mobile and telephone connectivity, negotiations can be conducted even before the physical goods are sold.

In many countries where there is a production pocket area, they usually have a collection centre established. Many farmers are blind to the



requirements of the market and traders regularly visit these places to purchase. In the collection centre price is set based on the negotiation that takes place between the traders and the collection centre representatives. Collection centres enable produce to be assembled in large quantities. This attracts buyers and creates competition between them. Better prices are realized and economies can be achieved in transport. There are chances that farmers sometimes have to return their produce from the market due to low rates offered by the market traders.

There is always a price war between the farmer and trader. While farmers complain that traders cheat them by not giving the actual price, traders say that they have given a good price to the farmers as per market rates. There are no proper linkages and understanding between the trader and the farmer and so traders cannot decide prices without actual physical verification. Traders usually collect according to buyers' specifications in terms of quantity, price and quality, and then start exploring various pocket areas from where they can get the required product. After purchasing produce from farmers, traders will further sell it to the regional or other market wholesaler, retailer, or processing company.



**Farmers to wholesalers:** Farmers have also the option to sell directly to the wholesaler in the market. Actually, it is very difficult for farmers to carry their produce up to the marketplace, which are generally far from their homesteads, unless they have already specified buyers who know them and have talked to them in advance through telephone. In this option, a farmer should have sufficient quantities as per the buyer's demand, and farmers should also have a transport facility. If one farmer does not have the required quantity a group can combine their produce. Traders do not work only with a single farmer because they need quantities of products with the same quality to sustain their business, and they usually look for regular suppliers who can meet their demands.

**Directly to retailers:** Retailers have direct contact with farmers for transaction of required goods. This approach is popular nowadays so as to cut down margins taken away by middlemen, and make products available to consumers at a lower price. A large department store procures vegetables and agricultural products directly from farmers. In India, the Reliance Retail food chain has established direct network with the farmers in villages for regular supply of food and vegetables. In this case farmers will be paid money on instalment basis.

**Farmers to processing company:** In some situations farmers sell directly to the processing company. For

example, farmers sell wheat, maize etc., to mills with or without any formal contract. In case of small farmers, agents will purchase from the farmers while large farmers transport their produce up to the factory. Mainly fruits, sugarcane, and tobacco are usually carried by the farmers up to the factory.

**From the farmer's group or cooperatives:** There are many groups and cooperatives actively engaged in supplying agricultural produce to the wholesaler or retailer by combining their produce. Cooperatives can establish a collection centre with the basic infrastructure, such as weighing machine, storage, packaging, etc. Cooperatives have benefited by receiving support from the government and donors to build suitable market infrastructure.

**From the lead farmers:** In this method, lead farmers collect orders from different types of markets, and then purchase from the nearby villages to supply these in the required quantity.

**Contract farming:** Globally, contract farming is popular with certain crops such as tea, sugarcane, etc., which need to be processed immediately and there are a limited number of buyers. This approach works in any type of crop for transaction between the buyers and sellers. In this approach, the processing company will provide all types of inputs and services to the farmers with a provision of deducting all costs at the time of



purchase. Contract can be either verbal or written. A large company will formally sign a contract whereas a small company will verbally agree on the terms and conditions. In such a condition, breach of contract often occurs when some other traders offer a higher amount to the farmer. For example, at the time of harvesting if some other traders give bigger amounts, then despite the agreement with the previous trader a farmer may sell to the latter one. Even if there is a formal or informal agreement between the buyer and supplier both parties have to take risks. For example, the company has to depend on their buyers and if the price goes down due to market conditions then the company will be in loss or may even go bankrupt. In this situation, although they have agreed on certain terms and conditions the company will not be in a position to pay the farmers.

## Market oriented extension

Extension related to markets and prices had low priority in the past. Given current challenges, extension workers should be in a position to advise farmers not only on how to grow crops, but also on how to market them.

Market orientation demands a value chain orientation, which in turn implies that extension must meet the needs of a range of actors, not just farmers (Christoplus 2010). In effect, market oriented extension is about making sure that a range of actors are able to collaborate with one another. It implies the need for facilitation and brokerage efforts to address constraints and bottlenecks in market access.

“Much effort has been made over the past decade to develop more effective market-orientation within extension services. Efforts were more ‘marketing-oriented’ (consisting of direct support to bring products to markets) rather than ‘market-oriented’ (developing the capacities of value chain actors to deal with markets themselves). Good market-oriented extension requires looking beyond the market opportunities that exist right now to focus more on helping farmers prepare to compete in the markets of the future” (Christoplus 2010). Marketing extension doesn’t mean deciding for farmers what they should do or what products they should sell nor any active participation in distribution, marketing and sales (Dixie 2007).

It involves three aspects:

### Marketing Education

Creating a better understanding of the process, the market and its demands in terms of products and services (for example, Participatory Market Chain Analysis in Nepal - *Refer to Case 13*).

### Co-ordination

Mobilising groups, organising events, getting things started, hand-holding, injecting energy (for example, Women SHGs in pineapple value addition in Gajapati, Odisha - *Refer to Case 1*).

### Business Linkages

Making introductions between buyers and sellers and facilitating the start-up process of new trading relationships (for example, Farmer markets in Kerala – *Refer to Case 3*; Organised retail of F&V in Hyderabad).



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The emphasis in market oriented extension has to be on developing long term business relationships rather than on supporting ad hoc sales, and organizing linkages across the value chain. EAS may include services within three areas:

- Technology and information sharing;
- Advice related to farm, organizational and business management;
- Facilitation and brokerage in rural development and value chains.

## Market Oriented Agricultural Advisory Services

According to Chipeta et al. (2008), Market Oriented Agricultural Advisory Services (MOAAS) may include:

- Technical know-how to improve quality, quantity and timing of production, etc. (selection of products, varieties and animal breeds suitable for the market, good agricultural practices including soil fertility management, plant protection and water management);
- Know-how on economics, business management and markets (enterprise analysis, marketing, market analysis, business planning and record keeping, also advice on legal, regulatory and certification issues);
- Know-how to enable value chain actors to meet value chain quality requirements (post-harvest handling and storage, processing and packing technology, meeting food safety and agricultural practices standards, consumer rights);
- Capacity development for strengthening producer and other value chain actor groups (financial management, leadership, situation analysis and action planning, negotiation skills, participatory innovation development);
- Facilitating and associated changes in value chain management (co-ordination of production and establishment of collective marketing, negotiation of contracts, legal aspects, brand development, linking producers to supermarket supply chains of fair trade, organic and other specialized markets, access to certification and accreditation schemes);
- Facilitating linkages among different actors along value chains (convening multi-stakeholder forums to understand market trends and drivers, to foster better mutual understanding and trust, to identify bottlenecks along value chains and devise solutions, and to assist traders and processors to link up with reliable producers).

MOAAS may be offered by diverse types of service providers, including producer and commodity organizations, processing and trading enterprises, independent private service enterprises, input

suppliers, village advisers, public advisory service organizations and mixed public-private-civil society systems. MOAAS must, therefore, pay attention to ensuring that both public and private sector service providers have access to adequate back-up services.

Compared with traditional extension, MOAAS delivery involves implementing new tasks and using new tools for which traditional extension staff are not well equipped, because they have generally not been educated and trained for it (Table 1). It involves activities, such as value-chain mapping and analyses, stakeholder facilitation, developing and implementing quality standards (for example, European Good Agricultural Practices or EuroGAP, eco or fair-trade certification), negotiating contracts and quality standards with processors, and finding solutions for logistical problems like storing, packaging and transporting of produce (AFAAS 2011).

**Production oriented** (direct support to bring products to markets) vs. **Market oriented** (developing the capacities of value chain actors to deal with markets themselves).

In this newly emerging market oriented extension approach, it is the growing market for high-value products, not research, that controls specific innovations that can be successfully taken up by different farm households. In the process each household must consider its own resources (e.g., land, labour, access to water) and access to different markets (e.g., transportation infrastructure, distance to different local, regional and even global markets). Then it must determine which enterprises would be most feasible and whether appropriate technologies are easily available for them to successfully produce and market these different crops, livestock, fisheries, or other agricultural products. EAS, if capacitated adequately, can support farmers to take these decisions.

In the transformation from a technology-driven extension system to one that is more market driven,



**Table 1: Comparison of production-oriented services and MOAAS**

	Production- oriented services	MOAAS
<b>Target group</b>	Producers	All stakeholders in value chain
<b>Knowledge domain</b>	Farm-related technical production topics	Sector-related economics, trade, marketing, processing, value-chain management
<b>Skills</b>	Technical competence	Facilitation of collaboration, trust building, communication, finances, group development
<b>Attitude</b>	Market guided by distrust: Market as threat	Trust building: Market as opportunity
<b>Production system</b>	Low-value produce	High-value produce
<b>Need for support service</b>	Low	High
<b>Need for supporting infrastructure</b>	Low	High
<b>Need for supporting policy</b>	Low	High

Source: AFAAS, 2011

extension priorities and procedures have to change dramatically. First, economic factors will become central to the programme planning process. The first operational principle is that if there isn't a market for a particular crop or product, then farmers shouldn't be encouraged to produce that crop or product. In developing a market-driven extension system, one of the prerequisites is for both farmers and field extension staff to have better access to current and reliable market information (Swanson and Rajalahti 2010). Extension needs to shift some of its focus from food security to increasing farm income and rural employment. Extension services can increase producers' negotiating power by increasing access to information on alternative markets, giving producers better negotiating skills, helping producers meet quality, quantity, and timing needs of the market, and promoting collaborative action in marketing products.

## Value chain extension

One of the most successful methods for linking farmers to markets that has emerged in the last 20 years in the agriculture sector is the value chain approach. This method not only assists farmers, but takes a systems view with support all along a chain of interested actors who work together to improve their marketing prospects. A typical value chain project begins with a product selection process. Based on this decision, a market analysis is conducted for that product. After that, based on the results from this analysis, the marketing team leading the work then sets up meetings to introduce like-minded actors along a chain to explore prospects for developing business linkages. The value chain process then brings together interested actors from the core chain,

Business Development Services (BDS) and other regulatory agencies, if needed, to develop and invest in a value chain upgrading approach.

The goal of an extension organisation and individual agents in a value chain process is not only to identify markets and establish value chain trading

**Business development services (BDS)** include people and organisations who support the production, supply and marketing of goods, without owning the product involved, e.g., market access support, infrastructure support, and training support. These do not take ownership of the product, but play an essential role in facilitating the value-creation process. Along with the value chain (VC) actors, these support providers represent the extended VC. Three main types of support provider can be distinguished:

- Physical inputs, such as seeds at the production level or packaging materials at the processing level;
- Non-financial services, such as field spraying, storage, transport, laboratory testing, management training, market research and processing;
- Financial services: These are separate from other services because of the fundamental role played by working capital and investment capital in getting the VC on a path of sustained growth.

Source: GFRAS 2017

relationships, but also to build the capacity of local farmer organisations and their service providers to link into existing or emerging value chains, and help them to scale out the market linkage approaches. In the long term, the aim of the value chain approach is to improve the chain-wide, systems level operations, so that more people in the value chain or sector benefit from an upgrading process that establishes durable trading relationships (GFRAS 2017).

## Conclusion

Linking farmers to markets is presently recognized as one of the mandates of extension and advisory services. This involves providing advice on good practices in crop production, strengthening producer-

buyer linkages, developing long-term business relationships with market outlets, facilitating linkages with input suppliers, financial institutions and market outlets, and helping to negotiate. This unit highlights the extension personnel's substantial role in supporting farmers to help them access the right markets to gain a fair share in the price paid by the consumer. Here the EAS should support not only farmers, but also make sure that a range of actors are able to collaborate with one another in the agricultural value chain, which thereby implies the need for facilitation and brokerage efforts to address constraints and bottlenecks in market access. It tries to emphasise the changing role of the extension agent in providing support to farmers in several areas.

## Cases

### **Case 1: Linking the poor to markets through value addition – the case of IDEI**

International Development Enterprise, India (IDEI), worked on linking poor tribal horticultural producers through value addition to high value markets in Gajapati District in the Indian State of Odisha. IDEI learnt that value addition is a potential option, but this would require developing strong linkages at various levels – between markets, intermediaries, users, technology suppliers, research institutes as well as grassroot-level facilitating organizations.

#### ***Project development***

During the project design phase, IDEI contacted the two organizations, namely the Odisha University of Agriculture and Technology (OUAT) and the Centre for Community Development (CCD), an NGO working at Gajapati, for developing a project on value addition of horticultural crops. CCD has been talking of the problem of distress sale of horticultural products by tribal growers for the past few years, but it failed to generate any support from others in its efforts to address it. OUAT has developed many low-cost, mechanized and non-mechanised value addition technologies in their laboratories, but these were not tried out among the poor, due to lack of field level opportunities for its trials. Therefore the new initiative was trying to address the concerns of both. After several rounds of discussions with local horticultural growers, local NGOs, technology support organizations and the donor, the project proposal was developed. The project was supported by DFID's Crop Post Harvest Programme (CPHP). The project was initiated in February 2003, for 23 months' duration.

#### ***Livelihood and Market Analysis***

The project started with two small studies, namely livelihood analysis and market analysis conducted by IDEI and CCD, to decipher the factors affecting livelihood, and these studies revealed the need for intervening in other crops facing distress sale. The studies also helped in rapport building with the community. During market analysis, several processing companies were met who showed a keenness to procure from tribal farmers, if quantity and quality could be ensured. It was discovered that M/s Aaren Foods Pvt Limited and Orissa State Cooperative Milk Producers' Federation (OMFED) had been procuring raw produce from far-off places like Kolkata, Nagpur, etc. They had been avoiding the horticulture-rich areas of Odisha for reasons such as lack of a single forum for delivery of the required quantity, no-single party representation from growers, lack of price negotiation option, etc.

### ***Technological initiatives***

The project team found that pineapple could be a good crop to start with. After a quick technologies scan, OUAT suggested trying out osmo-dehydrated pineapple slices and pineapple juices at the lab level. The first batch was tested as per food quality standard in the labs. OUAT developed a simple and user-friendly juicer having both manual and power operation facility for the women SHGs of the project area. Technologies for jam, jelly, candy, pickle, etc., were also tried out. IDEI, through its extensive market contacts, facilitated CCD in procuring simple manual machines like pouch sealing machines, metal corking machine, and tamarind deseeding machine (from one of IDEI's manufacturers) that can be utilized by the community directly or can be rotated among the SHGs. Women SHG members from the project area were trained in the OUAT lab on preparation of these value added products. While the technologies for the preparation of squash, jam, RTS, pickle and juice extraction were easily understood and adopted by the growers, the osmo-dehydration technology needed some time for acceptance and adoption. A group of SHG members visited the OUAT laboratory thrice to understand the technical process.

The first lot of juice produced in the field was damaged due to the lack of hygienic facilities that are a must for processing fruits. Subsequently, a series of trainings were conducted by experts of OUAT and other agencies for the local SHGs on production of juice and candy. An electric dryer was used to dry the product. As electricity was not available in the villages (where the SHG members live), it was decided to go for sun drying. The technology had, therefore, to be changed to sun drying, but the quality (especially the colour) was not up to the mark. Moreover, considering the rainy season when pineapple is harvested, there is a need to develop alternatives such as a biomass-based dryer. More work needs to be done to adapt this technology to the conditions prevailing in the areas where it has to be adopted. But at the end of two seasons, the project ended.

On seeing the market potential, CCD showed an interest to set up a processing plant in the local area. A feasibility study was conducted with technical guidance from the Centre for Technology and Development (CTD), an agency having expertise on commissioning and running fruit processing units. This led to the development of a proposal which was submitted to the Department of Science and Technology (Government of India) which funds such ventures in rural areas. Later, a proposal was submitted to the Council for Advancement of People's Action and Rural Technologies (CAPART), under the Advancement of Rural Technology Scheme (ARTS).

### ***Product testing***

OUAT carried out the bulk processing of pineapple, jackfruit, cashew apple and lemon in the laboratory as well as at CCD in Gajapati. The above mentioned products were developed with the objective of testing the product in the market. Different sorts of packaging materials were tried for proper packaging of these products. Visits to other processing plants and packaging units helped them to gain an understanding of the food industry and an economic perspective of it. With the initiative of IDEI, a set of product labels were designed and printed to give the value-added product a commercial look. Furthermore, for the first time, a brand name 'Mahendragiri' was developed by CCD. (Mahendragiri is the name of the hill range that goes through Gajapati District).

A consumer study for Osmo-Dehydrated pineapple slices was also conducted in Bhubaneswar and Cuttack by M/s Jagannath Merchandising Ltd. The feedback from the consumers and retailers were valuable in perfecting the technology on issues like packaging and pricing. The Area Managers of IDEI also conducted market preference studies of these products in four different zones of Odisha State, mainly in urban and semi-urban places. Based on market feedback the products were further refined. This phase also helped in establishing market linkages with output markets for the value-added horticulture produce of the tribal farmers.

### ***Marketing tie-ups***

The project partners initiated efforts for these linkages, and soon enough, in-principle tie-up for procurement was achieved with M/s Aaren Foods for pineapple, tamarind, turmeric and cashew. Aaren Foods readily agreed to linkages when CCD took responsibility for mobilising its SHG Federation as a

representative for the growers, for procurement and price fixation. Later OMFED also agreed to a tie-up with CCD for procurement of raw and processed produce like pineapple, lemon, seedless tamarind, etc. CCD, meanwhile, facilitated formation of a federation of SHGs, namely Gajapati Women Self Help Co-operative Ltd to facilitate trading, value addition activities as well as to look into capacity development of the growers under the active guidance of CCD. By the end of 2004, one metric ton of pineapple juice and lemon juice was supplied to OMFED and one quintal of seedless tamarind was supplied to Aaren. This directly benefited the community in terms of getting better prices, assured sales, and thus better bargaining power.

As proposed a processing plant by CCD in partnership with the SHG Federation will be one of the most *pro-poor* interventions, which will provide economic returns to the community. The plant proposes to utilise the value addition skills acquired by its women SHG members and prepare processed products that can be marketed. The project officially ended in December 2004, exactly after 23 months since its inception, in February 2003.

### **Post project phase and Impact**

Though the project has officially ended, the social capital generated by the project is sustaining the interventions to a large extent. The partners have been interacting informally since then. CCD couldn't get the proposal for establishing the processing plant funded by either DST or CAPART. While there was a change in priority in DST, the key person (Convenor) at CAPART was transferred, and since then the proposal hasn't received any favourable attention. Though the Government of Odisha has stated its intention to set up a cold storage facility in the project area and establish a local level processing unit, this hasn't happened so far. CCD neither has the resources nor expertise to follow up on these activities, particularly product development, brand promotion and marketing. CCD is continuing its value addition activities with the SHGs, with the limited infrastructure it has.

The major product that is made by the SHGs is pineapple juice, which the OMFED is buying from them. Convinced by the value of this intervention in addressing poverty, OMFED changed its norms regarding procurement and payment from SHGs. In July 2006, OMFED gave an order for 4000 kg of pineapple juice to the SHG groups through CCD. CCD has supplied 4232 kg of pineapple juice. SHGs have procured pineapple from the local market by paying a higher price i.e., INR 5/- when it was being actually sold for INR 4/- and 3/-, thereby benefiting the tribal producers. Twenty-five women from five SHGs were engaged for 10 days in processing the pineapple and got daily wages for this work. Thus these are new jobs created in this area. CCD and the SHGs bargained with OMFED for transportation of the juice from their area, (Mondalsahi) so OMFED secured four trucks, where 12 men were engaged. These men got their wages, and made a profit of INR 18000 for just 10 days of work (Rs 72/day), apart from what all these women groups made. As the quality of the products was satisfactory, OMFED requested CCD to procure another 2000 kg. Women groups also visited OUAT with pineapple for making osmo-dehydration of pineapple slices, titbits, and also with jackfruit. Out-station trials are continuing in search of potential markets, but on a limited scale due to resource constraints.

*Source: Sulaiman 2008*

### **Case 2: Odisha tribals turn mango entrepreneurs**

Mango growers of Mayurbhanj are now marketing their harvest through their own company. In an initiative that was initially supported by the district administration, the Mayurbhanj Fruits and Vegetables Producers' Company (MFVPC) came into existence in November 2015, and it is scripting a success story.

The produce of these farmers, mainly small and marginal growers, is reaching distant markets in Delhi, Jamshedpur, Bokaro, and many other places in the country, helping them reap considerable profits. After achieving success through a sales tie-up with Mother Dairy, the farmers of Mayurbhanj district have formed MFVPC that is being monitored by the Deputy Director of District Horticulture's unit. The company already has 362 producers enrolled as members.

“The district administration helped us form a registered company to export mangoes. Now we are harvesting vegetables too and marketing them outside the state. The producers have been getting a good price ever since the company started,” said Jitendra Hembram, Managing Director of the firm.

It all began around three years ago when Mayurbhanj District Collector Rajesh Prabhakar Patil came across a mango-bearing belt at Basketala in Bangriposhi block. He was told that the area had around 1,800 mango trees belonging to 43 farmers who grew prized varieties such as ‘langada’ and ‘dussehri’. He was shocked when he was told the growers were being exploited by traders from Uttar Pradesh and Bihar, who took their produce by paying just INR 150 to 200 for an entire fruit-laden tree.

“These traders came from Uttar Pradesh and Bihar and were paying around INR 150-200 per tree to the tribal mango growers during Makar Sankranti. They would leave a caretaker and harvest the fruits, but the scenario has changed now. Odisha Rural Development Marketing Society (ORMAS) assists the farmers in marketing their products,” said Kesab Jha, chief executive of the district supply and marketing society. Jha said things changed following the intervention of the district collector.

Last year, the growers earned a profit of INR 15 lakh with a harvest of around 83 metric tons and shared the amount among themselves. A woman farmer, Shakra Hansda, got the highest amount of INR 1.4 lakh as her share, followed by Kisan Murmu, who made a profit of INR 1.3 lakh. This year, out of the total harvest of 32 metric tons, 11 metric tons have been exported.

In Mayurbhanj, mango cultivation was undertaken on a plot under Bangiriposhi block through the employment assurance scheme in 1994-95. Initially, the growers were exploited by local middlemen.

The district collector of Mayurbhanj, Rajesh Prabhakar Patil, said: “Farmers cannot get best prices unless they operate in a group. That is why the company consists of growers. The middlemen were taking away fruits from the farmers at a very low price. The district administration helped farmers to form a society – the Mayurbhanj Fruit and Vegetable Producers’ Company – through which the farmers are getting good returns.”

*Source: Kundu 2016*

To see the video use the link below: Odisha tribals turn mango entrepreneurs <https://www.youtube.com/watch?v=vEZreQNOfek>

## Tools

### Tool 1

#### Checklist for making MOAAS intervention decisions

- Is the distance from producer of the product to market too far?
- Are the agro-ecological conditions for the crop in farming activity favourable?
- Will it make the producers dependent on one crop or farming activity? Are enough opportunities available for spreading risk?
- Will the activity saturate the market, driving down prices?
- What will be the impact on the environment?
- Does the activity make a contribution to a (socially, ecologically and economically) sustainable farming system?
- Will it compete with staple crops, increasing prices of staple food, negatively effecting landless people who have to buy food?
- Is there enough capacity among farmers and/or farmer organisations to defend their interests in the value chain?
- Are women involved in production, and is the family benefiting from the proceeds?
- Are poor farmers involved or can they easily participate in the production?
- Is the activity generating employment for poor people?
- Will there be negative side effects, like increase of workload for women?
- Will the working conditions be affected, e.g., child labour or health, because of pesticide use?
- Will food security suffer from enhancing cash crop production?

*Source: AFAAS. 2011. Market Oriented Agricultural Advisory Services (MOAAS)-Guidelines for setting up MOAAS pilots. Study on MOAAS approaches. Commissioned by Forum for Agricultural Research in Africa (FARA).*

## Tool 2

### SWOT Analysis

SWOT analysis helps farmers develop production and marketing strategies that build on existing strengths and opportunities, and take appropriate action to address current weaknesses and reduce exposure to risks. At the same time, it enables extension officers to identify areas where their assistance may be required. This is illustrated with an example from Vietnam.

**Table 1: SWOT analysis for cassava in A Luoi (Thua Thien Hue Province)**

Main strengths	Main weaknesses
<ul style="list-style-type: none"> <li>» There is a significant area under cassava production</li> <li>» Fresh roots have a relatively high starch content throughout most of the year</li> </ul>	<ul style="list-style-type: none"> <li>» Limited adoption of industrial varieties</li> <li>» Farmers have limited capacity to invest and take risks</li> <li>» Farmers have poor knowledge of the market</li> <li>» Farmers have limited knowledge of improved cultivation technologies and practices</li> <li>» Cassava is often cultivated in sloped land</li> </ul>
Key opportunities	Key threats
<ul style="list-style-type: none"> <li>» Local agro-climatic conditions are appropriate for off-season cassava cultivation</li> <li>» Available technologies can generate significant increases in yield</li> <li>» Strong regional demand for industrial cassava</li> <li>» Limited competition and high prices during the off-season months</li> </ul>	<ul style="list-style-type: none"> <li>» Under current agronomic practices, cultivation in sloped land is leading to soil erosion and depleting soil fertility</li> <li>» Production areas across the border in Laos are starting to compete with A Luoi during the off-season</li> <li>» The dry starch factory in Phong Dien is increasingly well supplied, especially during the main harvesting season (October-February)</li> </ul>

*Source: Wandschneider T and Yen Ngo Kim. 2007. Guide to agricultural marketing extension with special reference to Vietnam. Module 2, Supporting collective action for market access.*

## Tool 3

### Extension personnel's activities to create market and business linkages

1.	Invite traders to meet with a farmer group	Wherever possible explore with the traders interested in doing business
2.	Assist traders to find new market outlets	Identifying market opportunities for traders to explore and supporting them in expo or national and international visits
3.	Create linkages between a group of growers and a processor	Find out the raw material needs of the processor and the buying prices Establish an arrangement between both parties covering production planning, technical and input support, prices and quality standards, delivery and payment terms Provide ongoing support by monitoring of production and payments and assisting with dispute resolution
4.	Assist farmers to overcome transport problems	Work with a group of farmers and transport agents to develop a transport service
5.	Promote new market places	Encourage the establishment of collection centres or a farmers' market in the local town and assisting them in planning
6.	Provide information and negotiating support to farmers and farmers' groups	Assist farmers by providing them with names and contacts of important businesses such as suppliers of packaging, transport companies, market agents and traders and processing companies Guide farmers with typical prices, packaging, comparative transport costs, and agents with good reputations
7.	Support the start-up of new trading relationships	Act as the third party supporting in any disputes and communication

*Source: RGB. 2010. A manual for trainers: Agricultural marketing; A resource manual for farmer's groups and cooperatives. Thimphu, Bhutan: Royal Government of Bhutan, Ministry of Agriculture and Forests, Department of Agricultural Marketing and Cooperatives. (Available at [http://www.dphu.org/uploads/attachements/books/books\\_2332\\_0.pdf](http://www.dphu.org/uploads/attachements/books/books_2332_0.pdf))*

# Exercises

## Exercise 1

Understand the concept of agriculture market;  
Exhibit the pictures to understand agriculture market;  
Ask participants to talk about the pictures/scenes. Discuss the agriculture market concept.



## Exercise 2

### Group Exercise

Divide the participants into three to four sub-groups and let each group think through on the cases (may use Case 1 and Case 2 for this exercise, also find a case study from online sources relevant to your context) put before them, so as to answer the questions given below. They may note down points on chart/card which can be presented later by the team leader of the group.

- What was the issue/challenge farmers faced?
- Who all were involved in addressing the issue?
- What was the role played by each actor in addressing this issue?

## Exercise 3

Identify best practices in your country/state where the income of smallholder farmers were successfully increased by linking them to markets and processing industries. What are the conditions that need to be employed to replicate this success elsewhere?

## Exercise 4

### Paired Card Exercise

“A day in the life of a desperate farmer”

Link to the video: <https://www.youtube.com/watch?v=U0IDup33qZw&t=7s>

This short video can be presented during the introductory session of the training programme as it realistically showcases one of the major problems farmers of our country face. The participants can be asked to do paired card exercise for the following questions. Each pair should list out two important functions on the cards (one for each function/role). Collect these cards and pin them to a board; and ask participants to prioritize.

How can we prevent such desperate situations?

What should extension functionaries do to avoid such situations often faced by farmers?

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# Unit II: Understanding Markets

## Objectives

- Discuss the concept of markets;
- Illustrate the types of agricultural markets;
- Elucidate the role of market actors.

## Introduction

In agriculture different markets exist for the same product – one informal or traditional, and the other formal or modern. Smallholders are frequently involved in the informal market system that deliver products to local middlemen and then to small local stores. Formal markets can deliver the same product, usually in better or more uniform quality, from larger farms or more organized groups of small farmers to more commercial wholesalers, and from there to supermarkets or exporters. This duality can limit many small producers in markets characterized by low-quality products, low prices, and low returns for them. Hence small producers need to be integrated to benefit from the perks of the modern agricultural marketing system.

Agricultural marketing include all those activities which are mostly related to the procurement, grading, storing, transporting and selling of agricultural produce. Farmers dispose their surplus produce at a fair and reasonable price through efficient agricultural marketing system. Improvement in the condition of farmers and their agriculture depends to a large extent on the elaborate arrangements of agricultural marketing as it provides outlets and incentives to increase production and contribute greatly to the commercialization of subsistence farmers. Therefore well-organized agricultural marketing is indispensable for the development of the agriculture sector.

In recent years, agricultural markets in India have grown in size and complexity, not only in terms of volumes and commodities traded but also in terms of regulatory reforms and the proliferation of new marketing channels and arrangements, with new

and evolving roles played by both state and private players (Vijayshankar and Krishnamurthy 2012). Recognizing the importance of liberalized agricultural markets, direct marketing, contract farming, farmer producer companies, start-ups, etc., are promoted to maintain strong linkages from production to markets. A study of the agricultural marketing system is necessary to understand the trends and complexities involved, and to identify bottlenecks with a view to providing efficient services in the transfer of farm products and inputs from producers to consumers. This unit aims to understand the perceptions and concept of market, the types of markets, actors, and their roles.

## Discussion

### Market

In simple terms, 'market' refers to a physical place where goods and services are exchanged between buyers and sellers at a particular price. In order for a market to exist, the following components have to be present:

A product or commodity that can be bought and sold;

- Buyers and sellers;
- A business relationship between buyers and sellers; and
- A particular area, such as a region or a country.

### Agricultural Markets

Agricultural marketing system is an efficient way by which farmers can sell their surplus produce at fair and reasonable prices. Improvement in the condition of farmers and their agriculture depends to a large extent on the elaborate arrangements for agricultural

The word **market** comes from the Latin word '*marcatus*' which means merchandise or trade or a place where business is conducted. The word 'market' has been widely and variedly used to mean: (a) a place or a building where commodities are bought and sold, e.g., supermarket; (b) potential buyers and sellers of a product, e.g., wheat market and cotton market (Acharya and Agarwal 2004).

**Markets** are a type of 'institution' or mechanism that exists to facilitate exchange, co-ordination and allocation of resources, goods and services between buyers and sellers, between producers, intermediaries and consumers. Competitive markets can provide 'efficient' co-ordination by reducing the cost and risk of carrying out transactions, can encourage business development and also help to achieve broader economic objectives (ADB 2005).

According to the National Commission on Agriculture, 1976 (XII Report), **agricultural marketing** is a process which starts with a decision to produce a saleable farm commodity, and it involves all the aspects of market structure or system, both functional and institutional, based on technical and economic considerations, and includes pre-and post-harvest operations, assembling, grading, storage, transportation and distribution.

**Marketing** in the agricultural value system implies both input and output marketing. Input marketing uses information that will lead to evidence-based planning for the timely and reasonable supply of seeds, fertilizers, plant protection technologies, and other equipment and machinery that contribute to farming. Output marketing starts when the produce attains a form in which it could be collected for further economic purposes and exploitation (MoA&FW 2017).

marketing. The term 'agricultural marketing' includes all those activities which are mostly related to the procurement, grading, storing, transporting, and selling of agricultural produce.

Based on the nature of the product, the agricultural market differs from the market of manufactured goods in the following ways (GFRAS 2017):

- Agricultural products are perishable and their perishability varies according to months and seasons;
- Agricultural products are seasonal and not produced throughout the year;
- Most agricultural products are bulky, which makes transportation and storage difficult and expensive;

- Variation in quality makes it difficult to grade and standardise them;
- Supply is irregular as agricultural production depends on natural conditions;
- Agricultural products require processing before they can be sold to the consumer.

#### Intermediaries involved in indirect agricultural marketing system

An indirect agricultural market involves a large number of intermediaries/middlemen between the producers and the ultimate consumers. These middlemen more or less participate in collecting and distributing the produce. The number of intermediaries varies from one to many, based on the type of produce and marketing channel.

#### Box 1: Agricultural marketing in Odisha

Odisha is undergoing a gradual transformation – away from food grains towards high value commodities such as milk, meat, fruits and vegetables. A major issue with high value food items is its perishable nature. The short shelf life of these commodities makes it a risky activity due to high post-harvest losses. In order to minimise post-harvest losses, cold storages play an important role. Until 2015, Odisha had only 120 cold storages with a total capacity of 3.7 lakh MT. In comparison, Bihar had 304 cold storages with a total capacity of 14.1 lakh MT. The cold storages in Odisha are mainly used for potatoes. Lack of assured power supply in rural areas poses a critical bottleneck to the development of cold storage infrastructure (ICRIER 2017).

"In view of the thrust being given to the development of horticulture, the production of fruits, vegetables and flowers is likely to see a quantum jump in the near future. The high levels of production can be sustained only if there is adequate infrastructure for post-harvest management and marketing. The present marketing system is characterized by a long, fragmented supply chain and high wastages. The system is also deficient in providing a fair share of consumer price to the producer and in ensuring high quality and hygiene of the produce. This calls for an alternative marketing structure that provides multiple choices to farmers for sale of produce".

*Source: GoO 2013*

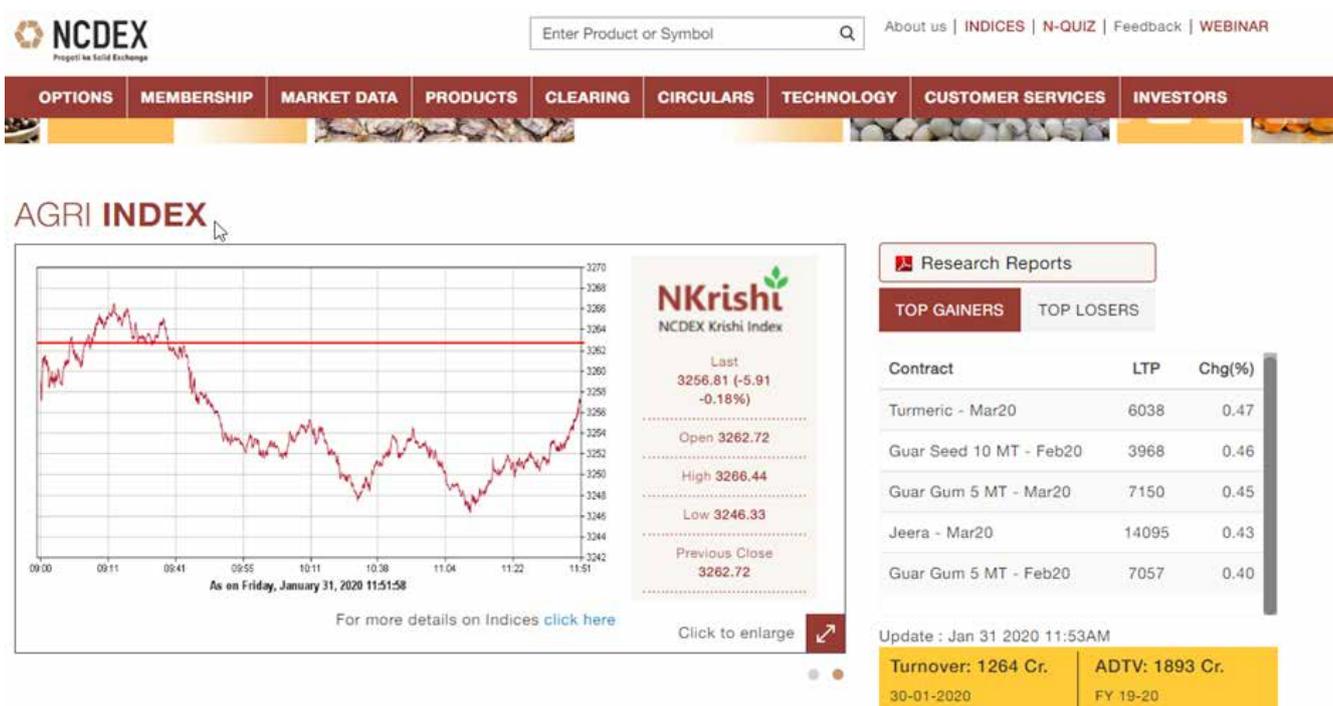


**Producers:** Some of the producers/farmers sell their produce in the market, and some of the producers (mainly the larger ones) collect the produce from small farmers, transport it to the market and make a profit by selling it. This activity helps the farmers in increasing their income and in accessing market information. Thus, such farmers technically act as middlemen between the small farmers and markets.

**Middlemen:** Various middlemen are involved in the various marketing functions to facilitate trade and to

take some part of the price margin. The middlemen perform their functions at different stages in the marketing process.

**Consumers:** Consumers, who are at the end of the value chain, are the people who buy and use the product. They include the end-users, who eat or drink the food, or wear clothes made of wool or cotton. Consumers also include companies that use the product to make something else, such as a restaurant that uses peanut oil to fry food.

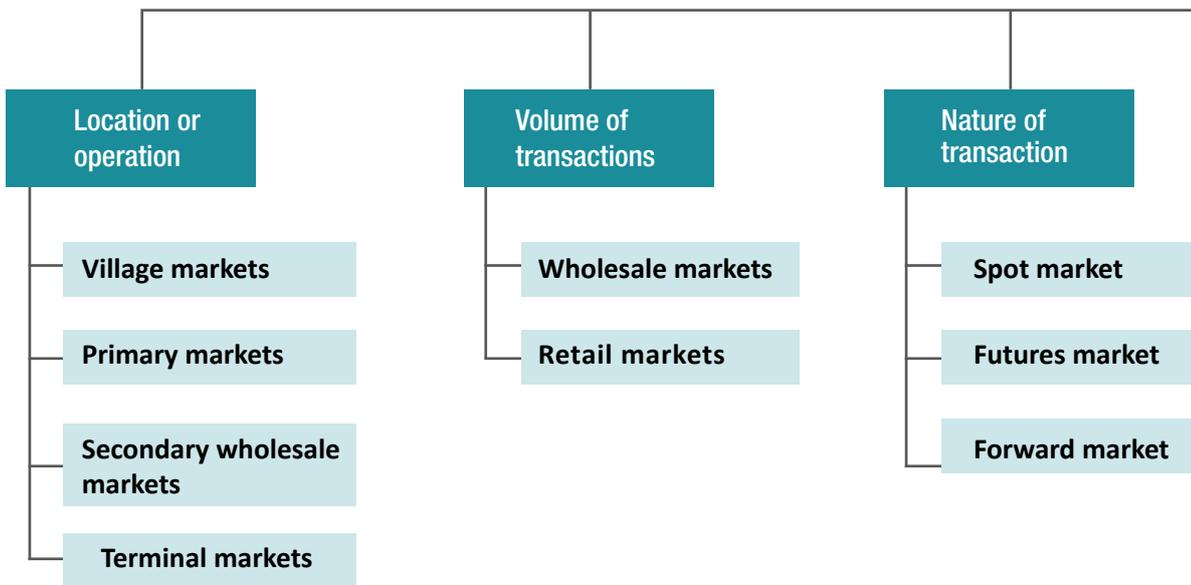


**Village markets:** A village market is located in the small villages/rural areas where transactions take place between the buyers and sellers of a village.

**Primary markets:** Primary markets are located in the towns which are near to the centres of agricultural commodities production. In such markets produce is brought for sale by the farmers and traders. In primary markets most of the raw materials are traded without processing.

**Secondary wholesale markets:** These markets are located at the district or taluk (sub-district) headquarters, away from the centres of production – where the transaction takes place between the village traders and wholesalers.

**Terminal markets:** In these markets the produce is finally disposed of either to the consumer/processors for shipment to foreign countries. Such markets are usually located in the metropolitan cities, examples are Mumbai, Chennai, etc.



**Wholesale markets:** In wholesale markets the commodities are traded in lots or in bulk. Such markets are generally located either in towns or in cities. In these markets transactions take place among producers, wholesalers, retailers, consumers.

**Retail markets:** In these markets the commodities are bought from the wholesale markets and sold to the consumers based on their requirements. Such markets are located near to the consumers where the transaction takes place between the retailers and consumers. Further, the retail market may be organized (e.g., Reliance Fresh, Safal, etc.) or may be un-organized (e.g., kirana/mom and pop shops). Organized retailing refers to retailing by licensed retailers (registered for sales tax, income tax, etc.) with proper technical and accounting standards.

**General markets:** In general markets a large number of commodities, or all types of commodities, such as food grains, oil seeds, fibre crops, horticultural crop, etc., are traded.

**Specialized markets:** In these markets transactions take place in one or two commodities belonging to a particular group, e.g., food grain market, vegetable market, cotton market, etc.

**Spot/Cash market:** The spot market is a ready market where sellers physically sell their produce to buyers on the spot. In this market the goods are delivered immediately. The settlement of cash can be done within a maximum of 11 days.

**Futures market:** A futures market is a forward market but it is standardized and transacted through a futures exchange. For example, MCX, NCDEX.

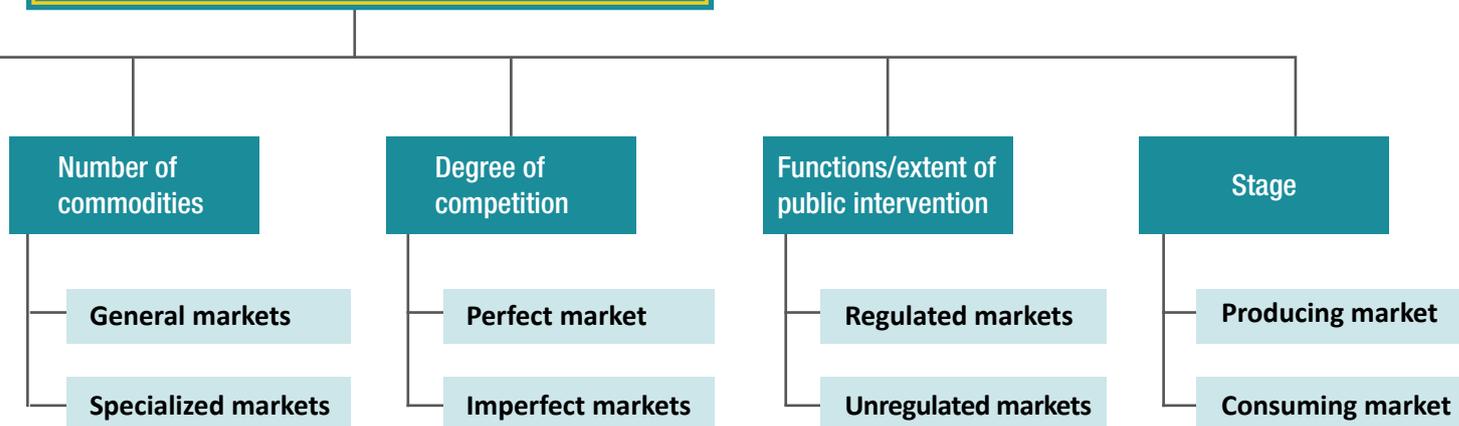
**Forward market:** Forward market is a market in which the buyers and sellers make agreements for sales and delivery of goods in future. In this market the agreement is made between buyers and sellers to buy or sell a specified product at a certain time in the future at a price agreed upon.

**Perfect market:** A perfect market is one where all the buyers and sellers are aware of the supply, demand, and prices of the commodity at which the transaction takes place. The conditions for perfect markets are:

- There must be a large number of sellers and buyers;
- There must be a uniform price for any one standardized commodity at a particular time at any place;
- There should not be any restriction on the movement of any commodity.

**Imperfect markets:** In these markets some of the buyers or sellers, or both, are not aware of the prices at which the transactions take place.

## Classification of Markets Based on



**Regulated markets:** In regulated markets, business is done as per the rules and regulations framed by the statutory market organizations. In these markets, market charges are standardized and fixed, and practices are regulated by Agricultural Produce Market Committees (APMCs). All market functionaries operating in the regulated markets must have a license from the market committee. These APMCs act as the backbone of the primary trade in agricultural commodities. They provide a platform for transparent price discovery for the farmers.

**Unregulated markets:** In unregulated markets, business is conducted without any set of rules or regulations. Here traders alone set the rules for conducting business and for running the market. Such markets usually suffer from various defects in their functioning.

**Producing market:** These markets are situated near the producing areas, where the commodities are assembled for further distribution to other markets, for example, Latur market for sorghum and pigeonpea.

**Consuming market:** Here the produce is collected for final disposal to consumers, and such markets are generally located in populated areas where production is inadequate. For example, Mumbai is a large consuming market while its suburbs like Thane, Dombivili, etc., are smaller markets that either depend on the supplies from Mumbai or directly import their requirements from the primary markets.

Figure 1: Classification of markets

**Wholesalers:** Wholesalers buy the produce either from the farmers or from other wholesalers/processors and sell to other wholesalers/retailers/processors.

Functions of wholesalers are to:

- Collect the goods from various localities and areas;
- Sort out the goods as per the quality;
- Regulate the flow of goods by trading with buyers and sellers in different markets;
- Usually wholesalers own their individual godowns to store the produce;
- Wholesalers equalize the flow of produce by storing them in the peak arrival season and then releasing the produce during the off season;
- Some of the wholesalers (of unprocessed commodities) also extend credit to farmers to meet their needs;
- They assess the demand and needs of the buyers and processors from time to time according to which they plan the movement of the produce.

**Retailers:** Retailers buy goods from wholesalers and sell them to consumers in small quantities. They are producers' personal representatives to consumers. Retailers are the ones closest to consumers in the marketing channel.

**Merchant middlemen:** Merchant middlemen sell the produce on their own and gain or lose the profit. Normally such middlemen are not the risk takers as they are aware of the buying and selling prices of the produce. Merchant middlemen are classified as wholesalers, retailers, and itinerant traders and village merchants.

**Commission agents:** A commission agent is a person who acts as a representative of either a seller or a buyer. He normally takes over the physical handling of the produce, arranges for its sale, collects the price from the buyer, deducts his expenses and commission, and remits the balance to the seller.

**Brokers:** They do not have physical control of the product unlike the commission agents. The main function of brokers is to bring together buyers and sellers on the same platform for negotiation. Their fee is called as brokerage.

## Types of Middlemen (FBL, 2013)

**Itinerant traders and village merchants:** Itinerant traders are petty merchants who move from village to village, and directly purchase produce from the cultivators. They transport it to the nearby primary or secondary market and sell it there. Village merchants have their small establishments in villages. They purchase the produce of those farmers who have either taken finance from them or those who are not able to go to the market. They act as financiers to poor farmers.

**Agent middlemen:** Agent middlemen act as representatives of their clients. They sell services to their principals and not goods or commodities. They derive their income in the form of commission or brokerage.

Types of agent middlemen

- Commission agents;
- Brokers;
- Auctioneers.

**Processors:** Processors carry on their business either on their own or on custom basis. They employ agents to buy for them in the producing areas, store the produce, and process it throughout the year on a continuous basis. They also engage in advertising to create a demand for their processed products.

**Auctioneers:** Auctioneers are not primary producers and the handled produce is not their own. Auctioneers have places for physical display, space where participants meet, announce the date of auction, and facilitate in price formation. During the bidding process the main role of an auctioneer is to announce the price offered by various participants.

**Speculative middlemen:** Speculative middlemen are those who take title to the product with a view to making a profit on it. They are not regular buyers or sellers of produce. They specialize in risk taking. They buy at low prices when arrivals are substantial and sell in the off-season when prices are high. They make profit from short-run as well as long-run price fluctuations.



## Conclusion

The purpose of this unit is to help EAS staff, who are new to working with markets, understand the basic concepts related to agricultural markets, value chains,

and the way in which extension personnel can work in linking farmers to effective markets. To ensure that farmers are successful in their market performance, the EAS must have working knowledge of markets, agricultural marketing, and agricultural value chains.

## Cases

### Case 3: Farmers' Market organized by VFPC, Kerala

In 1992, the Kerala Horticultural Development Programme (KHDP) aimed to improve the conditions of Kerala's fruit and vegetable farmers by increasing and stabilizing their incomes, reducing production costs, and improving the marketing system. KHDP worked with fruit and vegetable farmers to promote self-help groups. It trained three farmers from each group to become master farmers who could deal with production, credit, and marketing. It promoted the concept of credit to farmers who leased land, promoted group marketing, and established modern seed processing and fruit processing plants. To generate and access locally relevant technical knowledge, KHDP entered into contract research with the local agricultural university and strengthened the skills of farmers in participatory technology development. Though it ended in December 2001, KHDP reinvented itself as the Vegetable and Fruit Promotion Council, Kerala (VFPC, [www.vfpck.org](http://www.vfpck.org)). VFPC is a company with the majority stake held by farmers, with the government and financial institutions as the other major shareholders. Self Help Groups of farmers constitute 50% of shares, the Government of Kerala has 30%, and other related institutions hold 20% of VFPC's shares.

#### Organization of farmer markets

All programmes related to fruit and vegetable promotion are undertaken through VFPC, whose responsibility was eventually extended to all districts in Kerala. The company directly reaches more than 1.89 lakhs farmers in Kerala.

To overcome issues such as post-harvest loss, intermediaries, lack of bargaining power and storage facilities, and bringing marketing processes closer to the production centre – so that farmers gain greater

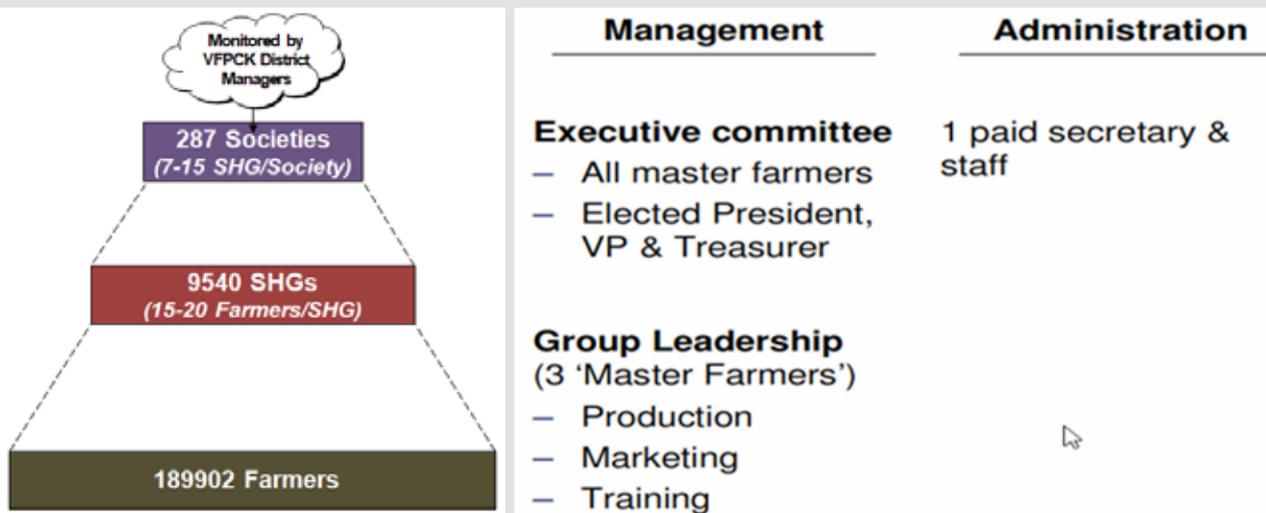


Figure 2: Organisational structure of farmer society, VFPCK

price realization for their products – VFPCK has developed a unique group marketing structure centred on 7-15 Self Help Groups (SHGs), numbering about 250-300 farmers. They came together under the banner of Swasarya Karshaka Samithi (SKS) to trade their produce collectively.

Through this structure, farmers have taken control of the marketing process and fully participate in it. In effect, instead of farmers having to travel to the traders, traders must now travel to the farmers. The 'master farmers' of each SHG act as the executive committee of these societies, and a President, Vice President, and Treasurer are selected from this committee to serve two year terms in the society. (Note that to form societies, at least 50% of the farmers must invest a small amount of capital, and are known as Class 'A' farmers as described below.)

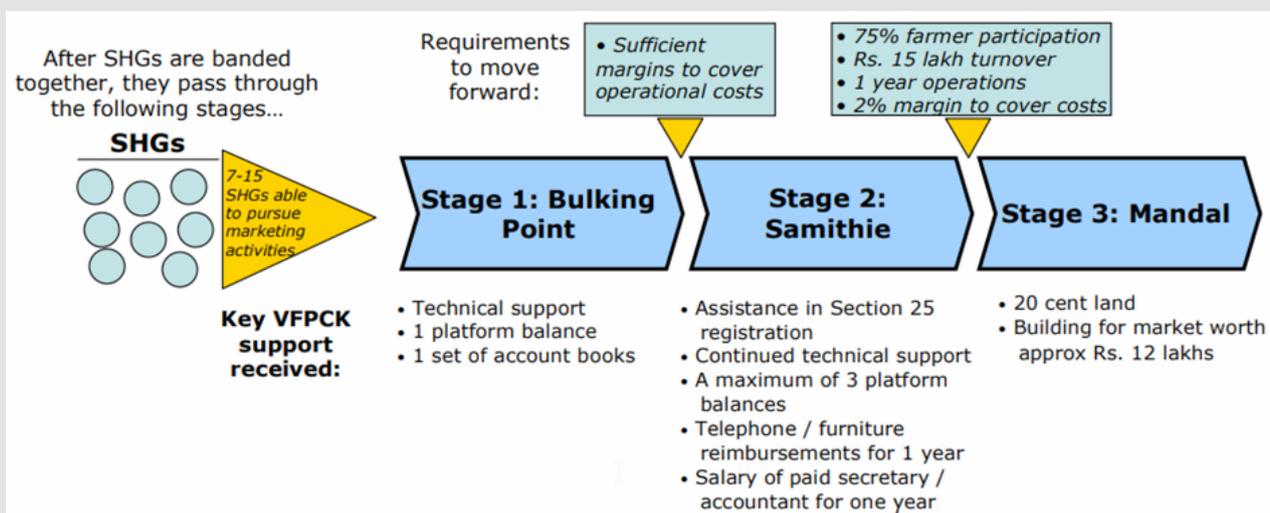


Figure 3: Organisation of farmers' market, VFPCK

The planning and implementation of farmers' markets are conceived at the first level of society formation, or at the 'bulking point' stage. At the 'bulking point' stage, societies receive technical support, one weighing scale, and a set of accounting books. The executive committee is expected to establish a procurement plan and a marketing plan, identify and build relationships with local traders, and plan other logistical details needed to establish a marketplace. At this stage, a minimum of 50% of the SHG members must take membership in the market, as 'A' class members, and contribute capital to its formation. The bulking point sites are identified at points close to the location of production, and accounts are managed by the paid secretary/accountant.

Once a farmers' market is established, it is closely overseen by VFPCCK's district level officers and processed through the stages described above. As farmers establish these markets on their own and involve the majority of farmers in any one area, competing markets are cut off and traders are forced to come to these newly established markets. Furthermore, because the produce at the markets come directly from the farms, wholesale traders get the freshest produce and now prefer buying from them. Traders are now also able to work with the 'Master Farmers' to get the produce according to the quantity and quality specifications that are important to them.

The Council has developed an innovative and transparent auction process that is arranged twice a week by each society (sometimes more in high season). Here, local wholesale traders meet at the farmers' market site (managed by the farmers) to buy produce from the source itself in a process that ensures a fair price and payment to farmers.

Each farmer who participates in the auction brings his produce in lots directly to the site, usually using transportation arranged by the SHGs themselves. Lots are graded and organized by quality, and marked with a pink slip stating the farmer's name and starting bid. Members of the society's marketing executive committee move around and document the auction in front of the farmer of each lot, and prices are quoted on a per kilogram basis, based on information received from the Market Intelligence Center (MIC). This MIC at VFPCCK headquarters collects market data of vegetables and fruits on a daily basis from 14 wholesale markets in Kerala and also from four other states. Auctions occur one crop at a time, and soon after each lot is sold that lot is brought to the weighing station and the total trade price is calculated. Lots are weighed in the presence of the farmer, the trader, and one of the VFPCCK district managers, ensuring that the trader does not quote a lesser weight, a tactic typical of other markets. After the auction is complete (usual hours are from 1pm to 6pm), the traders will bring their own lorries/trucks to the market and transport their purchase on their own, thus saving the farmer from prohibitive transportation costs to reach markets. Any surplus produce is brought and sold at the nearest wholesale market by one of the executive committee members. Payment of sales to farmers is received on the next trading day. Farmers are paid 95% of the price of sale; the remaining 5% goes towards the operations of the overall society. At the end of the year, the amount not spent on overhead costs is paid out to Class 'A' farmers who own a stake in the society.

### **Retail Outlets**

As part of diversification, VFPCCK has ventured into retailing very recently. VFPCCK has initiated retail outlets in all districts either on the franchisee mode or under Swasarya Karshaka Samithi/SKS consortium in the name of 'Sasya'. Through these retail outlets VFPCCK intends to provide 'farm fresh' produce of good quality to consumers at reasonable prices. Presently 147 'Sasya' outlets are functioning throughout Kerala.

*Source: Technoserve (n.d.)*

# Tools

## Tool 1

To identify distinguishing features of intermediaries in value chain

	Role in the value chain	Service provided	Beneficiaries	Contracting initiative
<b>Intermediary for producers</b>	Constitutes a business that is part of a value chain – potentially competes with its beneficiaries	Mediates participation in the value chain – does not re-distribute value	Producers who make products designed by the intermediary, which are sold by the intermediary	Contract initiated by intermediary – ‘from above’
<b>Intermediary for users</b>	Facilitates access or more equitable distribution of value – does not compete with its beneficiaries in the value chain	Re-distributes value in the value chain (beneficiaries already have access)	Users – businesses or independent contractors who use the intermediary to reduce transaction costs or to add value to existing products	Contract initiated by user – ‘from below’
<b>Dual intermediary</b>		Facilitation of access and re-distributes value		

*Source: Broembsen MV. 2011. Inequality and economic marginalisation; mediating from the margins: The role of intermediaries in facilitating participation in formal markets by poor producers and users. (Available at [http://www.tips.org.za/files/u65/role\\_of\\_intermediaries\\_in\\_facilitating\\_markets\\_-\\_marlese\\_von\\_broembsen.pdf](http://www.tips.org.za/files/u65/role_of_intermediaries_in_facilitating_markets_-_marlese_von_broembsen.pdf))*

## Exercises

### Exercise 1

#### Group Exercise

Divide the participants into three to four sub-groups and let each group think through on the questions below, and jot down points on chart/card which can be presented at the plenum by the team leader of the group.

How do intermediaries help lower transaction costs in the value chain?

How does internet marketing reduce transaction costs?

### Exercise 2

#### Chart/Whiteboard Exercise

Ask participants to brainstorm and come up with all possible answers for the questions below.

Why does bargaining occur primarily in markets for perishable products?

What do we mean when we say ‘bargaining is more than just price enhancement’? Explain.

### Exercise 3

#### Assessing the marketing skills of participants

Ask each of the team members to list their skills and experience in agro enterprise development using a skills assessment form. They can do this individually or in pairs, with each person asking the other about their skills and experience and filling in the form accordingly.

Ask the team members to count the number of items in each row of the table (below). Then multiply these numbers by the weighting factor to give the scores in each row. They should then calculate the scores at the bottom of each form.

If a team member scores high (e.g., more than 30), he or she can be considered to have strong agro enterprise skills that are well-suited to rural business development. If the score is less than 10, then the person would benefit from additional training and you can identify the specific types of training needed from the responses to each of the questions.

Name			
Experience and Skills	Skills	Multiply Number of Skills by...	Score
What participatory skills do you have?		2	
How many farmers' groups have you established?		3	
How many market visits have you facilitated and evaluated?		4	
How many surveys for marketing have you completed?		5	
How many enterprises have you supported?		6	
What is your rank in your organization? (10 for management level; 5 for senior field technician; 3 for assistant)		1	
Overall score			

**Source:** CRS and MEAS. 2016. *Seven steps of marketing: A SMART skills manual*. Catholic Relief Services, Baltimore, MD, and Modernizing Extension and Advisory Services Project, University of Illinois at Urbana-Champaign. (Available at <https://www.crs.org/sites/default/files/crs-files/seven-steps-of-marketing-booklet-one.pdf>)

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# Unit III: Agricultural Value Chains

## Objectives

- Discuss the concepts of the agricultural value chain;
- Clarify the difference between traditional marketing and value chain;
- Illustrate the importance of actors and regulators in the value chain;
- Review the role of extension agents in value chain development.

## Introduction

The Indian agriculture sector is in transition through a cycle of development process which can be termed as 'commoditisation to commercialisation' (NABARD 2003). As the economy develops the number and types of exchanges expand, there is a concomitant need for increasingly specialised marketing services, such as physical distribution, storage, grading, market information gathering, and so on. The number of participants also increases with many of the specialised services being provided by intermediaries between the seller and ultimate buyer. Few buyers and sellers are in direct contact with one another and communication between them is channelled through a complex marketing system (FAO n.d.). This poses a considerable challenge to farmers, where inadequate infrastructure and limited access to information and technology increase both production and transaction costs.

Value chains are interactive systems, with products, money and information flowing through them, all reliant on relationships (Fearne and Hughes 1999). The

**Commoditisation:** Commodity-oriented agriculture is supply driven wherein the emphasis is on production of bulk commodities which are sold in spot markets.

**Commercialisation:** The emergence of this is influenced by changing consumer demands, search for new opportunities by entrepreneurs and firms in the sector, and rise of agro processing industries. It opens up new opportunities for manufacture of value products and, in turn, higher profit margins.

concept of the agricultural value chain includes the full range of activities, and participants are involved in moving agricultural products from input suppliers to farmers' fields, and ultimately, to consumers. Each stakeholder (farmers, traders, wholesalers, retailers, big retail chains and consumers) in the chain has a link to the next in order to form a viable chain. By understanding the complete production to consumption system of a different Production System, it is possible to determine how the marketing and value-addition activities take place and who shares how much profit from such activities. It is a vehicle for pro-poor initiatives and for linking small farm businesses with the market. Farmers need to better engage with value chains in order to gain added value, thereby improving their livelihoods, whilst reducing their risks and increasing their resilience.

This unit tries to provide conceptual clarity on value chain, aims to help understand different concepts related to value chain and also tries to differentiate value chain from supply chain, traditional marketing, and enterprise development. Furthermore, the unit also discusses the importance of agricultural value chain, role of the key actors in the agricultural value chain with major focus on extension and advisory services (EAS). EAS need to play a major role in market analysis, market intelligence, advice on product planning, organize farmer groups and their capacity building in marketing produce profitably by establishing proper marketing and agro-processing linkages and so on. This unit is developed to help EAS personnel to identify value chains where actors can produce better products, increase job creation, reduce poverty, and intervene in these systems to improve outcomes.

A **supply chain** is a market chain that supplies a particular customer, meeting their particular product specifications and procedures. Most large agri-food companies operate supply chain processes and procedures and many have preferred suppliers, but they may not have long term business strategies that link them to suppliers. Supply chains often do not have direct links to specific farmers, which means that the supply chain approach only begins with a market supplier.

**Value chain** describes the full range of activities required to bring a product or service from conception, through the different phases of production (involving a combination of physical transformation and the input of various producer services), delivery to final consumers and final disposal after use (Kaplinsky and Morris 2001).

An **agricultural value chain** can be defined as the goods, services and processes involved in an agricultural product moving from the farm to the final customer (GFRAS 2017).

**Value chain development** is an approach that seeks to build relationships of active support among chain actors so that it contributes to a positive or desirable change in a value chain to extend/improve productive operations and generate social benefits like poverty reduction, income and employment generation, economic growth, environmental performance, gender equity and other development goals (UNIDO 2011).

**Value chain map** (Reddy and Reddy 2015): The value addition in different phases of production

can be mapped into a value chain map for easy understanding, which depicts inter linkages between successive stages in the value chain. The value chain is made up of three interlinked components:

- Value chain actors (farmers, traders, consumers);
- Enabling environment (infrastructure and policies, institutions and processes that shape the market environment);
- Service providers (the business or extension services that support the value chains' operations).

**Value chain management (VCM)**, the deliberate decision by members of a value chain to combine their resources to improve competitiveness, is proving to be a powerful strategic approach that enables organizations to adapt to a rapidly changing business environment (Bonney et al. 2007; Collins 2011; Dunne 2008; Fearn 2007; Taylor 2006; Collins et al. 2002).

## Discussion

### What is a Value Chain?

A value chain is not an object that you can see. Rather, a value chain is simply a useful way of understanding how the world of producing, buying, and selling things works. At one end of the agricultural value chain are the producers – the farmers who grow crops and raise animals. At the other end are the consumers who eat, drink, wear, and use the final products. And in the middle are many thousands of men and women, and small and large businesses. Each person and each

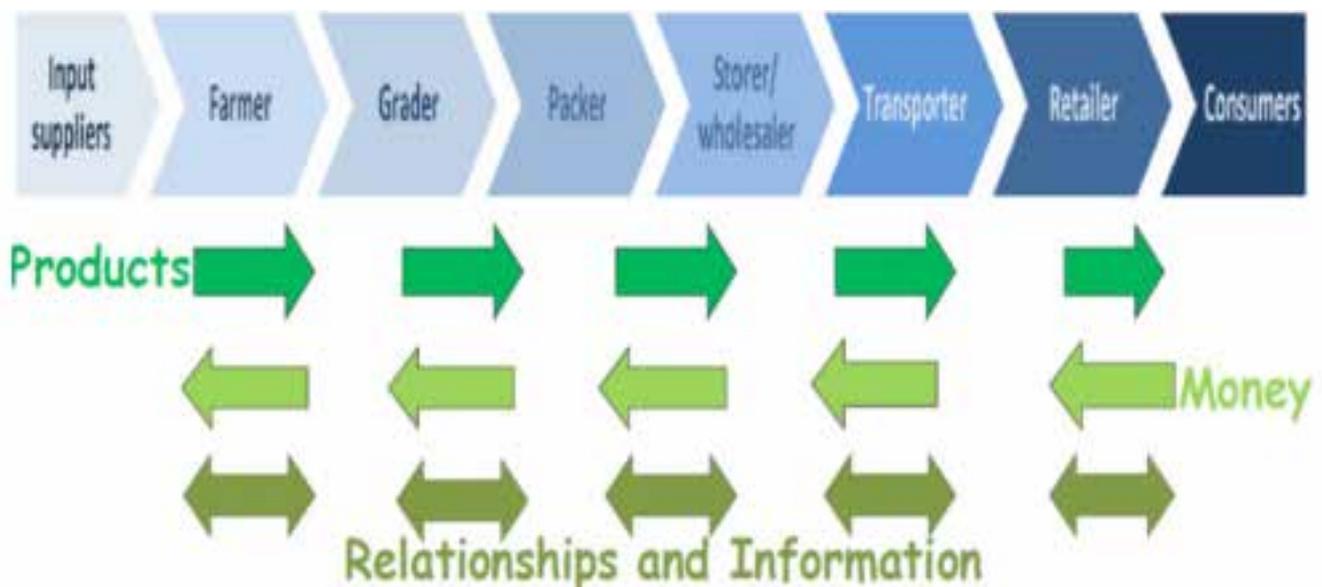


Figure 4: Generic value chain

## Box 2. Value chain thinking

Value chain thinking can be considered as a four-piece puzzle, with every piece vital for its completion (Figure 5). Each piece is explained below.

### Understand consumers

- What products, and what characteristics of those products, are shoppers looking for?
- Which crops and how much should I grow; and how should I grow them?
- Can I process those crops to make them more attractive/valuable to consumers?

### Reduce waste

- Where does waste occur on-farm and downstream in the supply chain?
- And so, what can I do differently to reduce waste on-farm and downstream?

### Deliver customers' requirements

- Which potential customers best serve my target shoppers/consumers?
- What are these customers' priorities?
- How can I contribute to meeting these requirements?

### Building partnerships

- Which traders and retailers best serve my target shoppers/consumers, and will give me a fair return?
- How do I become one of their preferred suppliers?
- Additionally, do I need to cooperate with other farmers?

*Source: Dent et al. 2017*



Figure 5: Four-piece puzzle of value chain

business performs one small step in the chain, and each adds value along the way – by growing, buying, selling, processing, transporting, storing, checking, and packaging. Other people and other businesses have important roles supporting the chain. Banks provide loans; governments establish laws and policies; and agricultural research organizations develop ways for farmers to more successfully participate in value chains (Cuddeford 2014).

## Why do we need efficient Agricultural Value Chains?

Small-scale farmers elsewhere in the world often say that receiving low prices for their produce is a major challenge. Typically, a farmer waits for traders/ commission agents to visit his/her farm or take their farm produce to traders or the wholesale market, or sell directly to consumers. Most of the time the farmer is unhappy – her/his time and effort are not well-rewarded. As individuals, small-scale farmers are often at a disadvantage in these kinds of trades. Since many farmers grow crops or raise animals on an individual basis, they have little bargaining power. They have little or no influence on the price traders pay them for their produce, or the price they pay input suppliers for seeds, fertilizers, pesticides, etc. Also, farmers often lack information about the market for their produce. For agricultural produce there is a chain that is followed from a production point to the consumption point.

Agriculture in developing countries is often characterized by dual value chains operating in parallel for the same product: one informal or traditional, and the other formal or modern. Smallholders are frequently involved in informal chains that deliver products to local middlemen and then to small local stores. Formal value chains can deliver the same product, usually in better or more uniform quality, from larger farms or more organized groups of small farmers to more commercial wholesalers and from there to supermarkets or exporters.

This duality has been accentuated by the explosive growth of supermarkets in developing countries. It can limit many small producers who go to markets characterized by low-quality products, and low prices and low returns for them – hence a frequent concern is to find ways to integrate small producers into more modern value chains, both domestic and export-oriented. According to Gwabu, (2015) if farmers were to realise higher profits, consumers in turn can enjoy fair prices, and national food security assured, so the chain of food system has to be systematically made strong, efficient, healthy and dynamic.

**Box 3. Interview: Dr Sukhpal Singh,  
February 2019**

***‘Small size of farms not a problem,  
inefficient markets and unremunerative  
prices are’***

**One basic equation that an urban consumer cannot grasp is how a farmer gets paid INR 1 per kg of, say, onions, when she pays Rs 20. How does the price rise 20 times with no benefit to the farmer? How can this situation be improved? And how does it work in other countries?**

This has been a much-debated issue for some time now. Some part of this price gap between the producer and the consumer comes from the usual wastage involved in perishables, which can be to the tune of 10% to 15% in vegetables.

It is also due to the involvement of a large number of intermediaries between the producer and the consumer, and also the very high margins of supermarkets (30-40%), who have about 8-10% of the produce unsold at the end of the day. More importantly, farmers sell only in wholesale,

but most of the margins are available only in retail and semi-wholesale. Unless farmers get a foot in the retail market, they cannot expect a larger share of the consumer rupee as others also invest their time and energy in taking the produce to the retail buyer.

So, the farmer’s benefit should not be measured only in terms of producer share in the consumer rupee but in terms of whether farmers recover their costs and get a decent return on their investment.

The government can help by creating more market options for farmers, and making markets fair to farmers by lowering transaction costs. The government must also incentivise farmer groups and collectives (such as producer companies) who have better bargaining power to sell in these markets, as well as to sell to larger buyers, large processors, exporters and supermarkets.

In other countries, the supply chains are much shorter and more efficient, and there are farmers’ markets for perishable produce where they directly sell to consumers.

*Source: Paliath 2019*

## India’s Food Retail Market

India’s food retail market is expected to touch USD 827 billion by 2023, up from USD 487 billion in 2017, growing at a compound annual growth rate (CAGR) of 9.23%, with recent reforms making the sector more competitive and market oriented, according to an ASSOCHAM-TechSci Research joint study (2018). This highlights a great opportunity for small-scale farmers, who can associate with the leading exporters to boost their earnings by carrying out either contract farming or increasing the production by using technologically advanced equipment. Northern (29.56%), western (25.39%) and southern (27.19%) regions account for the major share in India’s food retail sector whereas the eastern region (17.86%) has a relatively low market share, owing to the presence of seven sister states, Bihar and Jharkhand, where the concentration of big retail companies is only limited to 4-5 cities, according to the study conducted by The Associated Chambers of Commerce and Industry of India (ASSOCHAM) jointly with consulting firm TechSci Research (ASSOCHAM 2018).

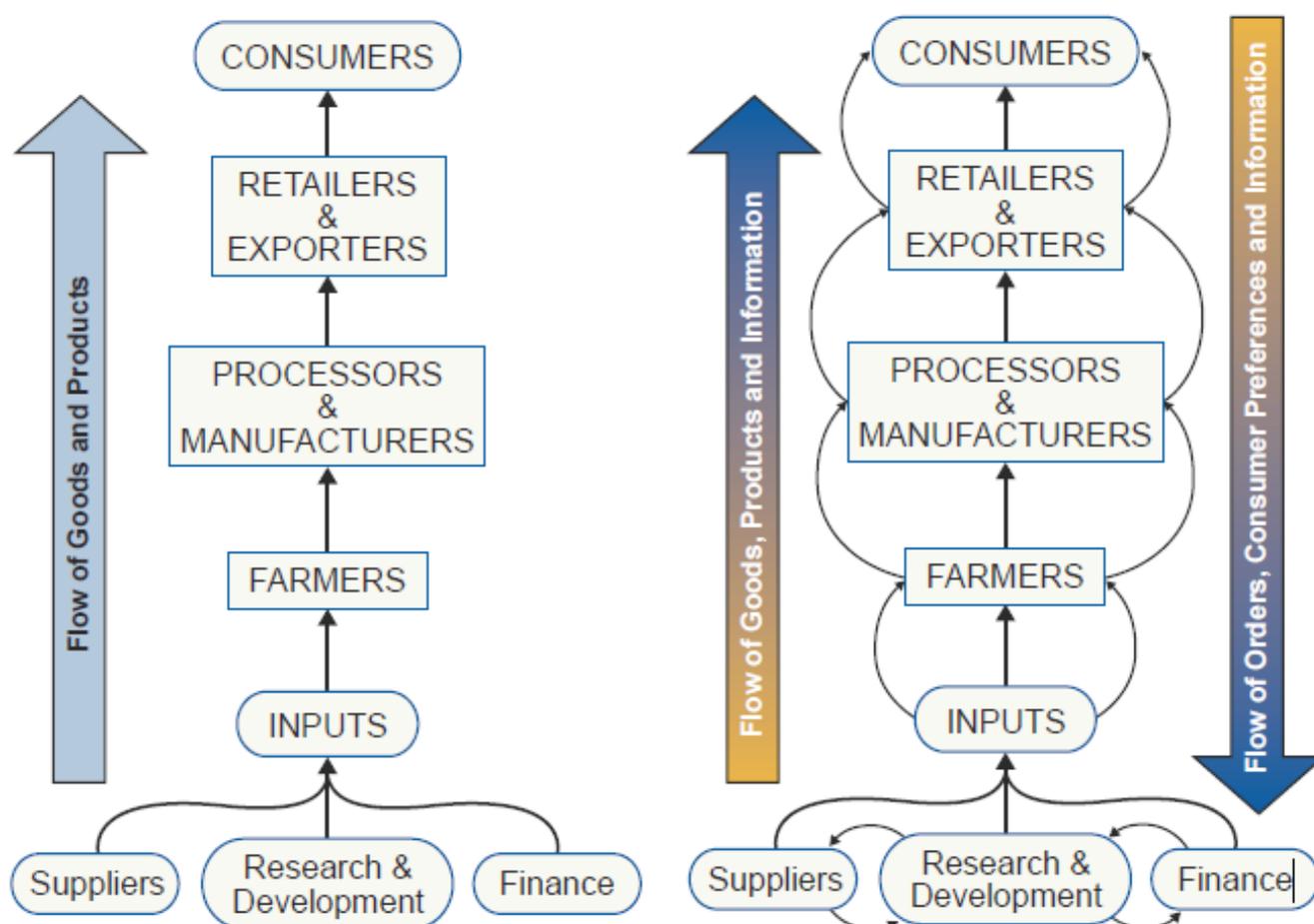
## Traditional marketing vs. Value chain marketing

In the traditional selling system, farmers produce commodities that are ‘pushed’ into the marketplace. Farmers are generally isolated from most of the end-consumers and have little control over input costs or prices received for their goods. The primary exception is where local farmers sell produce in local markets and where there is a direct link from farmer to consumer. In most traditional selling systems farmers/producers tend to receive minimum profit.

In a Value Chain marketing system, farmers are linked to the needs of consumers, working closely with suppliers and processors to produce the specific goods required by consumers. Using this approach, and through continuous innovation and feedback between different stages along the value chain, the farmer’s market power and profitability can be enhanced. Rather than focusing profits on one or two links, players at all levels of the value chain can benefit. Well-functioning value chains are said to be more efficient in bringing products to consumers, and

**Table 2: Drivers and challenges in the Indian Food Value Chain (ASSOCHAM 2018)**

Drivers	Challenges
<ul style="list-style-type: none"> <li>» <b>Supply driven</b> - The farmers sell their agricultural produce in a mandi or to an agent. APMC laws safeguard from unfair pricing.</li> <li>» <b>Desirable Scenario</b> - The farmers grow crops to fulfil market demands. Due to increase in modern retail outlets, contract farming has been benefiting many small-scale farmers.</li> <li>» <b>Food Processing Units</b> – This is the fastest growing sector in the overall food sector, as the companies are growing to create a sellable product from the agricultural produce. But this concept needs expertise and involvement of many technology partners. However, with the gradual introduction of innovative solutions India is expecting to cut down on imports. The unprecedented potential of agriculture demands a fair process reformation in all the related sectors – right from crop production techniques to agricultural marketing.</li> </ul>	<ul style="list-style-type: none"> <li>» <b>Crop Loss</b> - India is still facing a huge problem of crop loss. About 35% of the crops produced, according to Indian Council of Agricultural Research (ICAR), gets lost or wasted during the supply of crops from farmer to retailers or mandis.</li> <li>» <b>Mandi Concept</b> - The mandis have so far been considered as the most effective link between farmers and retailers. However, the concept itself has many loopholes and has relatively disintegrated. Each state has its own policy. Thus, tracking prices of fruits and vegetables is itself a nightmare. Also, due to non-sustenance of infrastructure or any unforeseen situation, farmers are left with no choice but to dump the crop at a lower price or throw it away.</li> <li>» <b>Inconsistent Policies</b> – Across the country APMCs have inconsistent policies. As the law is state-specific for big companies which includes laws relating to land acquisition from the farmers, restrictions on free trade with the farmers, etc.</li> <li>» <b>Poor Governance</b> – APMC has few favourable points for farmers. But the effect on prices due to competitive factors, such as monopoly and perfect competition, gets ignored.</li> <li>» <b>Improper Transport Facilities</b> – Infrastructure is the biggest problem faced by agriculture stakeholders.</li> </ul>



**Figure 6: Traditional supply chain (left); and value chain (right)**

Supply Chain Thinking “Growing your slice”	Value Chain Thinking “Growing the pie”
Compete on price	Compete on value
Independence and self-interest	Interdependence and mutual interest
Flexible, transactional relationships	Stable, collaborative relationships
Short-term trading	Long-term planning
Suppliers chosen on quality and cost	Suppliers selected for quality, skills, service and partnership
Suppliers are price takers	Prices negotiated
Opportunism	Commitment
Limited information sharing	Open communication

Figure 7: Supply chain strategy for growing individual slices of the pie

#### Box 4. Value chain vs. Supply chain

There’s a temptation to use ‘value chain’ and ‘supply chain’ interchangeably, but there is a difference in the concepts that is significant.

The supply chain model – which came first – focuses on activities that get raw materials and sub-assemblies into a manufacturing operation smoothly and economically. The value chain notion has a different focus and a larger scope. A supply chain is simply the transfer of a commodity from one stakeholder to another in a chained manner. Supply chains push products from upstream, with farmers adopting a production-focused attitude of ‘selling what they produce’. A value chain’s product is pulled by consumers, with farmers adopting a market orientated attitude of ‘producing what they can sell’ (Collins et al. 2015). The value chain integrates value addition at different stages of transfer. At different stages of the value chain, different stakeholders add value to the product so as to ultimately increase the end product’s value. In other words, value chain analysis looks at every step – from raw materials to the eventual end-user – right down to disposal of the packing material after use. The goal is to deliver maximum value to the end user at the least possible total cost. That makes supply chain management a sub-set of the value chain analysis.

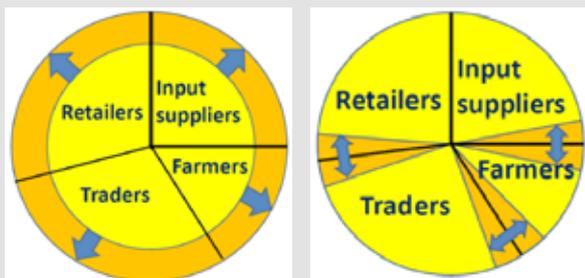


Figure 8: Value chain strategy for cooperatively growing the pie

Source: Dent et al. 2017

therefore all actors, including small-scale producers and poor consumers, should benefit from value chain development

### What is an agricultural value chain?

The conceptual framework of agricultural value chains includes a sequence of value adding activities, from production to consumption, through processing and marketing. Each segment of a chain has one or more backward and forward linkages. A value chain in agriculture identifies the set of actors and activities that brings a basic agricultural product from production in the field to final consumption, where at each stage value is added to the product.

Agricultural value chains encompass the flow of products, knowledge and information between farmers and consumers. They offer an opportunity to capture added value at each stage of the production, marketing and consumption processes. An agricultural value chain usually includes a wide range of activities, including:

- Input supply;
- Farm production;
- Post-harvest handling and processing;
- Production and handling technologies;
- Grading criteria and facilities;
- Cooling and packing technologies;

According to Dunn (2014) an agriculture value chain can be a vertical linking or a network between various independent business organisations, and can involve processing, packaging, storage, transport and distribution. In South Asian countries, such as India, agricultural value chains are often fragmented; lack investment; and fail to include vulnerable groups and also miss critical linkages of farms and markets.

- Storage and transport;
- Industrial processing;
- Finance; and
- Feedback from markets.

## Agricultural value chains for pro-poor development

One fundamental goal of agricultural value chains is pro-poor growth, defined as raising the incomes of the poor, allowing them to grow faster than the non-poor (so that the inequality between the poor and the non-poor narrows), or enabling poor people to raise their incomes above the poverty line, even if their share in the national income does not improve (i.e., a positive growth rate for the poor). Value chain development is promoted for economic growth because value chains have potential for making positive impacts and improving the livelihoods of the poor. Value chains development can be designed to focus on improving and strengthening market forces for such actors to achieve growth .

There are two approaches to this issue:

- Selecting value chains that present the least problems in achieving self-employment for the poor.
- Making the best of the adverse conditions, that is, although a given region may have adverse conditions, it may have a typical local specialty, for

### Box 5. Factors affecting participation of the poor in common commercial markets

**Productive assets and property rights:** Low education and health problems put the poor at a disadvantage in labour markets. Lack of assets and inadequate property rights on land and water critically limit farmers' investments.

**Business environment:** Implies higher risks and relatively higher costs of doing business for small enterprises compared to large ones.

**Access to cross-cutting service markets:** Small farmers and micro enterprises are negatively affected by the conditions for accessing formal financial markets that require securities and guarantees. Due to the size of their operations, small producers regularly face problems of access to inputs and business service markets.

**Conditions of location:** Poverty is often concentrated in marginal locations where market access is critically limited, raising marketing costs and preventing investment. The success of translating value chain growth into poverty reduction depends on careful selection of product markets.

example, it can attract tourists and the constraint can be turned to an opportunity (Methu et al, 2013).

## Key actors and regulators in Agricultural Value Chain

Understanding value chains, its actors, and implications are critical to agricultural production in the country. Each actor in the value chain is an important player and each one needs to understand each other's needs for better understanding of the product's performance and coordination of the chain for improved efficiency, customer satisfaction, and profitability. The success and profitability of a value chain depends on how strong the chain is, or how strong the individual actors in the value chain are. Fresh produce value chains in many developing countries often have very weak actors, resulting in a very weak chain.

A value chain is made up of key actors as well as support actors. Key actors can include seed suppliers, farmers (or growers), transporters, sellers and consumers. These key actors must continuously communicate with each other; understand each other in terms of market requirement of a produce such as size, shape, volume, colour, timeliness, frequency, and chilling during transportation and at depots. There has to be good negotiation, which is transparent, so that every actor is satisfied with the profit margin. The support actors are as important as the key actors. Examples of support actors are agriculture input suppliers, road maintenance authorities, credit facilities, extension officers, quarantine authorities, and researchers. If one, or a number of these actors, appear to be weak, the whole value chain will become weak.

As you can see in Figure 9, there are three main levels in a value chain:

**Level 1:** the core value chain actors, who buy and sell a product and link farmers and consumers;

**Level 2:** the business development services (BDS), who enable value chain actors to trade efficiently; and

**Level 3:** the regulatory agencies who support the policies and standards within value chains.

## Value chains as part of the market system frameworks

This is a graphical representation of how a value chain is embedded within a wider market system. At the centre are the value chains that bring products and services to the market. The environment is

# Value chain Levels

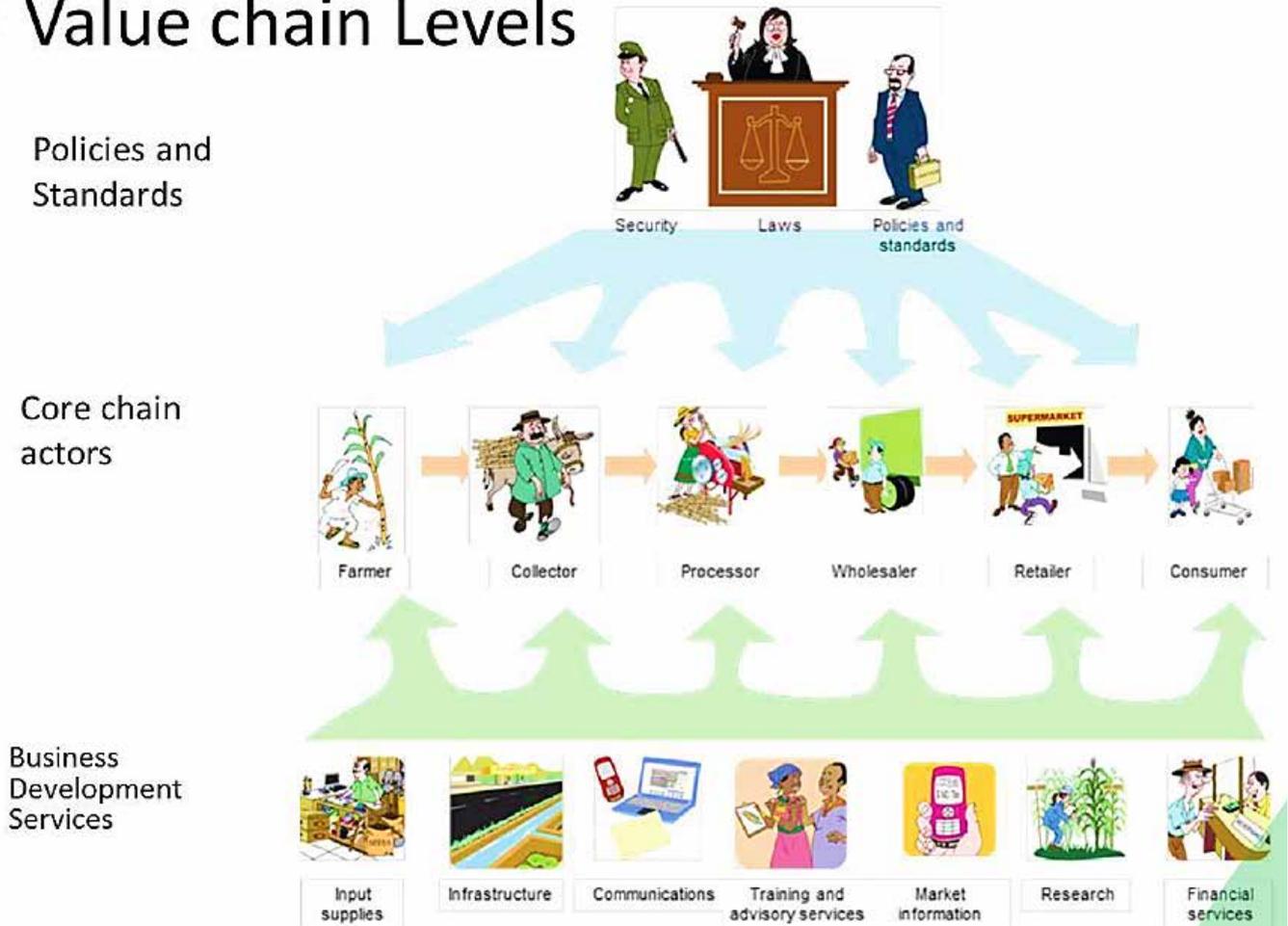


Figure 9: Value chain levels

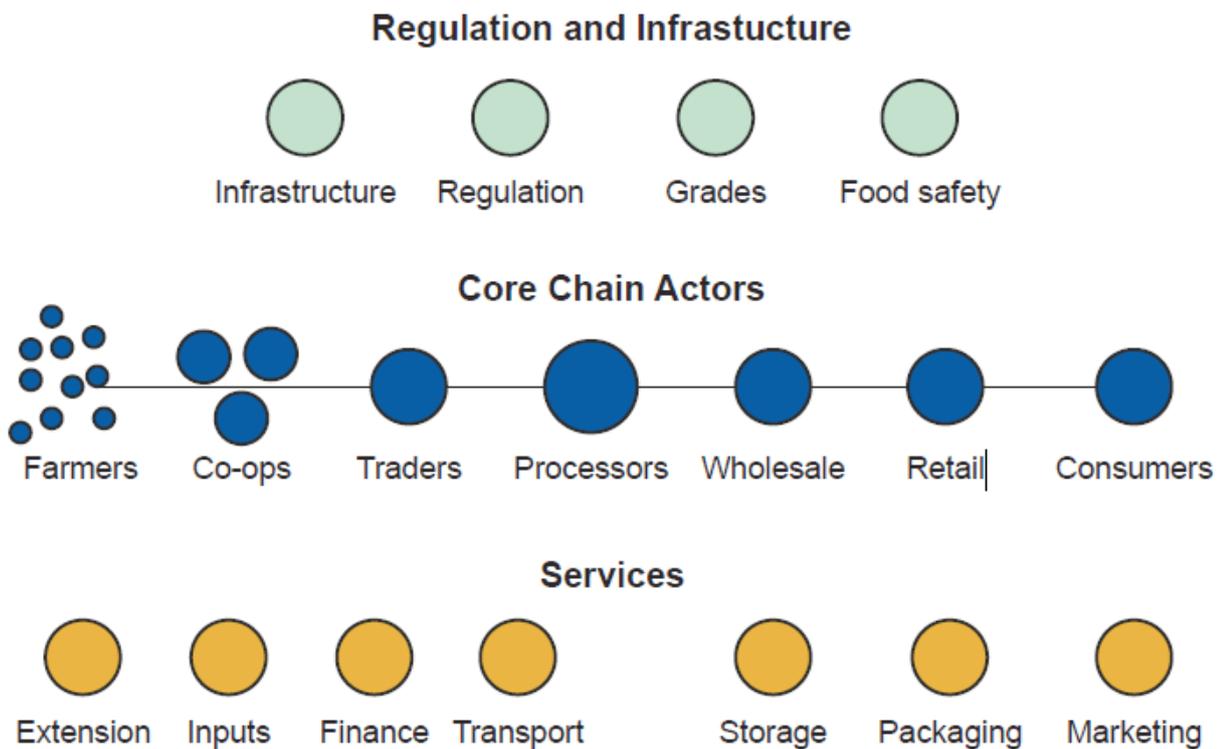


Figure 10: Three dimensions of the value chain process

Source: GFRAS 2017

formed by supporting functions (e.g., information, training, finance, inputs) and rules and regulations. Each of the supporting functions and rules that are identified as relevant to shaping the functioning of the value chain can be analysed as its own 'inter-connected' market system. Around the core of this new market system (e.g., training), new supporting functions and rules emerge. This diagnostic process is vital to understand often-complex market systems and to arrive at the real underlying constraints (in inter-connected markets) that can be intervened in, to maximize scalable and sustainable change in the core value chain. Using this diagram can be helpful for analysing and understanding specific market systems and their underlying constraints (i.e., doing Value Chain Analysis) and to plan for, and implement, the actions that can be taken to improve them (i.e., Value Chain Development). While supply chains are

usually analysed and developed from the perspective of a main buyer (usually a large multinational) and often focus on the logistics of organizing a supply system, the term 'value chain' is more often used with a developmental connotation that addresses productivity, growth and job creation in the market system (Nutz and Siever 2015).

### Who benefits from agriculture value chains?

Everyone who participates in a value chain adds value as the product moves from the beginning of the chain towards the consumer. In exchange for adding this value, all participants receive an economic rent. That is the main benefit or incentive for participating in a value chain. The people most likely to benefit from value chains are

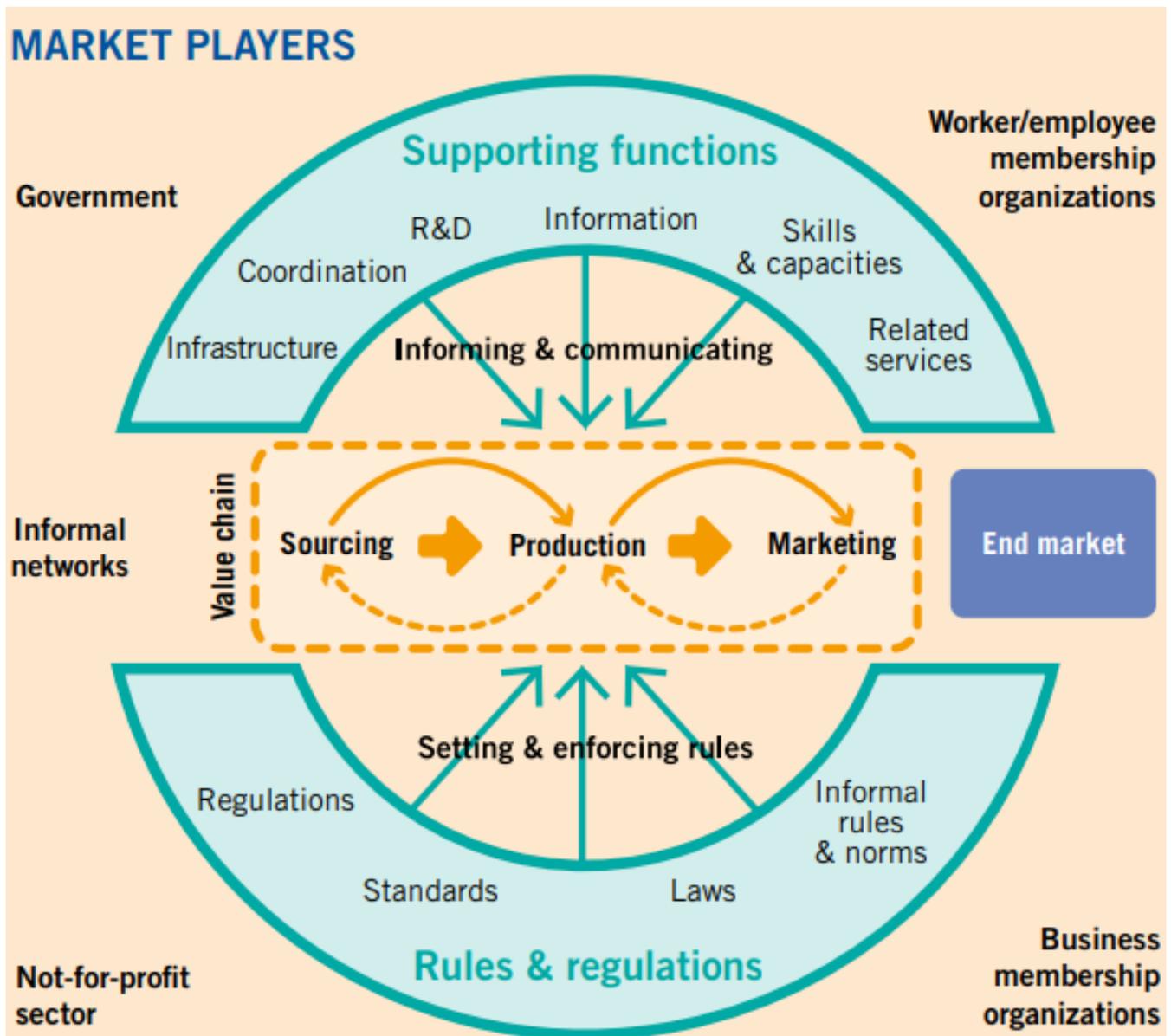


Figure 11: Value chains as part of market system frameworks

entrepreneurial, have a willingness to communicate with people in different parts of the value chain, and have the farm and financial resources along with the knowledge to develop new markets or participate more effectively in current markets. Farmers who have little land, who are more remote from markets, who have fewer assets, who have language barriers, who have no irrigation, and who are not involved in effective farmer organizations may find it more challenging to benefit from a value chain.

## Role of extension agents in the value chain

The role of frontline extension workers is undergoing a change in the face of global forces that are affecting agriculture. Traditionally, most extension workers come from backgrounds in agriculture, crops or livestock management, but their role has diversified to include involvement in management and marketing tasks. It is no longer sufficient to provide technical solutions to production problems because that cannot make farmers more independent. The ability to relate to a broader framework of what farmers want, and opportunities and limitations that markets impose is as crucial as technical know-how to bring about positive social change.

Extension agents should be capable of giving advice in all areas of production and value addition. They should have knowledge on the following:

- crop/animal products processing;
- storage and grading;
- quality assurance/packaging;
- financial management;
- value chain upgrading;
- value chain analyses;
- market/marketing analyses and support services provisions (Chikaire et al. 2017).

Categorising farmers and understanding their marketing aspirations is a critical step in providing them with effective extension services.

Different types of farmers require different types of extension services, ranging from the needs of individual farmers to farmer groups and cooperatives. This range of clients will pose challenges for extension services especially while supporting the next generation of farmers.

### Extension agents in the agricultural value chain

Given the complex nature of the agricultural sector and the competitive nature of extension services, there is actually no single organisation that can



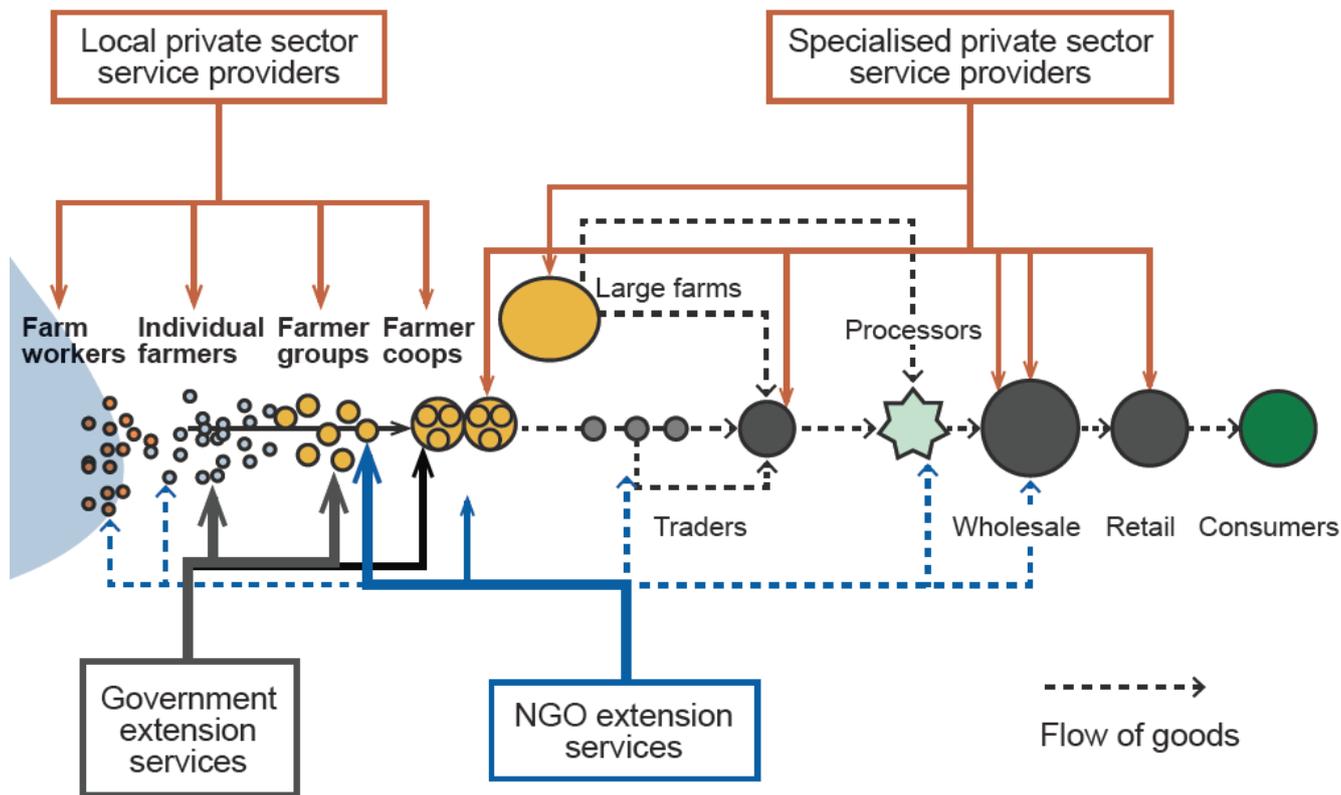


Figure 12: Types of extension services

provide the full set of advisory needs that farmers need. In the post-independence era, farmers relied upon government extension agents for their advice on production and storage options, as governments had marketing boards that procured farm produce. These government extension services were comprehensive and free.

As the role and size of government extension has declined over the last 30 years, there has been a steady rise in the number of NGOs that provide various types of agricultural advisory support to farmers. The NGO community has become fairly specialised over the past 15 years and their work is closely monitored and influenced by groups of experts who work with them, as well as the donor community.

In addition to the NGO community, there is also a growing number of private sector agricultural advisors. The private sector advisors cover a broad range of services, but they typically focus on supporting higher value commodities, such as coffee, cotton and tobacco.

More recently there has been a trend, which is supported by NGOs, to train local community members as fee-based service providers. This approach has been adopted to expand the range of service providers, but also to provide greater sustainability of the services being offered. NGOs typically only work in one place for a specific number of years, generally not more than five years.

The trends in the types of extension agents and the different roles each of these actors play within the value chain are discussed below:

**National government agricultural extension agents:**

Traditionally, farmers have relied on agricultural advice and information from government extension agents. These agents are often long-term employees, which enables them to acquire a depth of experience about local cropping and livestock systems. They focus their efforts on specific geographical areas and have close ties to national research organisations but they often have limited knowledge about markets and value chains.

**Lead farmers:** These are farmers who lead farmer-to-farmer extension services, based on their agricultural expertise. The lead farmers typically have

*To address last mile agricultural extension service delivery, Dr. Reddy's Foundation (DRF), Hyderabad, has established an effective **Lead Farmer Platform** in each district, consisting of 2,500 - 3,000 farmers with two to three lead farmers (LFs) per village. DRF believes that fellow farmers from the same community are the first choice for farmers to access information on technology and farm practices. (For more details refer to Case 4 in the Cases section of this unit).*

## Why a Community Platform:

Fellow farmers are the first choice for farmers to access information related to technology / farm practices.

Inbuilt scope for scalability

Minimal resource requirement

Studies show very high (Upto 500%) rates of return for extension, to improve farmer productivity and income



©DRF

a demonstration plot, where they set aside land to show the benefits of new varieties, new production methods, and provide a training point for demonstrating techniques like using agro-chemicals safely.

**NGO agricultural extension agents:** While most government extension agents focus on basic production systems, many NGO field agents have broadened their types of services to include issues such as financial education, savings and loans, business planning, nutrition and comprehensive farm planning, which includes diversification. NGO field agents are often better resourced and they have more clearly defined objectives and work plans. They often act as implementing partners for externally funded agricultural projects.

**Para extension workers:** To strengthen the last mile delivery of extension services, government programmes often select in consultation with the community, members from the community to act as para extension workers. They are given trainings

at regular intervals, and they in turn pass on the new information and knowledge they got from the trainings to the community members. They also help farmers to access services from other agencies. They receive limited funding support from the government programme and schemes for their services (example, Village Resource Person (VRPs) in OLM/NRLM, Kisan Sathis).

**Commission agents:** Input supply agents also advise farmers on input use, varieties, market preference etc., and the cost of the agent is not directly charged to the farmers, but is included in the cost of the products that they sell. The commission agents' payment is based on their success at selling goods and services to the farming community. The more they sell, the higher their commissions. Many input supply agencies also double up as commodity buyers and credit agents, that offer the commission agents additional income streams through interest rates on credit and a share of the sales price as deals are made between farmers and traders.



©SFI

**Agri-Entrepreneurs (AE), Syngenta Foundation, India (SFI) are a one-stop solution for smallholders. They provide four services: crop advice, agricultural input sales, market linkages, and credit facilitation. AEs earn commissions on the sale of agricultural inputs and produce. To link farmers to markets, they coordinate harvesting schedules in order to ensure availability of enough produce for either a trader to come or for transport to market. (For more details refer to Case 5 in the Cases section of this unit.)**

**Fee-based agents:** In this case, field agents are trained by NGOs or the government to become local knowledge brokers, offering their services to the farming community at a fee. As such, there is a trend towards fee-based service providers and field agents, who offer services such as: seed supplies, the application of agro-chemicals in field and in storage, veterinary products and services, financial education and links to credit, farm business planning, farmer group financing, and advanced production advice.

These services are linked to the market and farmers are willing to pay for such support to enhance their financial and market performance. The performance-

related payments of fee-based agents are based on the sales of goods and services (examples are agri-clinics and agribusiness services; AI service agents of BAIF, JK Foundation, etc.).

**Private sector field agents:** There are various forms of private sector extension services, such as those paid by producers or producer organisations who serve as consultants to advise farmers, and those paid by agri-business companies who are keen to procure quality farm outputs for sale in other markets after value addition. These extension agents work with farmers to help them sell higher volumes of quality produce to meet market requirements or to help companies procure quality farm outputs.

## Conclusion

Extension agents must understand the agricultural value chain in order to provide meaningful support service to farmers. This unit explained the what, why, how, who aspects related to the agricultural value chain. Different types of farmers require different types of extension services – ranging from the need of individual farmers to farmer groups and cooperatives. So this unit also tried to identify the trends in the types of extension agents and the different roles each of these actors play within the value chain.

## Cases

### Case 4: Lead Farmer Platform by Dr. Reddy's Foundation (DRF), Hyderabad

To address last mile agricultural extension service delivery, DRF established an effective community platform of farmers in each district, consisting of 2,500 - 3,000 farmers with two to three lead farmers (LFs) per village. Fellow farmers from the same community are the first choice for farmers to access information related to technology and farm practices. In addition, a community platform has minimum resource requirement and has inbuilt scope for scalability and sustainability.

The selection process for lead farmers (community volunteers) is a key knowledge product created through a process of engaging volunteers with no monetary support but other incentives like social recognition, access to new practices, and networking with key stakeholders and other progressive farmers.

How will the Lead Farmer Platform (LFP) work

- Selection of lead farmer with the right fit is the most crucial part of the model. A farmer who has demonstrated early adoption of better agricultural practices in the past, who is nominated by a minimum of 30% of fellow farmers in a community meeting, followed by an activity-based interview process is selected for the role.
- The lead farmer is trained on a new package of practices in crop or off-farm intervention, water management, financial and digital literacy by expert agencies and our knowledge.
- The knowledge transfer happens through a capsule-based training (whatever the farmer is going to implement in the next 30 days is only discussed and delivered in the capsule-based trainings), and IPC tools-aided training plan.
- Lead farmers demonstrate all the new practices in their field to showcase the benefits received to fellow farmers.

- S/he leverages the existing public extension system, digital platform, and private sector platforms for availing services and information.
- The lead farmer diffuses their knowledge on practices and schemes to fellow farmers through existing community and social networks.
- The lead farmer helps fellow farmers to take informed decisions on crop selection with special emphasis on crop diversification, especially horticulture.

The LFP approach was piloted from 2016 to 2018 in 550 villages across seven states (AP, Telangana, Maharashtra, Chhattisgarh, UP, Bihar, West Bengal) in partnership with technical agencies and experts. More than 1400 lead farmers were identified in these villages to impact 70,000 small and marginal farmers. The pilot results are promising: 90% of the LFs have been active for the past two years, LF dropout is less than 10% in the last two years, 60-70% of targeted fellow farmers have adopted advanced agricultural practices, and 40% of them have availed of government schemes. There has been a 15% to 20% increase in productivity, and input costs have reduced by 15-20% in major crops – thereby resulting in increased income of INR 15000 to 20000 per hectare.

*Source: DRF (n.d.)*

#### **Case 5: Smallholders' one-stop partners: Agri-Entrepreneurs (AE) by Syngenta Foundation, India (SFI)**

SFI began its AE Program in 2014. The model follows a decentralized approach in empowering young people in rural areas to play an active role in agriculture development in their region.

The AE process begins with the selection of rural youth to become agriculture technology assistants (ATAs). Candidates must have completed schooling up to at least Grade 10. Successful applicants receive training related to their main local crops. The focus is on agronomy, plant protection, markets and bank linkages. ATAs then work as interns for three to six months before becoming Agri-Entrepreneurs (AEs), working with 150-250 farmers in a cluster of four to five villages. To become an AE, candidates undergo a highly selective process. They must meet further criteria, including proof of entrepreneurial aptitude and must come from one of the villages in the cluster that they support.

AEs are a 'one-stop solution' for smallholders. They provide four services: crop advice, agricultural input sales, market linkages and credit facilitation. AEs earn commissions on the sale of agricultural inputs and produce. To link farmers to markets, they coordinate harvesting schedules to ensure availability of enough produce for either a trader to come or for transporting to the market. The model is underpinned by links to agri-credit from IDBI Bank. AEs act as the bank's business correspondents, and receive a commission on the credits they facilitate. Farmers are required to spend 60-80 per cent of the credit at an AE shop. As well as generating AE income, this system also channels agricultural credit to where it is meant to go – farming.

For an AE to be successful, he/she needs to work with at least 200 farmers/100 acres earning up to INR 200,000 per year. The Agri-Entrepreneur provides a range of services. An AE's revenue of 60-80% comes from farm input sales and 10-20% from market linkages. Credit facilitation brings in 10-15%, with up to 5% from crop advice. SFI helps the AE through capacity building, the development of SOPs, and partnerships with agribusinesses.

There have been other agri-entrepreneur models in India. However, most of these were typically input dealers, consequently, clients ran more risk of purchasing potentially inferior and random agri-products. By contrast, the AEs promoted by SFI are involved in various activities, from seeds to markets, with the aim being to ensure an increase in farmers' incomes. These AEs are tightly supervised by SFI and partner NGOs; if any AE is seen to be indulging in activities that are not defined in the AE program, financial support from IDBI will be withdrawn.

By late 2019, over 1,800 AEs were anchored in micro-businesses, serving some 250,000 farmers. To move to the next level of scale-up, a social enterprise was created called the AE Growth Foundation. This joint venture with Tata Trusts has an ambitious plan to develop 100,000 AEs over the next five years to serve 20 million smallholders.

*Source: SFI (n.d.)*

Link to the video [https://www.youtube.com/watch?v=2JteM0S1dx4&feature=emb\\_logo](https://www.youtube.com/watch?v=2JteM0S1dx4&feature=emb_logo)

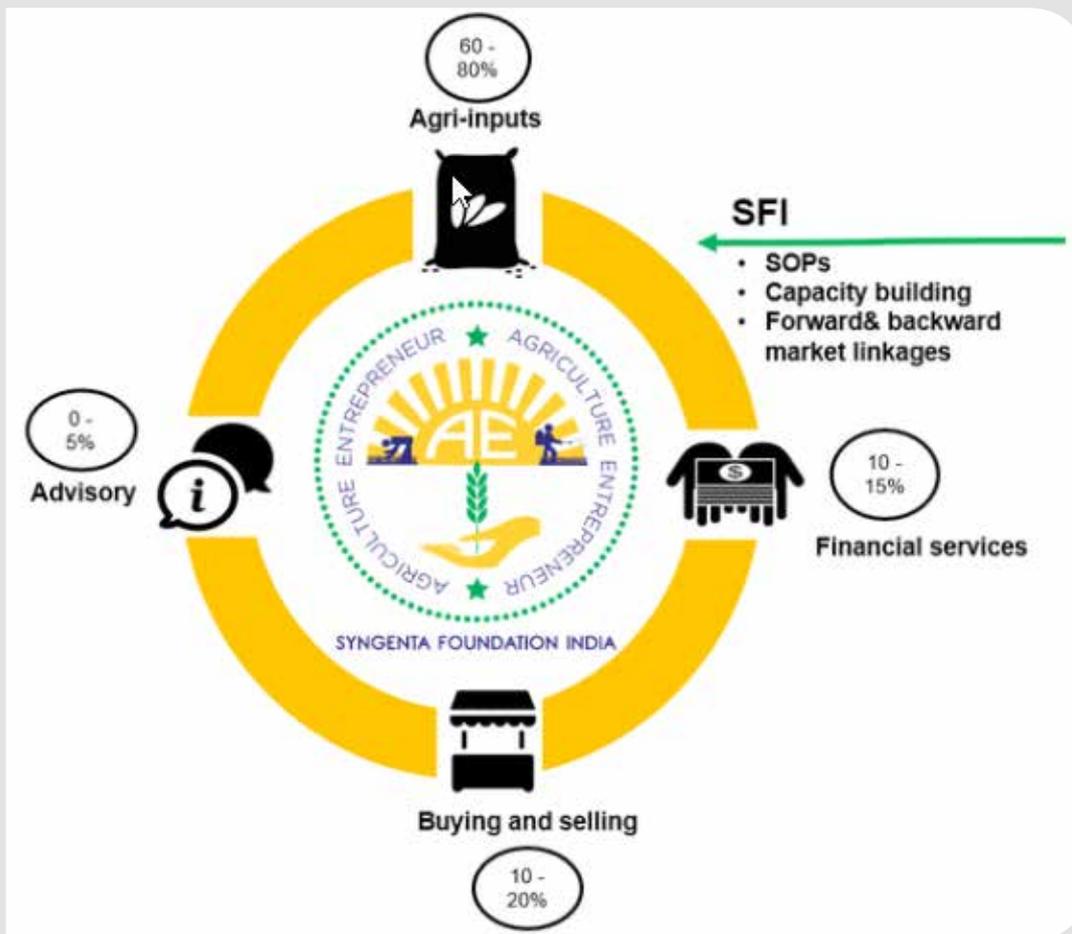


Figure 13: AE Model, SFI

### Case 6: Reliance Fresh: Super market driven agri value chain

Reliance Fresh has a wide presence across the country and operates 510 Reliance Fresh and Reliance Smart stores. The stores sell 200 metric tons of fruits and 300 metric tons of vegetables every day. The retail chain has created its own USP of always making available fresh fruits and vegetables at affordable prices.

Reliance Fresh sources fruits and vegetables or other raw agri-based products directly from the farmers and never from the local mandi. This practice is not only beneficial for the farmers, but also for the company, as it saves a lot of cost that could be incurred by paying extra in the form of local aggregators. Reliance Fresh has identified and established rural hubs across different parts of the country. The practice of directly procuring from the farmers makes Reliance Fresh an efficient and robust cost-effective value chain system. By directly approaching the local farmers, the procurement wastage gets reduced and leads to greater value for both farmers and consumers.

#### Procurement Procedure:

The entire process involves three important persons:

- Store Manager; Category Manager; Supply Chain Manager.

Similar products fall into one category, which is managed by a category manager. Once the stock in the store reaches its re-order level, the SAP system automatically generates an order for the procurement of those goods. This order is received by the category manager, who collects orders from different Reliance Fresh stores in the city. The collective big order is then placed in the supply chain.

#### Sources of Supply

- Vegetables: Local farmers and wholesalers; Fruits: Wholesalers; Other FMCG Products: Directly, through company contracts or through the Carry & Forward Agents (C&F Agents). Reliance Fresh is fully equipped with highly secured proprietary and licensed software such as SAP, Retailx, R Connect Portal and Europlex Securities.

*Source: ASSOCHAM 2018*

### **Case 7: Puthari Farmers' Producer Company Limited (PFPC): FPC mentored by Krishi Vigyan Kendra (KVK)**

Karnataka State accounts for 85% of the coffee crop in India with the remainder coming from Kerala and Tamil Nadu. In Karnataka, Kodagu, Hassan and Chikkamagaluru are the major coffee growing districts. The ICAR-KVK, Kodagu, conducted a seminar on 'Farmer Producer Organisations' with the help of NABARD in September 2016. After the seminar, a few like-minded, enterprising farmers and youth came forward to immediately put the idea into action. At that point the seeds were sown for the birth of Puthari Farmers' Producer Company (FPC) in December 2016. This FPC was registered as Puthari Farmers' Producer Company Limited (PFPC) under the Companies Act in December 2016 with 15 promoters.

Initial founder members contributed INR 5000/person as share capital and the process for registration of FPC was started under the Companies Act. Meanwhile, KVK and NABARD-Kodagu tried to get NABARD funding under the Produce Fund of NABARD, and it materialised in March 2017. NABARD agreed to fund the FPO for two years under its Produce Fund. In the first year the number of shareholders was 173. With funding support from NABARD, the company recruited a Chief Executive Officer (CEO), and minimum manpower to start an office for the FPO. KVK provided office space inside the campus at Gonikoppal itself so as to have better coordination and to reduce initial expenses.

#### **Interventions**

**Retailing:** The company initially started with retailing of basic farm inputs such as most-used fungicides and insecticides, irrigation equipment, coffee picking mats, shade nets, etc., required by coffee and pepper growers. The FPO formally launched its first retail outlet in September 2017. It was a big success. The company, which started with 15 products in the beginning, today has about 3003 products in its kitty, catering to the needs of coffee, pepper and paddy farmers. With increasing membership along with the need to cater to the needs of far-flung members, the second retail outlet was started in Virajpet town on 22 August 2019. The company has achieved a turnover of INR 1.72 crores in its second year of operation, mainly through its retail business.

**Market Linkages:** Together, the members of PFPC produce about 6000 tons of Robusta Coffee Cherry in one year. The FPC has also started initiatives in aggregation of farm produce, for difficult-to-market products like avocado, which always fetches very low prices for farmers due to its short shelf life. Marketing of avocado was initiated through a tie-up with a private company, Farm Folks, Mysuru, in the beginning, and later by tying up with various retail chains. Moreover, farm inputs supplied to farmers are at a much cheaper rate than in the market, as the FPC charges only minimal administrative costs and margin. There was always a problem for farmers in procurement of bulk farm inputs, such as dolomite and lime, which are basic farm inputs for any plantation crop. The FPC brought in a supply of such certified bulk inputs to the farmers' doorsteps, thereby eliminating a major headache for farmers on the quality and content of lime and dolomite. Just in lime and dolomite itself, farmers started saving about INR 2000/acre because of the intervention of the FPC.

After seeing its progress, the membership in FPC started growing. As of September 2019, the membership stood at 489, which effectively translates into a total area of more than 4800 acres, thus making it one of the largest farmer organisations in the realm of plantation crops. With the addition of more members every month, the PFPC is targeting a total membership of 1000 by December 2020.

*Source: George and Prabhakar 2019*

### **Case 8: Mahagrapes: Marketing partner to farmer cooperatives**

Mahagrapes, a marketing partner to farmer cooperatives attributes its success to a combination of collective action and public private partnerships in Maharashtra State of India. The cooperative was established in Pune in January 1991 to export fresh seedless grapes from India. It came into existence in 1991 with the support of several government agencies, including some federal agencies (such as National Cooperative Development Corporation [NCDC], National Horticultural Board [NHB], Agricultural and Processed Food Products Export Development Authority [APEDA]). Alongside there were state agencies like the Department of Cooperation, Government of Maharashtra, and Maharashtra State Agriculture Marketing Board (MSAMB).

Mahagrapes is a reputed global brand, with a presence in Europe, Sri Lanka and Middle Eastern markets. Currently, 16 Grape Grower Cooperative Societies are its members, with a collective strength of 2,500 grape growers and 6000 hectares of land under grapes, from Sangli, Latur, Nasik, Solapur and Pune. Mahagrapes also extends support to small farmers by providing in-house production of inputs and bulk buying. The successful partnerships and trade practices of Mahagrapes demonstrate that multi-specialized intermediaries can play a big role in linking small farmers to overseas export markets

Mahagrapes not only plays the role of aggregator and marketer for members, but also that of a disseminator of information regarding demand and quality parameters for the produce – facilitating better management of production and quality control – to enable them in meeting the stringent requirements of the export markets. The role of Mahagrapes is broadly two-fold. First, as a facilitator it provides marketing expertise (in both input and output markets) which is lacking among the producer cooperatives. In providing information, negotiating contracts and supplying certification, Mahagrapes overcomes the diseconomies of scale of small farmers through collectivization. In its second role as a provider of technical assistance and inputs, Mahagrapes again overcomes the scale of diseconomies through bulk buying or through in-house production.

It is a for-profit organization. The price which each farmer gets is decided based on the quality of the grape that can be ascertained due to traceability of the produce. Mahagrapes works as a facilitator; an important source of current financing for Mahagrapes is the facilitation charge. So when the price is decided for grapes from a particular farmer, Mahagrapes deducts a facilitation fee per unit of output and passes on the rest to the cooperatives. The cooperative then keeps a part of the price for itself and passes on the rest to the farmer. The amount which the cooperative keeps varies from one cooperative to another depending upon their specific requirements.

It is a cooperative and partnership firm for various cooperative societies spread across the Indian state of Maharashtra. The cooperative was established in Pune in January 1991 to export fresh seedless grapes from India. The cooperative has backing from the National Cooperative Development Corporation (NCDC), Government of Maharashtra, and other related government agencies involved in agricultural product exports. Mahagrapes is a reputed global brand, with a presence in Europe, Sri Lanka and Middle Eastern markets. Currently, 16 Grape Grower Cooperative Societies are its members, with a collective strength of 2,500 grape growers, and 6,000 hectares of land under grapes, from Sangli, Latur, Nasik, Solapur and Pune. Mahagrapes also extends support to small farmers by providing in-house production of inputs and bulk buying. In addition to that, farmers get commodity price based on the quality of their output. To sustain standards, maintain quality and ensure safety, the firm also provides technical help, materials and infrastructure support, such as cold storage to the farmers. The successful partnerships and trade practices of Mahagrapes demonstrate that multi-specialized intermediaries can play a big role in linking small farmers to overseas export markets.

*Source: Roy and Thorat 2008*



## Tools

### Tool 1

Steps to connecting farmers to new markets



*Source: Dent B, Macharia J and Aloyce A. 2017. Value chain thinking: A trainer's manual. Shanhua, Taiwan: World Vegetable Center. Publication 17-825:57 p. (Available at [https://avrdc.org/download/publications/from\\_the\\_field/agribusiness-value-chains/Value-Chain-training-manual\\_final\\_web.pdf](https://avrdc.org/download/publications/from_the_field/agribusiness-value-chains/Value-Chain-training-manual_final_web.pdf))*

### Tool 2

Best practices to be followed by institutions/government in linking farmers to market

- Include small scale farmers in agri. business enterprises;
- Enhance access to natural resources and local governance;
- Facilitate access to productive assets and markets;
- Provide access to information and knowledge;
- Support farmers' organizations for market access;
- Develop agencies and NGOs engaged in value chain development;
- Include issues such as gender equality and concern for the environment.

*Source: FBL. 2013. A guide to linking farmers to markets - Concepts and case studies. Prepared by Foretell Business Solutions (P) Ltd. & Research Program on Markets, Institutions and Policy (MIP), ICRISAT. (Available at <http://hope.icrisat.org/wp-content/uploads/2013/10/Guide-to-linking-farmers-to-markets.pdf>)*

## Tool 3

### Profitability indicators of firms in a value chain

Indicators of profit	Weaknesses and Strengths	Data Sources
Margins on sales (gross profit/net sales) (operating income/net sales)	Sales margin is generally slimmest when value added is thinnest; it is a good indicator of operating profit margins, but it ignores capital invested in the business	Interview with finance function in firm; balance sheets
Return on net assets (net income/net assets)	Takes account of equity and loans and payments schedules to debtors and creditors	Balance sheet
Return on equity (net income/ equity)	Ignores leverage through the use of loans or payments schedules to debtors and creditors	Balance sheet
Share of total value chain profit	It is a good indicator of profitability of a firm if it deals only in specific businesses	Balance sheet and interviews with finances function in firm

**Source:** FBL. 2013. *A guide to linking farmers to markets - Concepts and Case Studies*. Prepared by Foretell Business Solutions (P) Ltd. & Research Program on Markets, Institutions and Policy (MIP), ICRISAT. (Available at <http://hope.icrisat.org/wp-content/uploads/2013/10/Guide-to-linking-farmers-to-markets.pdf>)

## Tool 4

### Ten steps to draw a value chain map

Steps	Activity
1	Collect information through desk research (existing studies, reports and statistics);
2	Define the nature of the main products in the value chain;
3	Define the various functions that occur in the value chain, such as input supply, production, assembly, processing, wholesale, export, retail, etc. Separate the functions graphically into segments, e.g., starting with input supply on the left and moving to retail on the right;
4	Specify types of actors and allocate them to the different functions. Use types of actors and not individual firms. Some actors can carry out more than one function;
5	Put arrows representing the flow of products from one actor to the next and include information on the type of contractual arrangements;
6	Specify end-markets and relocate actors and arrows accordingly. Define market channels such that end-markets are at the right end of the map;
7	Include generic categories of support services, e.g., financial services, transport, packaging, etc. Arrows can show which actors benefit from these services. Information can also be included on who the main providers of these services are;
8	Add data overlays when information is available, relevant and helpful for the chain analysis. Overlays can be represented, for example by: N = Number of firms, V = Volume of product, or E = Number of people employed/engaged. Data can be collected from secondary sources, key informant interviews and/or surveys. Numerical data concerning scale (number of people and enterprises involved) should be segregated according to gender and concentration of poor;
9	Indicate where in the chain poor or marginalised people are concentrated;
10	Write a narrative explanation of the conditions in the chain in order to refer to important aspects not covered in the map.

**Source:** UNIDO. 2011. *Pro-poor value chain development practitioner's guide: 25 guiding questions for designing and implementing agroindustry projects*. Vienna, Austria: United Nations Industrial Development Organization. (Available at [https://www.unido.org/sites/default/files/2011-12/Pro-poor\\_value\\_chain\\_development\\_2011\\_0.pdf](https://www.unido.org/sites/default/files/2011-12/Pro-poor_value_chain_development_2011_0.pdf))

## Exercises

### Exercise 1

Ask participants to list important NGOs that specialize in agricultural marketing in the state of Odisha. List the products and services, thrust areas and implementation mechanisms of each NGO.

### Exercise 2

Divide the participants into 3-4 small sub-groups and let each group draw one value chain in their region. Value chain can be of agriculture crops, horticulture crops, livestock, and fisheries.

Afterwards, ask the groups to explain their results by presenting at the plenum.

Also ask them to distinguish between formal and informal markets.

A further step in the exercise could be to analyse the pillars of sustainability at each step in order to check how sustainable the presented value chain is.

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# Unit IV: Value Chain Interventions – I

## Objectives

- Discuss the importance of different value chain interventions such as direct marketing, retailing, contract farming and applications of ICT in value chain;
- Illustrate the impact of different value chain interventions in value chain sustainability.

## Introduction

Value chain interventions are enhancements in the value chain that overcome constraints and obstacles while creating more value, and for distributing value more fairly toward poor producers. Value chain interventions that are meant to be self-sustaining require that a sufficient number of value chain actors find it in their self-interest to implement and maintain them (Kevin and Muhammad 2014). Interventions might be targeted at domestic, regional, or international value chains. Interventions are not necessarily targeted at the whole value chain – they can also be limited to a section of a value chain that includes one or more vertical links. There may be interventions that are not framed by a value chain language; many private sector development projects and other projects focus on creating vertical linkages in production, processing and trade functions and follow the logic of the value chain approach (Folke et al. 2010).

A value chain connects different actors performing a sequenced set of activities – from production to end service – along a chain. Farmers often fail to gain market access because they lack knowledge of market requirements or the skills to meet them. Furthermore, poor information flow and other obstacles in value chains prevent them from entering into new markets, or reduce the benefits they obtained from entry. Direct marketing of farm products through farmers' markets enable producers to sell directly to their customers and reap the rewards for their hard work and long hours. At the same time it helps to bridge the gap in growing interest among consumers in understanding where their food comes from by gaining an opportunity to personally interact with the producers and availing fresh, nutritious, local foods at affordable prices.

Many unsustainable interventions which are insufficiently linked to markets have existed in the past. This has been due to the non-existence of an enabling environment in which value chains operate. Building mutual trust and relationships across the various actors in the value chain will pave the way to optimum use of available resources, which are transformed into products and services that are of value to market chain actors and consumers. Also, in vogue are ICT interventions, such as mobile phones and computers, in the value chain that help to integrate the advantages of this technology for improving farming systems and linkages with farm support services.

The concept of a contract farming model provides a proper linkage between the farm and market. It is an exciting way of giving the power of scale to small farmers, of linking small farmer efficiency to scale economy, transferring corporate management skills to the agriculture field, providing assured markets for the produce, reducing the transaction costs involved in the value chains of commodities, and of ensuring vertical integration through forward and backward linkages (MANAGE 2013). This unit takes you through various interventions, such as ICT, trust building, contract farming, and direct marketing, etc., taken along the value chain to make it more sustainable and profitable.

## Discussion

Value chain development interventions can focus on improving business operations at the level of producers, processors and other actors in the chain and/or the (contractual) relationships among them, flow of knowledge and information and innovation. Value chain development can also foster overall

coordination in the chain; participation of selected beneficiaries in local, national or global value chains; reduction of entry barriers, and a higher share of value addition for certain actors.

During value chain development, either by the government, private sector or a development organization, the question of impact at scale is vital. How can value chain interventions lead to the improvement of as many livelihoods as possible? How can we ensure that the impact does not remain within a limited area, but that as many people as possible benefit? Impact at scale refers to sustainable systemic change that leads to an improvement in job and income opportunities, and the ability to make informed choices for a large number of people.

## Use of Information and Communication Technologies (ICTs)

ICTs play a significant role in agricultural value chains, with different types of ICTs having different strengths and weaknesses when applied to particular interventions. ICT solutions can address a wide range of gaps and inefficiencies in agricultural value chains.

USAID & CF (2018) has identified that ICT solutions, as a subset of the larger AgTech field, have three primary applications to value chains.

- First, ICT can facilitate or strengthen market linkages and provide accessibility to otherwise informal and/or unorganized populations.
- Second, value chain actors can enhance their production through improved efficiency and quality by integrating ICT solutions into market operations and internal and external management systems.
- Lastly, ICT can allow for better understanding, transparency, and service delivery to farmers, customers, and the value chain in between through advanced data collection and analytics. As blockchain and other technologies are further explored, there is potential to further enrich existing ICT services and also to offer new ICT solutions to value chains and farmers.

The next generation of farmers will have grown up using ICT, such as mobile phones and computers, and will be seeking to integrate the advantages of this technology to improve their farming systems and link it with farm support services. In order to reach more farmers this approach will have to be intensified, as farmers become more progressive and increasingly use technology to support and enhance their efforts in working with higher value and knowledge-intensive systems.

Information and Communication Technology (ICT) solutions are increasingly being applied to agricultural value chains for information sharing, information analytics, access to markets, access to finance, and tracking and traceability (USAID & CF 2018).

ICT adoption is the next best tool for improvement of the agricultural value chain. Mobile-based ICT tools are used widely to cover remote farmers and incorporate digitization in various operations, such as distribution, geo tagging of farms, procurement, field inspection, training, advisory services, certifications, yield predictions and other forecasting tools. Mobile phones also enable farmers to integrate into structured markets based on approved grades and standards that can be verified using

### Case 9: FarmerNet – Sri Lanka

FarmerNet ([www.farmer.lk](http://www.farmer.lk)) is an online mobile trading platform funded by Information and Communication Technology Agency (ICTA) of Sri Lanka, and launched in 2009 by Sarvodaya-Fusion, in collaboration with SEEDS ([www.seeds.lk](http://www.seeds.lk)) and Sarvodaya-UK. The model specifically targets the microfinance beneficiary rural farmers of Sri Lanka. The majority of these farmers are constrained by their limited access to markets, and therefore do not receive a reasonable price advantage. FarmerNet employs a Spot Trading platform, which tends automatically to match the traders and farmers, and inform them via SMS texts. The system enables farmers and traders to send information by SMS regarding the availability of/requirement for a particular commodity, including quantity required, price quoted and location for delivery. The model is anticipated to provide more trading choices for rural farmers. Through the integration of mobile phone technology with web technologies, FarmerNet has made an attempt to make the process speedier and thus cater to the farmer directly. So, it intends to bypass the farmers' reluctance to interact with telecentres and also to bypass the over-dependency on intermediaries. However, the system is targeting market information instead of pest and disease information, demand volume of which is expected to enable a sound business model. FarmerNet is designed to work in concert with a network of telecentres in the country. Thus, mobile phone technology can be used as a technology tool to leverage the overall farmer interaction with telecentres.

*Source: [www.farmer.lk](http://www.farmer.lk)*



**Information Sharing** allows for the communication and receipt of information and knowledge between two or more actors



**Access to Markets** includes digital marketplaces for the buying or selling of various inputs, goods and/or services; enhanced internal systems for supply chain or aggregator management; and strengthened external market linkages



**Tracking and Traceability (T&T)** uniquely identifies products as it travels through a supply chain (tracking) or for downstream actors to pinpoint origination (traceability)



**Information Analytics** conducts data analysis and communicates results to either external customers/partners or for internal reporting and efficiency



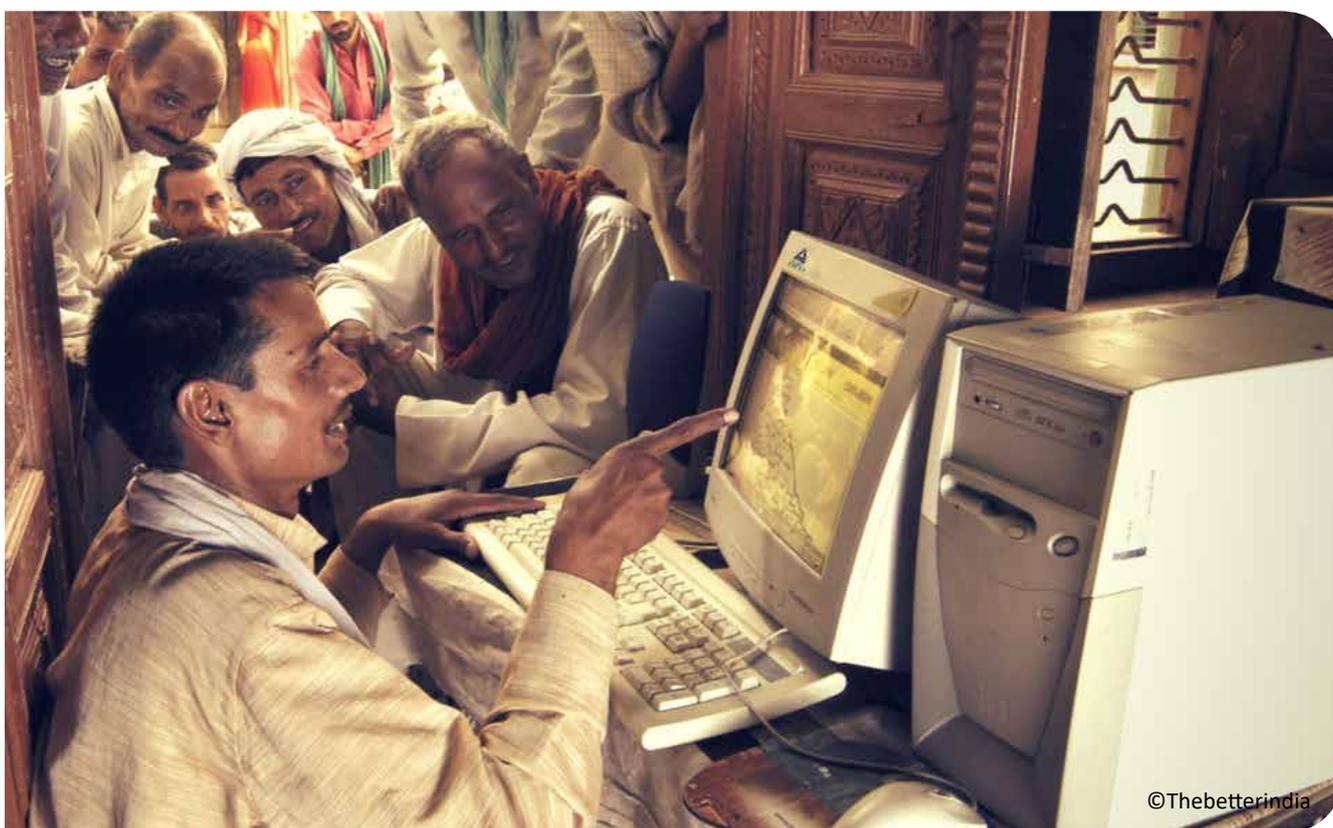
**Access to Finance** facilitates payments, provides credit, or manages collateral; can also provide financial data to third parties that will then offer these or other financial services to farmers

Figure 14: ICT services for agriculture

Source: USAID & CF 2018

calibrated photos and settlements made through mobile money. This helps in reducing transaction costs so that farmers capture a higher portion of the produce's marketable value. Farmers can also advertise their farm produce with pictures and maps, take orders online, show product availability, keep in touch with their existing customers, and support other ways of selling. Farmers can create an Internet presence through their own website or by using a website run by a third party. (See Box 6 for more details.)

Agricultural value chains are complex with several actors along the chain, but information asymmetry between the farmer and aggregator or intermediaries results in farmers having to sell into saturated, weak markets that are not based on standards. Emergence of powerful ICT-based value chain models that enable actors' coordination along the value chain with the use of big data and mobile phones can increase value chain efficiency through access to appropriate inputs and credit. Alongside there is market integration based on agreed grades, standards and prices.



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## Building trust and relationship across value chains

Trust has been an essential element of business relations ever since people started to trade with each other. A significant proportion of agricultural marketing transactions between farmers and traders is based on trust – traders trust farmers to repay loans while farmers trust traders to pay for the products they sell to them, deferred payment being a common practice (Shepherd 2004). Trust can be increased by the different actors' commitment along the value chain model. It can also be promoted by meetings between different actors in the value chain, which is the primary responsibility of EAS. Therefore, considerable work is expected from extension workers and other service providers to develop trust between the various actors along the value chain.

In underdeveloped value chains, trust and coordination are often low. This can be due to a variety of reasons, including a lack of leadership, mistrust of competitors, a zero-sum outlook, or simply the inability of actors to see the long-term benefits of cooperation (McKague and Siddiquee 2014b). To work more effectively, value chains require coordination. In the absence of coordination by markets or governments, nongovernmental organizations (NGOs) have an important role to play in the facilitation of mutually beneficial exchanges and learning. Stronger and more trusting value chain relationships are an important element of achieving this because greater trust and coordination promotes cooperative behavior, reduces transaction costs, enables rapid problem solving, reduces conflict, enables flexibility and adaptability, increases information flows, and reduces risk (Rousseau 1998).

*Agribolo, a farmer engagement platform, makes use of a simple mobile phone interface to provide an individual with an umbrella of services under one roof at his/her location, and according to the season, relevance, demand, supply, in a timely and efficient manner. This included information decimation, quality input procurement, market linkages, and access to tools, irrigation facilities and equipment that helps in tilling the soil. But in the case of **Intelto Labs**, artificial intelligence tools, including computer vision and deep learning, is used to build a platform for grading and quality monitoring of agricultural commodities. ITC **e-Choupal** leverages Information Technology to virtually cluster all the value chain participants. It makes use of the physical transmission capabilities of current intermediaries - aggregation, logistics, counter-party risk and bridge financing - while dis-intermediating them from the chain of information flow and market signals.*

**(More details in Case 10, 11, 12 in the Cases section of this unit).**

*In Nepal the International Development Enterprise (IDE) has used the **Participatory Market Chain Approach (PMCA)** to strengthen the vegetable value chain and connect smallholder farmers to larger markets. The implementation of the PMCA process is helping to break down misconceptions that stakeholders had about each other, particularly the view that traders were exploiting farmers (Reddy et al. 2011). It has also increased the confidence and trust among collection centre management, farmers and traders.*

**(More details are available in Case 13 in the Cases section of this unit.)**



## Support in direct marketing

In direct marketing, farmers sell farm products directly through farm outlets/farmers' markets. It helps in complete elimination of middlemen/commission agents/intermediaries and boosts the farmer's share from the consumer's rupee.

Examples of direct marketing include community supported agriculture (CSA) ventures, farmers' markets and farm stands, and direct sale to businesses and institutions, such as restaurants, schools or hospitals. Direct marketing can contribute toward sustainable agriculture and food systems by increasing farmer profitability, promoting the local economy, and providing consumers with higher quality and healthier products.

Direct marketing is permitted in the states which have amended their state acts as per APMC Model Act, 2003 of the Central Government. Under direct marketing provision, a trader, exporter, and processor can directly buy from farmers and enter into buy-back arrangements with them. Some of the popular examples are: Rythu Bazaar in Andhra Pradesh and Telangana States, Shetkari Bazaar in Maharashtra, and Uzhavar Sandhai in Tamil Nadu. These markets facilitate direct linkage between farmers and consumers and other end-users. (See Case 14 in the Cases Section for more details.)

Farmers who market and sell products directly to their customers may consider an online presence unnecessary, because their business is usually done face-to-face. However, a web presence offers two big advantages to the direct farm marketers: it helps them find new customers, and it enables them to better serve existing customers. Also nowadays, farmers are increasingly getting interested in branding their commodities so as to gain maximum share out of the consumer rupee. Farm Grocer (Refer to Case 15 in the Cases section of this unit for more details) and Majha Haldi are such examples.

The advent of e-commerce has prompted many manufacturers to re-design their traditional channel

### Farm direct marketing advantages:

- Small quantities of farm products can be sold, hence small producers can participate;
- Farmer sets the price and is in more control of the price;
- Good products get attractive prices;
- Immediate payment facility;
- Farmers receive instant feedback from customers on products.

structures by engaging in direct sales. Big Basket, Nature's Basket and Grofers are online grocery portals, which books orders from online consumers and delivers sorted and cleaned groceries, vegetables and fruits to them. Even global giants like Amazon are eyeing the potential in the agricultural market.

### Box 6. Examples on how farmers are leveraging their web presence to access markets

Bhaskar Kamble, a grape farmer from Nasik, Maharashtra, decided to tap the potential of the Internet to sell his produce directly to the consumer. Kamble's website, [bestgrapes.co.in](http://bestgrapes.co.in) (he is now on Facebook as well) sells produce from a collective of a dozen farmers from Jalalpur, Nasik district. His plan was to sell to customers within the district, but he has now expanded to selling grapes across the state, thanks to the interest generated by his website. He says, this way he gets 2-3 times more the amount he would have got if he had sold it to a middleman. Currently his initiative is limited to a few farmers and the website is managed in-house by family members and friends, but he hopes more farmers will be interested in joining them, and that this will make the venture viable.

Source: <http://bestgrapes.co.in/>

Tiwana Bee Farm is a Ludhiana (Punjab) based apiary and manufacturer of beekeeping equipment and beekeeping supplies – with clients spread throughout India and many other parts of the world. Tiwana Bee Farm was established with the purpose of processing raw honey obtained from honey combs, into high quality edible grade honey. Originally a farmer, the owner has now diversified into manufacturing of beekeeping equipment such as honey processing plant, bee hives, honey extractors, smokers, protective clothing, pollen traps, grafting needles, etc. Take a look at the beekeeping equipment products page for a complete list of equipment from this firm .

Source: <https://tiwanabeefarm.com/>

Onlinesabjiwala.com is a preferred destination for buying grocery, fresh fruits and vegetables online in India, offering fresh and best prices and a completely hassle-free experience with options of paying through cash on delivery. This helps customers shop for their daily grocery, fresh fruits & vegetable needs that are supported with handy descriptions. This site provides the best online shopping experience every time.

Source: <http://www.onlinesabjiwala.com/>

**Majha Haldi:** Yadwinder Singh from Chogawan village in Tarsikka block, Amritsar, took the initiative to redefine traditional agriculture by diversifying from wheat-rice cropping cycle to turmeric. But after a few years of hard work, he felt the share of consumer rupee in his income is negligible as compared to the middlemen's share. ATMA, Amritsar, helped him to find new

solutions and guided him on the process of making a brand and to get it registered, so as to make more profit. Now he grows, processes, and packs turmeric at his farm site and along with that he has a farm outlet too, to serve local consumers.

*Source: Pujara 2017*



## Tiwana Bee Farm

Beekeeping Equipment, Supplies & Honey Products

G.T. Road, Doraha, Ludhiana -141421, Punjab - India

Main Page

About Us

Equipments

Honey Recipes

Photo Gallery

Contact Us



### Beekeeping Equipment

Tiwana Bee Farm is a Ludhiana based apiary and manufacturer of beekeeping equipment and beekeeping supplies with clients spread through out India and world - [Beekeeping Products & Supplies](#)

### Honey Processing Plant

Tiwana Honey Processing Plant, the mainstay of Tiwana Bee Farm, is a compact, sleek, easy to operate and energy efficient honey processing plant that is being used successfully by many apiaries and beekeeping farms throughout India - [Honey Processing Plant](#)

Email: [info@tiwanabeefarm.com](mailto:info@tiwanabeefarm.com)

## Linking farmers to retail chains

Effective linkage between farm and retail plays a significant role in the agricultural retail value chain. This paves the way to income increase for farmers/producers, creates non-farm employment (both in rural and urban areas) along with a continuous supply of healthy and nutritious food products to consumers. To effec-

tively link small farms to retail chains is a significant challenge for EAS in the agricultural sector.

Major drivers of growth in the retail sector and its constituents have been the changing age structure of the Indian population, rising incomes, increasing number of employed women, changing food habits (increasing popularity of convenience



and western foods), and growing health and food quality consciousness among food buyers and consumers. The current share of organized retail is small; projections expect the share to double by the next few years. Major players in the retail chain for agricultural produce in India are Hypermarket, DMart, More, Big Bazaar, Godrej Nature's Market, Walmart, among others, and the growth of e-retail in food is also increasing. Companies, such as Amazon

Pantry, Big Basket, Grofers and Flipkart, are expected to register a high level of growth. For example, with more than 20 collection centres across the country, Big Basket procures about 60% of its Fresh Fruit and Vegetables (FFVs) directly from farmers and the company reportedly expects that number to go up to 80% as it adds more collection centres (Livemint 2017).

The most important point in this regard will be the development of modern supply chains in the agricultural sector, which is currently fragmented and hinges on middlemen. However, big retailers can reach out directly to small farmers through collectives and bring them into the system. This farm-retail linkage is essential for income growth at the farm level, the creation of non-farm employment both in rural and urban areas, and also for improving efficiency and reducing wastage. Consequently it will have an impact on economic growth, agricultural development and nutrition, and access to food. The ability of small farms to effectively link to value chains that take into consideration new requirements of quality, quantity and efficiency, along with many changes in value chain management and logistics through the use of quasi-formal and formal contracts seem to be a significant challenge for the agricultural sector (Pingali 2019).

**Ajeevika Fresh Retail Stores-linked Vegetable Clusters model** was adopted to eliminate many intermediaries in the value chain and gain better price realization for the farmers. The retail stores-linked vegetable clusters have emerged in 14 districts of Madhya Pradesh. Sixty-three Ajeevika Fresh retail stores were opened in all the fourteen districts which provided direct market linkages to producers brought value addition closer to the farmer. **Ninjacart** works by sourcing fruits and vegetables directly from farmers in and around Karnataka and directing them to retailers, small shops (kirana), and medium to small sized markets/supermarkets.

*(More details are discussed in Case 16, 17 in the Cases section of this unit.)*

## Contract farming/outgrower schemes

A private sector mechanism for providing comprehensive services to small farmers is contract farming, or outgrower schemes. The role of contract farming in facilitating these farm-firm linkages may be important, particularly in an environment where the farming community is fragmenting and the processing and retailing sectors appear to be scaling up quickly (Gulati et al. 2008).

Contract farming provides smallholders with a direct sales agreement into a target market. The agreement is typically based on specifications such as price, quality standards, and sales volumes. Contracting has many variations, but it is generally supported by an intermediary firm, which secures the market and then sources produce with smallholders to increase supply volumes and control quality. These intermediary firms often support financing, technology and produce logistics, which significantly reduce risks for smallholders. Contracting is used in many formal trading arrangements for goods such as coffee, cocoa, cotton and high value horticultural produce for both domestic and export markets. As countries urbanise and food systems formalise, contracting is also used to meet food quality standards in food supply chains. The rise in formal food markets, such as fast food restaurants and supermarkets, has also increased contract farming and marketing (GFRAS 2017).

Well-managed contract farming has proven effective in linking the small farm sector to sources of extension advice, mechanization, seeds, fertilizer and credit, and to guaranteed and profitable markets for produce. When efficiently organized and managed, contract farming reduces risk and uncertainty for both parties. The approach appears to have considerable potential in countries where small-scale agriculture continues to be widespread.

### **Crops suitable for Contract Farming**

**Perishable:** cannot be stored for long periods and needs to find market immediately;

**Bulky:** and therefore costlier to transport;

**Plantation crops:** Growers cannot abandon the plantations or the estates and are locked into relationships with processors;

**Processable:** Need for processing created inter-dependence between growers and processors; vulnerable to exploitation;

**Variations in quality:** Where crops vary in quality and quantity, processing is important;

**Unfamiliar:** Medicinal plants, like Safed musli, Ashwagandha, etc., and new products for new markets like gherkins, etc.

However, contract farming is not a panacea for addressing all the problems related to small farms. Quite often, smallholders can be excluded from contracts because of selection bias by agribusinesses awarding contracts to large-scale farmers. The direct negative impacts of contract farming is that farmers can be controlled and exploited by large-scale agribusinesses, and lose their bargaining power. Furthermore, farmers may be adversely affected by the second-round effects of contracts on incomes and prices and suffer from narrowing of markets that lie outside of contracts (ADB 2005).

Options for improving services to small farmers under contract farming arrangements include:

- Direct support with public funds provided to farmer groups, an intermediary NGO, or the private produce buyer to improve services;
- Extension advisory support to farmers to improve production of quality produce as needed by the buyer;
- General support to the small farm sector through infrastructure (roads, irrigation) or support to farmer organizations; or
- Indirect support through development of rural markets, strengthening local service providers, or passing legislation to improve enforceability of contracts and reduce risk of default by farmers or the private firm.

It has been found that the supply contracts with small farmers are rarely formal and there is a lack of legislation in this regard. Most of the contracts

*Suguna is India's largest poultry integrator and largest broiler producer working in 19 states and sells one million birds per day. It is associated with 35,000 farmers and has 7000 employees and 77 hatcheries. Pioneering efforts by Suguna in contract farming has changed the landscape of the Indian poultry industry, and has transformed the lives of lakhs of farmers and people across rural India.*

*(More details discussed in Case 18 in the Cases section of this unit.)*



Younger > Tender > Better

are non-enforceable in India – as elsewhere in developing countries – and remain agreements that are only morally-based. In order to make contract farming a win-win case, there is need for longer-term relationships between agro-industries and farmers through transparent contract terms, fair pricing, effective extension, and good marketing. Institutionalization of the process of exchange between producers and private party through newer governance mechanisms and public private partnership may yield benefits.

## Conclusion

EAS need to play a major role in market analysis, market intelligence, advice on product planning, establishing proper marketing and agro-processing linkages and so on. This unit allows extension personnel to realise the role h/she can play in various interventions – like trust building, contract farming, information technology, and direct marketing, etc. – taken along the value chain to make it more sustainable and profitable.

## Cases

### Case 10: Agribolo-Digital Platform in value chain

**Context:** The existing agriculture ecosystem is disjointed where the farmer does not evolve through the value chain process. Farmers largely depend on multiple levels for service support due to various risk factors involved in agriculture.

**Idea:** Agribolo (<https://agribolo.com/#>), an initiative by AgriLife Technologies Private Ltd., introduced a simple mobile phone interface to engage and connect farmers with different stakeholders. The start-up offers a platform to **aggregate services** in the form of farm mechanisation, plant nursery, protected cultivation, seed production, input demonstration, collateral management, financial inclusion, and local processing, that could be co-owned and co-operated by the community at large.

**Methodology:** An array of services are available annually to the farmer through various models including on-ground presence, toll free number, SMS services, mobile-based application, and Agribolo Kisan Seva Kendra.

**Service area:** The app provides service solutions, namely Seed programme, E- trading, Rentals (custom hiring model), Agrimart, Expert solution, and Home delivery of agri inputs.

#### Advantages:

- Social empowerment as a parallel system run by the farmer community, bringing in a sense of ownership;
- Cluster-based management with better linkage of local procurement and processing gives the ecosystem feasibility and sustainability;
- Access to institutionalized credit facilities to drop down farm credit interest rate from 24 percent per annum to 10 percent;
- Rural engagement as **Agribolo Kisan Seva Kendra within every 15-20 km**;
- Aggregators use mobile app, call centre, on-ground team and digital media to reach the farmers.

*Source: <https://agribolo.com/#>*



### Case 11: Commodity grading with AI technology, Intello Labs

**Opportunity:** Images and smartphones have the potential to help the agriculture industry meet its productivity and sustainability challenges. The simplicity of images as a medium of communication can help overcome the lack of information flow across the agriculture value chain.

**Idea:** Intello Labs (<http://www.intellolabs.com/>) revolutionise agriculture by enabling farmers, traders, millers, retailers and end users in communicating through images for product quality, infestation, plant health, or even soil conditions. A high performance deep learning algorithm on which a new generation of intelligent applications has been built has applications for agriculture, e-commerce, advertising, manufacturing, and curation, etc.

**Methodology:** The advanced image recognition technology can recognise objects, faces, flora and fauna and can tag them in any image. This is a pioneering first-in-the-world app with equipment to test, grade and analyse the visual quality parameters of agricultural commodities.

**Commodities dealing with:** wheat, corn, tomato, soybean, potato and onions

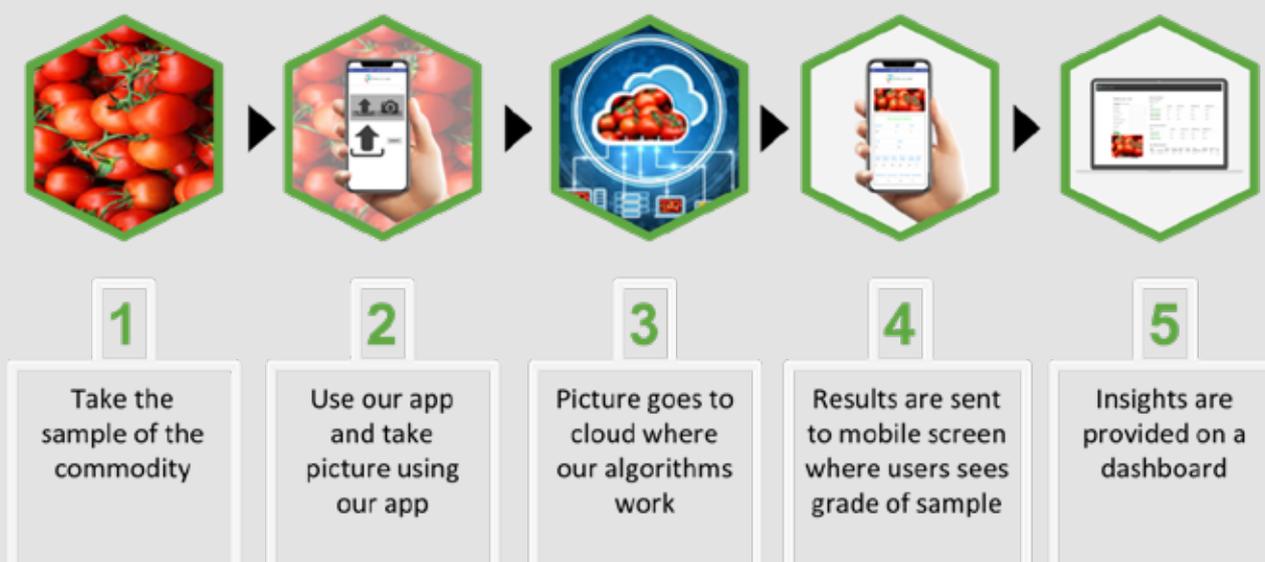


Figure 15: Transparent & digitized food grading system with AI technology

#### Advantages:

- Established quality parameters reduce time and energy taken for quality testing;
- Real time data sharing across multiple locations and screens possible;
- Maintain accuracy and quality parameters;
- User friendly and less laborious as it is a smart phone-based application;
- Transparent method; can be operated by individual growers.

*Source:* <http://www.intellolabs.com/>

### Case 12: Farmer kiosks – ITC e-Choupal in India

ITC is one of the largest multinational conglomerates in India and is traditionally known as the main player in the local tobacco and cigarette markets. Over the last few decades, ITC has diversified into new areas, including branded prepared foods and snacks, and basic food ingredients such as flour and oil. This diversification pushed ITC into setting up a standard system for procuring ingredients in specific quantities, leading to the creation of the ITC e-Choupal service.

In 2000, ITC's solution was a network of e-Choupal kiosks, each equipped with a simple desktop computer and printer, powerful battery back-up (uninterruptable power supply), solar panels (if needed), and a very-small

aperture terminal (VSAT) array for connection to the Internet. In rural areas, village Internet-enabled kiosks are provided and managed by entrepreneur sanchalaks, who are often farmers. These sanchalaks provide access (and translation) to many different types of information and service, such as weather and market prices.

It is estimated that an e-Choupal kiosk costs between US\$ 3000 and US\$ 6000 to set up, and about US\$ 100 per year to maintain. Farmers are not charged for using e-Choupal's services, but the sanchalak incurs operating costs. Sanchalaks have exclusive rights to serve about ten villages in a given area and receive a commission on each transaction (about 0.5 percent of the value of the trade). ITC reports that it takes one year to recover set-up costs from an e-Choupal kiosk and that the venture as a whole is profitable.

E-choupals are much more than internet kiosks. They are generally located within walking distance or a 5-km radius. Instead of travelling long distances to the nearest mandi, the farmer can take a sample of the produce to the e-Choupal. The sanchalak, using moisture metres and other techniques, measures the quality of his produce and issues a conditional quote. The farmer can see ITC's price for himself on the website as well as the previous day's prices at nearby mandis on the computer. If the farmer decides to sell to the ITC hub, the Sanchalak gives him/her a note which includes name, village, particulars of the quality assessment, approximate quantity, and conditional price. Then the farmer can take the note along with his produce to the nearest ITC rural services hub called Choupal Saagar (hub that doubles up as a procurement and warehousing centre, apart from being a market for inputs like seeds and fertilizer), which falls within a 30-km radius. Here, further testing is conducted by trained technicians.

This system also gives the company traceability of its key agri-inputs for manufacturing its popular brand of consumer food products. These home-grown Indian brands in turn anchor the entire agri-value chain, contributing to India's agrarian economy.

e-Choupal has already become the largest initiative among all Internet-based interventions in rural India. It has a reach of over 4 million farmers growing a range of crops - soyabean, coffee, wheat, rice, pulses, shrimp - in over 35,000 villages through 6100 kiosks across 10 states (Madhya Pradesh, Haryana, Uttarakhand, Uttar Pradesh, Rajasthan, Karnataka, Kerala, Maharashtra, Andhra Pradesh and Tamil Nadu).

In its next phase – there is the ITC e-Choupal 4.0, a pilot for which has already started. The e-Choupal intends to become an aggregator for a variety of agri-services after integrating them with the on-ground presence of ITC's agribusinesses across 70,000 villages.

The evolved model will cater to the new generation of agri-entrepreneurs and agrarian start-ups dealing with a wide array of services from hyper-local weather forecasts to support systems for precision agriculture; from sensors for smart irrigation to drones for crop-health monitoring; from image processing for disease recognition to predictive analytics for epidemic management; from next-gen farm management to online consumer outreach directly.

*Source: Thebetterindia 2018*

### **Case 13 : Strengthening the existing horticulture value chain in Nepal**

While working with farmers in Nepal, International Development Enterprises (IDE), Nepal, began to recognise the opportunities for smallholder farmers to rapidly increase their incomes by supplying agricultural produce, especially vegetables, to larger national and international markets. However, the farmers were unorganised and they produced only small quantities of vegetables. Moreover there is inefficiency in the existing value chains characterised by missing actors and insufficient connections between existing ones. In order to address these constraints and connect farmers to markets, IDE facilitated the construction of community-managed collection centres (CC) at various district blocks, which served as points of accumulation of vegetables to attract local traders. Individual farmers were organised into farmer groups, and supervised by the block collection centre. IDE also appointed an executive body for each centre, called the Marketing and Planning Committee (MPC) to represent the interests of members to different stakeholders.

Input dealers who operated in various regions were given resource books on crop production practices and were encouraged to share copies of these with their farmer clients at a nominal cost. These input dealers were also encouraged to attend meetings at the collection centres. The Marketing and Planning Committees were trained and encouraged to contact the Department of Agriculture and village development committees at the local level to access various programmes and funding schemes. IDE also registered the farmer groups it formed with the Department of Agriculture and the marketing and planning committees under the Cooperatives Act in order to formalise and institutionalize these organisational structures and ensure their sustainability.

The creation of this architecture helped farmers receive better prices, mainly because the marketing and planning committees were able to use their bargaining capabilities for the produce at the collection centres. However, despite all efforts, there still existed an element of mistrust between farmers and traders. This translated into traders not openly sharing prices, farmers complaining about exploitation by traders, and traders complaining about the lack of regularity in receiving supplies from farmers. The marketing and planning committees lacked the requisite skills to address these issues at the time. The linkages among different agencies that IDE created through the collection centres remained structural but not functional. As a result, the impacts of these interventions were not as high as expected.

At this stage, IDE felt that the introduction of the Participatory Market Chain Analysis (PMCA) could be a useful tool to address these problems and move current initiatives to the next level of market operation. IDE expected the tool to help them in building management capacities in the marketing and planning committees that would help them respond to different types of market opportunities – and thus try to build trust among different agencies. It developed a new project partnering with Agro-Enterprise Centre (AEC) of the Federation of Nepalese Chamber of Commerce and Industry and CEAPRED, another NGO in Nepal. Even though PMCA was originally developed in a completely different geo-political-cultural-market context (developed in Latin America by the International Potato Centre and applied in Uganda by DFID’s Crop Post Harvest Programme), IDE decided to adapt it to the local context. The following activities were undertaken to strengthen the existing value chain:

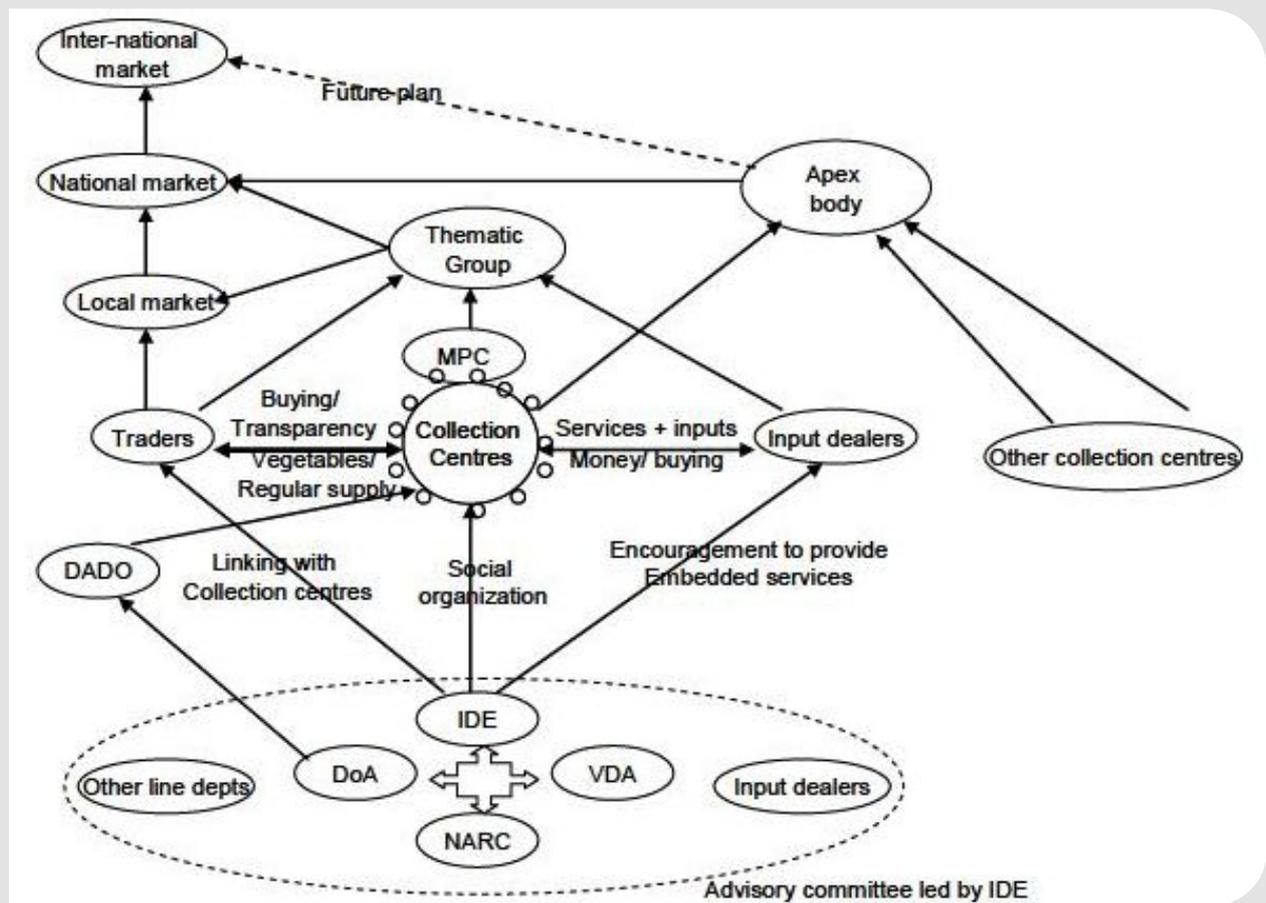


Figure 16 : Relevant actors and their relationships in promoting PMCA in Nepal

- Development of PMCA guidelines in the local language;
- Orientation training on the new approach and the initiative to include MPC executive members and other potential actors in the value chain, namely traders, wholesalers, retailers, consumers and restaurant owners;
- Formation of thematic groups at each MPC: Thematic groups comprised of a mixed group of value chain actors such as, Market and Planning Committee, Executive Committee members, vegetable producers, wholesalers, retailers, consumers and restaurant owners. This was subsequently expanded to cover input agencies such as agro-vets;
- In-country market assessment in five districts: The survey – executed on wholesalers, retailers, vendors, restaurant holders and consumers – helped in understanding the major constraints;
- A study conducted on the potential of vegetable export to major vegetable markets in India (example, Gorakhpur in Uttar Pradesh, adjoining Nepal), and meetings with the wholesale traders;
- Facilitation of MPCs in training their beneficiary households on post-harvest technology and improved marketing activities;
- Support given to Vegetable Collection Centres (CC) to purchase new balance scales, weights, crop calendars and packaging materials;
- Organizational development & leadership training for MPC executive members and thematic group members;
- Training on developing plans for production and marketing given to executive members of the MPCs taking into consideration market demands;
- Daily broadcasting of price information on vegetables from major vegetable markets through FM stations.

*Source: Reddy et al. 2011*

Improved interactions and trust among different actors, created through the application of PMCA, in the 20 MPCs it worked with (spread over five districts) ensured a win-win situation for everyone involved. For example, farmers received better prices, became aware of opportunities in different markets and expanded vegetable growing areas; traders accessed graded and good quality vegetables in large quantities and expanded their business frontiers; restaurant owners and other consumers accessed vegetables in required quantities and at better prices; input dealers increased their businesses and received feedback on how to improve their operations, etc. This newly created trust not only helped different actors improve their current operations, but also helped them plan for future activities (for example, plan on expanding activities to organic agriculture, reaching international markets, etc.). In this scenario, each of the participating stakeholders in the initiative is striving to sustain it and further expand it in order to advance its own business interests. IDE plans to continue with the thematic groups and other PMCA initiatives beyond the RIU project period. IDE Nepal has been successful in mobilising further donor support to scale-up/out the initiative. It has also been successful in efforts to impress upon the Department of Agriculture, whose Director General is the chairman of IDE's advisory board, the need to partner with it in scaling up/out this initiative.

*Source: Reddy et al. 2011; IDE Nepal 2011*

#### **Case 14: Direct marketing by farmers**

**Rhythu Bazaar** in Andhra Pradesh and Telangana States, is an initiative to create infrastructure facilities to enable farmers to sell their products directly to consumers. Producer's share in consumer's rupee is higher by 15 to 40% as compared to other markets; and consumers get produce at 25-30% lower price. Typically, a Rhythu Bazaar covers 10 to 15 villages and at least 250 farmers, including 10 groups (Self Help Groups) selected by a team of local government officers for operating these bazaars. Transport facilities for producers are arranged through the State Road Transport Corporation. In addition, online information for prices and commodities is provided on the Internet. More than 100 Rhythu Bazaars are benefitting 4500 farmers and a large number of consumers.

**Shetkari Bazaars:** In 2002, the Government of Maharashtra had set up Shetkari Bazaars in the state and the Maharashtra State Agriculture Marketing Board was appointed as the nodal agency for implementing this scheme. The Shetkari Bazaars are located in all the districts and key taluk places, and managed by the Agriculture Produce Market Committees (APMC). The produce brought in by farmers is levy free. There are 12 Shetkari Bazaars operating in the state and 33 additional markets are coming up.

**Uzhavar Sandhai:** The innovative scheme Uzhavar Sandhai was introduced by the State Government of Tamil Nadu in the year 1999-2000 for direct selling of fruits and vegetables by farmers to consumers at a fair price without any intermediaries. At present 164 Uzhavar Sandhais are functioning in the state. In these markets, the team of officials including agriculture officers and representatives of farmers groups fix the daily prices for products. The rate fixed is about 20% more than the prevailing wholesale market price and consumers benefit by getting about 15% less than the prevailing retail price. No market fee is levied for transactions at the Uzhavar Sandhai.

*Source: Raju et al. 2016*

### **Case 15: Farm Grocer at Ambala, Haryana**

Farm Grocer is a start-up by young farmers, based at Saha Food Park, Ambala (Haryana), dealing in authentic farm products, linking farmers and consumers together through a value chain. The objective of the company is to link authentic farmers' products directly to the consumers, through direct marketing and retail centres, providing full traceability of producers and package of practices being adopted. Similarly, the business model provides an opportunity to farmers and entrepreneurs to supply their products to Farm Grocer. The company is based at HSIIDC Food Park, Saha (Ambala), and has manufacturing facilities for around 50 farm products. The company is primarily dealing with Farmer Producer Organizations (FPOs) for sourcing raw and semi-finished products.

#### **Product Range**

Pulses: Unpolished & uncoloured;

Basmati Rice: Long, non-sticky, aromatic;

Spices & Namkeen: Homemade quality;

Honey: Multi-flora collected from Himalayas;

Herbal Products: Ayurvedic products with compliance to GMP;

Tea and Green Tea: Special blend from trusted sources;

Milk & Dairy Products: Directly from dairy farms with full traceability of animal health;

Fruits & Vegetables: Fresh seasonal fruits and vegetables

#### **Monthly Grocery Pack**

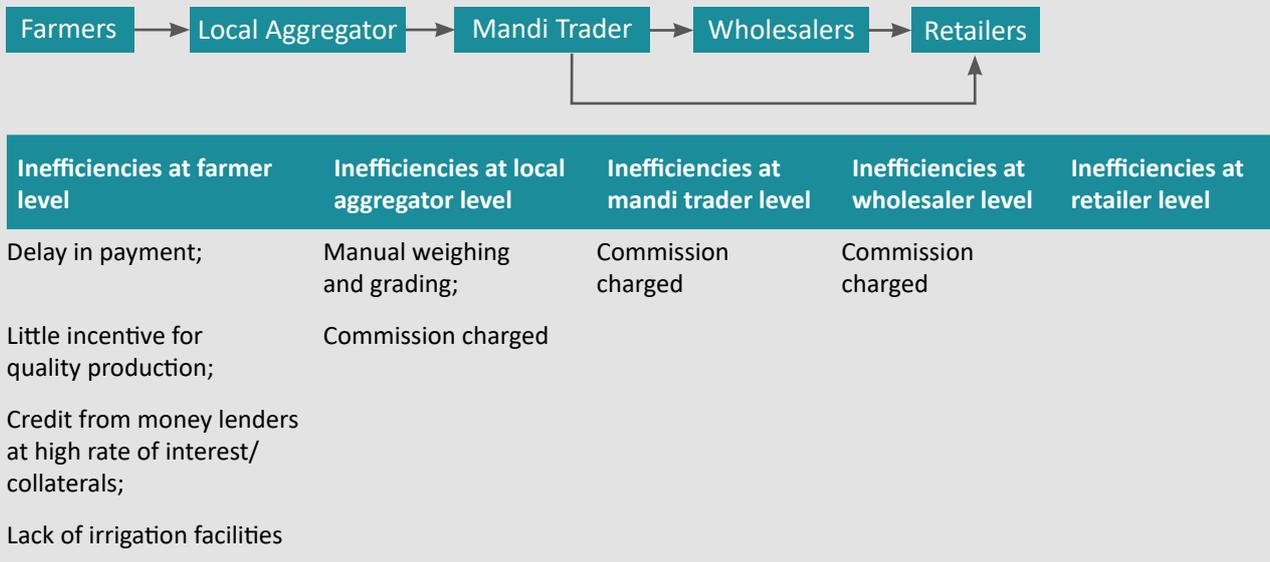
Apart from retail sales, the products may also be supplied in a Monthly Grocery Pack, so that consumers can get best farm products all together.

*Source: Pujara M 2017*

### **Case 16: Ajeevika Fresh retail stores linked vegetable cluster value chain model in Madhya Pradesh**

Ajeevika Fresh retail stores-linked vegetable clusters have emerged in 14 districts of Madhya Pradesh. Sixty-three Ajeevika Fresh retail stores were opened in all the fourteen districts which provided direct market linkages to producers and brought value addition closer to the farmer. This direct linkage incentivized farmers to undertake market driven and high quality production of vegetables.

**Context:** These districts have a predominantly tribal population with agriculture as their main source of livelihood. Most of the farmers here were growing paddy, millets, cluster beans and soya beans before the interventions – financed by the second phase of Madhya Pradesh District Poverty Initiative Project (MPDPIP II) – came up. The project targeted the rural poor involved in traditional agriculture in 14 project districts. This intervention sought to transform their farming practice (from dependence on traditional crops to cash crops, such as vegetables) from subsistence to commercial. The figure below illustrates the value chain prior to intervention:

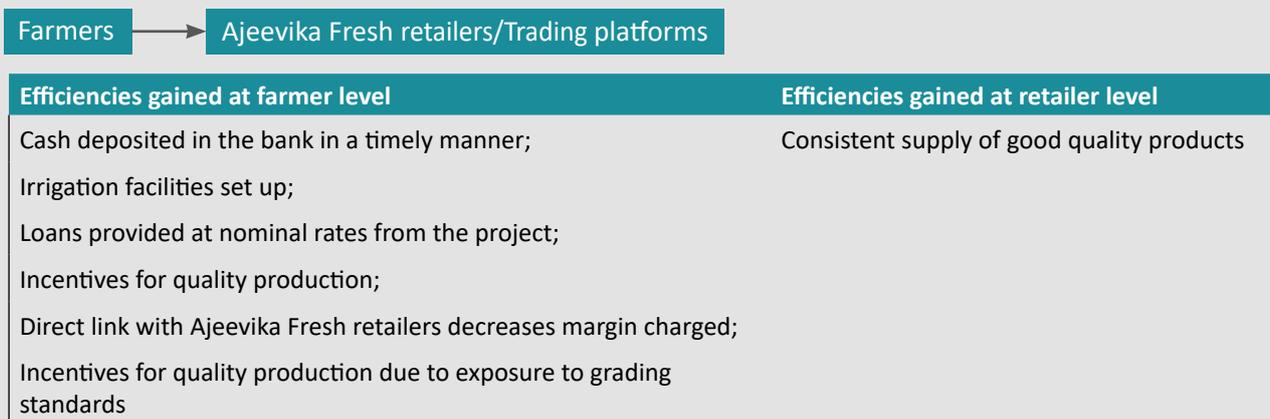


**Figure 17: Schematic diagram depicting traditional value chain in Madhya Pradesh before intervention**

**Intervention:** Ajeevika Fresh retail stores-linked vegetable clusters model was adopted to eliminate many intermediaries in the value chain and gain better price realization for farmers through the below mentioned interventions.

- The farmers were provided access to irrigation through irrigation infrastructure, including drip irrigation which enabled them to transition to irrigated horticultural production;
- The farmers were provided access to seeds at nominal prices and fertilizers in a timely manner;
- The farmers were given training on modern farm technologies and irrigated agricultural production, through drip irrigation system, poly mulching, poly nursery and vermicomposting. The technical assistance support from Community Resource Persons (CRPs) was critical in the adoption of these production practices;
- Farmers were provided working capital loans at 0.5% interest rate through the project which considerably decreased their risk.

The diagram below elucidates the highlights of this approach:



**Figure 18: Schematic diagram depicting Ajeevika Fresh Retail Stores linked Vegetable Cluster Value Chain Model**

### Lessons Learnt/Implications

- MPDPIP II project financing permitted the setting up and coordination of service providers and value chain actors, which allowed the project to develop the necessary eco-system of innovation, which resulted in positive results on the ground.
- Access to irrigation was an important factor that enabled the farmers to undertake horticultural production. This made it possible for them to transition from long cycles of traditional crops' cultivation to short cycles of vegetables, thus considerably reducing their risks.
- The direct market linkage ensured that farmers had access to assured markets, which brought the value chain closer to them as well as exposed them to the required quality demanded by customers. The latter has resulted in them planning their next production in a market-driven mode.
- Access to working capital through working capital loans at a nominal interest rate of 0.5% helped farmers to break free of the local moneylenders' debt trap and build necessary resilience to take on high value-added horticultural production.
- Timely access to quality seeds and fertilizers was one of the most important factors for the success of this approach.
- Regular trainings – provided by CRPs – on modern farm technologies and irrigated agriculture production practices, such as drip irrigation system, poly mulching, poly nursery and vermicomposting, enabled the producers to adopt these practices with ease, thereby boosting their productivity and income.

### Scaling Up/Replication

- The potential area of intervention should have:
- Land conducive for irrigation infrastructure development, that is, it should have the right water table and topography for the development of irrigation infrastructure;
- The right agro-climatic conditions and natural resources endowment, such as temperature, humidity, soil, etc., for the development of a horticulture production cluster in the region.
- Road connectivity to market so that farmers can directly supplying the produce to Ajeevika retail stores;
- Access to financing in order to set up the eco-system, so that there will be enough to have a similar robust service delivery and coordination.

*Source: Gupta 2015*

### Case 17: Ninjacart connecting farmers and retailers

Ninjacart works by sourcing fruits and vegetables directly from farmers in and around Karnataka (a few SKUs procured nationally as well) and directing them to retailers, small shops (kirana), and medium- to small-sized markets/supermarkets. Their ethos is to ultimately eliminate middlemen from the vegetables supply chain and create a win-win situation for both the farmers and the retailers.

**Opportunity:** Effective use of market intelligence with big data analysis can forecast consumer behaviour, which can reduce market risk and help better pricing.

**Idea:** Ninjacart's (<http://ninjacart.in/>) made-for-India technology and India-centric solutions are meant for fruits and vegetables to move onto people's plates, connect farmers to business eliminating middlemen so as to deliver quality produce to consumers.

**Methodology:** Its integrated supply chain is powered by technology, data science, infrastructure and logistics network. This value chain operation effectively involves: weekly market forecasting, pricing, information on farmer harvesting, connectivity assurance to collection centres, fulfilment centre, distribution centres, delivery to retailers, and payment in 24 hours to the producer.

Commodities dealing with: all fruits and vegetables.



Figure 19: Ninjacart connecting farmers and retailers

**More income for farmers - Less price to retailers - Quality food for everyone Advantage**

**FARMERS**

- 20% more revenue
- One stop sale saves time
- Transparent weighing & pricing
- Payment in 24 hours
- No middlemen involved

**RETAIL STORES**

- Competitive prices
- Doorstep delivery saves time
- High-quality graded vegetables

**CONSUMERS**

- Hygienically handled
- 100% traceability to farms
- Improves food safety
- Better quality and fresh harvest

Source: <http://ninjacart.in/>

**Case 18: Suguna poultry production through contract farming**

Suguna is India’s largest poultry integrator and largest broiler producer working in 19 states and it sells one million birds per day. It is associated with 35,000 farmers and has 7000 employees and 77 hatcheries. India’s broiler industry produces one crore birds each day. Corn and soya are the major raw material for poultry feed. Suguna is the largest backward integrator. This means that they procure data. In India, in 1937 veterinary extension services started at the Indian Veterinary Research Institution (IVRI) at Izatnagar, Bareilly. Suguna started its own Poultry Institute of Management in South India 35 years ago. Poultry farmers take a big risk on mortality, no fixed incomes on the produce, and growth was stagnant, and that is where Suguna played a role in backward linkage. It helped the farmers to correct their land, arranged electricity supply, technical services, technical support required for every broiler with regard to medicine, feed, vaccine, linking to credit market/finances/working capital, marketing, etc. Farmers have become quite comfortable now and have started to join in a big way. Chicken and egg has started to play a big role in the diet of consumers as protein substitute and thereby widening the demand for the industry. The database, call centre and support centre at Suguna are used for streamlining these operations. The challenges in India are mainly in the areas of low veterinary support and cost of raw material supply. Layers and broilers also provide income opportunity for farmers during the lean season, especially in the wider perspective of the government’s focus on doubling farmer’s income.

**Mr. Jaison John, General Manager - Procurement, Suguna Foods, FICCI Workshop, 2019**

Suguna believes in creating value for its stakeholders in everything that it does. Be it farmers, customers, traders, employees, suppliers, partners or other institutions, Suguna ensures value addition in every transaction and investment. Pioneering efforts by Suguna in contract farming has changed the landscape of the Indian poultry industry, and has transformed the lives of lakhs of farmers and people across rural India. Through poultry integration, Suguna provides livelihood and assured income to thousands of farmers and also provides indirect employment, assuring a better future to lakhs of rural households.

Suguna’s success lies in building strong and loyal relationships with the farmers who are more than simply an extension of the value chain. Through the success of contract farming, Suguna has built up a strong and innovative business model which cannot be replicated easily.

Seeing the impact of Suguna’s initiatives on rural development, Chief Ministers of other States such as Andhra Pradesh, West Bengal, Punjab and Jharkhand have approached Suguna to set up operations in

their states. Suguna has successfully reduced middlemen in the poultry chain from 14 to 4. Farmers deal only with the company, and get assured returns. Suguna provides them all the inputs and in return, the farmers get a fixed growing charge which can be increased by optimizing production costs.

Suguna also bears the production and market risks, thereby protecting the livelihoods of farmers. Regardless of the market price, the farmers still get the assured growing charge, and incentives. It provides a lot of project guidance and assistance with getting finance, and it also provides farmers with continuous technical training in scientific poultry management practices. In some areas, farmers approach Suguna with only land, and it helps them to put up a poultry farm, and then place their chicks and train the farmers to manage the birds. The line supervisors visit the farms every day to monitor the birds and to troubleshoot problems.

To service this massive base of 30,000 farms, Suguna has invested in highly sophisticated technology and infrastructure. With state-of-the-art hatcheries, an advanced R&D Centre, feed mills, veterinarians, scientists, and professionals, farmers are assured of the best quality chicks, feed and professional care. Importantly, Suguna's scientists and employees train the farmers in GMP (Good Management Practices) too. Through all these methods, Suguna brings tremendous value to the farmers who may otherwise be unable to have access to all these on their own.

The success of the contract farming model has encouraged Suguna to carry such innovative approaches to other areas in backward integration, such as corn farming where Suguna practices 'Contact Farming'. Experts from its corn division encourage farmers to grow corn, explain the benefits and offer the know-how, and educate them in scientific farming methods so as to help them increase their yield. Suguna offers a buy-back guarantee, so that the farmer gets a better price for his crop. This way, Suguna procures 4 lakh tons of maize per year from farmers in Karnataka alone, which equals to approximately 2.5 lakh cultivated acres, directly benefiting at least 50,000 farmers.

Through this direct procurement, Suguna also assures farmers of fair prices and enormous savings by way of transparent transactions and quick payments.

Suguna also indirectly adds value to rural farmers and suppliers in other ways, such as purchasing supplies and providing direct and indirect employment. Suguna purchases raw materials worth more than INR 1000 crores per year. Suguna has a strong Supply-Chain Management (SCM) Division which constantly focuses on setting up direct contact with small and medium manufacturers. It works with them to bring up their standards – on par with international quality standards – and then sources raw materials from them. This focus makes sure that manufacturers get better prices for their materials and Suguna gets better quality.

Suguna has a multifaceted and talented workforce that puts cutting-edge perspectives into practice. This 6,000-strong employee base grows and prospers along with Suguna through endless opportunities for learning and self-development that play a major role in shaping the careers and lives of many people. Suguna's vast infrastructure provides employment to skilled and unskilled workers, and professionals from urban, semi-urban and rural areas. Suguna's strong belief in promoting employees from within the organisation, has ensured good career succession plans and growth opportunities for people with basic educational qualifications who have developed their skills and knowledge on the job. Today, several people at the middle and senior management levels have risen from within the ranks. Suguna also encourages employees' children through special educational initiatives in the form of awards and incentives.

Suguna has celebrated 25 years of good health and great taste. Suguna's focus on creating nutrition-enriched products brings to society, healthy and wholesome chicken adhering to international standards, and yet, affordably priced. Not only this, Suguna has also launched value-added products that include value-added eggs, hygienic chicken retail stores, frozen chicken, and ready to eat 'heat-n-eat' home meal replacements – all backed by the Suguna promise of quality and purity.

Stringent quality controls mean that every single product manufactured by Suguna adheres to international standards ensuring 100% healthy and hygienic chicken products. A strategic forward integration into retail and foods through value-added products means quality products that reach the consumer's table with the additional convenience of easy preparation and less cooking time, thus giving the consumer better value for money.

Source: <https://www.sugunafoods.co.in>

# Tools

## Tool 1

### Guiding questions to perform direct marketing

- Type of consumers;
- Farm produce in demand in the geographical area;
- Where to market your farm produce;
- Proximity to the consumer;
- Is on farm pick feasible;
- Are farm markets close enough?
- Affordability of transportation cost;
- Familiarize yourself with the competition;
- Familiarize yourself with market prices (current and overall trends);
- Compare market price to the cost of production to ensure a profit;
- Can you procure general infrastructure facilities?
- Do you have post-harvest handling capabilities?
- Proper storage facilities for perishable products?

## Tool 2

### Tool to evaluate the feasibility and success of value chain development strategies/ interventions

Criteria	Questions	Compliance with Criteria		
		Low	Medium	High
Ability to increase rewards	<p>What are the expected changes in forms of chain coordination?</p> <p>What are the expected changes in forms of value chain development (functional, process, product, volume, etc.)?</p> <p>What are the expected changes in performance (quality, volume, stability and timing of delivery, production costs, and certification)?</p> <p>What are the expected changes in the economic/ business incentives of key actors?</p> <p>What are the expected changes in rewards (e.g., prices, incomes, salaries and their stability)?</p>			
Ability to address priority issues (poverty, gender, and environment)	<p>What benefits are expected from the strategy and to what extent will these benefits help address poverty, environment and/or gender issues?</p> <p>Who will benefit the most and who the least in terms of major socio-economic groups (gender, household size, size of production unit, ethnicity), geographical divisions (agro-ecological zone, fishing area, distance to buyers), and organizational systems (cooperative vs. farmer group vs. individual farmers)?</p>			
Level of risks and potential negative effects	<p>What is the stability of new or modified business relationships ('contracts')? What would prevent either party from ending the relationship or changing its terms?</p> <p>What financial, environmental, health and other risks will the strategy expose the actors to, such as loss of income, assets or jobs, health risks, personal security and resource degradation?</p> <p>What social groups will be most exposed to these risks (the asset-poor, women, the landless, etc.)? Will the beneficiaries generally be able to bear these risks? Who will be most vulnerable to them?</p> <p>Are all members of the beneficiaries group able to bear the costs (labour or monetary) associated with the value chain development strategy? Do they all possess the necessary assets?</p> <p>Will the strategy reduce incomes (or other livelihood elements) for some of the actors engaged?</p> <p>Will the strategy lead to the marginalisation or exclusion of certain groups (who and why)? Will it lead to the displacement of non-participants from agricultural or communal land?</p>			

Feasibility	<p>How long will it take to achieve the desired changes? How much will it cost?</p> <p>What are the major risks of failure?</p> <p>How do the expected costs and risks compare to the expected benefits?</p> <p>Is it possible to mobilise the ‘political’ and financial resources needed to implement the strategy within the time frame of the research?</p> <p>Does the value chain development strategy go against the interests of other chain actors? Is it realistic to expect that the resistance – anticipated as a result of such conflict of interests – can be overcome?</p> <p>Will the value chain development strategy oppose local economic or political interests (of non-participants)? Is it realistic to expect that the resistance arising from such conflict of interests will be overcome?</p> <p>What individual and collective investments are required (land, equipment, labour, training, etc.)?</p>			
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**Source:** UNIDO. 2011. *Pro-poor value chain development practitioner’s guide: 25 guiding questions for designing and implementing agroindustry projects*. Vienna, Austria: United Nations Industrial Development Organization. (Available at [https://www.unido.org/sites/default/files/2011-12/Pro-poor\\_value\\_chain\\_development\\_2011\\_0.pdf](https://www.unido.org/sites/default/files/2011-12/Pro-poor_value_chain_development_2011_0.pdf))

## Exercises

### Exercise 1

Conduct a debate

Divide the participants and assign them to affirmative and negative groups, as there are two sides to any debate. Naturally, one will argue for and another against the resolution on the given topic.

Contract farming in Indian agriculture sector: a boon or a bane? What is your view on this? Explain this with reasons.

### Exercise 2

Case Analysis - Lessons for EAS

Divide the participants into three groups and assign each group with a case (given below). Each group should critically analyse the case and discuss the role played by extension and advisory services. A team leader from each group can present the lessons for extension and advisory services in each case.

Case 1: Strengthening the existing horticulture value chain in Nepal

Case 2: Ajeevika Fresh retail stores linked vegetable cluster value chain model in MP

Case 3: Maize aggregation and marketing value chain model in Purnia, Bihar

**(For more details check Cases 13, 16, and 20 in this module.)**

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# Unit V: Value Chain Interventions - II

## Objectives

- Discuss the importance of mobilizing producers, addressing gender, and developing business linkages in value chain development;
- Review the impact of inclusive intervention strategies in the development of a value chain.

## Introduction

Mobilising producers for co-operatives and producer companies, helping these new organisations to establish business linkages, and addressing gender dimensions in value chains are increasingly gaining attention. Mobilising farmers into groups for collective marketing can potentially help resource-constrained and non-viable smallholders with economies of scale and greater bargaining power with markets. Collective action and better organization improves the resilience and competitiveness of smallholder farmers in the marketplace, thereby increasing their incomes and business linkages.

The concept of value chain is to link small and large actors in a complementary environment. The small suppliers need to significantly increase their skills in product technology, process and management to meet the technical and marketable requirements of the chain, at the same time large companies need to perceive new possibilities to expand the provision of services, delivering agility to clients and increasing the availability of stocks. Thus complementary business linkages between different actors in the value chain can turn into an exceptional opportunity to generate value.



Value chain interventions to enhance women's participation and productivity in the agricultural value chain is imperative as gender plays a determining role in the production and marketing of agricultural commodities. Gender-sensitive value chain interventions are imperative as women are more disadvantaged than men in the context of value chain operations. Women often have limited mobility, lack access to assets and markets, and lack linkages with other value chain actors and get less training. Value chain intervention strategies are incorporated to overcome the constraints faced in a value chain. Constraints or obstacles can be anywhere along the value chain vis-à-vis the business enabling environment, physical infrastructure, human capabilities, social norms and so on. Sometimes analysis of a certain value chain may result in a list of potential obstacles, which determines that a value chain is not worth the investment, and more promising value chains should be sought by re-positioning along the value chain or developing new chains. The interventions gone wrong will have implications detrimental to the long-term sustainability of the commercialization of the value chain. Therefore, identifying and implementing value chain interventions specific to the model along with collaborative efforts of the stakeholders contribute to the success of value chain models.

## Discussion

### Mobilising producers

Organizing small farmers into groups (commodity groups, producer co-operatives, SHGs, Federations, Farmer Clubs, etc.), establishing farmer markets,

*Farmers' producer companies can be seen as hybrids between private companies and cooperative societies. The producer-company concept is aimed at combining the efficiency of a company with the spirit of traditional cooperatives. Producer companies aim to integrate smallholders into modern supply networks minimizing transaction and coordination costs, while benefiting from economies of scale. They are run and owned by farmers, financially facilitated by the government or donor agencies, and managed by professionals. The producer-company model follows a bottom-up approach for smallholder participation in emerging markets.*

linking producers to retailers and agro-processors who can support producers with inputs, technical know-how and buy back are some of the important strategies for supporting small farmers in marketing their produce. Over the years, governmental and non-governmental organizations have been trying to organize farmers into groups and integrate them from production to marketing activities. For example, The Kerala Horticultural Development Programme (KHDP) formed Self Help Groups (SHGs) of vegetable and fruit growers to help and promote new technology and participatory technology development (PTD) skills, to help farmer's access credit and strengthen their negotiating power through collective marketing, namely the Vegetable and Fruit Promotion Council, Kerala.

Farmers' organizations are a platform to build group cohesiveness, solidarity, and to promote mutual support. Groups with common interests can secure



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access to services that individuals cannot – such as training, credit or equipment, infrastructure, etc. There are clear economic benefits of working in groups particularly in the case of marketing. These include the ability of groups to buy inputs in bulk, access more distant markets as well as information. Working together can increase members' bargaining power, which helps in sharing and lowering risks and costs. In areas where farmers are scattered geographically, and transport and communications are difficult, the importance of such organizations is even greater.

Singh and Swanson (2006) discuss this in detail in their case of setting up the supply chain for medicinal plants at Patna, India (*see Case 23 at the end of this unit for more details*). According to them the key in setting up producer groups at the village, block, and district level was to create the framework that could produce a substantial quantity of produce on a sustainable basis, thus making it economically viable for any company to continue sourcing the material from the same groups of farmers. In addition a substantial farmer base that could be mobilized to produce particular crops to specification would be highly beneficial in negotiating future contracts and in securing good financial returns for its members.

Farmers' groups can make a very positive difference to the lives of those working to improve their livelihood options as well as to the sustainable development of agriculture. As of now only a limited number of farmers are collaborating with each other in some way or the other and forming groups for sharing information and working together. Under this

*JEEViKA/Bihar Rural Livelihood Project (BRLP) formed the **women farmer producer company (WFPC)** (with support from technical partners) to work on agriculture value chains in maize (Purnia). The Centre for Sustainable Agriculture, a professional resource organization engaged in establishing models of sustainable agriculture have organized farmers into producer organizations marketing their produce under the brand name **Sahaja Aharam**. The **Madhya Pradesh Women Poultry Producers Company Pvt Ltd (MPWPCL)** is an initiative that PRADAN (Professional Assistance for Development Action), an NGO, has promoted to capitalize on the lucrative opportunities in the poultry industry.*

**(For more details refer to Cases 20, 21, 22 in the Cases section of this unit.)**

### **Box 7. Interview with Dnyaneshwar Bodke, Abhinav Farmers Club**

*"Abhinav Farmers Club has been promoting modern farming practices for more than a decade and is an exemplary model of what farmers can achieve by blending technical and institutional change. Our vision is to ensure at least a minimum income of INR 1000 per day by a family from one acre of land. Farmers can achieve this if they are supported with relevant advice on production and marketing."*

**Shri Dnyaneshwar Bodke, President, Abhinav Farmers Club, Pune, India**

#### **How did you come up with the idea of forming a farmers' club?**

A NABARD official advised me to form a Farmers Club as per the NABARD guidelines at my village. I thought that it would be difficult to motivate well-meaning farmers to form a club in my village. NABARD agreed to my request to form a club by including farmers from 4-5 villages around my village. In 2004, we set up the Abhinav Farmer Club with 305 farmers spread across 17-18 villages. All these farmers are cultivating flowers in polyhouses and earning about 50-60 thousand rupees a month.

#### **Organizing farmers into a club and managing it is a challenge. Did you face any challenges?**

Yes, the problems started during the following year. In 2005, the flower market collapsed and the prices came down to INR 0.83 per flower. The production cost was around INR 2.50 per flower. As expected, gossip and quarrels started in the group. A few were blaming me saying the chairman of the group is responsible for all these and demanded my replacement. I resigned, but within three days the same people requested me to accept the chairmanship again and I agreed. By that time we had decided to form small groups of 20 farmers each. Flower cultivation again became profitable in 2006. Abhinav Farmers Club got the National Award from NABARD for repaying our agriculture loan before time.

To cope with labour issues, the Club decided to promote Women Self Help Groups (SHGs). We promoted 112 women SHGs spread across 26 villages, and we engaged

these SHGs in planting, harvesting, sorting, grading, packaging, transporting and selling to consumers as the demand started to increase. For better coordination and supervision of all these activities, the Club began to employ agricultural graduates and those with Master of Business Administration (MBAs) degrees. We began payment by cheque too. We also promoted kitchen gardening and agro-tourism activities as well.

### **Why did you decide to establish a training centre for farmers?**

Because of our success and the publicity we received through media, many farmers started requesting us for training at our polyhouses. The Club put up a proposal to NABARD seeking support for establishing a training centre. Initially NABARD rejected the proposal as the experts from the Agricultural Universities and personnel from the Department of Agriculture were against the idea of setting up a training centre by farmers. So we requested all those seeking training opportunities in our farms to write to NABARD to sanction our training centre's proposal. About 3300 such letters requesting sanction for Abhinav's farmers' training centre reached NABARD and finally NABARD approved our Training Centre as a special case.

### **From flower cultivation to production of vegetables, how did this shift happen?**

Our farmers started facing competition from plastic flowers (mainly from China) that entered the scene during the late 2000s. Though flower farmers formed a flower growers association with me as its Secretary, we couldn't achieve much success in reversing this trend. The association representatives met with officials of several organizations, such as Railways, Airports, Hospitals, Department of Agriculture, etc. However, we couldn't get the desired support.

Keeping these circumstances in view and based on inputs received by the member farmers, we decided to shift to vegetable farming. As vegetables are an essential commodity, we realized that people will definitely purchase it round the year and this will provide a regular source of income to farmers who can produce and market it round the year.

### **Direct marketing of vegetables to consumers? How does it work?**

Initially farmers had difficulty in assessing the profit margins in vegetable farming and in establishing backward and forward linkages to make it a successful enterprise. I was also concerned at the practices, rules and regulations in market committees which are not beneficial for farmers. Even today middlemen control the purchase and sale of vegetables in the market. Keeping all this in view we decided to explore the option of direct marketing of vegetables to consumers.

Pune being the second largest city in Maharashtra offers a big market for vegetables. Before sowing of seeds or cultivating the crop, we analyse market requirements and enter into contract agreements with consumers at stipulated prices. We are now producing 22-23 vegetables as per market demand. Many consumers now come to our polyhouse to take their pre-booked vegetables directly. Over the years a lot of trust has developed between producers and consumers. We have also received many district and state level awards. Media too has been highlighting our efforts. Today many malls, housing societies, and corporate houses are our clients. Our vegetable vans, over the last many years, have not stopped even for a single day at making regular supply of vegetables directly to consumers.

Abhinav Farmers Club directly supplies vegetables and fruits to over 15,000 households in the cities of [Pune](#), Ahmednagar, Jalgaon, Sangali, Kolhapur and Solapur. Our club members have visited different housing societies to interact with their President /Secretary, and to brief them about the club and its vegetable production and our interest in direct sale of vegetables to the housing society. The President/Secretary then calls a meeting of the society to brief the members on the proposal, and with their approval the club was allowed to put a stall in the society premises. With development of rapport with producers, consumers have started to express their demand for specific vegetables and the members have started supplying those vegetables to consumers. We also grow flowers and organic vegetables in polyhouses and sell them to retail outlets in Delhi and Mumbai. Furthermore, we also export some of the produce to Europe.

### **How are you promoting the Abhinav Model across the country?**

Over the past few years, all the 305 Abhinav Farmers Club members have become experts in the farming business. They are now leaders or role models to all those 45,000 farmers who follow the Abhinav Model across Maharashtra and in some parts of Gujarat, Madhya Pradesh and a few other states. Many farmers are now receiving training at our Farmers Training Centre. At present 257 farmer groups from 30 districts of Maharashtra State are part of the Abhinav family.

My team members are also helping and mentoring NAAM Foundation (set up by Nana Patekar and fellow Marathi actor Makrand Anaspure for donating money to drought-affected farmers) and its initiatives, especially in areas prone to farmer suicides in Maharashtra. I suggested giving cows to farmers instead of money, which NAAM Foundation agreed to, and I also helped make available around 2300 Deshi Gir Cows.

### **Are you collaborating with the ATMA program?**

Since 2010-11, many of our farmers have participated in the ATMA programmes such as trainings, exposure visits, demonstrations, women training programmes, etc. Many of our farmers, including me, have also participated as master trainers in some of the trainings. I am also a member of the Farmers Advisory Committee set up by ATMA at the block, district and state levels.

### **What is the Vision of Abhinav Farmer Club?**

The Abhinav Farmers Club's motto is to provide poison-free food to all. We train farmers in producing quality food – including sowing, management, post-harvest handling, packaging and marketing. Proper packaging ensures that our products remain fresh and reach their destinations without any damage. Our current annual turnover is between INR 25-30 crore. Every farmer in the group earns around INR 1000 per day and some of them even earn upto INR 8,000 to 10,000 per day. Our vision is to ensure at least a minimum income of INR 1000 per day per family from one acre of land.

### **Finally, what type of extension services are farmers looking for and how should it be organized?**

Farmers need problem-solving advice at their fields. Extension needs to be farmer centric

wherein 80% of the trainings should be practicals oriented. Farmer schools should be established at farmer fields only. Marketing should be an important component of extension; the focus should be on enhancing income through production and marketing. Farmers have very little say in how extension is organized currently. Providing a seat to farmers at advisory boards and committees is good, but the government must ensure that only genuine farmers with a proven track record of community engagement are appointed to these positions.

*Source: Ranadive 2016*

To see video use the link: <https://www.youtube.com/watch?v=wra4UdAOZqo>

circumstance, EAS has a major role to play in helping farmers to mobilize themselves for betterment of their livelihood. Working together can take many forms, and a variety of terms are used to cover the scope of this idea – collective action, farmers' organizations, women's groups, unions, co-operatives, self-help groups, networks, alliances, associations, committees, clubs, partnerships, etc. These terms imply a range of methods for joining forces, at different levels, in a variety of sizes and scopes, with different aims or with different legal status. They act as a critical component of the agricultural value chain in India.

Among the many forms of group formation the recent one is the government's Farmer Producer Organisation (FPO) initiative. Numerous collective, farmer-owned companies are now helping marginalised farmers earn stable livelihoods. Members are usually small farmers who are empowered by FPOs to trade on agricultural platforms. It is less costly to get international certifications for quality and hygiene for exports from a centralized producer association, that can also devote resources to get relevant information on current legal and technical issues in the targeted markets (for instance, limits of chemicals). Furthermore, transport costs can be dramatically reduced by synchronizing demand for transport services. Another outcome is the creation of on-site packaging and other added-value activities, promoting rural non-farm economies (Torero 2011). In several countries, NGOs do assist farmers to organize into groups, link willing suppliers with willing buyers, train farmers to understand markets, and promote trust between companies, traders and farmers (Nyhodo et al. 2009).

## **Developing new value chains**

Agricultural value chains work best when their actors cooperate to produce higher-quality products and gen-

erate more income for all participants along the chain, as opposed to the simplest kinds of value chains, in which producers and buyers exchange only price information — often in an adversarial mode.

Value chain analysis is mandatory to identify areas for cost reduction while adding value. This helps in fixing whatever is wrong and helps to maximize profits. Different types of agricultural commodities probably need different kinds of material handling and treatments. New technologies are allowing marketplace entrants to eliminate entire stages of the value chain, often dramatically reducing capital and infrastructure costs. Sometimes analysis of a certain value chain may reveal potential obstacles, which determines that a value chain is not worth the investment and more promising value chains should be sought by repositioning along the value chain or developing new chains. To accomplish this advantage, a higher cost structure may be called for, but it could ultimately pay off in higher profits if managed correctly.

## Establishing Business Linkages

A value chain is not just a collection of independent activities. Rather, it is a system of interdependent activities that are related by linkages within the value chain. Decisions made in one value activity (e.g., procurement) may affect another value activity (e.g., operations). Since procurement has responsibility over the quality of the purchased inputs, it will probably affect the production costs (operations), inspections costs (operations), and eventually even the product quality. Clear communication between, and coordination across, value chain activities are therefore just as important as the activities itself. Business linkages between large enterprises and local suppliers can be a channel for the transfer of technology, knowledge, and skills to host economies. Consequently, a company also needs to optimize these linkages in order to achieve competitive advantage. Unfortunately these linkages are often very subtle and go unrecognized by the management, thereby missing out on great improvement opportunities. The role of extension has thus widened to include issues in areas that go beyond agriculture and may include services such as facilitation of linkages between farmers, their organizations and the public/private sector.

The key challenges and approaches in the practice of business linkages highlight a significant role for collaborative action. Jenkins et al. (2007), proposed that for increasing collaboration even further and for widespread replication and scale in business linkage activities it is necessary to follow these key points:

*The Agricultural Technology Management Agency (ATMA), Bihar, through development of a supply chain for medicinal and aromatic plants in India named **Vinca Rosa**; and Syngenta Foundation-India through **Jawhar Project**, Maharashtra, helped farmers to develop new value chains for high value commodities and products after it first made an evaluation of alternative crops and products within the district/state.*

**(For more details refer to Cases 23, 24 in the Cases section of this unit.)**

- **Sharing information**, such as supplier assessments and databases;
- **Sharing portable tools**, such as training modules, needs and impact assessment tools, and mechanisms for identifying and vetting NGO and other potential partners for business linkage programmes;
- **Performing needs and impact assessments jointly**, for example, by working together and with development agencies or NGOs to explore the specific sociocultural, economic, and environmental conditions of a particular shared market. Similarly companies could work collaboratively to measure the totality of a group of companies' impacts on a particular community;
- **Exploring complementarities between the sales, procurement, and distribution linkages of different companies**, in order to create linkage programmes in clusters, or to build on already-established models where they exist;
- **Investing in joint financing mechanisms**, involving, where possible, the commercial banking sector;
- **Collectively engaging with the government** to press for supportive public policies and build capacity for effective public service provision;
- **Jointly supporting growth and development of effective intermediaries**, as a means of facilitating these and other collaborative actions to expand and improve business linkage activities.

## Gender in value chains

Agricultural markets are rapidly globalizing, generating new consumption patterns and new production and distribution systems. Distribution of the outcomes of the value chain is gendered and varies from place to place (Coles and Mitchel 2011). An agricultural value chain can provide opportunities for quality employment for men and women, yet they can also be channels to transfer costs and risks to the weakest nodes, particularly women. Often gender stereotypes keep women in lower paid casual



**Table 3: Potential benefits of business linkages for large firms, local business communities, and small-medium enterprises**

Small Medium Enterprises	Local Communities	Large Firms
<ul style="list-style-type: none"> <li>» Increased employment and wealth creation by local firms</li> <li>» Acceleration of knowledge transfer and technology upgrading</li> <li>» Enhanced skills, standards and capacity</li> <li>» Access to new domestic and/or foreign markets</li> <li>» Attraction of additional foreign direct investment in 'cluster' effects</li> <li>» More diversified client and market structures</li> <li>» More stable relationship in buyer and producer organisations</li> <li>» Risk-sharing through joint funding and/or operations</li> <li>» Facilitation of access to finance</li> <li>» Opportunities to innovate, upgrade, and increase competitiveness</li> </ul>	<ul style="list-style-type: none"> <li>» Stimulation of economic activity and enhanced local economic development</li> <li>» Increased employment and production</li> <li>» Long-term increase in local or regional competitiveness</li> <li>» Added local purchasing power</li> <li>» Access to more affordable reliable, or better quality products and services</li> <li>» Increased participation of large scale companies in local business and community development</li> <li>» Balance of payment benefits when products are exported and/or substituted for imports</li> <li>» Development of local business services providers catering to SMEs</li> </ul>	<ul style="list-style-type: none"> <li>» Reduced procurement, production and distribution costs</li> <li>» Improved productivity</li> <li>» Increased opportunities for corporate responsibility combined with profitability</li> <li>» Enhanced reputation and local license to operate</li> <li>» Improved integration in new overseas markets</li> <li>» Increased ability to reach consumers at the base of the economic pyramid</li> <li>» Proactively deal with downsizing</li> <li>» Reduction of foreign exchange needs through import substitution</li> <li>» Increase in flexibility in making design and production changes due to proximity of local suppliers</li> <li>» Reduce environmental impacts from long-distance shipping</li> <li>» Compliance with government local content requirements</li> </ul>

Source: Jenkins et al. 2007

*Odisha economy is agro-based and a significant proportion of the labour force in the agricultural sector is made up of women. In Odisha, more than 60% of the total workforce is directly dependent on agriculture. According to the 2001 census, female cultivators and agricultural labourers accounted for 20.11% and 53.90% of the total female workforce in Odisha, respectively. But in the 2011 census the percentage of female cultivators reduced to 13% and the percentage of agricultural labourers became 57.8% of the total female work force. There has been an increasing trend in women agricultural labour force in Odisha.*

work, and do not necessarily lead to greater gender equality.

Women from poor households engage in a variety of income-generating and expenditure-saving activities. In some cases, these activities supplement the contribution by males, while in others they are the primary or the sole source of household livelihoods (Kabeer 2003). Ensuring that gender issues are taken into consideration in value chain-related interventions is vital for facilitating the development of inclusive value chains that benefit both women and men. For instance, in the shrimp value chain in Bangladesh, women and girls constitute 40% of all fry catchers and

*A project called 'Economic empowerment of the poorest' is implemented by Helen Keller International (HKI), and funded under a DFID/ Government of Bangladesh. Under this programme, 45 women group leaders carried out market surveys before the start of each growing season over a three-year period (2009-2012), to identify products likely to yield the most profit. Women were largely responsible for farming, practising jhum (traditional slash and burn agriculture) on communal plots. The ethnic exclusion and geographic isolation have hampered tribal women in accessing markets, which are typically controlled and dominated by Bengali traders. But through a series of innovations, including market surveys, new cultivation techniques and donkey-based transport, 450 tribal women have become part of a successful value chain for high value vegetables and spices, resulting in a nearly four-fold increase in monthly income and improvements in food security and nutrition. (For more details refer to Case 25 in the Cases section of this unit.)*

62% of all processing plant workers. A few women are intermediaries. Gender disparities permeate the chain leading to occupational segmentation, wage inequality, and increased job insecurity for women (USAID 2006).

However, knowledge among practitioners and policy makers on the gender aspects of value chain interventions are still limited (Riisgaard 2010). Therefore, special efforts are needed to improve women's access to market information services; meeting transport and storage needs to aggregate production and enable producer groups to bargain with buyers or sell in higher value-added markets.

Figure 20 illustrates gender-based inequalities and constraints prevalent and persistent world over, especially in rural areas. Gender-based constraints (GBCs) can hinder the individual's ability to participate in the value chain as well as limit the benefits an individual is able to receive. Identifying and analysing GBCs enables the VC practitioner to understand and address the root causes underlying value chain inefficiencies concerning gender inequalities and discrimination, thus enhancing the sustainability of interventions. Mapping the value chain in a gender-sensitive manner is an important first step towards making women's work and participation in the value chain visible (FAO 2016). Figure 21 illustrates the value chain and possible entry points for removing gender-based constraints.

## **Box 8. How to integrate gender in a value chain intervention**

### **1. Make the context favourable to a gender-sensitive approach**

- Train local government staff in gender-sensitive issues and measures (e.g., violence against women, female poverty, childcare, etc.);
- Review all project phases from selection of the area up to monitoring and evaluation – with a gender perspective;
- Train all stakeholders on gender issues;
- Include a gender expert in the project team;
- Use different forms of communication with men and women;
- Hold frequent focus groups with only women petty traders.

### **2. Empowering women**

- Include representatives of female traders in the project team;
- Make women the main representatives within the Market Management Committee (MMC);
- Make women aware of their rights, their responsibilities, and what they can do if they are victims of exclusion or marginalization;
- Let women know that they are the main focus of the project;
- Ensure that information also reaches women;
- Train women on leadership, communication and conflict management. The time and place for training, proposed by women, should be respected to ensure their participation;
- Encourage the creation of a women's association. Unity, legal status and linkage with other women associations strengthen the fight against an unequal society;
- Discuss tax/rent plans with women and solicit their endorsement.

### **3. Facilitate access to equal opportunities**

- Give priority to women in assigning spaces, both permanent and temporary;
- Evaluate the feasibility of storing products inside market shelters in order to avoid having to transport them daily. Security should be provided by the women themselves;
- Equal access to all the services provided (shelter, water, electricity, etc.) should be guaranteed by women representatives inside the MMC.

### **4. Improving women petty traders' productivity**

- Provide tailor-made financial services (loans, saving and insurance coverage). A social fund could be provided to the microfinance institution (MFI) in order to design a flexible (in terms of size and repayment time) credit

system. Access to financial services has been shown to improve the status of women within both family and community;

- Provide training on how to improve market activities (product diversification, management, etc.).

*Source: Marocchino 2009*

### Case 19: African dairy value chain

A dairy value chain project aims to increase the quantity and quality of milk being produced and commercialized in the formal market. The project works with dairy cooperatives, bulking centres, and processing firms to deliver extension services and training, and to facilitate links between different market actors. A gender and value chain assessment conducted early on in the project interviewed different actors in the chain and highlighted potential gender-based constraints.

**Gender-based Constraints:** Limitations on cooperative membership. Membership criteria in dairy cooperatives limits women's participation, by insisting on a single membership for an entire family in the name of the head of the household, or by requiring demonstration of legal land ownership. Even though women are the active managers of dairy production on family farms, responsible for collecting forage and milking, their

husbands are the legal association members. Delivering training exclusively to members carries the risk of overlooking a key actor in the dairy value chain – women.

#### Possible actions:

- Change cooperative membership criteria to allow individuals to join;
- Expand training opportunities to members' families.

**Gender-based Opportunity:** Earning income from evening milking. Women have decision-making control over the evening milk, which they either use for the household or sell in the informal market through traders. The income they receive from milk sales allows them to purchase food for the household and contribute to school fees. Disseminating information about proper milk handling to women would not only improve the quality of milk delivered to the formal chain, but they will also have the opportunity to upgrade the health of their families.

#### Possible actions:

- Train women in proper milk handling;
- Link women producers to cold storage facilities;
- Organize women's groups or entrepreneurs to purchase and manage their own cooling tank.

*Source: USAID 2010*

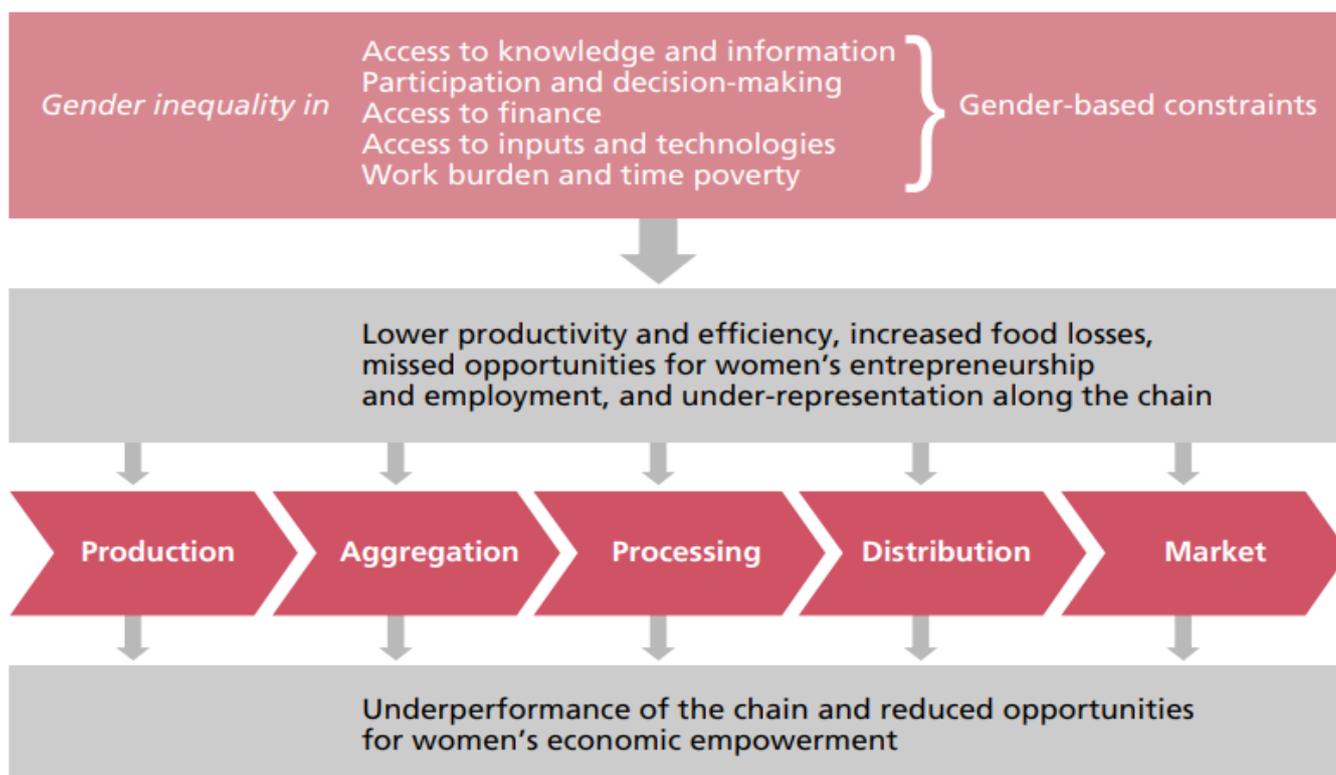


Figure 20: GBCs and their impact along the value chain

*Source: Marocchino, 2009*

## Illustrative value chain and possible entry points for removing gender-based constraints

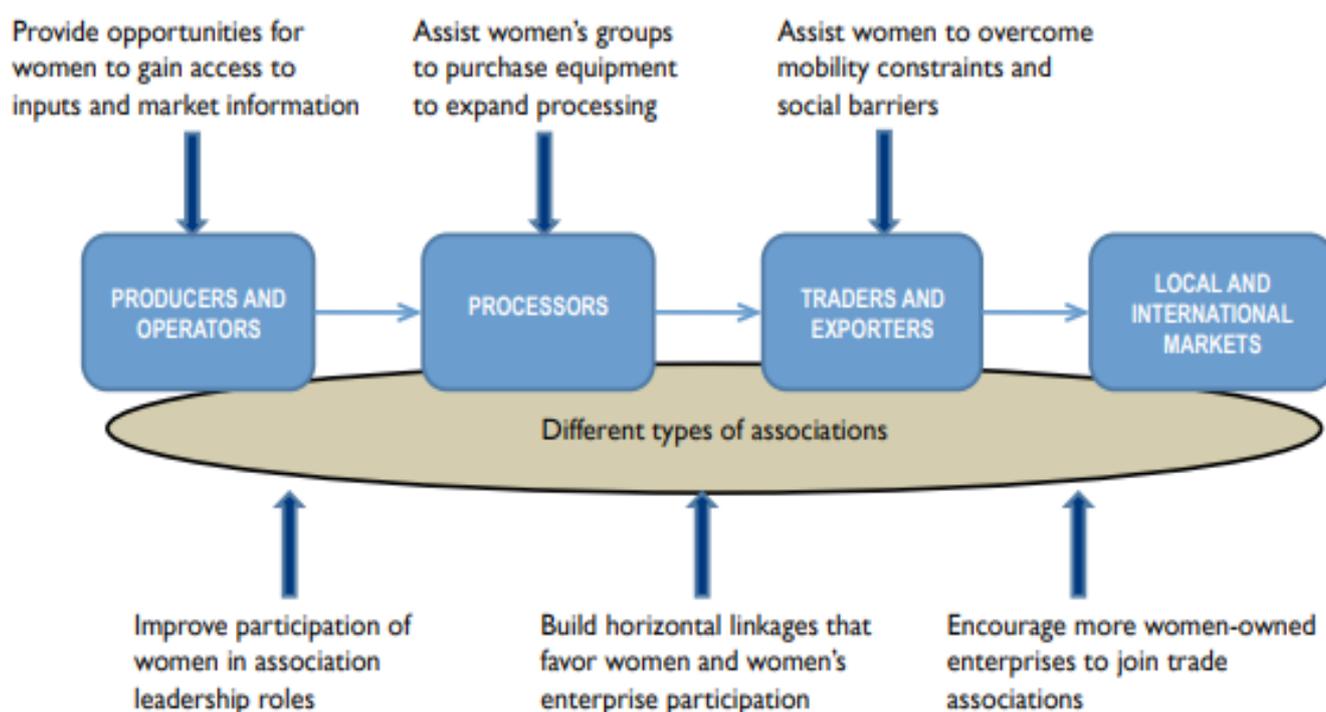


Figure 21: Illustrative value chain and possible entry points for removing gender-based constraints

Source: USAID, 2010

### Box 9. Characteristics of gender equitable and competitive agricultural value chains

Value chain programmes that support gender equity goals:

- Understand men's and women's roles and relationships;
- Foster equitable participation;
- Address the distinctive needs of women;
- Support women's economic advancement;
- Promote gender equitable market-driven solutions;
- Design equitable benefit-sharing mechanisms;
- Include men in defining the 'problem' and the solution.

Source: USAID, 2010

## Conclusion

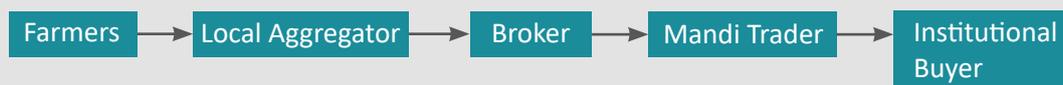
As a result of the changing conditions in the farming communities the extension system in the agricultural sector is also changing. This unit tried to discuss the role of EAS in inclusive intervention strategies, such as mobilizing producers, addressing gender, and developing business linkages in value chain development.

## Cases

### Case 20: Maize aggregation and Marketing Value Chain Model in Purnia (Bihar)

JEEViKA/Bihar Rural Livelihood Project (BRLP) formed four women farmer producer companies (WFPCs) (with support from technical partners) for working on agriculture value chains: in maize (Purnia), seed production (Khagaria), and vegetables (Nalanda and Muzaffarpur). More than 6,000 SHG members were mobilized by the project to become shareholders in these WFPCs. These producer companies are owned and managed by women farmers who have been provided training and technical support for productivity enhancement, aggregation and primary processing, resource management and business planning, and for accessing commodity markets.

**Context:** Agriculture is the main occupation of the inhabitants of Purnia district in Bihar. Purnia is irrigated by two rivers (Kosi and Mahananda). Paddy and wheat are the staple crops of the district – mostly for self-consumption – while the two main cash crops are maize and jute. Mango and banana are the two main horticulture crops of the district. There has been a growing trend of replacing area under cultivation of jute with maize considering the suitability of the land for maize production (Purnia boasts of the highest maize productivity in the country) and the rising demand for maize. Maize was chosen as it is the main cash crop and most of the group members were producing it and selling it in the market. The quantity of maize produced, and proximity to roads were the basis on which producer groups (PGs) were selected for participation in the pilot. Before the intervention, the ten PGs were involved in the traditional maize value chain that had many intermediaries due to which producer margins were negligible. The following inefficiencies were observed in the value chain:



Cash payment increases risk	Manual weighing and grading	Commission Charged	Commission charged	On-spot buying increases risk
Delay in payment	Commission charged		1 kg/quintal is deducted citing subjective quality concerns	

**Figure 22: Schematic diagram depicting the traditional value chain in Purnia**

### Intervention

- Business plans were prepared for each of the ten PGs on the basis of which an INR 6 lakh grant was arranged with the help of Jeevika project. Out of this grant, INR 5 lakh was transferred to the Producer Company (PC) to meet its working capital requirements.
- Defunct PC was revived to link the PGs to institutional buyers. A separate business plan was prepared on the basis of which the PC received a working capital loan of INR 10 lakh from the Deepak Credit Level Federation at a nominal interest rate of 0.6%.
- The PC signed MOUs with NCDEX e-Markets Limited (NeML) to be the electronic trading partner and LTC Commercial Pvt Ltd to be the warehouse partner. The PC also coordinated and financed the packaging, transportation, and labour cost in order to operationalize this arrangement.
- Weekly meetings were organised to make the farmers aware of the pilot as well as to train them on post-harvest practices, such as drying and cleaning. Individual bank accounts were also opened for farmers to enable cashless payment within 3-5 days of sale to PC.
- Sophisticated measuring instruments, such as electronic weighing scales and digital moisture meters were procured by the PGs to ensure transparency, quality and better price realization.
- An attractive incentive structure was put in place for community skill extension workers and village resource persons for convincing the farmers to sell their produce to the PGs, conduct quality checks, aggregate the produce, package it, transport the produce or send it for storage in warehouses.
- Logistics management, such as agreement with local transporters and labour requirement during the procurement process was addressed at the village level by the PGs. A manpower engagement plan was developed with the PGs which specified a detailed operating model with clear assignment of roles for each of the members.
- A daily price discovery sheet was developed based on the daily marketing information system (MIS) of mandi as well as the price offered by the village trader. This was shared with the key stakeholders through text messages.

**Approach/Interventions:** An aggregation and marketing value chain model was adopted as depicted in the diagram below.



Cashless payment	Electronic weighing and grading done by sophisticated measuring instruments	No deductions in weight citing quality concerns	NeML enables direct link to institutional buyers and offers forward contracting options	Forward contracts reduce risks
Payment made in 3-5 days after the sale	No commission charged	No commission charged	Storage in accredited warehouse maintains produce quality	

**Figure 23: Schematic diagram depicting the aggregation and marketing model in Purnia**

**Lessons/Implications:** The producer company in Purnia district has achieved a turnover of nearly INR 1.5 crores and a net profit of nearly INR 11 lakhs annually; with an average 20 percent higher return to the farmers. Similar approaches are being scaled up across multiple commodities including vegetables and fruits in many other districts.

The NCDEX platform of accredited warehouses and NeML enabled the project to get rid of many intermediaries in the chain. An important prerequisite to establishing this link was reviving a defunct farmer Producer Company because a legally registered entity can only do business with the platform.

Initial Working Capital Grant and Credit loan to PG and PC provided by Jeevika project (to PGs) and working capital loan provided by Deepak Cluster Level Federation (to PC) were critical in meeting the working capital requirements. This allowed the PC to pay the members in 3-5 days and make it attractive for the members to sell to the company rather than to the local aggregation agents.

The intervention strategy was formulated after carefully mapping the inefficiencies in the traditional value chain. All the action items – ranging from linkage to daily price discovery sheet to loan and grant provision for meeting working capital needs – were important in making the model successful.

An attractive incentive structure linked to the maize procured from the PGs was used to reward the village resource persons and community extension agents mapped to these groups. This financial incentive served as a great motivation for the resource persons and extension agents to convince the PG members to sell to the PC, which led to members selling close to 80% of their products to the PC in the first year of operation.

The technical assistance provided by TechnoServe to PGs and PC played an important role in successful implementation of the intervention.

#### **Factors to keep in mind for replication**

The aggregation and marketing approach can lead to substantial gains in the value chain only when the value chain has many intermediaries, thereby increasing the transaction costs at each level. Therefore, it is important to analyse whether the value chain is a typical traditional one with many intermediaries or, has it overtime, graduated to become one with less intermediaries. For a successful replication the following factors have to be kept in mind:

### 1. Selection of commodities

- Commodity should be tradable on the NCDEX platforms;
- Majority of the producers, ideally more than 80%, should be engaged in commodity production, in the given intervention area ensuring economies of scale for the operations;
- The commodity should be a cash crop with a market surplus, ideally of more than 90%.

### 2. Selection of area of intervention

- The area should ideally be a production cluster i.e., producing one crop with uniform features at a scale. This will allow the project to exploit the economies of scale;
- The area shouldn't be very remote and should have access to asphalt roads which allows for transportation of heavy vehicles like trucks;
- The area should have telecommunication connectivity which would enable smooth linkages to NCDEX platform through the Internet.

*Source: Gupta 2015*

### Case 21: Strengthening marketing for natural and organic produce through Sahaja Aharam Producer Company Ltd. (SAPCO)

Centre for Sustainable Agriculture (CSA) is a professional resource organization engaged in establishing models of sustainable agriculture, working in partnership with governments, NGOs and community-based organizations by scaling up successes. Their major work falls into six domains viz., policy advocacy, sustainable production, farmer's institutions, marketing, human resource development, and media. CSA is engaged in institutional innovations such as Community Managed Extension model, Farmer Field Schools (FFS), Kisan Business Schools (KBS), and Bio villages to address agriculture-based livelihoods.

CSA works in Andhra Pradesh, Telangana, Maharashtra, Punjab, Sikkim, and Tripura with more than 50,000 farmers directly, and 200,000 farmers indirectly. They have organized farmers into producer organizations to market their produce under the brand name 'Sahaja Aharam' <http://www.sahajaaharam.in>. CSA also serves as a facilitator between producers and consumers and helped to set up the Sahaja Aharam Mutually Aided Cooperative Federation, a federation of farmer cooperatives and an urban consumer cooperative.

#### CSA believes that working on these key challenges will help in making markets work for farmers.

Production Challenges	Institutional Challenges	Market Challenges
High cost production High risk of crop failures Unplanned production High chemical use	Membership and shareholding Access to finance Infrastructure facilities Legal compliances	Quality in production, procurement Continuous supplies Equitable profit sharing Capturing the right market for price realisation

Sahaja Aharam Organic Consumer Cooperative was formed in April 2009 for marketing in Hyderabad, and the next year it opened a permanent organic food outlet on the ground floor of the CSA office building. Today, Sahaja Aharam Producer Company Ltd. (SAPCO), is a federation of several producer cooperatives spanning across the states of Andhra Pradesh, Telangana and Maharashtra, connecting farmers with Consumers (F2C) and building their entrepreneurial skills and linking their institutions to markets (B2B). It is a company with 20 producer cooperatives, one consumer cooperative, two producer companies, working with 500 third-party certified organic farmers, 2500 PG organic farmers and 1500 organic in-conversion farmers. The produce is sold directly to consumers through exclusive Sahaja Aharam organic food retail stores, mobile stores using e-vehicles, and an online store.

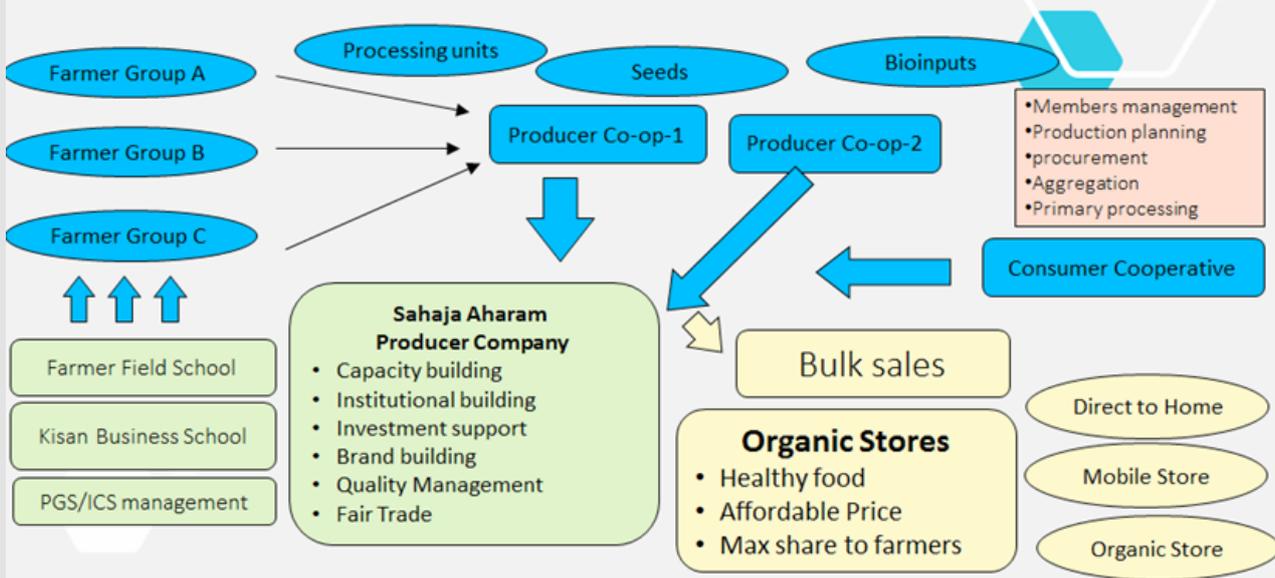


Figure 24: The marketing model developed by CSA, Hyderabad

The bulk of produce is sourced from local farmers’ cooperatives, located within a radius of 150 km around Hyderabad. All vegetables are seasonal; on average, each of them uses half an acre of their land to grow six or seven varieties of vegetables for the cooperative, in a mixed cropping model developed by CSA so that units can be rotated depending on market demand. Each farmer has least four vegetables at any point of time so as to distribute risk, with a harvest of minimum one ton/day.

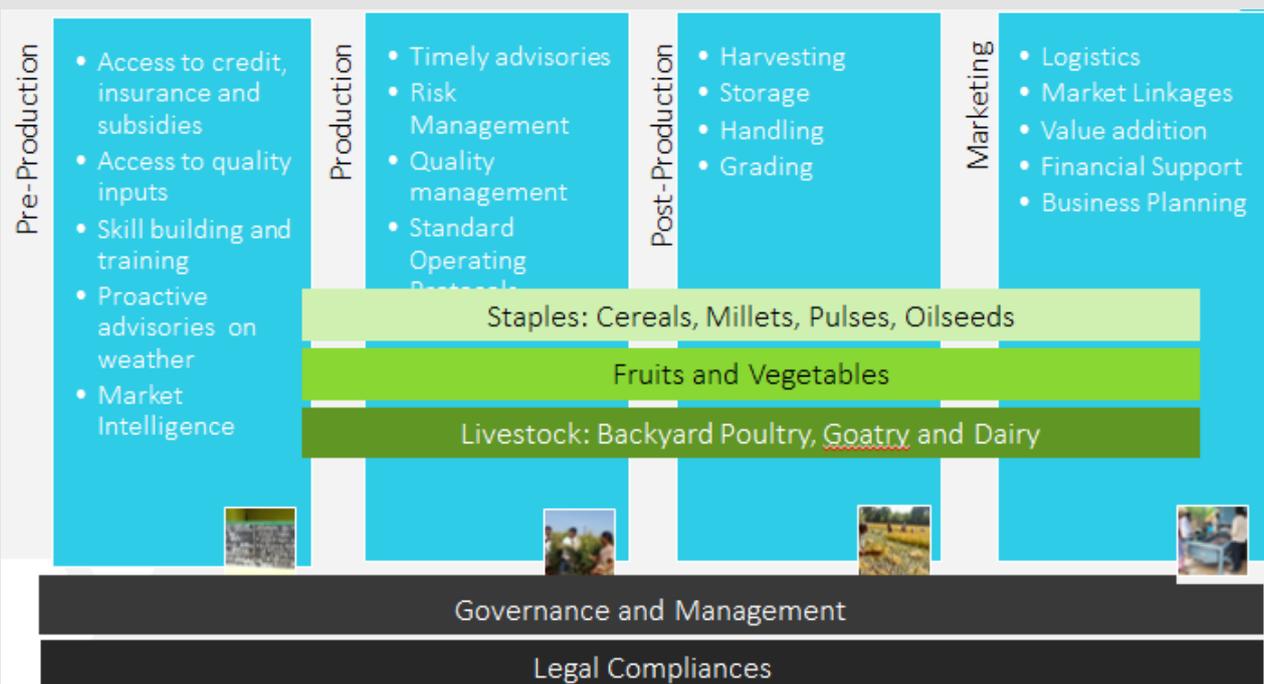


Figure 25: Support services rendered by FPO

Over the years, SAPCO has also invested in cool chambers for temporary storage to avoid losses, which now add up to 10% because of spoilage and pests. On the production side, they have developed a staggered model of vegetable planting round the year. They have expanded the range of products through processing and value addition, which help farmers move up in the value chain. Today they are producing and selling more than 200 products. It also promotes open source community managed seed systems - Apna Bheej, quality management, and traceability of their products through certification, eco footprints and carbon footprints. They ensure that farmers get 50% to 60% of the selling prices against the conventional norm of 20%. The key strategies followed to reach their success are:

Directly reaching out to consumers	Diversifying product range	Value addition
<ul style="list-style-type: none"> <li>» Sahaja Aharam retail operations are through stores owned by SAPCO</li> <li>» Total stores - 5 (Vishakhapatnam store opened in October, 2018)</li> <li>» Plans to open 10 more stores during 2019-20</li> <li>» Farmers Markets in five locations (3 in AP and 2 in Telangana)</li> </ul>	<ul style="list-style-type: none"> <li>» Farmer Service Centres to have input stores with seeds, bio inputs, and farm machinery</li> <li>» Milk and dairy</li> <li>» Poultry and eggs</li> <li>» Goat and sheep meat</li> </ul>	<ul style="list-style-type: none"> <li>» Primary value addition at FPO level and food hubs</li> <li>» Secondary value addition</li> <li>» Ready-to-eat and ready-to-cook food range -bakery, snacks, jams/sauces, pickles, masalas</li> </ul>

Since the venture is highly promising, they are looking to separating out FPO level sales and Producer Company level sales; diversify their products to other crops, livestock etc., by setting up different teams responsible for each supply chain (Sahaja Aharam Fresh - Fruits and vegetables, milk and dairy, eggs, chicken, meat; Staples: primary and secondary processed grains, atta, rawa, oils, pulses etc.; Sahaja Aharam Eatery - snacks and ready to eats; Sahaja Soundarya/Oushadi; Sahaja Inputs - seed and bio inputs; Cotton supply chain); develop separate business plans for each supply chain with clear cash flows and plans for breakeven; create opportunities for consumers and ethical investors in working capital, infrastructure; working with entrepreneurs (individual/group) in rural/urban areas for food processing, making health and personal care products etc., with specific focus on rural women and youth or urban poor. They also plan to identify mentors for each FPO and store, either from internal staff or volunteers.

*Source: Ramanjaneyulu 2019*

### Case 22: Smallholder Co-operative Poultry Value Chain Model in Kesla (Madhya Pradesh) by PRADAN

PRADAN (Professional Assistance for Development Action) started its intervention in backyard poultry in Kesla block of Hoshangabad district. Hoshangabad, a district in Madhya Pradesh, is known for the Tawa Reservoir built on the banks of River Narmada and it is mostly irrigated with canals and is known for the production of soybean and wheat. Kesla is a tribal block in Hoshangabad with almost 44% of Scheduled Tribes (STs) and 13% Scheduled Castes (SCs). The Gonds and Korkus are the main tribes found in this region. Traditionally, they are not farmers. They resort to collection of non-timber forest produce (NTFP) like mahua flower, mahua seed, tendu patta (bidi patta), etc., for some part of the year. These families have been engaged in rainfed farming as this block has undulating terrain unlike the rest of the district and does not enjoy irrigation facilities. The tribal households have 1-5 acre of landholding on average. However, the soil quality is mostly poor, with little or no access to irrigation sources and mechanisation. Poultry rearing as an income generating activity was introduced in Kesla by PRADAN in the late 1980s. The familiarity of the tribal with traditional bird rearing practices was one of the contributing reasons. Moreover, the villagers were in transition from forest-based livelihood systems to farm-based livelihood systems. ([http://pradan.net/images/Media/pr\\_nov\\_dec\\_print\\_final.pdf](http://pradan.net/images/Media/pr_nov_dec_print_final.pdf)).

PRADAN set up its training facilities at Sukhtawa village in Kesla block and started to train women in the nearby villages on broiler farming. PRADAN has been working with more than 5,306 women broiler-farmers, organized into 15 cooperatives, and one producers' company, with a collective turnover of about INR 40 crores. This is the largest conglomeration of smallholder poultry farmers in India. Initially, the focus was on bringing the women to form groups, start thrift and credit activities and build a platform which could be used for more focused interventions later on. Every year, micro planning is conducted with the SHGs for activities pertaining to livelihoods improvement.

**Current Scenario:** Madhya Pradesh Women Poultry Producers Company Pvt Ltd (MPWPCL) is an initiative that PRADAN has promoted to capitalize on the lucrative opportunities in the poultry industry. MPWPCL, incorporated as a producer company under the Companies Act, 1956 has ten producer organisations (POs) operating under it, each holding a stake in the producer company. Each of these POs is an independent entity involved in providing services such as input supply, production support, as well as marketing broiler poultry to its members. The cooperative membership extends to 4214 women poultry producers belonging to poor SC and ST families spread over Hoshangabad, Betul, Sidhi, Dindori, Chhatapur, Tikamgarh, Sagar, Vidisha, Singrauli & Shadol districts of the State. This model has also been replicated across the States of Jharkhand, Chhattisgarh and Odisha. (<http://mpwpcl.org/kesla.htm>)

**Lessons/Implications:** Before the intervention the tribal households were involved in traditional backyard poultry value chain characterized by low productivity with some constraints and inefficiencies. Home-based broiler intervention was planned to evolve the traditional backyard value chain to a smallholder cooperative value chain in order to address the inefficiencies of backyard chain and increase the poultry production scale of smallholders. Typical actors in the traditional value chain were as depicted in the diagram below.

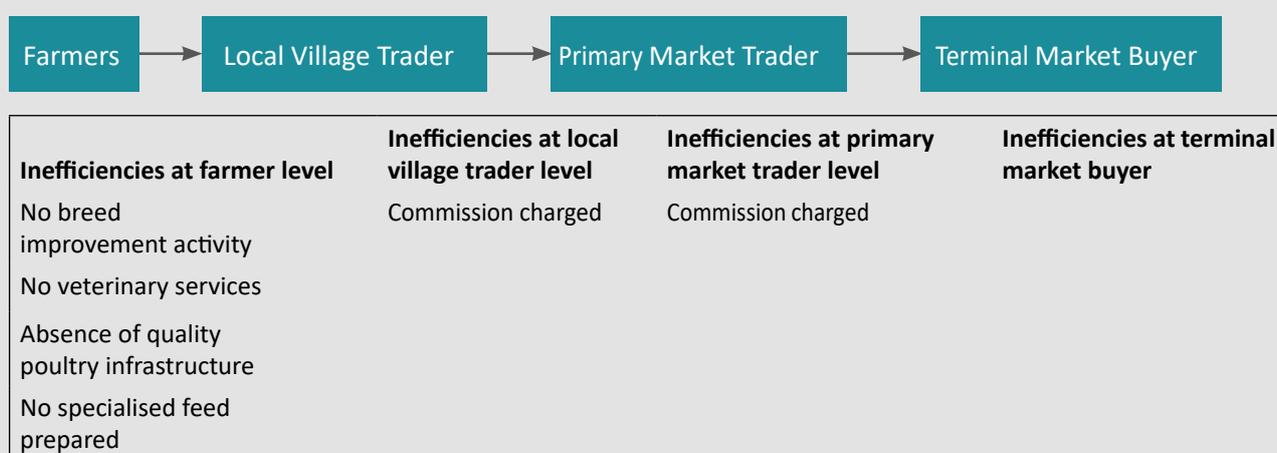


Figure 26: Schematic diagram depicting the traditional backyard poultry value chain in Kesla

The linkages between the smallholder and cooperative in the smallholder cooperative poultry value chain are depicted below in Figure 27.

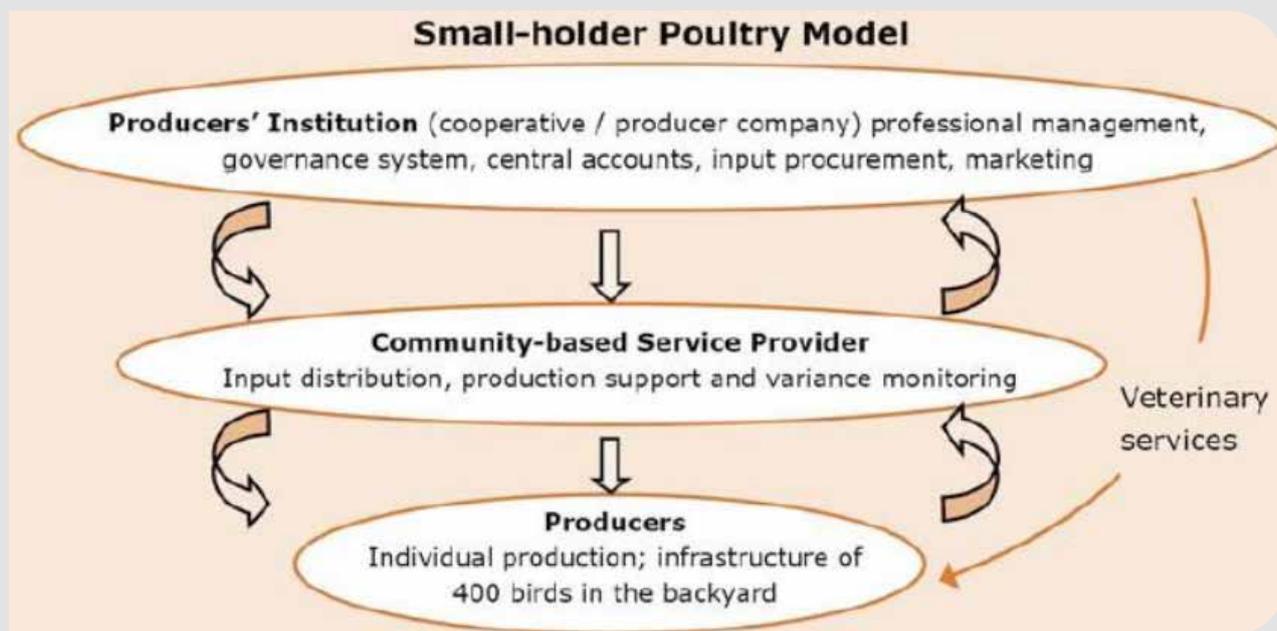


Figure 27: Schematic diagram showing the linkages between the smallholder and cooperatives in the smallholder cooperative value chain in Kesla.

Source: Gupta, 2019

### **Case 23: Development of supply chain for medicinal and aromatic plants in India: Experience from ATMA**

When ATMA, Bihar, India, decided to implement a market driven approach to help farmers diversify into higher value commodities and products, it first made an evaluation of alternative crops and products within the district. Three criteria were used to do this: first, there had to be a continuing market demand for the crop or product; second, the crop must be well-suited to the existing agro-climatic conditions; and, third, the production technology to be used must be relatively low-cost so as to reduce the farmer's risk. The process they adopted is described below.

#### **Conducting a PRA to Assess Local Conditions and Potential Markets**

In order to identify what marketable crops might successfully be introduced into the study area, local conditions were assessed using various Participatory Rural Appraisal (PRA) techniques. During this PRA exercise, more than 40 species of medicinal and aromatic plants (MAPs) were found growing wild in Patna district, some carrying a very high market value. However, most farmers were unaware of the commercial importance of these crops, making it necessary to conduct extension activities, such as exposure visits, to create farmer awareness about these potential economic opportunities. In addition, farmers were informed about both the need to conserve the biodiversity of these plants as well as the growing demand for some MAPs by pharmaceutical companies. As a result of these extension activities, farmers soon became receptive to the idea of cultivating MAPs.

#### **Organizing Producers into Farmer Interest Groups and Farmer Associations**

Given the need to scale-up the production of different high-value crops or products, the ATMA started organizing producer groups. Organizing these groups was a challenge due to different social and economic issues. Since Indian society is highly fragmented along caste, religious and economic lines (including size of landholdings), it is difficult to bring all of these different social and economic groups together into one organization to carry out a common economic activity. Therefore, the strategy adopted was to organize these Farmer Interest Groups (FIGs) around people from similar social and economic backgrounds who share similar goals and objectives. The typical (village-level) FIG had between 10 and 15 farmers.

#### **Assessing the Market Demand for Specific Medicinal and Aromatic crops**

In order to successfully produce MAPs in the district, it was necessary to identify those crops where there was a stable and growing market for the product. As the trade in MAPs has been largely unregulated and carried out through a number of small-scale traders, the buyers were not willing to share the source of raw material. Most of the merchants were not interested in entering into a long-term contract, and the amount of raw materials needed depended on market demand for their products. After a number of unsuccessful attempts to identify manufacturing firms that might be interested, the strategy shifted to finding local buyers. Of the companies that were short-listed in Bihar, two companies were found to be receptive to the idea of forming a partnership between the growers and the company. The firms identified were Baidyanath Ayurved Bhawan and Ayurved Shri Herbals Limited.

#### **Assessing the Potential for Producing Vinca Rosa in Patna District, Bihar**

The ATMA, working in close collaboration with the local KVK (Farm Science Centre), was able to establish through field trials that the cultivation of Vinca Rosa (*Catharanthus roseus*), also known as periwinkle, was especially well-suited for small-scale farmers in Patna as it can provide attractive economic returns with little risk to producers.

#### **Assessing the Market Demand for Vinca Rosa**

At the same time that the ATMA was investigating the technical feasibility of producing Vinca Rosa in the district, it was also entering into discussion with a potential buyer for this crop. The first company to enter into a formal contract with producer groups to produce Vinca Rosa was M/s Ayurveda Shri Herbals

Ltd. The leaders of five, newly-established FIGs were invited for an open discussion with the Managing Director of this company in the presence of the ATMA leadership. The purpose of these meetings was to address any questions these FIG leaders might have, and to discuss the FIGs' concerns regarding the production technology, the suitability of the crop, production costs and/or the post-harvesting handling and marketing of the MAPs. A contract was signed, with the ATMA director becoming the facilitator for both the FIGs and the company. The pricing was based on the six-month average market price for the material in the Delhi market.

### **Training FIG members to Produce and Handle Vinca Rosa**

Training the interested members from the first five FIGs was carried out by a team of experts/scientists in medicinal plants cultivation. The KVK became a key demonstration and training site for future groups of farmers who were to be trained in the technologies of producing and handling these different MAPs. Technical publications were prepared in the local language that explained cultivation practices as well as the costs and returns from the cultivation of this crop. To augment capacity building among each FIG, an effort was made to select farmers who were more responsive to adopting new cultivation techniques. These selected farmers then acted as resource persons within each FIG to provide technical support to the other members. Finally, ATMA facilitated the supply of inputs such as seeds, organic manures, and organic plant protection measures.

### **Monitoring the Production and Post-Harvest Handling of Vinca Rosa**

The production of the first Vinca Rosa crops was carefully monitored by both ATMA and company representatives to ensure that no chemicals were applied at any stage of plant production or post-harvest processing. Quality tests were then performed on the samples taken from each lot. The purchase price was USD 40 or INR 2000 per quintal, which was paid to the FIGs after obtaining satisfactory test results. Representatives from ATMA were present at each stage of this process in order to ensure that the terms of the contract were carefully adhered to by both the FIGs and the company.

### **Expanding the Number of Farmers Involved Producing MAPs through Exposure Visits**

Following the same procedures that were used with the original group of FIGs before beginning the cultivation of any new MAP, the leaders of newly organized FIGs were sent to visit other farmers who were currently producing MAPs, either within the district or in another district or state. During these exposure visits, crop management practices were discussed at length and farmers learned about the post-harvest management practices that were necessary to successfully produce the different crops, including drying and packaging of the raw materials. These exposure visits had a very positive impact on the attitudes of these farm leaders about the potential of MAPs. The visits increased their confidence and eliminated any doubts that they might have had regarding the financial viability of these crops. When this activity was launched in 2000, there were five Farmer Interest Groups (FIGs) with a combined membership of about 60 farmers who began with the cultivation of Vinca Rosa in Patna district. Within one year, 10 more FIGs had organized and were interested in participating in this new MAP programme. By April 2003, the ATMA had established a network of 50 FIGs who were pursuing MAP cultivation.

*Source: Singh and Swanson 2005*

### **Case 24: Syngenta Foundation India - Jawhar Project, Maharashtra**

Syngenta India limited set up the Syngenta Foundation as an independent organization in 2005 to help marginalized farmers adopt improved production technologies for better productivity and higher incomes. The Foundation works with a number of local NGOs and other associations on resource conservation and crop enhancement projects – to provide long term productivity and income generation for farmers.

The Syngenta Foundation India (SFI) adopted an approach of identifying the most backward districts, choosing local partners, conducting surveys to assess the farming situation, identifying suitable crops (especially high-value vegetables), trying on a pilot scale to assess the feasibility of the crops and replicating the successful interventions, and scaling up to extend the area of the crops and to increase the number of farmers. Once production of the crops went up substantially, the Foundation facilitated the producers' access to markets to enhance their profit margins. In the process, the Foundation has employed several extension methods such as workshops, training programmes for farmers, on-farm testing of the technologies, and tours to successful farmers' fields, farmers' fairs, exhibitions, etc.

SFI has been successfully implementing market-led extension (MLE) in vegetables in four locations: Jawhar in Maharashtra, Kalahandi in Orissa, Kesla in Madhya Pradesh, and Bankura in West Bengal. We will be discussing one of them in detail. The three major components of MLE followed in SFI are shown in Figure 28.



Figure 28: Major components of MLE, SFI

In 2006, SFI, in partnership with Pragati Pratishtan, started its agricultural development project in villages in the Jawhar area of Maharashtra. An initial survey showed that the farmers here were following primitive agricultural practices, resulting in lower crop yields, that too in only one season (kharif) due to low rainfall, which has been one of the reasons for the migration of farmers. The project team laid demonstration plots to encourage farmers to grow vegetables to help them improve their cash income through sale of vegetables. It forged a collaboration with a social service organisation Pragati Pratishtan, and trained a few interested farmers, distributed certified seeds, demonstrated good nursery practices, organised field trials of new crop varieties and use of techniques like SRI (System of Rice Intensification). Later workshops were organised to promote SRI among the farmers by involving experts in rice cultivation.

In Palghar area, about 70 km away from Jawhar, the team observed that farmers were progressive and a few were adopting advanced technology, producing large volumes of vegetables and fruits, and improving their economic status. The team organised a conducted tour for Jawhar farmers to visit the progressive farmers' fields and interact with them. All these extension efforts encouraged the Jawhar farmers to adopt advanced methods of crop cultivation which finally resulted in higher yields and income. The team also organised Harvest Hangama wherein the fields of hybrid rice (Sahyadri) and popular hybrid rice (Swarna) were harvested, threshed, and weighed in the presence of more than 100 farmers. This result demonstration helped the farmers realise that the recommended Sahyadri yielded two-and-a-half times more rice than Swarna. The Foundation set up an Agriculture Technology Information Centre (ATIC) with kiosks, posters, magazines, and books in Marathi to improve the knowledge of farmers.

The project team also joined hands with Bharatiya Agro Industries Foundation (BAIF), a well-known NGO which was implementing a programme, 'wadi orchards' – to enable smallholder farmers to earn a reasonable income by growing agro-forestry trees, cashew and mangoes on their rainfed lands. The SFI tried to ensure assured income through intercropping vegetables in wadi orchards. With this successful

beginning the SFI and BAIF expanded the area of operation to help smallholders. When the production of crops improved, the Foundation focused its attention on providing market access by forging linkages with BAIF partner Amrai Tribal MITRA Fruit Processing and Marketing Cooperative Society. After working in this area for three years, the project team realised that it was very expensive to provide extension services to 73 vegetable growers spread across several villages. Many farmers sold their produce to middlemen to get easy cash. Despite these setbacks, the Foundation with its partners did organise a 'Krishi Mahotsav' to widen the farmers' network. Several new initiatives were also taken up to horizontally expand the area of operation through diverse activities.

When the joint venture with BAIF – Amrai Cooperative Society – was not moving as per expectations, the Foundation adopted a new approach of organising the farmers into independent producer organisations. Although 700 farmers jointly produced huge quantities of vegetables, especially tomatoes, their incomes did not go up mainly because of the glut in tomatoes in the market during 2009-10.

The Foundation was keen on achieving its ultimate objective of progressively withdrawing external assistance and empowering the producers' groups to manage their operations independently as well as profitably. The project team tried different initiatives and later realised that it was losing focus on its main objective of turning agriculture into a sustainable livelihood activity for its farmers. In a nearby area, Mokhada, the team approached a private company engaged in export of vegetables to sell the vegetables produced in the adopted villages. Accordingly a new cooperative venture, nicknamed 'vegetable valley' was implemented by growing okra (lady's fingers) and chillies. Although, the idea of finding these vegetables in the supermarkets of UK appear exciting, the project faced some unforeseen problems in the initial phase. These included: i) pest attack on the okra crop; ii) inability of the team to provide continuous monitoring due to vast and remotely located areas; and iii) rejections of vegetables which could not meet the export standards (pesticide residues). It was decided to discontinue okra and concentrate on chillies.

In the next season, chillies were grown but the yields were not good as this crop was also affected with pests and only about 40% of the yield was fit for export. The rejected produce was sold in the open market at a price higher than offered by the partner private company. Based on its experience, the team incorporated changes in the programme (variety of chillies); it could then achieve some satisfactory progress in the next season. The other challenges the team faced included: i) lack of control over pesticide residues; ii) poor sorting and grading of chillies; and iii) high overheads to the Foundation. Despite all these constraints, by the end of the sixth year of the project, Jawhar turned into a commercial vegetable-growing belt and the same was extended to the nearby areas. The increase in the demand for vegetables also led to a spurt in farm input dealers operating in the area. More than 10,000 small farmers benefitted by growing vegetables on a commercial scale.

*Source: Gupta 2019; Rao 2017*

### **Case 25: Making markets work for women in Bangladesh**

The Chittagong Hill Tracts (CHT), a mountainous area bordering Myanmar and populated by Bangladesh's ethnic tribal population, has a more temperate climate than the rest of Bangladesh, and fertile land at a variety of altitudes, so it is uniquely positioned for diverse, year-round agricultural production. Women here are largely responsible for farming, practising jhum (traditional slash and burn agriculture) on communal plots. Until recently, ethnic exclusion and geographic isolation have hampered tribal women from accessing markets, which are typically controlled and dominated by Bengali traders.

But through a series of innovations, including market surveys, new cultivation techniques and donkey-based transport, 450 tribal women have become part of a successful value chain for high value vegetables and spices, resulting in a nearly four-fold increase in monthly income and improvements in food security and nutrition. Improving the women's understanding of the market was the first key step.

Under a project implemented by Helen Keller International (HKI), and funded under a DFID/Government of Bangladesh-supported 'economic empowerment of the poorest' programme, 45 women group leaders

carried out market surveys before the start of each growing season over a three-year period (2009-2012), to identify products likely to yield the most profit. This involved visiting district-level markets and interviewing input suppliers, shopkeepers, consumers and other market actors using a standardised survey format; project staff helped to facilitate these meetings so as to overcome any ethnically-driven reluctance.

### **Learning from the market**

Surveys with vegetable sellers, for example, revealed a scarcity of fresh vegetables, which vendors frequently purchased from farms more than 600 kilometres away; restaurants reported that except for haat (bi-weekly market) days, they could not obtain sufficient vegetables. With this information in hand, female farmers were able to target what they should grow, knew what price to demand from buyers, and focused on supplying vegetables on days when the haat was closed.

This planning represented a dramatic departure from traditional cultivation strategies, when the same products were grown year after year with no awareness of expected price. “Conducting the survey every season was key,” explains HKI Marketing Specialist, Nazmul Huda. “Through interviews with the major buyers of spices, female farmers found that though turmeric was highly profitable in 2010, its price halved in 2011 and 2012. At the same time, the price of ginger and taro increased. The market survey meant women knew this in advance and could plan seed purchase.”

Since the 1960s, state-sponsored migration and land acquisition have created land shortages. As tribal populations were pushed further into the hills, population pressure dramatically depleted soil quality and reduced production. HKI introduced contour farming techniques to cultivate products prioritised by market surveys, producing higher yields and reducing input costs, particularly for water and fertiliser. Contour farming required a large input of labour upfront, but once earthwork was completed, labour inputs were reduced and larger plots could be cultivated. This saved the time women used to spend walking to scattered jhum plots, enabling them to pool resources and facilitated group marketing of produce. HKI also trained women farmers on post-harvest handling and processing techniques and arranged visits with vendors and buyers to observe which traits brought the highest value. At the most basic level, women were able to improve the presentation and subsequent sale price of fresh fruits and vegetables through sorting, cleaning and grading. In other cases, equipment and advanced training enabled women to produce processed spices, pickles, jams and jellies.

### **Overcoming barriers**

Horticultural markets are far from the hill areas where tribal populations live. To address geographic barriers, HKI introduced donkeys to female farmer groups living and farming far from roads. Trainers from the Donkey Sanctuary in India were brought in to train local veterinarians to provide medical care and instruct female farmers on care and feeding. Once their care regimen was established, the donkeys significantly saved on labour needed to access markets, as a selected ‘market middle-woman’ in each group could use the animal to transport produce from several female farmers. This was key in marketing fruits and vegetables, which are prized for freshness.

Social and ethnic barriers required multiple strategies. While market surveys provided supply and demand information, which enabled women to negotiate on more equal terms with traders, HKI also provided intensive training on marketing skills, such as determining sale price, negotiation and bookkeeping, and helped women negotiate directly with market committees to gain dedicated space for sale.

Workshops organised with vendors and buyers further helped middle-women develop business networks and identify niche buyers. While such organised events may not continue beyond the end of the project, the relationships made with vendors and buyers, often outside their ethnic group for the first time, are expected to persist. Vendors and buyers appreciate the role of tribal women in the agricultural value chain, making sizable input purchases (particularly when they work as a group), and supplying products with high market demand.

*Source: Khetran 2012*

## Tools

### Tool 1

#### Guiding questions to identify gender-based constraints

	Producers level	Processors level
Access to assets	How do men and women obtain land? How do they get information on new farming practices? How do they get information on prices?	How do men/women raise the initial funds to purchase equipment and obtain businesses?
Social roles	Are there aspects of production that constitute hardships for women? Are there aspects of production that discourage women from engaging? Who (man or woman) makes decisions about the farm enterprise and crops to produce? Who (man or woman) negotiates sales and receives the income?	Are men or women better suited to particular jobs? Are there differences in the supply or quality of the product that one receives from men or women? What kind of jobs do men and women engage in at the plant/factory? Who (man or woman) negotiates sales and receives the income?
Laws, policies, regulatory institutions	Are there laws or policies that make it hard for women to run a farm as a business?	Are there laws or policies that prohibit men or women from performing particular jobs in the business/plant/factory?
Risk profile	Do women maintain food security by cultivating staple crops?	Do women provide more stable income than men due to their engagement in processing?

**Source:** UNIDO. 2011. *Pro-poor value chain development practitioner's guide: 25 guiding questions for designing and implementing agroindustry projects*. Vienna, Austria: United Nations Industrial Development Organization. (Available at [https://www.unido.org/sites/default/files/2011-12/Pro-poor\\_value\\_chain\\_development\\_2011\\_0.pdf](https://www.unido.org/sites/default/files/2011-12/Pro-poor_value_chain_development_2011_0.pdf))

### Tool 2

#### Methods to improving aggregation and coordination for fruits and vegetables

Commodity	Methods to improve aggregation and coordination	Selected commodity or value chain characteristics
For traditional domestic market	Informal group marketing Leading farmer marketing and coordination Coordination and aggregation by traders	Perishable and fragile; handling by non-specialized intermediaries results in higher rates of loss and damage Dominance of small, uncoordinated producers Coexistence of traditional, and high end domestic and export market value chains
For supermarkets, caterers, etc.	Specialized intermediaries Coordination by buyers Alliances between producer organizations (POs) and buyers Leading farmer marketing and coordination	
For processing and export	Contract farming Coordination by buyers Coordination by traders Alliances between POs and buyers	

**Source:** Shepherd AW. 2018. *Addressing the aggregation and coordination problems in smallholder-based value chains*. The World Bank. (Available at <http://documents.worldbank.org/curated/en/723591554284022235/pdf/Addressing-the-Aggregation-and-Coordination-Problems-in-Smallholder-based-Value-Chains.pdf>)

### Tool 3

#### Checklist for Group formation

- Is group formation essential to link with the identified market? If not, what are the advantages of working in groups (e.g., overcoming high individual transaction costs) and are these offset by costs (including time costs) that farmers may incur?

- Have alternatives to group formation been considered, such as the leading farmer approach?
- Does the planned linkage require formal groups with a legal entity, or would informal activities, such as bulking up produce for sale to traders, suffice?
- What have been the experiences in the country/state/district with collective farmer activities? Which type of farmer organization appears to work best?
- What, if any, collective activities do the target farmers presently carry out? What have been the experiences with this?
- Have discussions been held with farmers about forming a group or groups? If so, what has been the initial reaction to the idea?
- What is the social structure of the area and does this lend itself to successful collaborative activities? Would there be a possibility of elite capture?
- Would different types of groups be necessary to ensure homogeneity, such as male and female groups, or groups organized according to roles in the supply chain?
- What size should the groups be? What structure should they have (officers, decision-making, etc.)? Is there a possibility of federating with other groups/associations and what would be the advantages of this?
- Have bylaws for the group been developed, and are they fully understood and accepted by all farmers?
- Are there farmers who demonstrate leadership and/or management skills? If not, does the proposed activity justify recruitment by the group of a full-time manager?
- What training will farmers require in group dynamics? What training would group officers require in business management, marketing, accountancy, etc., and how will this be provided?
- What existing legislation is there relating to farmer groups, and is it appropriate to the type of group envisaged?
- Would the group be legally entitled to operate a bank account, if required?

**Source:** Shepherd AW. 2007. *Approaches to linking producers to markets: A review of experiences to date*. Rome: Agricultural Management, Marketing and Finance Services, FAO. (Available at <http://www.share4dev.info/ffsnet/documents/3616.pdf>).

## Exercises

### Exercise 1

Is organizing producers essential for linking small producers to market? What is your view on this? Explain this with reasons.

### Exercise 2

How are the farmers organized in your/state country? Based on commodities, size of farm, financial risk, etc.

### Exercise 3

Discuss how cooperatives/producer organizations can overcome the marketing problems faced by farmers in the state/country and improve the performance of markets.

Explain how public policies are in favour of the establishment of farmer cooperatives/producer organisations.

Analyse a successful case on cooperatives/producer organization and discuss the highlights.

### Exercise 4

What is the role of private sector, NGOs and producer organizations in linking farmers to markets in your country?

## Exercise 5

Different types of aggregation and coordination

Type of aggregation and coordination	Benefits	Limitations	Roles for EAS
Cooperative farming			
Contract farming			
Producer organizations			
Private sector			
Using ICTs			
<b>Informal farmer marketing</b> (group marketing or farmer leaders)			

## Exercise 6

Conduct a debate

Divide the participants and assign them to affirmative and negative groups, respectively, as there are two sides to any debate. Naturally, one will argue for, and another against, the resolution on the given topic.

Agricultural value chain development: Threat or opportunity for women's employment? What is your view on this? Explain this with reasons.

What efforts need to be made to effectively mainstream gender in agri-food value chain projects and programmes? When can a value chain intervention be considered gender-sensitive? What actions can be implemented to address gender inequalities along the chain?

## Exercise 7

Case Analysis

Divide the participants into three groups and assign each group with a case (given below). Each group should critically analyse the case and come up with answers to the questions given below. Team leader from each group can present before the room their findings.

Case 1: Development of supply chain for medicinal and aromatic plants in India: Experience from ATMA.

Case 2: Making markets work for women in Bangladesh.

Case 3: Smallholder cooperative poultry value chain model in Kesla (Madhya Pradesh) by PRADAN.

- Who are the actors involved in this value chain development? Mention the role/function they played in VCD.
- What are the interventions involved in this VCD?
- What were the critical factors for success of this VCD?
- What are the factors to keep in mind before replication?

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# Unit VI: Value Chain Analysis

## Objectives

- Discuss the significance of value chain analysis;
- Illustrate various tools and methods used in value chain analysis.

## Introduction

Value chains work best when their actors cooperate to produce higher quality products and generate more income for all actors along the chain. The actors typically found in a value chain include input suppliers, farmers, processors, transporters, collectors, wholesalers, retailers and the final consumers. These operators in the chain are linked by a series of trade relationships that take the product from producers to final consumers. A well-functioning value chain where actors mutually support themselves is capable of improving competitiveness of the entire value chain, from the time the produce leaves farm gate until it arrives in the hands of a satisfied consumer.

Value chain analysis is a strategy tool used to analyse and identify activities, within and around the value chain for an assessment of competitive strength. Value chain analysis is the process of breaking a chain into its constituent parts in order to better understand its structure and functioning. It analyses interactions and synergies among actors and between them, and the business and policy environment. According to Trienekens (2011) value chain analysis is made up of three components: the first consists of identifying major constraints in value chain upgrading – market access restrictions, weak infrastructures, missing resources and institutional voids. In the second component three elements of a value chain are defined: value addition, horizontal and vertical chain-network structure and value chain governance mechanisms; and finally the third component where upgrading options are defined in the area of value addition, including the search for markets, the value chain-network structure, and the governance form of

the chain. Part of this component is the identification of the most suitable partnerships for upgrading the value chain. In other words the value chain analysis reveals competitive advantages or disadvantages that can be applied to upgrade value chain activities. Agricultural value chains need to be upgraded well in time so as to increase quality-based competitiveness of domestic agricultural produce, thereby improving food security and contributing to poverty alleviation. Value chain analysis upholds the steps needed to create competitive advantage, improve efficiency, and increase profit margins in value chain models.

Different methods and tools have been developed for analysis of value chains. Some methods/tools, though not developed for chain analysis, are useful for that purpose. In this unit, a short overview of the most significant value chain analysis methods/tools is discussed.

## Discussion

The agricultural value chain concept has been used earlier for agricultural products to move from the farm to the final customer/consumer. Value chain analysis (VCA) is a strategy tool used to analyse internal company activities. Its goal is to recognize which activities are the most valuable (i.e., are the source of cost or differentiation advantage) to the organization, and which ones could be improved to provide competitive advantage. Various actors are involved in the agricultural value chain right from production to marketing. The value chain displays a number of points that are important in value chain analysis. First, value chains have a market-oriented approach, in the sense that all activities in

the chain are directed towards the market. Second, all stakeholders along a particular value chain have to cooperate in order to achieve systematic competitiveness for supplying different inputs into the final product. Third, the starting point for any value chain analysis is the internal working systems (e.g., labour costs, productivity, and quality control) (LAVS n. d.).

Value chains are mapped and analysed using value chain analysis (VCA), which includes qualitative and/or quantitative tools. There are no fixed rules on

which research approach is better, but there are strong grounds for recommending that a qualitative approach is used first, and then followed by a quantitative approach according to the availability of time and resources. In concept, a value chain analysis that takes into account the policy environment and provision of livelihood services is a very powerful tool for analysing how existing chains are structured and operate. VCA also helps in understanding the farm level decision impact on utilizing crop genetic resources (Reddy 2013).



Source: IFAD 2010

Figure 29: Value chain analysis

### Box 10. Value chain analysis

- An in-depth value chain analysis considers the following:
- What are the economic costs along the value chain?
- Where is the most value added to the value chain?
- Who are the most important actors within the value chain?
- What is the institutional framework of the value chain?
- Where are the bottlenecks in the value chain?
- Where is there market potential for growth?
- What is the size of the sector/chain?
- What is the potential for upgrading?
- What possible synergies exist?

Source: LAVS n.d.

### Box 11. Value chain analysis vs. Subsector analysis

Value Chain Analysis examines the full range of activities required to bring a product or service from its conception to its end use, the firms that perform those activities in a vertical chain, and the final consumers for the product or service. The activities include design, production, marketing, and support to get the final product or service to the end consumer.

Value Chain Analysis is sometimes used interchangeably with Sub-sector Analysis. Others differentiate with a Sub-sector Analysis examining all the firms, channels and markets related to a specific product or service, and Value Chain Analysis focusing on a single vertical chain of firms leading to a particular consumer market. Value Chain Analysis also often includes additional analytical elements beyond Sub-sector Analysis, such as inter-firm cooperation, governance and geographic coverage especially where it extends to global markets.

Value Chain Analysis is used by development agencies to identify how poor people, small enterprises, or other target groups can play a larger and more lucrative role in a particular value chain; and how a value chain's structure or characteristics can be changed to enable it to grow in pro-poor ways. Value chain analysis is increasingly used to help develop a competitiveness strategy for a value chain or industry.

Source: [www.value-chains.org](http://www.value-chains.org)

## What are the benefits of taking a value chain approach?

The value chain approach considers the role of existing chain actors, supporting actors, and the policy environment. It allows us to look at current challenges in a value chain, as well as the opportunities for improving the efficiency of the value chain and the benefits for everyone involved. Analysing a value chain – identifying its challenges, weakness, and strengths – can help to identify new income-generating opportunities (Cuddeford 2014).

It is important to conduct a value chain analysis (VCA) so that the actors can make informed choices, including those who want to support it such as the policy makers and donors. A VCA can identify the share of value adding, and the risks faced by each actor. It can identify weaknesses that prevent progress and suggest actions for improvement. The economic value of agriculture produce is multiplied if the value chain of the product is strong, efficient and sustainable (Gwabu 2015).

## Value Chain Diagnosis

Diagnosing a value chain in a particular region and in a particular consumer/producer segment calls for a systematic understanding of the different activities of current stakeholders as well as future planning to minimize transaction costs, and for recognizing each partner's competitive advantage. It also requires demand and supply estimates under alternate scenarios with, and without, value chain intervention. We have to examine how participation of smallholder farmers can be increased and upgraded to enhance their incomes within the value chain, keeping in mind their resource constraints. We also need to identify intervention points within the value chain based on priorities set out through SWOT analysis. It will also be helpful in financial planning for each partner engaged in value chain up-gradation and for attracting investments to the value chain. Table 4 depicts steps involved in the value chain diagnosis, while Table 5 depicts the process by which producers can be linked to the final consumers in actual conditions.

## Extension Tool Kits for Value Chain Development (GFRAS 2017)

In the next sections, the most important value chain development approaches, initiatives, and toolkits will be discussed.

**Table 4: Value chains (Old and New Methods)**

Method	Product sourcing	Scale and marketing	Distribution	Retail
Old methods	Local production with little quality consciousness, high end consumers met by imports	Dedicated players (Nestle, Unilever) MNCs using distributors, local traders	Only a few dominant players develop scale & reach, despite highly fragmented markets and poor infrastructure	Fragmented & unsophisticated players Mom & pop outlets
New paradigm	Focus on lowering cost and increasing quality, reducing transaction costs and increasing market access Rising capability of local firms. Supply chain management a key competitive indicator	Better sophisticated sales & marketing approaches required to create differentiation	Just in time (JIT) and world class inventory management	Professionalism segmentation focus & Concentration driven by international retailers

Source: RIRDC 2010

**Table 5: Steps involved in VCD (Overseas Development Institute 2009)**

Step	What to do?	Why?
Phase 1: Diagnose		
Step 1	Preparation	To define the destination, type of potential target group, and assessment of team/partners
Step 2	Map the big picture: enterprise and other actors in the agricultural sector, links between them, demand and supply data, and the pertinent context	To organize a chaotic reality, understand the overall system
Step 3	Map what the poor do, and why they do not participate	To avoid erroneous assumptions about poor actors. To take account of the less visible suppliers
Step 4	Conduct fieldwork interviews in each node of the chain, with inputs suppliers and traders and processors, including current/potential poor participants	To provide data and insight for steps 5 to 8
Step 5	Track revenue flows and pro-poor income; Estimate how revenues flows through the chain and how it accrues to the poor; Consider their returns and factors that enable or inhibit earning	
Phase 2: Scope, priorities and opportunities		
Step 6	Identify where in the agriculture value chain to seek change: which node or nodes?	To select area ripe for changes, drawing on Step 1 to 5; Ensure steps 6 to 8 are focused on priority areas
Step 7	Analyse blockages, options and partners in the nodes selected, to generate a long list of possible interventions	To think laterally and rationally in generating the range of possible interventions
Step 8	Prioritizes interventions on the basis of their impact and feasibility	To generate an interventions shortlist, comprising interventions most likely to deliver impact
Phase 3: Feasibility and planning		
Step 9	Interventions feasibility and planning	Package selected interventions for funding and implementation

Source: ODI 2009

### Box 12. Upgrading in value chain

Upgrading is a key concept in value chain theory because it determines the competency of the producer, and hence the producer's opportunities to access a value chain and to partake in the distribution of rents across the chain. Upgrading covers all issues which relate to improving the quality and quantity of output produced or manufactured by the supplier, as well as issues of value addition, differentiation or other critical success factors in a given chain. As mentioned earlier, non-price competition has become increasingly important in modern markets, hence the ability to access skills and upgrading to compete on issues other than price is crucially important.

**Horizontal coordination** is the process of greater intra-nodal organization, often in the production and processing nodes, in some form of collective structure. This form of upgrading is very important for poor people in rural areas because coordination with others allows producers to achieve economies of scale in supplies and to reduce transaction costs. Often, horizontal coordination is the first step in a sequence of interventions that ultimately result in access to the market, and this is a prerequisite for other forms of upgrading. Critical to the success of horizontal coordination strategies are the entry rules to join the group and the quality of management of the group structure. Self-help groups are good examples of horizontal coordination. Grape farmers' associations and poultry farmers' associations in many suburban areas also come under horizontal coordination, which increases economies of scale in production and marketing (Mitchell et al. 2009b).

**Vertical coordination** is the move away from one-off spot transactions towards longer-term inter-nodal relations, for instance, contract farming, whereby a processor or exporter will contract horticultural farmers. This form of upgrading is important because it can result in greater certainty about future revenue flows for smallholder farmers. In practice, vertical coordination is often a slow and difficult process because it involves the building of trust relations between the buyer and the seller (to avoid the common scenario whereby producers break their contractual commitments and sell their produce on the

spot market when prices are higher than specified in the contract).

### Inter-linkages of horizontal (clusters) and vertical coordination (value chain)

Recently, development studies have witnessed a surge of interest in clustering of economic activities as a means for supporting, upgrading, and thus generating economic growth in developing countries. As opposed to the traditional view of clusters as self-contained systems and the almost exclusive focus on local interactive learning, in recent years there is a renewed emphasis on linkages of local clusters with global value chains. In other words, it links the local production with external sources of knowledge/markets, especially to explain upgrading and the access to global markets of certain commodities in the agricultural sector. Clusters are believed to support upgrading in global value chains to the extent that they facilitate interactive learning both with local and external sources of knowledge and value addition.

In this context, upgrading is defined as the capacity of a cluster of farmers to innovate and increase the value of the products they have sold in the market. Furthermore, as farmers differ in their knowledge bases and learning mechanisms, the relationship between different forms of interaction and upgrading and innovation varies across regions and commodities. The focus of this training material is on how farmers can move from being independent producers of commodities with little value-addition and competing only at the lower-end of the market – towards becoming active players in the value chain competing on the basis of the provision of value-added products. In other words, we are aiming to move from 'low value products' to 'high value products' with participation in upgraded value chains. Upgrading is defined as the ability to make better products, make them more efficiently, or move to more skilled activities in the value chain. There are some fundamental differences between clusters and value chains at different stages.

Upgrading in the value chain takes several forms, and at different places within the value chain and outside the value chain, to improve efficiency of the value chain. The different types of upgrading in value chains are given below.

**Functional upgrading** refers to changing the mix of functions performed by actors in the value chain:

– increasing (upgrading) or reducing (downgrading) the number of activities performed by individuals and firms. For instance, an agricultural producer starting to process some of their output to add value to it represents functional upgrading. Often, horizontally coordinated institutions are best able to provide these value-adding activities (such as grading and packaging of produce). Shortening the value chain can be achieved by excluding intermediaries and redistributing their functions among the partners of a newly formed vertical relationship. It is very rare for smallholder farmers to functionally upgrade in the absence of other upgrading strategies.

**Process upgrading** involves improving value chain efficiency by increasing output volumes or reducing costs for a unit of output. Examples of this include improving agronomy to enhance yields that result in higher sales or own consumption, or both. This may be the result of improved planting techniques, planting materials or investments, such as irrigation infrastructure.

**Product upgrading** has become increasingly important as developed countries have become more quality conscious as standards have risen. Some standards are driven by lead buyers (i.e., supermarkets requiring traceability of food products), others by statutory hygiene standards in importing countries, and others, increasingly, in response to fair trade and organic demands by final consumers. The challenge of standards lies in achieving them (to allow market access) without excluding the poor from the value chain. Process and product upgrading are closely related because improving product quality often involves improvements to the production process.

**Inter-chain upgrading** is the use of skills and experience developed in one value chain to productively engage with another – usually more profitable – value chain. Examples of this include the shift from growing traditional commodities to high-quality export-worthy horticultural products. Inter-chain upgrading often has significant barriers inhibiting entry for farmers to access the more lucrative value chain.

**‘Upgrading’ of the enabling environment**, although not an upgrading strategy in the strict

sense, recognizes that the competitiveness of the enabling environment for value chains is a major contributing factor to the success of the operations in a value chain. Improvements to the support, services, institutional, legal and policy frameworks in which value chains operate are often a productive area in which development agencies can intervene to improve the functioning of a chain.

*Source: Reddy 2013*

### Microlinks

‘Microlinks’ is a platform for sharing good practices in inclusive market development around the world. The site is supported by ACDI/VOCA and it documents the USAID value chain approach to drive economic growth with poverty reduction through the integration of large numbers of micro and small enterprises (MSEs) into increasingly competitive value chains. By influencing the structures, systems and relationships that define the value chain, USAID helps MSEs to improve or upgrade their products and processes, thereby contributing to, and benefiting from, the competitiveness in the chain. Through this approach, USAID enables MSEs — including small-scale farmers — to create wealth and to escape poverty. You can access the Microlinks website here: <https://www.microlinks.org/>

### Making Markets Work for the Poor (M4P)

Making Markets Work for the Poor (M4P) is an approach to poverty reduction that donors such as DFID, DFAT, Sida, and SDC have been supporting since the early 1990s. The central idea is that the poor are dependent on market systems for their livelihoods and, therefore, changing the market systems to work more effectively and sustainably for the poor will improve their livelihoods and consequently reduce poverty. More accessible and competitive markets make it possible for poor people to find their own way out of poverty by providing them with more real choices and opportunities. Competitive markets also have the benefit of stimulating investment and encouraging firms to innovate, reduce costs and provide better quality jobs, goods and services to more people (The World Bank 2016).

### Territorial approach to agri-enterprise development

The territorial approach to rural agri-enterprise development includes a number of methods and

tools that have been developed over the past 20 years by the Rural Agro-enterprise Development Project team and its partners through project work in Latin America, Africa and Asia. The aim of this set of methods and tools is to meet the entrepreneurial development needs of service providers — i.e., institutions and agencies that support the development of rural communities.

The methods can be used for capturing and systematising market information for the development of new agri-enterprises and effective local business development services. The goal of this work is to enable service providers to empower rural communities to engage more effectively in the marketplace, so as to increase their income, their capacity to innovate, and ultimately to expand their livelihood options.

The International Centre for Tropical Agriculture (CIAT) and the Catholic Relief Services (CRS) team developed the Territorial Approach to Rural Agro-enterprise Development, which has the following four components:

- Participatory guide to developing partnerships, area resource assessment and planning together;
- Identifying market opportunities for rural smallholder producers;
- Guide to participatory market chain analysis for smallholder producers; and
- Guide to strengthening BDS in rural areas.

Since the development of this first series, the following three supplementary guides have also been developed:

- Market facilitator's guide to participatory agri-enterprise development;
- Advice manual for the organisation of collective marketing activities by small-scale farmers; and
- Guide to rapid market appraisal for agricultural products.

These guides can be downloaded from the website via the following link: [www.crsprogramquality.org/](http://www.crsprogramquality.org/)

### SMART skills for smallholder farmers

The territorial agri-enterprise development guides were written for project teams and their managers to design and implement agri-enterprise projects. However, as the projects were being implemented, it was found that field teams also needed more basic learning materials to help the field agents working directly with farmers. Based on this requirement, the CRS team worked with a number of other NGOs to develop and test a series of training materials that

would provide support directly to field teams and field agents when working with farmers and farmer groups.

As part of the research conducted by CIAT and the Agro-Enterprise Learning Alliance of the CRS, one of the research questions was: What skills do smallholder farmers need in order to succeed in the marketplace? The research revealed that farmers living in the poorest areas around the world were all trying to acquire the same five skills, which were named 'SMART' skills.

Contrary to traditional development interventions, which often focus on helping farmers strengthen their capacity in one skill at a time, the SMART skills approach aims to strengthen all the skills that farmers need in order to create effective and sustainable linkages to markets. The curriculum presents an integrated and sequential approach to strengthening the capacity of farmers — both men and women — to link with markets and to manage their resources.

### The SMART skills curriculum

RS created the SMART skills curriculum with the support of 132 practitioners from 19 organisations and twelve countries. These partners helped to develop, test, and refine the modules, which were published for further testing, while the Modernizing Extension and Advisory Services (MEAS) of USAID provided financial support. The SMART skills curriculum has also been endorsed by the Technical and Operational Performance Support (TOPS) programme, funded by USAID/Food for Peace. Each module in the curriculum has the following four parts:

1. Lessons that provide the necessary technical information and guidance on delivery methods that field agents should use to teach the SMART skills to farmers;
  2. Quizzes for field agents to test their own knowledge;
  3. Staff exercises that give field agents the opportunity to practice their skills; and
- Field exercises to use when training farmers.

The following manuals are used in the SMART skills curriculum:

- Introduction to the SMART Skills for Rural Development;
- Organizing and Managing Farmers' Groups;
- Facilitating Savings and Internal Lending Communities;
- Financial Education;
- Understanding Natural Resources;
- Managing Natural Resources;

- Marketing Basics;
- The Seven Steps of Marketing; and
- Promoting Innovation.

CRS is also publishing the content as e-learning modules, which can be accessed via the following link: <http://www.crs.org/smart-skills-smallholder-farmers>.

### Integration with digital information systems

Modern extension approaches are becoming increasingly complicated and, therefore, field agents working with large numbers of farmers also need new types of tools to help them with information and data management (i.e., apart from capacity building material).

There are now a number of digital toolkits that can be used by value chain teams to support larger scale capacity building programmes, and also support the collection of business information. Many of the digital systems such as Farmbook, SourceTrace, Farmforce, and Cropster support knowledge and information areas, such as:

- Registration methods which allows for the registration and tracking of field agents, farmers and farmer groups, by linking information with Geospatial maps such as ArcGIS;
- E-learning training modules, which provide instruction in key areas, such as the CRS SMART skills that provide courses in farmer group management, financial services, production methods, marketing and innovation to help farmers increase production, income and effective market engagement;

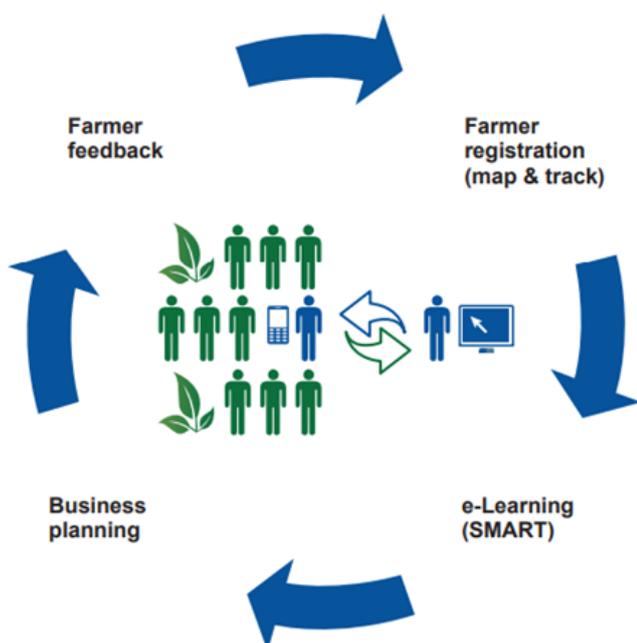


Figure 30: Components of the Farmbook Suite of ICT Tools

- Profitability calculators, which help farmers to create records about their costs of production and expected revenue and to calculate their expected profit; and
- The ability of farmers to provide feedback on services, which can be done by using a basic digital form that captures farmers' information on their level of satisfaction with extension services that are provided.

The CRS teams have incorporated these four components together to promote the holistic development for transformative and sustainable results. This is shown in Figure 29.

### FAO's VCA-Tool (FAO, 2012)

The FAO VCA-Tool software is developed to create an accounting framework for value chain analysis and to compare different scenarios. It also helps to build and handle your own database.

The software enables systematic storage of data for the implementation of Cost-Benefit and Value Added Analyses and allows to calculate:

- The flows and availability of physical quantities of inputs and outputs;
- The flows of aggregated costs, benefits, net benefits and value added, at agent and aggregate level;
- The flows of incremental costs, benefits, net benefits and value added for different policies;
- A set of economic indicators such as the profitability indexes, the indicators of protection; and
- The indicators of competitiveness at international level (i.e., Effective Protection Coefficient, Domestic Resource Cost ratio).

The FAO VCA-Tool software provides an effective alternative to spreadsheets, where you can standardize data, analyse complicated chains, automatically compute margins and selected indicators and compare scenarios.

### ValueLinks

The International ValueLinks Association e.V. was founded in June 2009 as a network of development practitioners working on value chain development. It aims to promote:

- Pro-poor economic growth in developing countries;
- Experience exchange and international contacts among ValueLinks users;
- Quality standards in the application of ValueLinks;
- Information flows for ValueLinks training and consulting services; and

- Outreach and further development of the approach.

ValueLinks, which was developed by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), is an action-oriented approach for promoting economic development with a value chain perspective. It provides essential know-how on ways to enhance employment and the income of micro, small and medium sized enterprises, and farmers by promoting the value chains they are operating in. The ValueLinks methodology provides a comprehensive set of tools and approaches to identify and provide methods for upgrading value chains. The ValueLinks manual is intended for use by development projects or by public agencies promoting specific agri-business, handicraft or manufacturing sub-sectors of the economy. It has no specific sectoral focus. However, the emphasis is on those product markets that offer opportunities for the poor.

The ValueLinks manual, which is now being developed by a growing community of development practitioners, is one of several knowledge products that use the ValueLinks methodology. The ValueLinks training seminars, which are offered by recognized ValueLinks trainers for professional staff of public agencies and development programmes,

comprise an important instrument for sharing know-how. Figure 31 illustrates the ValueLinks methodology.

#### LINK method for linking smallholder farmers to inclusive business models

This guide is mainly aimed at facilitators who mediate the processes between sellers and formal buyers. The LINK toolkit, as shown in Figure 32, can help an organisation facilitate a systematic learning process between actors from a selected value chain and discover new opportunities for innovation, based on the application of a participatory toolkit, with the following four main tools:

- The value chain map, which is used to understand the macro context of markets and the businesses that link rural producers with buyers;
- The business model canvas, which is used to understand each business that links rural producers with buyers in more detail;
- The New Business Model principles, which are used to determine whether each business that links rural producers with buyers is truly inclusive; and
- The prototype cycle, which is used to improve the inclusivity of every business that links rural producers with buyers continuously.

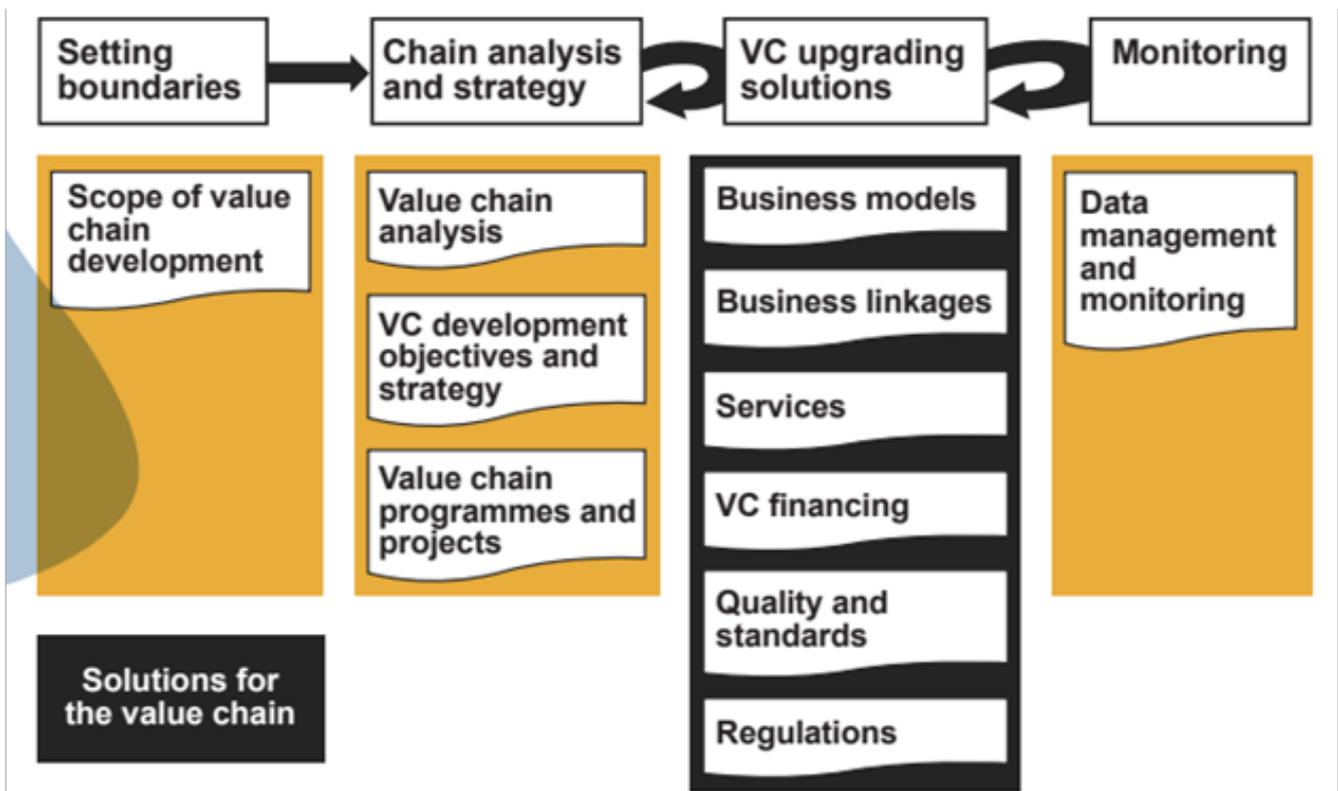


Figure 31: ValueLinks methodology

You can access the ValueLinks website here: <http://valuelinks.org/>

By the end of the LINK process, you should be able to:

- Understand the relationship between specific business models (buyer and seller) and the overall value chain;
- Identify critical areas for improvement;
- Design, implement, evaluate, and improve on the innovation prototype for the business model you have selected; and
- Evaluate the effects of these changes on smallholder farmers and on the business itself.

You can access the following website for more information on the LINK methodology: [http://ciat-library.ciat.cgiar.org/articulos\\_ciat/LINK\\_Methodology.pdf](http://ciat-library.ciat.cgiar.org/articulos_ciat/LINK_Methodology.pdf)

### Chain-wide learning for inclusive agri-food market development

Modern agri-food markets are dynamic and rapid changes in food production, processing and sales in wholesale and retail markets, affect the entire value chain, from producer to consumer. This is particularly true in countries with developing and emerging

economies, where the pace of change brings significant challenges for small-scale producers, policy makers and business.

This guide, which forms part of the Re-governing Markets project of the International Institute for Environmental Development (IIED), provides concepts and tools for working with actors along the entire value chain, so that modern markets can be more inclusive of small-scale producers and entrepreneurs.

The guide:

- Explains the drivers of change in modern agri-food markets;
- Provides a framework for analysing how institutions and policies shape the risks and opportunities for small-scale producers and entrepreneurs;
- Shows how to design multi-stakeholder processes that help actors along the chain work to realise common interests and secure domestic and regional markets inclusive of small-scale producers and entrepreneurs; and
- Offers practical ideas for facilitating workshops and policy dialogues.

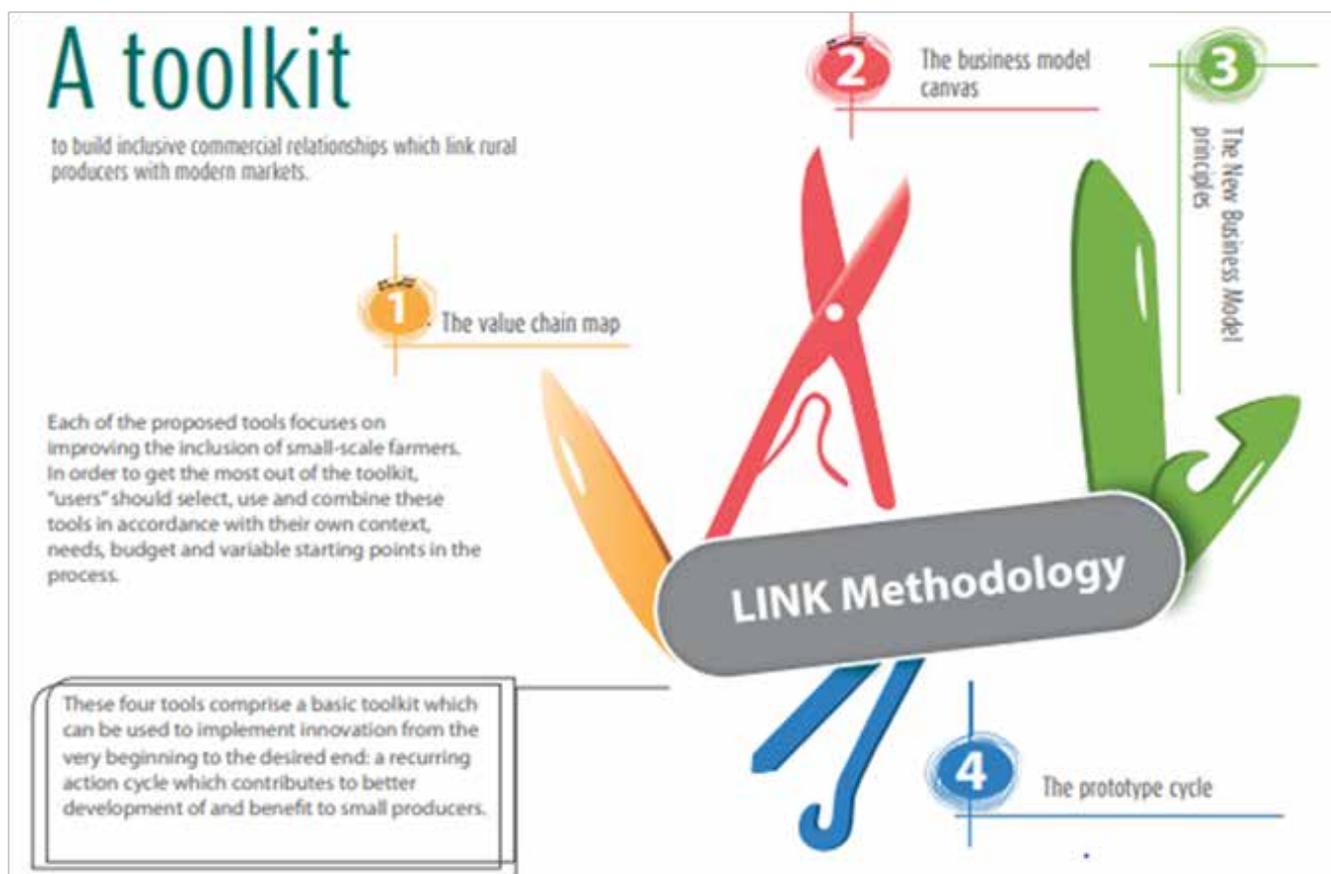


Figure 32: The LINK toolkit

You can access the IIED guide for chain-wide learning at the following website: <http://edepot.wur.nl/248994>.  
The IIED website is available via the following link: <http://www.iied.org/>

## Conclusion

Extension personnel can gain knowledge on the nature and use of the most important toolkits so far

developed for the value chain analysis as this helps in identifying challenges, weaknesses, and strengths of existing value chains, and thereby assist in identifying new income-generating opportunities.

## Tools

### Tool 1

Checklist for a value chain or subsector analysis

Topic	Sub-topics	Questions And/Or Comments
Personal Information	Name Physical Address Telephone	For established firms, obtain a business card or mobile phone number for future reference
Type of Business	Value addition Physical Functions Experience	How does the respondent add value to the product? Where is this in the market chain? Does he/she change its form (processor), move it (transporter), store it (wholesaler), sell it (retailer), or consume it? Does vertical integration exist?
Demand	Quantity Type of Buyer Seasonality Variety Consumer Preferences Price Data	<ul style="list-style-type: none"> <li>» Quantity sold normally, e.g., per day/week</li> <li>» To whom do you sell?</li> <li>» Do the volumes of sale change over time?</li> <li>» Are there different varieties?</li> <li>» If so, what is their respective demand or preference?</li> <li>» What is the price variation as per differences in varieties?</li> <li>» Do changes in prices occur over time?</li> <li>» If so, why?</li> <li>» Are there problems selling the products?</li> <li>» If so, what are they?</li> </ul>
Supply	Source by area Source by type of person Price Quality	<ul style="list-style-type: none"> <li>» Where are your supply areas (geographically)?</li> <li>» Who do you buy from?</li> <li>» Where do you buy from? (meeting point)</li> <li>» At what price do you buy the variety?</li> <li>» Does the price change over time? If so, why? How?</li> <li>» Do you have problems getting products? If so, what are they?</li> </ul>
Quality	Perishability Post-harvest issues	<ul style="list-style-type: none"> <li>» What is the quality of the product along the chain?</li> <li>» What is the product's shelf life?</li> </ul>
Storage	Quantity Time Storage problems	<ul style="list-style-type: none"> <li>» How much do you usually store?</li> <li>» For how long?</li> <li>» Do you have storage problems?</li> <li>» Do you experience storage losses?</li> </ul>
Marketing Costs	Forms Proportions	<ul style="list-style-type: none"> <li>» What are your marketing costs?</li> <li>» What is their proportion?</li> </ul>
Grading and Sorting	Grading Incentive	<ul style="list-style-type: none"> <li>» Do you grade or sort?</li> <li>» Do better grades fetch higher prices?</li> </ul>
Market Information	Sources Spatial arbitrage	<ul style="list-style-type: none"> <li>» Do you get market information, e.g., on prices?</li> <li>» If so, from whom and how?</li> <li>» Is there a relationship between prices in different areas at given times?</li> </ul>
Price Formation	Market power	<ul style="list-style-type: none"> <li>» Who determines the price?</li> <li>» How is the price determined?</li> <li>» If the firm or individual is a price taker, find out why?</li> </ul>
Institutional and Legal Framework	Associations	<ul style="list-style-type: none"> <li>» Do you belong to an association?</li> <li>» Are there any market regulations? If so, what are they and how do they affect your business?</li> </ul>
Market Structure	Competition	<ul style="list-style-type: none"> <li>» Number of sellers</li> <li>» Is there price competition?</li> <li>» Is there non-price competition? If so, what for?</li> </ul>
Credit Availability	Sources and Type	<ul style="list-style-type: none"> <li>» Are there any credit institutions?</li> <li>» Do you use them?</li> <li>» What are their rates of interest?</li> </ul>

**Source:** Ferris S, Mundy P and Best R (eds.). 2009. *Getting to market: From agriculture to agroenterprise*. Baltimore, MD: Catholic Relief Services. (Available at <https://www.crs.org/sites/default/files/tools-research/getting-to-market.pdf>)

## Tool 2

### Key elements of market research in value chains

Lead questions and criteria:

(a) Is there a market and how can it be characterized?

- Types of products in demand (e.g., varieties and seasonality as well as product quality and packaging as preferred by the processing industry and/ or final consumers);
- Market size and trends (e.g., volumes traded, consumption of different consumer groups);
- Seasonality of market supplies (e.g., periods of over- and under-supply), demand peaks;
- Product prices (e.g., maximum & minimum prices, price trends, fluctuations, price range);
- Requirements of buyers in terms of quality, price, volume and reliability.

(b) Who are the competitors and how do they perform?

- Competing producers/value chains (e.g., imports, supplies from other regions);
- Performance of competing market participants (e.g., price, quality, market shares);
- Competitive advantages of competitors (e.g., market distance);
- Competing products (e.g., products used as substitutes).

(c) What are the conditions of market access?

- Existing distribution channels (e.g., industry, export or end consumer markets);
- Power of market participants (e.g., monopolies);
- Infrastructure of roads and market places (e.g., rural/urban markets, storage facilities);
- Product standards (e.g., laws/regulations on product safety, labelling or packaging);
- Tax and tariff regimes (e.g., customs tariffs on inputs, levies on road transport);
- Service offers facilitating market access (e.g., financial and information services).

*Source: GIZ. 2008. ValueLinks Manual; The methodology of value chain promotion. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ). (Available at <http://star-www.giz.de/dokumente/bib/07-0674.pdf>)*

## Tool 3

### Guiding questions for mapping and diagnosing the value chain

Mapping the Chain	<ul style="list-style-type: none"> <li>» What is the nature of the product(s) that define(s) the chain?</li> <li>» What are the core functions (processes of transformation) in the value chain?</li> <li>» Which types of actors participate in the value chain, what functions do they perform, and how many are there?</li> <li>» How do actors interact and organize the transaction of products?</li> <li>» Through what channels do products flow to end-markets and what are the volumes of these flows?</li> <li>» What types of supplies and services feed into the value chain?</li> </ul>
<b>Diagnosing the Chain</b>	
Sourcing of Inputs and Supplies	<ul style="list-style-type: none"> <li>» What are the characteristics of the primary products used in the value chain in terms of quality, quantity, price and availability?</li> <li>» Who are the primary producers and input providers?</li> <li>» How are they organized?</li> <li>» What support do they receive?</li> <li>» Under what contractual conditions do they sell?</li> <li>» What logistical activities are required to source inputs and supplies in the value chain?</li> <li>» How do firms manage logistics and what is the quality of logistics services that independent agents provide?</li> <li>» What are the frequency and the quality of interactions between buyers and suppliers?</li> <li>» In what way does the state of physical infrastructure, particularly roads, transport facilities, and transshipment points, impede the sourcing of products?</li> <li>» What are the common practices of communication and information exchange with suppliers and to what extent does trust exist in supplier relationships?</li> </ul>

Production Capacity and Technology	<ul style="list-style-type: none"> <li>» What is the current capacity of firms in the various segments of the value chain to produce, and how are they endowed in terms of human resources, machinery, facilities and other resources?</li> <li>» In what way do these capacities affect the level of production, transformation and processing?</li> <li>» What type of processing and transformation technology is currently used by principal companies in the industry?</li> <li>» What is the effectiveness and efficiency of this technology?</li> <li>» What technical, local, and other knowledge is being used in the value chain?</li> <li>» Who has access to knowledge and who provides knowledge? How is knowledge being shared and jointly developed?</li> <li>» How do the technologies used in the value chain compare with best practices in the country, the region, and in other parts of the world?</li> <li>» What options are available to innovate, extend or adjust production capacities and technologies in the value chain, and what opportunities exist for technological upgrading and product development?</li> </ul>
End-Markets and Trade	<ul style="list-style-type: none"> <li>» What are the main characteristics of the end-products of the value chain?</li> <li>» Which kind of products do consumers request, and what are their preferences with regard to quality and other product characteristics?</li> <li>» Which agents engage in marketing the products to consumers?</li> <li>» What are the perspectives of these buyers vis-à-vis consumer preferences and end-market developments?</li> <li>» What are the common practices and capacities in product marketing and trade?</li> <li>» What market exploration strategies and trade schemes do firms apply (past and present)?</li> <li>» Which firms and countries do value chain actors need to compete with?</li> <li>» How competitive are they in comparison?</li> <li>» What are common standard-setting and metrology practices and skills?</li> </ul>
Governance of Value Chains	<ul style="list-style-type: none"> <li>» Which are the dominant/lead firms in the value chain?</li> <li>» Which of those are local and which operate internationally/globally?</li> <li>» Do lead firms play a role in coordinating the value chain?</li> <li>» To what extent do they influence production and the use of standards?</li> <li>» To what extent are firms from developing countries engaged in high value added activities, and to what extent is value addition monopolized by dominant/lead firms?</li> <li>» What type of governance is prevalent in the value chain?</li> <li>» Is the governance type based on market, network, quasi-hierarchy or hierarchy arrangements?</li> <li>» What opportunities exist for upgrading and improved chain governance and what could be the possible impacts of these?</li> </ul>
Sustainable Production and Energy Use	<ul style="list-style-type: none"> <li>» What types of materials are used in the value chain?</li> <li>» Are they toxic, polluting or in any other way harmful to people and the environment?</li> <li>» What type of energy is used in the various segments of the value chain? What are the sources of energy? Is the energy used efficiently? Is there potential for using less energy?</li> <li>» Do the various activities in the value chain require a lot of water? Where is the water taken from? Is it sent back contaminated or non-contaminated? Are there water cleaning installations in place to reduce contamination? Are there measures to economize water use?</li> <li>» Are the raw materials used in the value chain produced in such a way that biodiversity could be reduced? Is the contamination affecting the biosphere and biodiversity?</li> <li>» What other kind of emissions, such as noise, smell and air pollution, are caused by activities in the value chain? Are there measures in place to keep them at a low level?</li> <li>» Do the various processes in the value chain produce many side products and waste? Is this waste treated or re-used, for example, to produce energy or fertilizer?</li> <li>» Where can new technologies and mechanisms for sustainable use of resources be applied in the value chain? How can the application be promoted?</li> <li>» Which of the available technologies for sustainable production and energy use can be most conveniently applied?</li> <li>» Is it possible to develop new products in the value chain that are ecologically friendly in terms of production and consumption?</li> <li>» Are there opportunities for scaling up the use of more sustainable technologies?</li> <li>» Where is it useful to train people to use technology appropriately or preserve resources?</li> <li>» How can the use of appropriate sustainable technologies be promoted?</li> <li>» Are there opportunities for campaigns to educate consumers about the use of products that comply with standards of sustainable production and energy use?</li> </ul>

Value Chain Finance	<ul style="list-style-type: none"> <li>» How do investors rate the attractiveness of businesses in the value chain in relation to other chains and other sectors?</li> <li>» How do investors rate the risks of financing activities in the value chain?</li> <li>» How do the legal system, financial infrastructure, and social norms and customs support or impede informal and formal financial transactions within the value chain?</li> <li>» How much, and what type of funding is actually provided by: a) informal financial sources; and b) formal financial institutions? Is there any form of specific value chain finance?</li> <li>» How much and what type of finance do businesses need?</li> <li>» Are there ways that financing can be improved for the benefit of some or all of the actors in the chain? How can government and donor support contribute to this? What would be the impact of this improvement?</li> </ul>
Business Environment and Socio-Political Context	<ul style="list-style-type: none"> <li>» How costly is it, and how much time does it take to set up and run a business in compliance with the regulatory and administrative requirements?</li> <li>» What trade regulations affect businesses in the value chain?</li> <li>» What complementary services, ranging from roads, to construction of houses, to education and research, are available to foster development in the value chain?</li> <li>» What social norms and institutions influence business culture and behaviour of actors in the value chain?</li> <li>» What ethnic groups, societal classes and gender groups are engaged in the various segments of the value chain? Can individuals of any other group participate?</li> <li>» Which institutions build the basis for trust and business relationships in the chain?</li> <li>» What social norms guide the contractual relationships established between buyers and seller?</li> <li>» Are there ways to support initiatives addressing macro level constraints that affect businesses in the value chain?</li> <li>» How can labour regulations be improved so that they benefit workers while maintaining profitable businesses?</li> <li>» How can a public-private dialogue be facilitated?</li> <li>» How can internal sales and export regulations be simplified and modified to increase the chances for more productive/competitive businesses in the value chain?</li> <li>» How can public and private support service providers be strengthened?</li> <li>» How can certain marginalized groups of society be empowered so that they are able to participate and benefit in the value chain?</li> <li>» How can sector-specific legal regulations be introduced and enforced?</li> <li>» How can access to basic infrastructure be improved?</li> </ul>

**Source:** UNIDO. 2011. *Industrial value chain diagnostics: An integrated tool*. Vienna, Austria: United Nations Industrial Development Organization (UNIDO). (Available at [https://www.unido.org/sites/default/files/2011-07/IVC\\_Diagnostic\\_Tool\\_0.pdf](https://www.unido.org/sites/default/files/2011-07/IVC_Diagnostic_Tool_0.pdf))

## Tool 4

### Indicative checklist per chain actor

#### Farmers (both women and men)

- Do you own or rent land?
- What kind of crop (millet, cowpea, sorghum and maize) do you produce and sell?
- How many kilograms of the above mentioned crops do you manage to sell weekly/monthly? (Data to be gathered per single crop); when do you sell the product?
- Any seasonal/monthly variation in sales of the above mentioned crops?
- How many hectares do you devote to millet, cowpea, sorghum or maize farming? (Data to be gathered per single crop).
- What is your yield per single crop in dry and rainy season?
- How much does it cost you to farm daily in dry and rainy season? (Production costs: (i) seeds; (ii) land preparation (man/day); (iii) weeding; (iv) harvesting; and (v) threshing). What are your post-harvest/storage costs and losses?
- What equipment/materials did you acquire in order to produce these crops? How much did they cost you?
- How much of labour did you require in order to produce these crops (number of workers, skills, work hours, wages by gender...)?
- Where and to whom do you sell your crops?
- What is the unit price of your crops?
- Do you have market information on price details per crop?
- Did the price at which you sold these commodities change in the past five years?
- Have you noticed any increase in crops sales?
- What are the difficulties you are facing as a smallholder and your strengths?
- Would you like to produce and sell more? What you think could help you produce more, at a better quality and lower cost (SWOT)?

#### Intermediaries (both women and men)

- Which crops do you buy and from whom do you buy them (farmers, collectors, assemblers... by sex/gender)?

- How do you transport commodities?
- How much do you pay for the fuel necessary to transport these commodities?
- How many kilograms/tons/bags of crops do you buy in dry and rainy season?
- How much do you pay per kg per crop in dry and rainy season?
- Which is the form of payment – credit or cash?
- Who buys the crops from you (e.g., retailers, wholesalers by gender)?
- How much do you sell the commodity (@per kg) in dry and rainy season?
- Do you sell daily/weekly/monthly all the quantity of crops you bought?
- Did you sell these commodities at the same price throughout the past five years? Over the next year is there room for business increase of crops?
- Have you noticed any increase in crops sales?
- What are the difficulties you are facing as intermediary and your strong points?
- What do you think would help poor farmers produce more, and at a better quality?

#### **Processors (example, sunflower) (both women and men)**

- How long have you been processing sunflower seeds for edible oil making?
- Is sunflower oil production your main source of income/primary activity?
- How many are the family components (women, men, children...) helping you in processing activities?
- From whom do you buy the seeds (by gender)?
- What is the quality of the seeds you buy? Do you make any sort of quality control?
- Where do you store it?
- How many kilograms do you buy daily on average in the dry season? How many in the rainy season?
- How much do you pay for sunflower seeds per kg in the dry season? How much in the rainy season?
- What is the form of payment?
- How much does it cost for you to process sunflower seeds for oil making in the dry season? How much in the rainy season?
- Can you please show me where you process the seeds?
- What type of sunflower oil do you produce?
- How much do you sell sunflower oil per litre in the dry season? How much in the rainy season?
- Did you sell the oil always at the same price in the past five years? If not, how much have you sold in the last 5/4/3/2/1 years? How many litres of sunflower oil have you sold yearly in the last 5/4/3/2/1 years? (Trends in supply of sunflower oil)
- Who buys the sunflower oil (by gender)? What is the major problem in your processing business?
- What are the difficulties you face as a processor and your strong points?
- How do you measure the quality of sunflower seeds?
- What is the maximum price you are willing to pay to get higher quality and larger quantity of sunflower seeds?
- What type of arrangement do you have with your business counterpart?
- Is your business expanding or declining? Has it grown or decreased over the last five years?
- Have you invested in new machineries? Have you hired new people?
- Over the next five years, is there room for business increase?

#### **(Open Market) Retailers (both women and men)**

- Which crops do you buy and from whom do you buy them (farmers, collectors, wholesalers...by gender)?
- How many kilograms of crops do you buy daily in dry and rainy season?
- How much do you pay per kg per crop in dry and rainy season?
- Which is the form of payment – credit or cash?
- By whom is the crop bought (by gender)?
- For how much do you sell the commodity per kg in dry and rainy season?
- Did you sell these commodities at the same price throughout the past five years? How many kg did you sell in the last 5/4/3/2/1 years? (Trends in supply of crops)
- Have you noticed any increase in crops sales? Over the next five years is there room for business increase of crops?
- Do you sell daily all the quantity of crops you bought?
- What are the difficulties you are facing as intermediary and your strong points? (SWOT)
- What do you think would help poor farmers produce more and at a better quality and lower costs?

#### **Consumers (both women and men)**

- What type of crops do you prefer/consume more?
- How many kilograms of crops do you buy daily in dry and rainy season?
- At what price do you buy them (per kg per crop) in dry and rainy season?
- Did you buy the commodities always at the same price in the past five years? If not how much have you paid in the last 5/4/3/2/1 years? How many kg have you bought daily/weekly in the last 5/4/3/2/1 years? (Trends in demand of crops)

- From whom/where do you buy the crops?
- How do you find the quality of crops you usually purchase?
- What is high/low quality of crops, according to you?
- Would you like to pay a higher price for better quality (more hygienic, tastier, fresher, better

**packaged/labelled, etc.) crops? What is the maximum price you would pay per crop per kg?**

- What do you think could incentivise you to buy more crops? Lower cost or better quality?
- Do you think Farmers Associations could be a winning strategy to achieve the above mentioned conditions? (SWOT)

**Supporting services (for example, government officials)**

- What is the crops production peak?
- Do you import crops? If so, have you developed any strategy to substitute import and develop the national economy?
- Do you subsidize the production?
- Who decides the price throughout the year? The market or is it administratively decided, depending on the season?
- What are the coping strategies against difficulty of production during the dry season?
- Do you provide any kind of support to poor farmers? And to Farmers Associations (FAs)?
- Are (FAs) registered or accredited anyhow?
- What is the local government's engagement vis-à-vis the improvement of farming and quality? And vis-à-vis poor farmers?
- Have you so far developed any support strategy to ease crops market chain (production/collection/processing/retailing)? At which stage of the chain do you specifically intervene?
- Do you see any role for FAs in supporting farming?
- Where do you see strengths and weaknesses of the market chain?
- Which policies do you think would help poor farmers produce more, at a better quality/hygiene/better packaging and labelling, and lower cost?

**Technology (disaggregated by gender)**

- What kind of equipment/material and techniques do you use? For how long have you been using them?
- Why do you invest in these equipment, materials and techniques?
- Who decides on the choice of the equipment, materials and techniques to be used?
- Can the equipment and materials be repaired or reproduced in the community or by you?
- Are you pleased with the results you get by using the equipment and materials?
- Are you pleased with the results you get by applying the techniques?
- What costs do you incur in acquiring and applying the techniques?
- What improvement would you suggest?
- Are the costs involved in the improvements incurred by you? Do they add enough value worth the costs incurred?
- Who provides you with the knowledge you need in order to do your work? Do you have easy access to that knowledge?

*Source: Issa Sanogo. 2010. Market analysis tool: How to conduct a food commodity value chain analysis? World Food Programme. (Available at [https://documents.wfp.org/stellent/groups/public/documents/manual\\_guide\\_proced/wfp226670.pdf](https://documents.wfp.org/stellent/groups/public/documents/manual_guide_proced/wfp226670.pdf))*

## Tool 5

### General Tools

#### 1. Prioritizing value chain for analysis

- » Determine criteria and build understanding of priorities; Weighting of criteria;
- » Identify a list of potential products/activities;
- » Ranking of products/activities.

#### 2. Mapping the value chain

- » Mapping the core processes in the value chain;
- » Identifying and mapping the main actors involved in the processes;
- » Mapping flows of products;
- » Mapping knowledge and flows of information;
- » Mapping the volume of products, numbers of actors and jobs;
- » Mapping the geographical flow of the product or service;
- » Mapping the value at different levels of the value chain;
- » Mapping relationships and linkages between value chain actors;

- » Mapping services that feed into the value chain;
- » Mapping constraints and potential solutions;
- » Making a value chain map matrix.

## Qualitative Tools

### 3. Governance: Coordination, regulation, and control

- » Map actors;
- » Determine the demand and supply conditions of the value chain;
- » Determine the dominant coordination arrangement(s) in the value chain;
- » Analyse how target populations participate in the value chain;
- » Identify rules and regulations;
- » Analyse impact of rules on value chain participants (including enforcement, rewards, and sanctions);
- » Analyse target sector knowledge and awareness of rules, norms and standards, and identify key gaps;
- » Analyse how information and services are provided internally through the value chain and externally.

### 4. Relationship, linkages and trust

- » Map respondents and create categories;
- » Identify dimensions;
- » Survey actors;
- » Analyse the results of the survey;
- » Identification of power distribution;
- » Analyse trust.

### 5. Analysing options for demand-driven upgrading: Knowledge, skills, technology and support services

- » Analyse (mapping and diagnosis) the variation/differences in knowledge, skills and technology in the separate processes in the value chain;
- » Determine and describe standards along the chain (both in terms of market demand and supply);
- » Identify distinct market chains based on applied knowledge, skills and technology, and product grade levels achieved;
- » Identify opportunities for upgrading in knowledge, skills and technology for improving market chains;
- » Analyse which options are within reach of the poor (in terms of knowledge level, investment, use, etc.);
- » Analyse which services should be provided to assist the upgrading and who are the potential available service providers.

## Quantitative Tools

### 6. Analysing costs and margins

- » Opportunity costs or financial costs;
- » Costs and required investments;
- » Calculating revenues per actor;
- » Calculating financial ratios;
- » Changes over time;
- » Relative financial position of actors in the value chain;
- » Benchmarking;
- » Going beyond the quantitative data.

### 7. Analysing income distribution

- » Define categories;
- » Calculating incomes per unit of output;
- » Calculating the net income at each level of the value chain; Calculate the wage income distribution;
- » Calculate income variability over time;
- » Appraising the place of income in livelihood strategies;
- » Comparing incomes across different value chains.

### 8. Analysing employment distribution

- » Define the categories of actors;
- » Determining employment at each level;
- » Calculate the employment distribution at different levels of the value chain;
- » Analysis of the employment distribution contribution;

- » Determine the impact of governance on employment;
- » Determine the impact of technology structures on employment;
- » Determine the employment variability over time.

**Source:** M4P. 2008. *Making value chains work better for the poor: A toolbox for practitioners of value chain analysis; Version 3.* UK: Making Markets Work Better for the Poor (M4P) Project, Department for International Development (DFID). Agricultural Development International: Phnom Penh, Cambodia. (Available at <http://valuechains4poor.pbworks.com/f/V4P+Toolbook+v3+Final.pdf>)

## Exercises

### Exercise 1

Important functions and enablers for effective value chains

Functions	Enablers
Integration	
Value Addition	
Infrastructural Development	
Market Development	
Research and Development	
Extension and Advisory Services	

### Exercise 2

If you were given responsibility by your department/organization, what specific element of the value chain would you seek to improve first?

Which crop in your region could be improved most dramatically by applying the value chain? Would improvements of primary or support activities help to improve the value chain?

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# Unit VII: Challenges and Limitations of Value Chain Extension

## Objectives

- Discuss the common mistakes in value chain thinking;
- Review the challenges and limitations of value chain extension.

## Introduction

A value chain encompasses the flow of products, knowledge and information, finance, payments, and the social capital needed to organize producers and communities. Value chains are mainly controlled by multinational or national firms and supermarkets, capturing a growing share of the agri-food systems in the country. The availability and quality of domestic suppliers is a key determinant for participation in companies/private firm-based value chains. On the other side of the coin, small farmers and women are more disadvantaged because they lack access to capital, resources, infrastructure, training and market players. This requires a sustainable agriculture value chain based on modern technology, diversified agricultural products, and integrated small farmers.

Important barriers to developing a value chain are the lack of an enabling environment offering institutional and infrastructural support, availability of resources, and efficient and effective coordination in value chains. A general understanding and appreciation of new trends in the agriculture value chain, especially of multi-disciplinary challenges, is essential. Therefore, integrated solutions are necessary to support knowledge-management, collaborative ICT solution, risk management, and regulation management across the many agriculture stakeholders. This can be rectified if appropriate steps are taken by government, non-government agencies and private sector involved in agricultural production, marketing and export-related activities.

## Discussion

### Common mistakes in Value Chain Thinking

Dent (2017) has identified five common mistakes people make that prevent them from benefiting fully from Value Chain Thinking.

- The **first** mistake is to think, 'It's too hard. It will take time and persistence'.
- The **second** mistake is to make assumptions. These might include expecting those downstream to understand what consumers value in the product. However, most retailers sell a large number of products, so they struggle to give attention to every product, to the inevitable detriment of individual value chains. Farmers also often assume they know what affects shopper behaviour; when often they do not. They can be a long way from the market, and not have access to reliable or up-to-date information. Perhaps farmers understand commodity markets, where products are standard, but they rarely have much experience of smaller, niche markets where higher returns can be found. In addition, farmers may be men, whereas shoppers are often women, who will make decisions on a different basis.
- The **third** mistake is going it alone. Value Chain Thinking only works through collaboration, both to ensure the 'right product reaches the right market' opportunity, and that the resulting higher returns are shared.
- The **fourth** mistake is selecting the wrong partners. Not everyone is a potential partner, since some suppliers and customers will not be willing or able to go through the changes in set behaviour.

- The **final** mistake is giving up. Value Chain Thinking is challenging, but the alternative is to return to acting like a supply chain and competing on price, which typically keeps farmers' incomes well behind the growth in other sectors.

## Challenges in value chain projects (Reddy and Reddy 2015)

- Fixing the wrong thing;
- Failing to draw a line in the sand;
- Inability to quantify the benefits of the change;
- Shortage of value chain experts;
- Significant risks;
- Communicate with the right people;
- Plans for sustaining change.

## Limitations of Value Chain Analysis

There are many ways of analysing a value chain. For example, value creation can be disaggregated between each link in the chain, as well as within each link. Some chains are merely a directional map which is, in itself, valuable for beginning to understand the actors and processes that intervene to create value for particular consumers. However, agencies and other sponsors that commission value chain analysis often find that the analysis as implemented is insufficient and cannot be used to guide them in making informed decisions — particularly in deciding on actions that will greatly impact the value added, rather than merely reducing costs. Indeed, many of these analyses have a common weakness: the tendency to focus excessively on cost efficiency or breakouts of cost

components. While efficiency in production is increasingly becoming a necessary condition for penetrating global markets, it will not ultimately determine sustained participation and increased incomes for value chain participants. Webber (2007) has explained a few examples of some related analytical weaknesses and challenges:

### Value chains are not fixed or static

It is important to recognize that value chains are not fixed in terms of composition, relationships, or market positioning, and that there is a competitive need to alter and improve the value chain in light of strategic choices that businesses can make regarding the markets in which they compete. While a value chain's purpose is to link production to the target market advantageously, it is the private sector that decides which markets and where to compete — and alters the value chain accordingly. Value chain analysis too often focuses simply on improvements within the given value chain, rather than on how value chains can be shifted to target different, more attractive markets and business strategies.

### Market dynamics matter

Value chains can be helpful instruments for serving the needs of a particular market sector, but focusing on a static value chain can also mask the need to segment and customize products for different markets. The key elements of building sustainable competitiveness are a solid understanding of market dynamics and a thorough analysis of the attractiveness of potential market segments and the competition. Businesses must choose which products and which markets can be served

**Table 6: Advantages and disadvantages of modern agricultural value chains**

Advantages	Disadvantages
Increased employment in modern retailer outlets and in their dedicated supply chains;	Higher investments are necessary for some crops and infrastructural development of modern value chains;
Improvement in food quality as farmers follow good agricultural practices (GAP) and consumers receive better value foods;	If and when traditional wholesale markets are superseded by modern distribution sector the former may become cheap clearing houses for low quality produce;
Modern distribution outlets now focus on leaner supply chains to attract all types of consumers — bringing down consumer retail prices;	Grading of agricultural produce, which is very important in modern value chains is difficult and markets in developing regions are still not very adept at it;
General development of agri-business farms to supply the modern distribution sector and export markets;	There is a danger of small and marginal farmers being squeezed out of the value chains due to their inability to produce sufficient amounts of the required quality;
There is transfer of technology from contracting agencies to farmers, which helps in improving their technological know-how.	Contract farmers often have grievances against contracting agencies with regard to transparency or its lack; Also, there is a risk of crop failure after high investments in non-traditional crops.

*Source: Cadilhon et al. 2006*

competitively, and base their goals and strategy on good market analysis.

### Quality and service are also important

Similarly, excessive focus on delivering a product (especially a commodity) may hide opportunities to deliver a package of products and services that the market or customer will find desirable. Too often, value chain analysis is not designed to help businesses and planners weigh choices about delivering product quality, information, and service.

### Considering the environment in which a value chain operates

Often, value chain analysts fail to properly consider the business environment in which the value chain operates. In doing so, the analysis can fail to identify potential interventions for improved business and value chain performance. Government regulations, international standards and agreements, and market forces typically shape the business environment. Michael Porter's Diamond for describing competitiveness, shown in the accompanying figure (Figure 33), is a useful framework for considering the factors that determine a value chain's business environment.

### A simple cost analysis will not do

Certain value chain analyses merely depict a cost build-up per activity in producing a value chain without mapping the actors involved or identifying the value that is captured at each link of the chain. The cost build-up, and benchmarking it against competitors, will obviously provide ideas on areas for improvement. But the analysis will probably not shed light on which activities generate more value, whether the product can be produced at a competitive price for other markets, how well the chain is integrated, or how easily information flows through it. More importantly, a simple cost build-up will tend to focus on interventions that improve on costs, rather than on repositioning the whole chain into more lucrative markets and products.

### Shifting value within a value chain, rather than creating more value

As mentioned earlier in this section, donor agencies and governments have sometimes used value chain analysis to identify and protect threatened links along chains. Additionally, some stakeholders continue to look at value chain analysis as a zero-sum game focused on shifting value from one link of the chain to another. This cutthroat perspective obscures opportunities to upgrade the whole system to the benefit of all value chain participants.

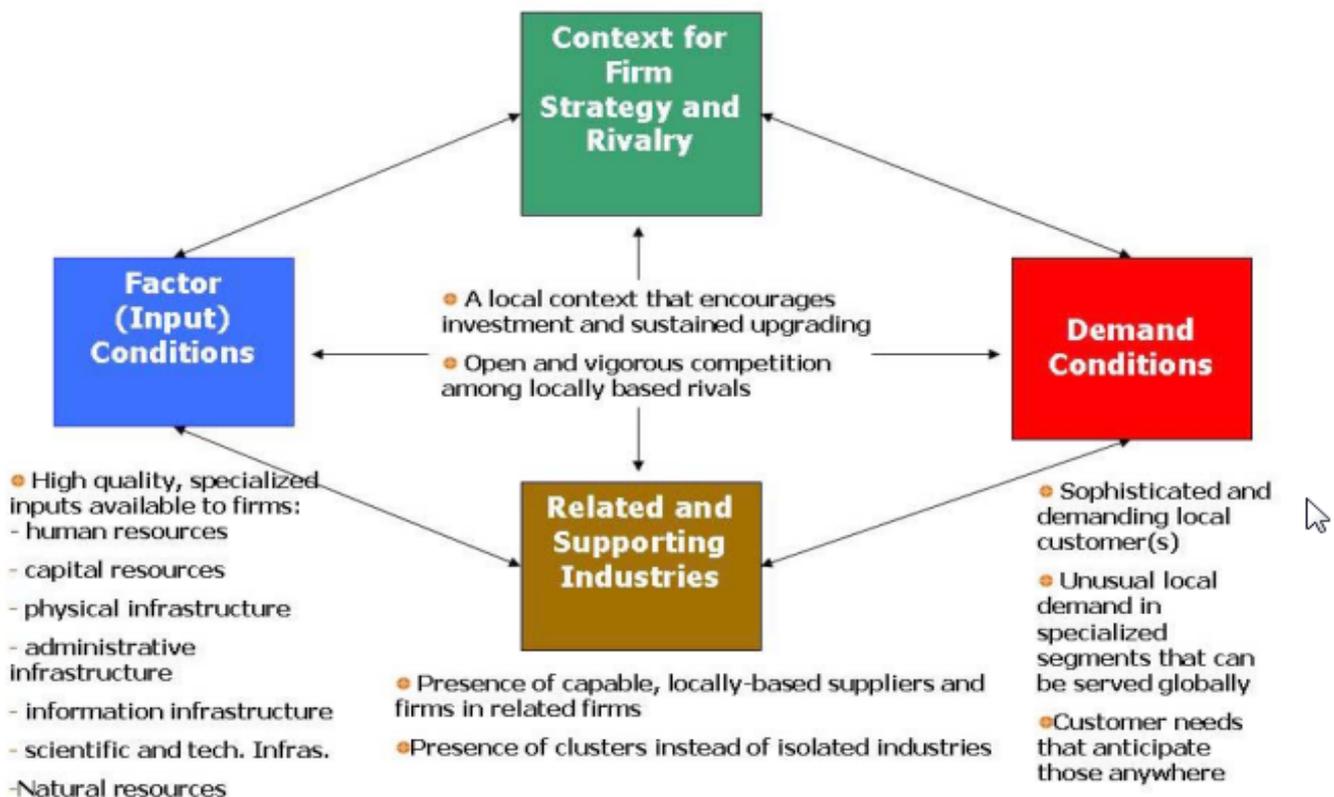


Figure 33: Competitiveness Diamond

Source: Michael Porter

## Limitations of value chains

Although the value chain approach has been proven as a highly successful methodology, it does not solve all the problems that farmers experience. In spite of its success in extension services, the value chain does have a number of limitations, including:

- Farmers may be extremely effective and efficient at growing a particular product (for example, high quality coffee), while remaining extremely poor;
- Market forces are beyond the control of farmers, and market prices for a single commodity can plunge to below production costs, sometimes for many years.
- Value chain projects also tend to work on only one product that a farmer grows. Most farms produce a multitude of different products, but the support they need in order to be competitive in honey or fish production will not be provided by coffee value chain interventions;
- In the most advanced cotton value chain, farmers may still find that they are not making ends meet if the entire farm is considered as an enterprise; and
- Many smallholder farmers need help with farm planning, as well as additional support in other areas, such as:
  - » Being food secure;
  - » Effectively running a mixed model farm; and
  - » Improving the overall well-being, diets, education and medical needs of their families by using their farm assets optimally.

### Box 13. Value chain obstacles and constraints

#### Poor Business enabling environment

- Corruption;
- Monopolies limit political voice for the sector and/or smallholder farmers;
- Quality standards;
- Major political, economic, or market shocks;
- Global trade barriers or dumping.

#### Inadequate Physical infrastructure

- Inefficient transportation systems;
- Intermittent or unavailable electricity or other utilities;
- Lack of productivity enhancing technologies.

#### Human capabilities and social norms

- Societal norms around women's roles, mobility, and involvement in market transactions;
- Levels of education and literacy;
- Management and business skills.

*Source: McKague and Siddiquee, 2014*

## Beyond value chains

Despite these limitations, value chain methods are not likely to disappear soon and the approach has many aspects that are attractive to farmers and companies alike. However, since there are limitations, extension agencies need to consider these challenges when creating the next generation of support services.

New approaches must consider the profile of farmers in the future in terms of questions such as:

- Will the next generation of farmers be younger than the current average of 55 years?
- Will they be better educated?
- Will more farms be fully operated by women when the men migrate to urban jobs?
- Will farm sizes continue to reduce or will there be a new type of rural investor who starts to collect land to improve the economies of scale for farm lots?

The next generation of farmer support interventions will need to understand trends in the rural farm space fully and find new ways of combining:

- Working with different types of institutions;
- Public and private partnerships;
- Single value chain enterprise options versus whole farm business planning;
- Developing diversification plans from the outset of a project;
- Part time/off farm livelihood strategies;
- New financial models; and
- Use of ICT in knowledge brokering and market linkage.

### Box 14. Action Steps in managing value chain relationships, strategy decisions aimed at maximizing performance

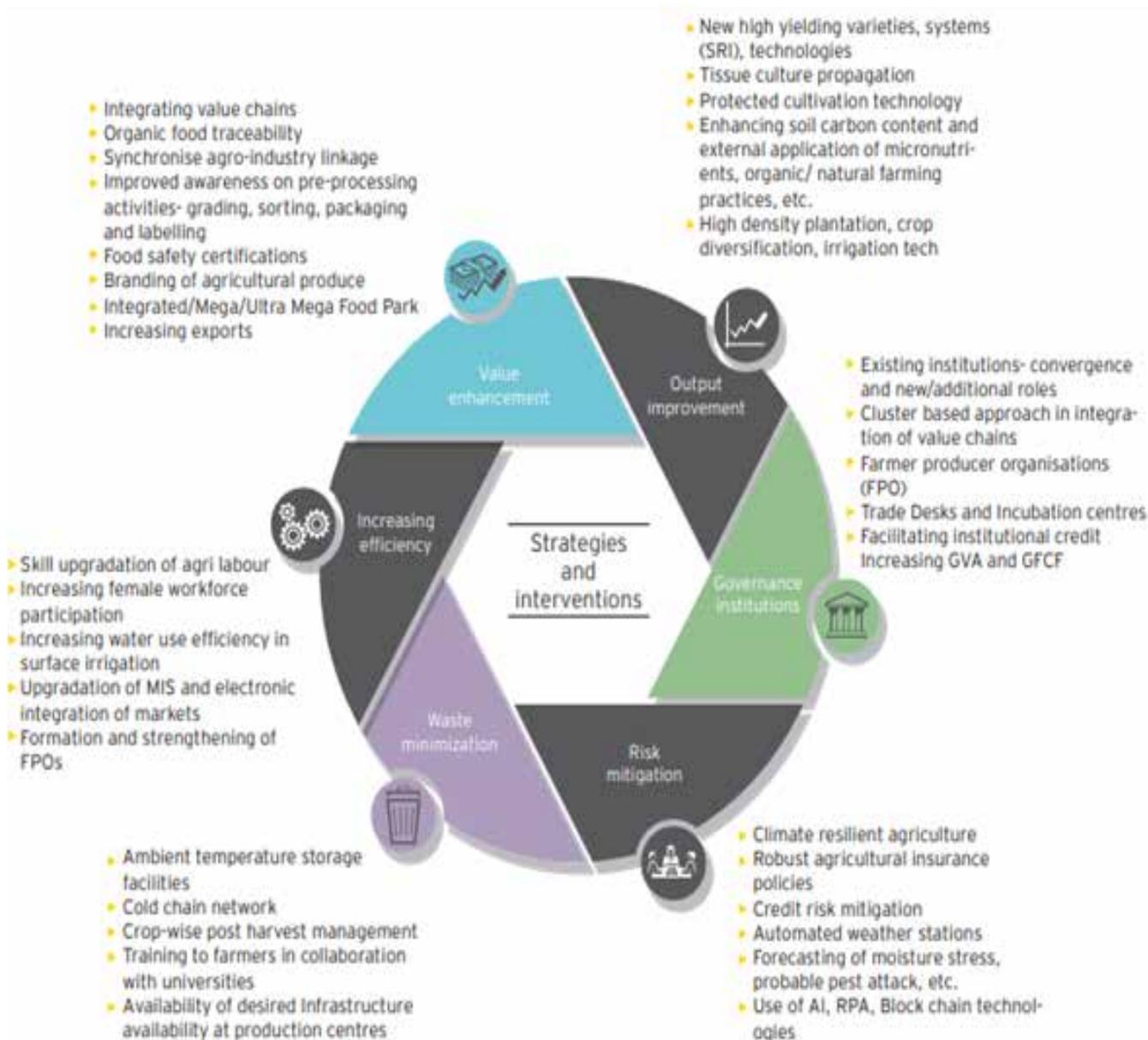
- Deal with the root cause of the value chain problem;
- Mark a threshold level – above that something is not unacceptable and manage resources closely;
- Visibly and constantly articulate goals and benefits;
- Supervise and build up a plan to mitigate value chain risks;
- Ensure time to communicate properly;
- Embrace the complexity of managing change in the global environment.

## Connecting farm and industry: Through value chain empowerment

Value chains can address unmet market demands and opportunities by establishing associations/cooperatives/companies to combine resources to add value; investing in new technologies, building infrastructures, through joint ventures and building capacities and realizing the potential of the actors in value chain. EAS has a significant role to play in meeting both purposes.

## Conclusion

This unit emphasise on the dos and don'ts in the value chain development. It provides an overview of important obstacles in the VCD which an extension personnel need to tackle like lack of an enabling environment offering institutional and infrastructural support, availability of resources and efficient and effective coordination in value chains. Therefore and extension personnel should be equipped with integrated solutions to support the knowledge-management, collaborative ICT solution, risk management and regulation management across agriculture stakeholders for a successful value chain development.



Source: EY and ASSOCHAM 2018.

Figure 34: Connecting farm and industry through value chain

# Tools

## Tool 1

### 4V framework for value chain development and strengthening linkages

<b>Minimizing Value</b>
<ul style="list-style-type: none"><li>▪ Promote production of in-demand varieties and grades;</li><li>▪ Improve supply chain and storage infrastructure to cut down wastage;</li><li>▪ Crop planning – introducing crop diversification, multi cropping and staggered production techniques.</li></ul>
<b>Maximizing Value Creation</b>
<ul style="list-style-type: none"><li>▪ Establishing processing and marketing infrastructure for farm produce through private investments leveraging government support;</li><li>▪ Attracting big brands, retailers, e-tailers and promoting local brands/entrepreneurs with the ability to export and market large quantities of available surplus after processing as strategic partners with the farmers to help maximize the 'processed to produce ratio'.</li></ul>
<b>Higher Value Capture</b>
<ul style="list-style-type: none"><li>▪ Sorting, grading and packing know-how for fresh product retailing;</li><li>▪ Creating FPOs (like Producer Companies) which have part ownership of supply chain, and enabling them to form market linkages with end buyers;</li><li>▪ Promotion of out-grower model between buyers and FPO farmer members to minimize market risk for the farmer.</li></ul>
<b>Value Added Services for farmers</b>
<ul style="list-style-type: none"><li>▪ Sustainable farming techniques together with enhanced use of high quality climate resilient and pest resilient crops for improved productivity;</li><li>▪ Enhanced availability of credit and insurance products for farmers;</li><li>▪ Ecosystem development for service oriented agripreneurs;</li><li>▪ State-level institution for market development and regulation;</li><li>▪ Economic and market information and intelligence services (EMIS), including price information mechanism for farmers;</li><li>▪ Establishment and operations of the Project Coordination Unit (PCU);</li><li>▪ Setting up of Monitoring and Evaluation (M&amp;E) system.</li></ul>

**Source:** EY and ASSOCHAM. 2018. *Connecting farm and industry: Through value chain empowerment*. Ernst & Young LLP and The Associated Chambers of Commerce and Industry in India. (Available at [https://www.ey.com/Publication/vwLUAssets/ey-connecting-farm-and-in-dustry/\\$File/ey-connecting-farm-and-industry.pdf](https://www.ey.com/Publication/vwLUAssets/ey-connecting-farm-and-in-dustry/$File/ey-connecting-farm-and-industry.pdf))

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# Annexure

## EXERCISE

### MARKET VISIT

**Duration: Half-day visit**

- The market visit needs to be structured keeping in view the market, business, and actors in the value chain discussed in the manual.
- The participants are expected to learn from the different market value chain actors.
- The members should work in sub-groups to be able to conduct the most number of interviews and observations within the limited time.
- It is important to have adequate preparation for the market visit.
- The sub-groups should choose a leader who can facilitate the planning and execution of the interviews, including who is responsible for what task, clarifying the checklist of data/information to be gathered for each chain actor, and by direct observation, note-taking, analysing the collected data/information, and organizing the report-back to the group.
- During the interviews with a limited number of chain actors, participants should gather and record information about other chain actors as well.
- Also, facilitators must have made prior arrangements with the appropriate agency or chain actors for the market visit.
- After the interviews and direct observation in the field, participants return to the session venue for the discussion, analyses of fieldwork outputs, organization and sharing of outputs.
- The market visit should be scheduled at a time when most chain actors are present and accessible.
- Synthesis can be done by the facilitator.
- In addition to summarizing the outputs of the market visit exercise, noting the initial supply and market chain maps, the synthesis should emphasize the importance of the exercise in identifying additional supply and market chain actors, so as to understand how to contact and better engage them in the value chain.

### Code of conduct during Field Visits

- |  |  |
|--|--|
| ▪ Adhere to the local customs;             | ▪ Keep a low profile                         |
| ▪ Observe;                                 | ▪ Be punctual;                               |
| ▪ Be neutral, don't ask leading questions; | ▪ Stick to your groups;                      |
| ▪ Be energetic;                            | ▪ Follow your instructor;                    |
| ▪ Be ready to learn something new;         | ▪ Take notes;                                |
| ▪ Listen;                                  | ▪ Take permission before taking photographs. |
| ▪ Enjoy the experience.                    |  |





## Training Module on Value Chain Extension

This Module is intended to assist trainers engaged in capacity development of the agricultural Extension and Advisory Services (EAS) staff on linking farmers to more efficient value chains. Extension, related to markets and prices, traditionally had low priority as the focus so far has been mostly on enhancing productivity of crops and other enterprises. Only recently has EAS started advising farmers on how to market farm produce. This includes education on better understanding of what the market demands (quality, price trends), mobilizing farmers for group marketing, and establishing market linkages. Having a market orientation implies linking farmers to more efficient value chains and this indicates that EAS must meet the needs of a range of actors – not just farmers. It also involves activities, such as value chain mapping and analyses, stakeholder facilitation, developing and implementing quality standards, negotiating contracts and quality standards with processors, and finding solutions for logistical problems, like storing, packaging, and transporting of produce.



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