Umed
Maharashtra State Rural Livelihoods Mission

LARSEN & TOUBRO
Public Charitable Trust

IRMA
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UNDP

THE ENTERPRISE LEADERSHIP MANAGEMENT PROGRAMME

Community Cadre Training under Project Uddyam

Implementing partners:

CMS™
SOCIAL IMPACT SPECIALISTS

vrutti™
LIVELIHOOD IMPACT PARTNERS
Ensuring small producers are 3 times more profitable.

Enterprise Leadership Management Programme

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About the Enterprise Leadership Management Programme

Catalyst Management Services (CMS) has been working with UNDP to improve income of 3000 families and strengthen community cadres and marketing linkages for sustainable livelihoods across Talasari in Palghar, Maharashtra. This project is within the Uddhyam Partnership between L&T Public Charitable Trust and UNDP.

The community cadre has been trained to ensure sustainability of Agri-Livelihoods across Talasari. The objective of the training is to develop the capacity of a pool of community cadre on agri-allied livelihood activities for enhancing their understanding and implementation capabilities. The focus will be to understand the key concepts, strategies and mechanisms to implement in the field

The key modules of the course curriculum are:

- Production Management
- Agricultural Business Transformation Pathway
- Input Supplies and Output Marketing
- Post Harvest and Value Addition
- Diversification Activities
- Institutions, Operations and Governance

Training Principles:

The training is grounded on the following basic principles:

The training will focus on facilitating and realising a person's capabilities and individual potential, by building upon their lived experiences and native wisdom.

It will be focussed not on information, but of mutual learning to stimulate thinking, reflection and action.

The training won't be restricted to episodes of classroom sessions but sustained through continuous engagement with the field situations.

The training will ensure participation of all members by ensuring various pedagogical methods, and provide additional support for people who may struggle in classroom sessions.

Training Approach:

This module helps the participants to understand the production management and challenges faced by farmers in Talasari. Through this module, the participants can aim to set out good agriculture practices which can be implemented by farmers to improve the quality of produce. It will help the participants analyse the current market practices, their aspirations and the market demand. This will be followed by a vision building exercise.

Subsequently, the participants do a deep dive into the business potential of input supplies, market value chain and marketing management for agro-commodities; the need for value-addition of agricommodities, and operations and marketing management for Agri-commodities; need for diversification of livelihood activities into allied and non-farm activities of Talasari; and institutional form and operational mechanisms to realise the objectives.

Foreword

Women are always at the forefront of fostering lasting transformation of communities and societies. However, millions of women and girls continue to face numerous socio-economic barriers and have been left behind in many ways despite economic growth. Women's participation in the Indian workforce is one of the lowest in the world, and they continue to remain invisible in the rural economy, even though over 65% of female workers in India are engaged in agriculture. UNDP in India has focused on promoting women's economic empowerment through projects that focus on building their agency and enabling them to make informed choices by enabling them to acquire marketable skills and avail employment or entrepreneurship opportunities. One such project is Uddyam, undertaken by UNDP with support from the Larsen and Toubro Public Charitable Trust (LTPCT) and the Maharashtra State Rural Livelihoods Mission (UMED), which focuses on agri and allied interventions, revival and promotion of Warli art and strengthening the last mile government service delivery ecosystem in Talasari Block of Palghar District, Maharashtra.

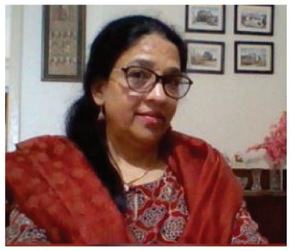
Nurturing the leadership potential of women through entrepreneurial skills has been the cornerstone of UNDP's work. Building on this, the development and roll out of the 'Enterprise Leadership Management Programme' (ELMP) for women community cadres under Project Uddyam is an outcome of UNDP's previous experience and on ground insights. The ELMP aims to create women managers for farm and non-farm producer companies and other collectives by enhancing the role of women in value chains. It recognizes the inherently powerful nature of beyond-production roles for women. Through ELMP, women gain the skills to

manage backward linkages with farmers as well as forward linkages with buyers and manage the systems and processes of collectives. The curriculum presented in this manual is focused yet broad enough to provide the flexibility necessary for contextualization and is a unique blend of experiential learning with field visits and live demonstrations.

I would like to thank LTPCT, UMED, our on-ground partner Catalyst Management Services (CMS) and the Project Uddyam team for their excellent work under the project and for developing this very useful and relevant course curriculum. I would also like to thank Institute of Rural Management, Anand (IRMA) for their guidance in making this curriculum effective. 100 rural women in Talasari block have already been certified under this course and have been equipped with critical leadership, management and entrepreneurial skills.

This manual is designed to serve as a reference and practical document for use by local bodies, enterprises, civil society organizations and community-based organizations for skills development, leadership development and capacity building programmes in their own organizations. I hope that the manual is found useful by stakeholders and provide guidance for empowering women as managers in rural communities.

Amit Kumar
Head, Inclusive Growth
UNDP



LARSEN & TOUBRO
Public Charitable Trust

LTPCT Introduction

Rural women increasingly run their own enterprises, yet their socio-economic contributions and entrepreneurial potential remain largely unrecognized and untapped. They are concentrated in informal, micro-size, low productivity and low-return activities. Women still face challenges in running enterprises due to cultural norms, gender prejudice,digital divide in the marketplace and most importantly lack of opportunities for need based and quality capacity building.

Larsen & Toubro Public Charitable Trust always strives hard to create opportunities for quality learning for women which would enhance not only their knowledge but also self esteem. 'Enterprise Leadership Management Programme for Women" in Talasari block of Palghar District under the aegis Uddyam Project is one these efforts.

I am pleased to congratulate the team of Project Uddyam partners i.e. UMED Team, UNDP, Vrutti CMS and also IRMA- Gujarat for designing the manual and imparting training with certification. It is a step towards enhancing capacity, self esteem and promoting dignity of women entrepreneurs at the last mile. I would like to thank UNDP, UMED, CMS- Vrutti and IRMA team for their innovative, collaborative and inclusive way to empower women enterprises in Talasari. We hope this initiative at Talasari would be replicated by many and the manual will contribute to build women entrepreneur capacities which is still a largely untapped source of social and economic development

Yours sincerely,

Gayatri Mishra Oleti,
Joint General Manager & Head - L&T Public Charitable Trust
Corporate Social Initiatives,

IRMA
Partner Statement

Make in (Rural) India: The Rural Turn in Entrepreneurship

The ongoing pandemic has significantly disrupted our production and food systems with indications of increasing inequality and many households returning to poverty after many Indians having made significant gains, 27 crore people going beyond the poverty line in the decade from 2005-2015. The latest State of Working India report from the Azim Premji University estimates 23 crore Indians being pushed beyond the poverty line since the pandemic. Not all of the 10 million migrants who returned to their villages have gone back to work and unemployment in both rural and urban areas is increasing.

India has seen a remarkable growth in start-ups in the last decade with business magazines full of news of young, (highly) educated Indians raising, and making, millions through a constant flow of international capital into India. However, there is a significant inclusion deficit in India's entrepreneurial story. The plethora of incubators and entrepreneurship awards continue to cater to a very small segment of India's young population. If catering to the vast, untapped entrepreneurial energies of rural Indians was a much-needed course correction before the pandemic, the pandemic makes it an imperative. Adding the 'rural' to popular slogans like "Make In India", "Stand up India" is not just a political correction but a much needed focus and development intervention.

Rural India has shown both its resilience as well as continuing relevance to make India both safe and strong. While agriculture was the only bright lining with a positive growth rate in 2020-2021, even as other sectors had negative growth, there is a limit to its absorption capacities. There is a need for a large number of jobs that need to be created in India in the coming decade.

The State of India's Livelihoods (SOIL) report of 2020 estimates that India might need to add close to 120 million livelihoods in the next decade. A significant part of this will have to come from rural India and small towns. How do we make the labour force ready to transit from the current, termed by Vijay Mahajan as "inadequate, insecure and indecent' to more dignified livelihoods? How do we skill our new generation into entrepreneurs who could grow organically and serve as role models for their communities? Is the ecosystem of training programmes from a plethora of institutions sufficient?

IRMA's own learning through years of working in the rural areas and more specifically on rural, collective and social enterprises in recent years has shown the need for customized entrepreneurship development programmes that build the confidence of the youth to experiment, innovate and build. Through our "Building and Managing Social Enterprises" program we realized that the need for customized training is much higher in rural areas and that there is a need to rethink the way we impart entrepreneurship in rural areas. Going vernacular is not an easy process of translation from English to Hindi or Marathi, but a process that makes us rethink assumptions of management knowledge that often draws from established organisations in very different contexts.

We are happy to be associated with Vrutti and the Catalysts group in facilitating this process of taking entrepreneurship to the remote villages of Talasari. A lot of effort has gone into developing this curriculum and I would like to congratulate the team of trainers and course module curators of the Uddyam Initiative with partnership between UNDP, LTPCT and CMS/Vrutti for creating a good and replicable module for entrepreneurial leadership. We hope that the young women would develop both the skills and confidence to set up their enterprises in the future and lead the communities towards sustainable development.

C. Shambu Prasad

Professor, Strategic Management

CATALYST GROUP Partner Statement

About 85% tribal population in Talasari block is engaged in agriculture either full time or part time cultivators. Out of which 70-80% are farmers and the remaining 20-30% are agriculture labourers. The average land holding size is less than one acre and agriculture considered for consumption rather livelihood.

The CMS Vrutti Uddyam core partnership with UNDP and LTPCT has well demonstrated as an effective multi stakeholder partnership between Government, Private Sector, UN and the Community resulted an impact on SDG-aligned social transformation. The convergence intervention developed a Talasari as a model block within short span of time with special focus on poverty reduction of 3000 families with an end to end approach in agriculture and allied domain.

The CMS Vrutti brought a transformational impact in the lives of tribals, which is visible in terms of Increased incomes and economic well-being of the families, Improved human development outcomes, with incredible transform of agriculture scenario from consumption and traditional agriculture to entrepreneurial agriculture.

To sustain this intervention, a key strategy undertaken to train and build the capacity of a pool of women community cadre on an agri entrepreneurial skills through “Enterprise Leadership Development Programme” (ELMP). ELMP is a certification programme developed by partnering with ‘Institute of Rural Management, Anand (IRMA)’ which is one of the countries prestigious rural management institute. IRMA is guided in curriculum finalization which was developed by CMS-Livelihood Practice team with consultation of key ecosystem players. As part of this around 100 cadres are developed as agri entrepreneurial managers and awarded with qualified certification by IRMA.

The programme is blend of theory and practical field demonstration with lived experiences and native wisdom. It’s highly appreciated CMS Vrutti Talasari team who delivered in the field in difficult COVID 19 pandemic situations without compromising the quality through innovative approaches by following all COVID protocols. The support rendered by UNDP PMU team and block UMED team in grounding the training is significant and remarkable. The developed 100 agri entrepreneurial managers are ready to continue and take forward the current interventions and available for upcoming rural development interventions in the area.

Here, first I would like to thank UNDP and LTPCT for wonderful opportunity for us to build the local women cadres as leaders and entrepreneurial managers for developing their own agri eco system. Also graceful to Prof. C Shambu Prasad for accepting and bringing IRMA as co - partner in developing curriculum and IRMA’s certification. Special appreciation to local women cadre who participated in the training and make successful certification programme. Last but not the least a special gratitude and thanks to Talasari community who supported to gain field knowledge and situations to the trainees.

We, hope the curriculum developed and available is well served to meet its objective and also very beneficial to develop a thousands of local community cadres to impact the millions of smallholder farmers in the country.

N Raghunathan

Founder Catalyst Group

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MODULE 1

Production Management

Module Description

This module helps the participants to understand the production management and challenges faced by farmers in Talasari. Through this module, the participants can aim to set out good agriculture practices which can be implemented by farmers to improve the quality of produce

Module Objectives

- Understanding the crop production cycle
- Promote and practice sustainable agriculture
- Understand the constraints of small farmers in implementing GAP
- Understand the perspective of farmers on food safety
- Soil, water and land management

Module Outline

	SESSION	MINS
DAY 01	**1. INTRODUCTION**	**120**
	• About the Training	60
	• Overview of the training content	60
	2. CURRENT AGRICULTURAL PRACTICES & IDENTIFICATION OF BEST PRACTICES	**135**
	• Brief the objective	15
	• Setting the Context - Existing crops and Bottlenecks	45
	• Brainstorming	30
	• Classroom discussion	45
	3. UNDERSTANDING CROP PRODUCTION CYCLE	**195**
	• Setting the context	30
	• Activity and Discussion - Production practices	45
	• Activity and Discussion - Calendar of production plan	45
	• Activity and Discussion - Seed/Varieties mapping	45
	• Classroom discussion	30
DAY 02	**4. PROMOTE SUSTAINABLE AGRICULTURE PRACTICES**	**530**
	• Setting the context	30
	• Activity and Discussion - Sustainable agriculture practices	45
	• Activity and Discussion - Advantages and Disadvantages	45
	• Activity and Discussion - Inputs and Resources	45
	• Activity and Discussion - GAP	45
	• Activity and Discussion - Technology components	45
	• Activity and Discussion - Change in cropping pattern	45
	• Activity and Discussion - Farm Machinery	45
	• Activity and Discussion - Pests, Manures and Fertilizers	45
	• Activity and Discussion - Preventive Measures	60
	• Discussion - Bio fertilizers and Application methods	60
	• Conclusion - Key point discussion	20

DAY 03	**5. UNDERSTANDING CONSTRAINTS OF SMALL FARMERS IN IMPLEMENTING GAP**	**225**
	• Setting the context and discussion	30
	• Activity and Discussion - Constraints/Yield constraints and reasons	45
	• Activity and Discussion - Quality parameters	45
	• Activity and Discussion - SWOT	45
	• Activity and Discussion - Cost of GAP cultivation	45
	• Conclusion and discussion	60
DAY 04	**6. UNDERSTAND PERSPECTIVE OF FARMERS ON FOOD SAFETY**	**180**
	• Introduce the topic and Discussion	30
	• Activity and Discussion	45
	• Activity and Discussion	45
	• Conclusion and discussion	60
	7. LAND, SOIL AND WATER MANAGEMENT	**105**
	• Micro irrigation - Classroom discussion	15
	• Context setting	45
	• Q&A discussion - Importance of Land, Soil, Water Management	30
DAY 05	**7. LAND, SOIL AND WATER MANAGEMENT (CONTD.)**	**105**
	• Activity and Discussion	45
	• Discussion on Methods of locally grown crops	30
	• Conclusion and Key point discussion	30
	8. RECALL EXERCISE - ASSESSMENT	**90**
	• Audio visual activity	30
	• Quiz	20
	• Conclusion and Takeaways	40

TOTAL DURATION (MIN): 1565 MIN

Session 1:
Welcome & Introduction

Session Summary

OBJECTIVES:
By the end of the session, participants will be able to:
- Know the other participants
- Establish their expectations
- Know the overview of content
- State the training objectives

EXPECTED TIME: 4 hrs

REQUIRED MATERIALS:
Flipchart and markers, overhead projector, Index cards, Name tags and name tents, Prize(s)—folder, pen, key chain, and so on.

ACTIVITY:
Brainstorming questions and answers followed by discussions.

Session Notes:

WELCOME:
- (4 minutes) Representatives from the host or partner organization welcomes participants and opens the workshop.
- (4 minutes) Remarks from official guests.
- (2 minutes) Introduction of and handover to trainers.

INTRODUCTION:
- (10 minutes) Open the session by making the following points to participants:

Welcome, and let's get started.

Training Objectives

Our mission is to build capabilities of the local people
- To improve the incomes of 3000 families in Talasari to INR 36,000 per year.
- To identify opportunities to increase income and reduce vulnerability.
- To manage an agri-business by farmer members from the Village Organisation and Gram Panchayat.

How will we reach our Mission?

- With the support of: Individual Farmers, Farmer Producer Groups and Community Cadres.
- Develop the capacity of a pool of 100 community cadres on agri-allied livelihood activities for enhancing their understanding and implementation capabilities.

Role of Community Cadres

- Will act as mentors for agri-business to deliver agri-advisory services to farmer members of Village Organisations.
- Will support in strengthening systems and processes for Village Organisations for production and market linkages.
- Deal with Farmers, SHGs, VOs and Farmer Producer Groups.
- Formulate goals and strategies, identify business opportunities.
- Facilitate different services to farmer members.
- Information, training and orientation to members.
- Maintain books of account.
- Deal with support agencies - banks, APMC, etc.

Our Expectations

- Be committed and attend all sessions seriously.
- Ask us questions if you don't understand something.
- Try to solve the classroom exercises.
- Take homework very seriously.

Overview of Modules:

Module 1: Production Management
Module 2: Agricultural Business Transformation Pathway
Module 3: Input Supplies and Output Marketing
Module 4: Post Harvest and Value Addition
Module 5: Diversified Activities
Module 6: Institutions, Governance and Sustainability

What would this mean for the Farmers?

- Increase in yield and income sustainably.
- Affordable, high quality seeds and sustainable inputs.
- Markets that pay fair prices for agri-commodities.
- Grow healthier produce.
- Improved nutrition and health.
- Increased participation by women and young people in farming
- Provide livelihoods.

Session 2: Current Agricultural Practices & Identification of Best Practices

Session Summary

OBJECTIVES:
By the end of this session, participants will be able to:

- Understand the changing scenario in agricultural practices and its impact on existing farming system.
- Identify new best practices and its impact and relevance to socio- economic situation.
- Understand implications of GAP with regard to adoption for small farmers.

EXPECTED TIME: 90 minutes

REQUIRED MATERIALS:
Flip charts and markers

ACTIVITY:
Brainstorming questions and answers followed by discussions.

Session 1: Notes

Welcome the participants and brief them on the objectives of this module.

- Understanding the changing scenario in agricultural practices and its impact on existing farming system.
- Identification of new best practices and its impact and relevance to socio- economic situation.
- Understanding of implications of GAP with regard to adoption for small farmers.

Tell the participants that the handout outlines the crop life cycle production management, good practices and cultivation cost to all locally grown crops.
Existing Cropping Pattern and Average Productivity.

Existing Cropping Pattern and Average Productivity

Cropping Pattern	Average productivity per acre	Bottlenecks	GAP - to resolve
Rice	6-10 Quintals	The health of land - not providing nutrient content to land, after the harvesting in case of lower production	Practice of ploughing in the rainy season. Immediate after the harvesting of rabi. Spray the cow dung.
Chilli	3 Ton	Not applying biomass compost, manure. Spacing is not there. Frequent water is needed (Water problem is there)	Plough the land with disc harrow followed by three cross ploughing with cultivators.
Bottle gourd	5 Ton	Land is compact - root system not deepened.	Ploughing the land by tractor minimum one feet and loosening the land
Cluster bean	700-1000 Kg	They don't put plant on the border during transplantation and plant won't get enough water	Changing the plough and cultivating row pattern
Tomato	2-2.5 Ton	No adoption of improved practices. No sufficient water. Not selecting the crop based on market requirements	Selection of good variety. Vermicompost, Biomass fertilizer application

Introduce the Topic

Facilitate brainstorming with the participants regarding the good agriculture practices Afterwards, share the key benefits of good agricultural practices. Benefits are shared below for discussions.

BENEFITS:

- Good Agricultural Practices can reduce the risk of harmful contamination of your produce

- Quality and shelf-life of your product is maintained and spoilage reduced
- Good Agricultural practices can reduce the cost of cultivation

CLASSROOM DISCUSSIONS:

- What are good agricultural practices?
- Who benefits from the GAPs?
- How should good agricultural practices be implemented?
- Bacteria causing plant disease also generally affect food safety (TRUE/FALSE)
- Is the crop/cropping system suitable for local weather parameters such as temperature, rainfall, seasons and agro-ecological situations?
- Is there any opportunity to go for intercropping, mixed cropping, crop rotation, etc.?
- What were the previous experiences with regard to the crop/cropping systems that you are planning to choose?
- Good Agricultural Practices can significantly minimize the environmental hazards. (TRUE/FALSE)

Key Takeaways

Security for people:
- Improve worker and consumer conditions
- Enhance the Agricultural
- Family welfare
- Improve food security

Food Safety:
Healthy food, not contaminated and of higher quality to improve nutrition and food consumption.

Environment:
- No contamination of water and soils
- Rational handling of agro-chemicals
- Concern about Biodiversity

Animal welfare:
- Animal care
- Adequate feeding

Session 3: Understanding Crop Production Cycle

Session Summary

OBJECTIVES:
By the end of this session, participant will be able to:
- Understand the production practices
- Prepare the calendar production plan
- Know the prevailing good seed varieties

EXPECTED TIME: 3.15 Hours

REQUIRED MATERIALS
Board, Projector, Sticky pads, Flipcharts and markers

Session Notes:

Set the context by pitching the question to the participants.
- Would farmers be willing to change the outdated production practices?

Participants have shared the answers, ask them about the benefits of good production practices. At last, share a few key benefits to the larger group.
- Reduction in cost of farm inputs
- Promoting the adoption of improved, higher-yielding varieties of seed
- Promoting new context specific crops, intercropping, mixed cropping pattern
- Increase the production and productivity
- Improvement in the quality
- High return on sale or commodity

Activity - Production practices

- Divide into 5 groups and take one locally growing commodity
- Ask the group to recall the past (5 years before) and present practices of crop in lifecycle stage

EXERCISE FORMAT

Crop cycle-Stage	Past (5 years or before)	Present	Reasons for change
Land preparation			
Crop selection			
Varietal selection			
Seed treatment			
Fertilizer application			
Sowing			
Harvesting			
Marketing			

Key points - Production practices

- Improvement in quality of farming system
- Interpret the changes in crop and seed varieties - Biodiversity
- Get the current farming systems and improvement in technologies and practices

Introduce the next topic

Now move to the next activity 'Calendar of production plan'
Start the discussion about the necessity of crop calendar
Ask participants and discuss why this crop calendar?

- Contains information on planting, sowing and harvesting periods of locally adapted crops in specific agro-ecological zones.
- Supports farmers in taking appropriate decisions on crops and their sowing period

Group Activity - Calendar of production plan

- Divide into 5 subgroups and ask participants to prepare the calendar of crop production plan for locally grown crops
- Ask each group to share the crop calendar of each commodity
- Ask them to interpret the same

EXERCISE FORMAT-SAMPLE CROP CALENDAR FOR PADDY

CROP CYCLE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Land preparation						✓						
Seeds					✓							
Seeds selection					✓							
Seed treatment						✓						
Fertilizer application						✓	✓		✓			
harvesting										✓		
Marketing											✓	✓

Discussion

Conclude the activity by highlighting and asking participants that how they determine the

- Plan for input purchase and use
- How much labor, equipment and finance will be required

Activity - Seed/Varieties mapping

- Determine the varieties of indigenous seeds present within the particular area.
- Organize the participants into 5-6 groups and select one locally grown commodity
- Map the existing biodiversity of the region
- Each group will come out with the participants varieties of each commodity

EXERCISE FORMAT

Commodity	Varieties before 5 years	Prevailing varieties	Reasons for change
Crop 1			
Crop 2			
Crop 3			
Crop 4			

Classroom discussion:

Conclude the activity and share with the participants

- Traditional and improved varieties
- Hybrids and pollinated varieties
- Ensuring seed quality: certified seed and quality declared seed
- Choosing the appropriate crop and variety by which farmers have access to seed

Conclude the objective and explain the benefits of Good Agricultural Practices and it fosters:

1. Security for people

- Improve farmer and consumer condition
- Improve food security
- Enhance the agricultural family welfare

2. Environment

- No contaminations of water and soil
- Rational handling of agro chemicals
- Concern about biodiversity
- Promotion and application of Biomass Pesticides
- Promotion of organic farming,
- Promotion of Vermicompost and compost

3. Food Safety

- Healthy food, Improve nutrition

Session 4:
Promote and Practice Sustainable Agriculture

Session Summary

OBJECTIVES:
By the end of this session, participant will be able to:
- Learn about the sustainable agricultural practices
- Know the advantages and disadvantages of cultivation methods
- Know the cultivation technologies

EXPECTED TIME: 4 Hours

REQUIRED MATERIALS:
Flipcharts and markers, Board, Sticky pads

ACTIVITY:
- Group exercise on sustainable agriculture practices of 5 commodity
- Mapping advantages and disadvantages of GAP and sustainable measures
- Group exercise to understand the vital agricultural inputs and resources

Session Notes

Before getting into the group activity, explain the participants about various methods or practices of Sustainable farming
Some of the methods are,
- Integrated pest management
- Crop Rotation - Keep soil healthy and nutritious
- Avoid soil erosion
- Better water management

Group Exercise - Steps

For the next discussion, make sure to conduct all the activities continuously with specific times for each activity.
Explain the participants about the activity,
- Activity 1 - Sustainable agriculture practices of crop life cycle

- Activity 2 - Sustainable measures - Advantages & Disadvantages
- Activity 3 - Inputs and resources
- Activity 4-6 - Sustainable agriculture practices - Seed treatment, Manures/fertilizers and Pest control

STEPS:
- Then explain the framework of all exercises to participants one by one.
- For each activity, give a specific time for group discussion and ask participants to present it in the class. Give your reflection and conclude each activity.
- Follow the same for all activities.

Activity - Sustainable agriculture practices

- Divide the participants into 5 subgroups. Each group takes one commodity which is grown locally
- Put the appropriate no of days from date of sowing for each crop life cycle stage
- List the remarks/reasons for any delay or advance in crop cycle

EXERCISE FORMAT

Crop cycle-Stage	Days from date of sowing	Remarks/Reasons for delay or advance
Land preparation		
Seeds		
Seeds selection		
Seed treatment		
Fertilizer application		
Harvesting		
Marketing		

Activity - Advantages and Disadvantages of Sustainable practices in Agriculture

- Work in 5 groups and see if you can brainstorm some of these sustainable measures.
- Fill in the table below based on the group discussions that should identify both the shortcomings and advantages of each method.

EXERCISE FORMAT

Agricultural Activity	Sustainable measures	Advantages	Disadvantages
Tilling			
Land clearing			
Chemical applications			
Addition of inorganic fertilizers			
Irrigation			

Activity - Inputs and resources for agriculture

- Organize into 5 teams with the participants and complete the table below based on your discussions.
- Describe vital agricultural inputs and resources

EXERCISE FORMAT

Agriculture Activity	Inputs	Resources
Rice	Seeds, Machinery, human labour, pesticides, fertilizer	Land, Water (Rainfall), Energy, soil nutrients
Tomato		
Chilli		
Bottle gourd		
Cluster bean		
Horticulture		

Activity - Sustainability practices in Agriculture

- Work in a group of four members and see if you can brainstorm some of these sustainable practices.
- Fill in the table below based on the group discussions that would bring the current practice and good practice of crop life cycle
- List the reasons for not practicing it.

EXERCISE FORMAT

Crop cycle	Current practice	Good practice	Remarks/Why not practicing?
Land preparation			
Seeds			
Seeds selection			
Seed treatment			
Fertilizer application			
Harvesting			
Marketing			

Activity - Sustainability practices in Agriculture

- Divide into groups and take one commodity each.
- Fill in the table below based on the group discussions that would bring the cultivation technology component
- List the technology component of each commodity.

EXERCISE FORMAT

Commodity	Technology components
Crop 1	Seed treatment: Plant distance: Fertilizer application:
Crop 2	Seed treatment: Plant distance: Fertilizer application:
Crop 3	Seed treatment: Plant distance: Fertilizer application:
Crop 4	Seed treatment: Plant distance: Fertilizer application:

Group Activity - Classroom discussion

- Let us understand - manures, fertilizers and plant needs (focus on major commodity grown in Talasari)
- Ask which manures and fertilizers they know; discuss their significance, advantages and disadvantages
- Divide into a group and take one commodity

EXERCISE FORMAT

Manures and Fertilizers, they know	Significance	Advantages	Disadvantages

Activity - Sustainability practices in Agriculture

- Work in a 5 groups of four members each according to the participants and see if you can brainstorm some of these sustainable farming practices on pests/diseases control.

EXERCISE FORMAT

Commodity	Pests/ Diseases	Pest control strategies	Remarks
Tomato	Nematodes, Leaf Miner, White flies, Thrips, Mites etc.	Use of IPM practices (Insect trap sticky cards, planting of trap crops etc.) Keep the nursery weed free by hand pulling the weeds. Use raised beds. Staking of plants to avoid touching fruits on ground. Infected plants should be removed carefully and destroyed.	Deep summer ploughing of the field to control nematodes. Application of optimum NPK doses.
Rice	Leaf blast, Brown spots, Sheath rot, Sheath blight etc.	Remove weeds from bunds, use only disease-free seedlings, Foliar spray after observing initial infection of disease. Seed treatment before sowing. Seedling root dipping in the biological fungicide solution before transplantation in the main field.	Avoid excess nitrogen application (Use 50% basal, 25 % in tillering phase & 25% N in panicle initiation stage)
Chilli	Bacterial leaf spot, wilting, Mites, Aphids & White flies, Damping off, Powdery mildew, Nematodes etc.	Apply neem cake at the time of transplanting. Apply neem cake at the time of transplanting. Use of IPM practices. Use raised beds. Foliar spray of chemical & biological insecticides & pesticides after observing initial infection. Transplanting of disease-free seedlings. Infected plants should be removed carefully and destroyed.	Use crop rotation.

Commodity	Pests/ Diseases	Pest control strategies	Remarks
Bottle gourd	Alternaria leaf blight, bacterial leaf spots, Downy mildew, Stem blight Powdery mildew	Use only certified seeds. Any diseased plants should be removed and destroyed to prevent further spreading. Do not overcrowd plants. Avoid overhead irrigation. Plant in sites with good air circulation and sun exposure. Plant only in well drain soils. Use new seed at each planting.	Use crop rotation. Use of reflective mulches.
Cluster bean	Anthracnose, Bacterial blight, Alternaria leaf spot,	Foliar application of fungicide and insecticide after observing initial infection. Use certified disease-free seed. Keep the field free from weeds. Avoid excess irrigation. Use a wide row spacing. Avoid excessive nitrogen fertilizer.	Use of resistant varieties.
Sapota	Fruit fly, Bud Borer, Stem Borer, Leaf Miner, Leaf Spot, Leaf blight, Leaf blight, Sooty Mould, Anthracnose, Mealy bug, White flies	Select a variety resistant to major pest, follow proper spacing, Soil health improvement, Monitor the field situation regularly, Set up yellow sticky traps at mid canopy level for monitoring leaf miner & whiteflies, Foliar spray of Insecticide & pesticide	
Mango	Anthracnose, Sooty Mould, Hopper, Mealy bug, Fruit fly, Stem borer	Spray fungicide at 15 days interval during flowering to control blossom infection, pruning of affected branches to prevent the spread of disease, Spray pesticides at early stage of panicle formation	

Group Activity - Cropping patterns

- Divide the participants into 5 groups, make them sit and ask them to recall the cropping pattern before 10 years and present
- List the reason for change in cropping patterns

EXERCISE FORMAT

Season	Cropping pattern (Before 2010)	Change in cropping pattern (Present 2020)
Rabi	Crop 1 - Crop 2	Crop 1 - Crop 2
Kharif	Crop 3 - Crop 4	Crop 3 - Crop 4

Conclude the Activities

- Tell the participants that these activities are to better understand the practices of sustainable farming in Talasari.
- Conclude the discussion by highlighting how important it is and enable the participants to understand how he/she can improve farming practices to make it sustainable.

Key Points Discussions

- Increase overall income. When crops are grown individually, individual crops may give better yield. But when crops are grown together individuals yield of crops reduces but total yields are higher.
- Overcomes risk of growing one crop
- Intensification reduces
- Infestation reduces
- It increases the intensity of cropping. And due to intensive cropping, small farmers can increase their income.

Farm Machinery

List down the uses and types of farm equipment used for land preparing, soil and plant fertilizing, harvesting and transportation.

EXERCISE FORMAT

Purpose	Implements/Machinery	Uses
Land Preparation		
Planting Transplanting		
Fertilizing and pest control		
Irrigation		
Harvesting and Threshing		

Agriculture Technology Mapping

The technology map will indicate the technology decision behaviour of the farmers, in terms of adoption, over-adoption, reinvention, rejection and discontinuance with reference to the agricultural technologies.

EXERCISE FORMAT:

Category	Technology	Tech Adoption	Reason
Paddy	System of Rice Intensification (SRI) Technology	Transplantation of seedlings with optimum spacing between crop to crop & row to row.	To use external inputs to produce optimum rice yield. Inducing a larger and better- functioning root system.

Key Discussions:

Purpose	Implements/Machinery	Uses
Land Preparation	• Mini Tractor • Rotavator	Ploughing, levelling, bunding, Fertilizer mixing in soil, muddy field preparation
Planting Transplanting	• Trays	To Transport the plant /seedlings safely
Fertilizing and pest control	• Hand Spray pump • Power spray	Spraying pest or input dose through water mixture
Irrigation	• Engine • Electric Motor	To irrigate land by drip, sprinkler or flood irrigation
Harvesting and Threshing	• Cutter • Thrasher	To cut the crop from the root and thresh the crop to separate from tusk

- Availability of farm equipment
- Accessibility of farm machinery and equipment
- Sources of credit for access
- Income improvements are achieved by lower input costs and higher productivity.

Pest and Disease Management

To understand the participants should know how pests and diseases behave in each crop.

Group Activity

- Divide into a group of 5 teams and ask participants set of questions in understanding the pests and diseases attacks in locally grown crops.
- Each group can take one crop and ask them to discuss following questions in the group

Questions for group discussion

Pests:

- At what stage of the lifecycle is a pest: larvae, caterpillar or adult?

- At what stage of plant growth does it attack: seedling, growing or mature plant?
- Which part of the plant does it attack: leaves, roots, stem, fruits, seeds or the entire plant?
- What kind of damage does it cause: chewing, sucking or the death of the plant?
- When does it attack: dry season or wet season?

Disease:

- What is the cause of the disease: virus, bacteria or fungus?
- How is the disease transmitted: by seeds, through the soil, by air or by insects?
- At what stage of plant growth does it attack: seedling, growing or mature plant?
- Which plant part is attacked: leaves, roots, stem, fruits, seeds or the entire plant?
- When does it attack: in the dry season or the wet season?

Preventive Measures

Crop	Pests/Diseases	Preventive Measures
Chilli	• White flies • Thrips • Mites • Powdery Mildew • Bacterial Leaf Spot	• Use of Yellow or Blue sticky traps • Use of Reflective mulches • Remove plants that shows virus signs • Use of whitefly exclusion screening • Timely removal of host crops or weeds • Use of Biological Pest & Insect controlling solutions • Use of chemical insecticides & Pesticides if necessary • Proper plant spacing or Canopy management for reducing humidity
Paddy	• Green leafhopper • Stem borer • Bacterial leaf blight • Rice blast • Brown spot • Sheath blight	• Control weeds in the field and on the bunds • Transplant older seedlings (>3 Weeks) • Use of disease resistant varieties • Seed treatment with biocontrol agent Trichoderma viride • Balance dose of nitrogen fertilizer • Spray the crop in main field twice with Mancozeb@0.2%, once after flowering and second spray at milky stage • Deep ploughing in summer

Crop	Pests/Diseases	Preventive Measures
Brinjal	• Damping off • Phomopsis blight • Leaf spot • Alternaria leaf spot • Fruit rot • Bacterial wilt • Mosaic of Brinjal • Little leaf of brinjal	• Healthy seed should be selected for sowing • Seed treatment with Thiram @ 2g/kg • Removal & destruction of affected plant parts • Spraying with pesticide and insecticide • Use of barriers of trap crops • Timely removal of host crops or weeds • Crop rotation with Bhindi, Tomato, Potato should be avoided.
Cluster bean	• Bacterial blight • Alternaria leaf spot • Anthracnose • Powdery mildew	• Resistant varieties and certified seed should be used for sowing • Seed should be treated with ppm of streptomycin for 3 hours. • Spray of streptomycin after 25 days of sowing @7.5 gm per 15 litre • Frequent spraying of pesticides & insecticides • Timely removal of host crops or weeds
Bottle Gourd	• Alternaria leaf blight • Anthracnose • Cercosporin leaf spot • Downy mildew • Powdery mildew	• Application of protective fungicides and insecticides • Use of plant resistant varieties and certified seeds • Any diseased plants should be removed and destroyed to prevent further spread • Do not overcrowd plants • Avoid overhead irrigation • Plant in sites with good air circulation and sun exposure

Key Discussions

- The chemical Fertilizers and Pesticides affect the quality of agriculture produced in conventional practices, but bio fertilizers and bio pesticides are referred as sustainable friendly systems.
- Bio fertilizers are low-cost renewable sources of plant nutrients which supplement the need of plant nutrition and reduce the use of chemical fertilizers.
- Used from seed treatment to soil application.

Bio Fertilizers and Application methods

Crops	Bio fertilizers	Applications methods
• Green Chilli • Cluster bean • Bottle gourd • Paddy	• N Biofertilizer • Phosphotika • Trichoderma	• **SEED TREATMENT-** Suspend 20gm N Biofertilizer & 20 gm Phosphotika in 30 ml of water & mix thoroughly. Mix this paste with 1 kg seeds & dry in shade. Sowing is done immediately. • **SEEDLINGS ROOT DIPPING-** 500 gm of each of two biofertilizers is mixed in sufficient quantities of water. Dip the roots of seedlings in this suspension for 30-40 min. Before transplanting. • **SOIL TREATMENT-** Mix 4 kg of each of the given biofertilizers in 200 kg of compost and leave it overnight. Apply this mixture in the soil at the time of sowing or planting. • **TRICHODERMA-** Drench the soil near the stem region with 10g Trichoderma powder mixed in a litre of water. It is used extensively for soil borne diseases.

Key Takeaways

- One advantage of sustainable agriculture is eliminating typical farming practices which often take up large amounts of fertile land through a single crop approach.
- Lower prices. Farmers don't have to spend money on artificial fertilizers because the soil is healthy and replenishes itself.
- Proper adoption and managing of GAP increase the quality of the products
- This leads to enriched soil and prevention of the spread of diseases and pest outbreaks
- These can fetch best prices in the market
- During crop rotation, plants are seasonally rotated and this results in soil enrichment, prevention of diseases, and pest outbreaks.
- Intercropping, mixed cropping, layer cropping
- Uses of water saving technology
- Crop rotation is useful to make soil healthy and and increase the production.

Session 5: Understanding the Constraints of Small Farmers in Implementing GAP

Session Summary

OBJECTIVES:
By the end of this session, participant will be able to get:
- Understand the strengths and weaknesses of sustainable farming
- Work out the strategies for yield improvements
- Understand the challenges faced by small farmers in implementing GAP

EXPECTED TIME: 4 Hours

REQUIRED MATERIALS:
Flipcharts and markers, Board, Sticky pads

ACTIVITY:
- Mapping the cultivation problems and reasons for each commodity
- Group exercise to understand the producers/consumers judgement on the quality factors in various commodities.
- Group exercise to indicate the yield constraints and improvement

Session Notes

SETTING UP THE CONTEXT
Tell the participant that the objective is to understand the constraints or challenges faced by small farmers.
Ask each group to select a commodity that they grow locally and ask them to answer the following questions with regard to the chosen commodity.

FACILITATE/WRITE IN THE WHITE BOARD:
- What are some of the constraints or problems you might experience when producing the crops?

Group Activity

Take one locally grown commodity and discuss cultivation constraints in each crop lifecycle
- Organize them in 5 groups
- Ask the group to write the problems they face in production/sales
- List down the reasons

EXERCISE FORMAT

Crop cycle-Stage	Problems	Reasons
Land preparation		
Crop selection		
Varietal selection		
Sowing		
Fertilizer application		
Harvesting		
Marketing		

Group Activity - Yield constraints and improvements

- Break into 5 subgroups, discuss and fill the yield information in subgroup
- Indicate simple strategies for yield maintenance in the same table.

EXERCISE FORMAT

Commodity	Yield in your region	Yield constraints	Yield improvements
Rice	1500-2000 kg/Ha	Water availability, market access, seed quality & variety	Appropriate seed quality & variety, improved marketing
Tomato	3000 kg/Acre	Improper staking to plants, Selection of local varieties, No special care while land preparation and bed preparation	Timely foliar spray of insecticides & pesticides, Adoption of Micro-irrigation system, Optimum application of fertilizers
Chilli	3000 Kg/ Acre	Improper spacing between plants, Excess application of fertilizers during the vegetative growth stage	Optimum application of fertilizers during the various growth stages, Adoption of micro irrigation system, Use of Mulching, Basal dose application, Disease free seedlings selection
Bottle gourd	1800 kg/Acre	Low spacing between plants, Improper staking to Plants, Less nutrients availability because of low input of required fertilizers, Less attention towards pest & disease management.	Use of high yielding variety, Plough the field to fine tilth, Form raised beds, Use of seedlings transplantation method, Application of NPK throughout the cropping period through split application.

Commodity	Yield in your region	Yield constraints	Yield improvements
Cluster bean	1150 kg/Acre	Improper spacing between the plants, Low spacing between rows, Less attention towards pest & disease control	Plough the field to fine tilth, Form raises beds, Optimum application of NPK
Brinjal	1800 kg/Acre	Less distance of Plantation, Less attention towards pest & disease control, Less input supply of required nutrients	Adaptation of micro irrigation method, Application of required nutrients, Use of high yielding varieties
Sapota	3000 kg/Acre (High density planting)	Not give attention to proper planting spacing, Poor access of water, No input application, No special care about control of pest & diseases	Need base application of input to the plants, Foliar spray of pesticide & insecticide to control pest & insect.
Mango	2000 kg/Acre	Not give attention to proper planting spacing, Poor access of water, No input application, No special care about control of pest & diseases	Needbase application of input to the plants, Foliar spray of pesticide & insecticide to control pest & insect.

Group Activity - Quality Parameters

Could the farmer give the quality produce in a cost-effective way?

- Divide the participants into 5 groups and discuss the quality factors
- Work in a group and fill the ideal quality, current quality and constraining quality factors for the list of commodities.

EXERCISE FORMAT

Commodity	Ideal quality parameter	Current quality status in your region	Constraining quality factors
Tomato	Large size, correct colour, disease free, fresh and ripe	Information from participant	Low nutrient and water availability, fungal infestations, poor seed
Rice			
Chilli			
Bottle gourd			
Cluster bean			

Group Activity - SWOT of Sustainable Farming

Strength

- Good yield potentiality of groundnut under the soil & climate.
- Knowledge for the cultivation of the crop.
- Minimum risk is involved.

Weakness

- Non availability of healthy market
- Lack of high yielding & diseases, pest resistant varieties
- Less irrigation facilities

Opportunities

- Improved seed varieties
- Increased availability of FYM and biomass materials

Threats

- Fluctuating in market price
- Problems of sucking pests
- Irregular rain restricts the crop growth and yield

Group Activity - Cost of Cultivation

- Divide into subgroups. Each group takes one commodity.
- Determine the cost of production per acre of all inputs and farm operations for specific crop
- Determine the average yield and revenue.
- Each group will come out with the views of below discussion question.

EXERCISE FORMAT

Crop: Rice	Unit	Quantity	Price	Cost
Seed cost	Kg			
Fertilizer cost FYM Urea/DAP	Kg			
Plant protection cost	ml			
Labour cost: Seed treatment Land preparation Irrigation Harvesting Transportation				
Bullock/Tractor cost				
Miscellaneous				
Total				

Classroom Discussion - Lead questions

- As per the farming experience, what is the average yield of the specific crop
- How to reduce the expenses to turn loss into profit?
- How to reduce the input cost in sustainable agriculture?
- How technology-based farming reduces the input cost?

Key Takeaways

- Lack of knowledge about improved production practices
- Lack of adequate technology in areas that will specifically benefit small farmers in productivity of farming systems
- Lack of credit facilities and access in adoption of improved production practices
- Lack of market facilities - Middlemen
- Fragmented lands - Water & Irrigation
- No proper transportation - Land in hilly areas
- Non accessibility of water

Session 6: Understanding the Perspective of Farmers on Food Safety

Session Summary

OBJECTIVES:
By the end of this session, participant will be able to get:
- Understand the food system and source of inputs and production
- Understand the challenges faced by small farmers in implementing GAP

EXPECTED TIME: 2.30 Hours

REQUIRED MATERIALS:
Flipcharts and markers, Board, Sticky pads

Session Notes

BRAINSTORMING:
- What makes food safe?
- Do you wash vegetables when you bring them from the market?
- Decide the qualities of seeds on certain tests and parameters - Share example
- Do you spray? What is the time required for plucking the fruits or vegetables?
- When you sell in the market, do you advise the consumers/farmers to clean the vegetables at home?
    - Is it possible for you to avoid the application of chemical pest and fertilizers?
    - Would you like to go for organic cultivation/farming?

Group Activity:

- Organize the participants into groups of 5 or 6 for discussion.
- In their group, ask participants to discuss one locally grown crop, how that becomes 100% disease free, for that what we should use.

GROUP ACTIVITY:

- What - The food system required for each crop
- Where - The place from where it is being sourced for the entire food system

EXERCISE FORMAT:

Mapping food system	What?	Where?
Agricultural inputs and production		
Processing and storage		
Distribution and trade		

Key Points:

- Not depending upon fertilizer companies
- Preserve the seeds or create community seed bank
  - Home level
  - Farmer level
  - Village level
- Maize, Bengal gram traditional and improved varieties
- Germination and resistant power
- Biomass pesticides and store the dry cow dung. Promoting vermicompost.
  - Promoting biomass and compost
  - Digging the pitch using government support
- Nutrient content
- Use the organic inputs

Session 7: Land, Water and Soil Management

Session Summary

OBJECTIVES:
By the end of this session, participants will be able to:
To know the effective practices/techniques of soil, land and water management.
To understand the importance of land and soil preparation

EXPECTED TIME: 2.30 hours

REQUIRED MATERIALS:
Flipcharts and markers, Board, Sticky pads

Introduction - Brainstorming

Group Activity:

- Organize the participants into teams of 5 or 6 members depending upon the participants
- Each group take locally grown one commodity and come out with best practices with respect to soil, land and water management
- Ask participants to present the discussion points to the larger group.

SAMPLES

Crop	Soil	Land preparation	Water Management
Cluster Bean	• Grows in upland sandy loam and loam soils • It not grows in saline and alkaline soils	• Two or three times of ploughing • The ploughing should be followed by planking for proper levelling	• Light irrigation can be given at 6-7 days after sowing • At least 5 irrigation should be given after the germination of the crop at an interval of 15 days.
Rice	• The seedbed should be prepared by starting from first ploughing lengthwise in the field. • Water should be applied into the field subsequently after ploughing to flood the muddy soil	• Prepare the land and ploughing should be at the beginning of June. • Two to three ploughings are done to bring the soil to fine tilth. If early monsoon, postpone ploughing after 15 day	• During the seedling stage, rice plants need less water so it is not necessary to flood the field. • At Tillering stage (about 20 to 30 days after seed germination in wet or dry seeded rice or 30 days after transplanting). • It is advised to maintain water level at 5 to 10 cm. from the soil surface to control weeds.
Brinjal	An average monthly temperature of 21*C to 23*C and well drained, organic matter rich soils are best suitable for brinjal.	The soil should be thoroughly prepared by ploughing 2 to 3 times before transplanting the seedlings. Bulky organic manures like well rotten cow dung or compost should be incorporated evenly on the soil	Timely irrigation is quite essential for good growth, flowering, fruit setting and development of fruits. In plains, irrigation should be applied every third to the fourth day during hot weather and every 7 to 12 days during winter.

Crop	Soil	Land preparation	Water Management
Bottle gourd	It can be grown in various kinds of soils, but sandy loam to loamy soils is ideal 2. Requires warm temperature between 18*C-30*C	• Plough the land with disc harrow followed by three cross ploughing with cultivators. • Mix the land with FYM will make the soil rich so that better yield with quality vegetables can be expected.	• Usually irrigate the fields before dibbling the seeds and thereafter irrigation is done once a week. • Drip irrigation is recommended when plants are grown on raised beds.

Key Points:

LAND MANAGEMENT
- Plough and loosen the land
- Plough across the slope
- Take a soil erosion measures
- Crops in rotation
- Apply compost and de-compost fertilizers

SOIL MANAGEMENT:
- Test the soil - What is the deficiency of soil?
- Apply input as suggested by agronomist.
- Not to use the chemicals
- Avoid the soil erosion

WATER MANAGEMENT:
- Use the water saving technology - Eg: Drip and sprinkler, mulching - biomass and plastic
- Plant the crops very near to drip hole
- Keep watering frequency as required or suggested by expert
- For flood irrigation farmers should not raise the high beds
- Plantation should be at the lower side of bed

Practical Activity - Micro Irrigation

- Visit a farm, where a micro irrigation system has been installed.
- Discuss the following with the owner of the farm.
  - What are the advantages of drip or sprinkler irrigation systems?

- In which crop(s), drip or sprinkler irrigation system has been more useful?
- What are the common problems that you encounter in maintaining drip or sprinkler irrigation systems?

Key points - Micro irrigation

TYPES - Drip, Sprinkler

ADVANTAGES:

- Helps in water saving
- Less wastage of water
- Improves chemical application
- Reduces weeds and diseases
- Reduces labour cost
- Improves quality and yield

The main challenge confronting water management in agriculture is to improve water use efficiency and its sustainability.
This can be achieved through

- an increase in crop water productivity (an increase in marketable crop yield per unit of water transpired) through irrigation,
- a decrease in water losses through soil evaporation that could otherwise be used by plants for their growth

Session 8: Recalling Exercise - Assessment

Session Summary

OBJECTIVES:
By the end of this session, participants will be able to:

- To condense and emphasize the learning of everything covered in the module
- To encourage them to make plans they can take on together

EXPECTED TIME: 1.30 Hours

REQUIRED MATERIALS:
Audio visual kit, Projector, Flipcharts and Markers
Remind the participants of the earlier 5 days discussion with them.

Quiz

1. What is the impact of overuse of inorganic fertilizers?
a) High level of nitrates
b) Salinization
c) Desalinization
d) Increase soil Fertility

2. Costly and harmful pesticides can be replaced by
a)Artificial Predators
b) Natural Predators
c) Small Animals
d) Weeds

3. What is the impact of over cultivation & over grazing?
a) Soil Erosion, Degradation, Desertification
b) Desertification & Salinization
c) Soil erosion & Salinization
d) Excessive of nutrients

4. Integrated Pest Management?
a) Should totally replace chemical pesticides
b) Should be practiced to minimize the use of pesticides

c) All the above
d) None of the above

5. Who is responsible for safe food production?
a) Farmers
b) Pesticides Companies
c) Retailers/Supermarkets
d) All the above

6. Which of the following cultivation practices fit into the GAP farm management conservation plan?
a)Integrated Pest Management
b) Integrated Crop Management
c) Enhancement of biodiversity on the farm
d) All the above

Group Activity - Audio Visual

- Visualize the best agricultural practices of specific growing crops
- Organise them into groups and let each group analyze the case
- Reflect the following questions:
  - What are the good agriculture practices implemented in this case?
  - Advantages and benefits versus problems and risks by non-application of GAPs
  - What must be taken into account at the moment of producing, harvesting and selling the commodity?

Annexure

Rice - Good Agricultural Practices

No.	Crop Life Cycle Stage	Days from the date of Sowing	Good Practices	Type of Inputs
1	Land Preparation	20 days before sowing.	Prepare the land and ploughing should be at the beginning of June. Two to three ploughings are done to bring the soil to fine tilth. If early monsoon, postpone ploughing after 15 days	Tractor Bullock plough
2	Crop Selection	End of May - 30 days before sowing	Rice is a major food crop. Rice is taken	
3	Varietal Selection	End of May	Locally suitable varieties	Rasipunam, Kharjat1, Kharjat 2, Rasilakshmi, Suma, Korakpur, Bhaya, Kudai, Malkolam, Dankolam
4	Seed Selection	End of May	Obtain the certified seeds from certified suppliers ie. KVK at the end of May. Recommended seed 2kg per acre	Certified seeds - Rasipunam, Kharjat 1, Kharjat 2
5	Seed Treatment	20 days before sowing	Treat the 2kg seed by mixing with cow dung. Dry the seed for 1 whole day. Store in mud pot or Treat 2kg seed with 10g of insecticide & fungicide powder. Spray it moderately. Dry it at moderate temperature	FYM Insecticide & Fungicide powder

No.	Crop Life Cycle Stage	Days from the date of Sowing	Good Practices	Type of Inputs
6	Nursery raising (Dharwad Method)	15 days before the transplanta-tion	Raise the nursery by collecting the Biomass materials. Burn it and spray the ass in 1 Kunta. Apply the FYM and black soil. Plantation should be done at the end of June.	FYM Black soil Biomass materials
7	Fertiliser Application	Mix the compost in soil before ploughing / during land preparation	In Kharif, apply DAP/Urea if required	No fertilizer as Cow dung / compost is used earlier
8	Sowing	End of June	Sowing is done at the depth of 9-10 cms by hand	Labour
9	Weeding	After 15 days of sowing	Weeding done by manually and it helps to improve plant height and grain yield	Labour
10	Irrigation	Irrigation during the rain shortage, yield improves	As it's a rainfed area, usually irrigation is not needed unless there is a rain shortage. However the better production with irrigation is possible in rain crisis	Borewells Irrigation facilities
11	Weed Management & Inter-culture	15 days after transplantation	Hand weeding is the weed control method	
12	Harvesting the crop	October end-November first fortnight	Harvest the crop when the roots and yield rice is dried. Cut the paddy and dry it for 3-5 days.	Labour

No.	Crop Life Cycle Stage	Days from the date of Sowing	Good Practices	Type of Inputs
13	Important pests and diseases:	Early transplantation stage	Yielding diseases called red pest attack and white pest attack infected. Apply Brahmastra with this propositions: ½ litre of Neem oil, ½ litre of tobacco leaf soaked water and 100 gm of Asafoetida (Hingu) is thoroughly mixed with 5 litre of cow urine. Along with 100 g of chilli paste mixed with the above mixture and kept undisturbed for 21 days. Apply 1 litre mixture juice with 100 litres of water.	Cow urine Neem leaf Tobacco leaf Water Asafoetida

Rice - Production Management

No.	Crop Life Cycle Stage	Problems	Reason	Solution
	Stage at the crop life cycle	*Problems that are faced in production/ sales with respect to the particular commodity*	*Reasons for these problems*	*Solutions to solve the problems*
1	Land preparation	No early ploughing, only one time ploughing at the beginning of June	Many farmers go for ploughing through tractors and they are not doing bullock ploughing. Farmers are not able to afford ploughing equipment for repeat ploughing. Raising the nursery.	Farmers shall be connected in FPOs and providing the ploughing equipment facilities. Facilitate the linkage for farmers

No.	Crop Life Cycle Stage	Problems	Reason	Solution
	Stage at the crop life cycle	*Problems that are faced in production/ sales with respect to the particular commodity*	*Reasons for these problems*	*Solutions to solve the problems*
2	Seeds	Availability of good variety seeds.	Usually seeds are supplied in the local market.The cropping pattern in this belt is single crop. They cultivate rice as a food crop in the border areas.	Infection of seeds may cause the plant to die. So the awareness training to farmers on seed quality and inspection
3	Seeds selection	Not selecting the certified seeds from reliable sources.	Not aware about the seed quality inspection	Training on selection of seed for planting, appropriate selection of seed varieties
4	Seed treatment	Not practicing any treatment. Farmers directly throw for germination.	Not aware about the treatment practices.	Impart the practice of seed treatment for improved germination
5	Nipping	Poor awareness on weeding	Since farmers throw the seeds directly for germination and not sowing as line crops.	Build awareness on sowing techniques such as line sowing, SRI, and weed control management
6	Flowering and fruiting stage	Excess usage of fertilizers and DAP	Not examining the plant for any pest attacks	Advise the farmers for safe use of pesticides

No.	Crop Life Cycle Stage	Problems	Reason	Solution
	Stage at the crop life cycle	*Problems that are faced in production/ sales with respect to the particular commodity*	*Reasons for these problems*	*Solutions to solve the problems*
7	Harvesting	Labour issues	Harvest the paddy and dry it for 5 days. Whereas the labour issues exist in the harvesting period.	Harvesting equipments shall be introduced
8	Threshing	Damaging on rice stem	Threshing is applied manually and removing the husk by hitting on a wooden tool.	Introduce the services/ equipments for threshing
9	Marketing	Local traders and Low price	As the farmers keep 50% for consumption and market rest in local market for low price	Market the products through FPOs at high prices. Facilitate the marketing linkage for FPOs/Farmers
			Farmers sell it via middlemen	
10	Soil Health	Not doing any soil treatments	Not aware about the importance of soil management practices	Farm training on soil health management/ treatment
11	Water	Non availability of borewells to lift the water from canal or river	Rainfed area. Lack of irrigation facilities and affordability	Provide the Solar based irrigation facilities for farmers

Red Chilli - Good Agricultural Practices

No.	Crop Life Cycle Stage	Days from the date of Sowing	Good Practices	Type of Inputs
1	Land Preparation	15-20 days before sowing	Land is prepared to a fine tilth by thorough ploughing / digging. Two to three ploughings are done to bring the soil to fine tilth	Tractor Bullock plough
2	Crop Selection	45 days before sowing	The seed rate of chilli is 2.5-3.0 kg per acre.	
3	Varietal Selection	30 days before sowing	Seeds should be carefully selected from the certified organic farms or from farmers' own field which is raised organically	
4	Seed Selection	30 days before sowing	Disease resistant and locally demanded variety	
5	Seed Treatment	Not necessary as seeds are certified	Take the seeds in a bowl. Add 1 gm Bavistin fungicide powder in bowl. Mix the seeds uniformly with fungicide powder.	FYM Insecticide & Fungicide powder
6	Nursery raising	Before 20-25 days before transplantation	Seedlings will be protected under the shade-net house, hence there are less chances of spreading of pests and diseases. Fresh seeds are sown in well prepared nursery beds. The nursery bed is usually raised from ground level and is prepared by thorough mixing with compost and sand.	FYM Black soil Biomass materials

No.	Crop Life Cycle Stage	Days from the date of Sowing	Good Practices	Type of Inputs
7	Transplan-tation	25 days after Nursery Initiation	Use seedling tray, and cocopeat / loosen soil with ash for bed preparation	Seedling tray
8	Input Application	At every week interval as per the growth of transplanted plants	For this, mix Neem Oil 1.5 ml in 1 liter of water and then spray it at the time of morning or evening on the seedlings.	Neem oil and Bio pesticide
9	Sowing	Not applicable as nursery is raised	Seedlings to be transplanted after 20 to 22 days of germination.	Labour
10	Irrigation	Irrigation should be done judicially depends on soil and climatic conditions	Regular irrigation is an important factor for the successful production of chilli crop. In light soils irrigation is given at 10-12 days intervals, in black soils at 3-week intervals and in summer at 5 to 6 days intervals.	Borewells Irrigation facilities
11	Weed Management & Inter-culture	After 15-25 days of Transplantation	Intercoalition is followed by hand weeding to check the weed growth. Interculture is necessary to keep the field free from weeds, which apart from robbing the crop of nutrients, harbour insects and diseases.	
12	Harvesting the crop	After 85 -90 days of transplantation, once vegetative phase is started	Crop is ready for harvesting in about 90 days after transplanting	

No.	Crop Life Cycle Stage	Days from the date of Sowing	Good Practices	Type of Inputs
13	Important pests and diseases:		Integrated pest management (IPM) should be followed. Control of borers by poison baits. (5kg bran + 500g carbaryl or 500ml Monocrotophos or Chloropyriphos + 500g jaggery mixed with sufficient quantity of water) and made into small balls and broad cost them in the field in the evening time, so that worms come out from the cracks in the night and eat the bait and are killed.	Jaggery Bran Carbaryl

Red Chilli - Production Management

No.	Crop Life Cycle Stage	Problems	Reason	Solution
	Stage at the crop life cycle	*Problems that are faced in production/ sales with respect to the particular commodity*	*Reasons for these problems*	*Solutions to solve the problems*
1	Land preparation	Not practicing deep ploughing	The soil condition of Talasari is hard. Due to rain, the land is fragmented and many farmers do plough one time by tractor.	Demonstrate deep ploughing methods. Farmers shall be connected in FPOs and providing the ploughing equipment facilities. Facilitate the linkage for farmers

No.	Crop Life Cycle Stage	Problems	Reason	Solution
	Stage at the crop life cycle	*Problems that are faced in production/ sales with respect to the particular commodity*	*Reasons for these problems*	*Solutions to solve the problems*
2	Seeds	Non availability of good quality seeds and seed cost is high	Usually, the seeds are available at Krishi Seva Kendra. Farmers are preferring to get from the suppliers like Agriculture department	Training and awareness on advance planning and benefits to farmers. Major verities are Pride and Eagle.
3	Seeds selection	Non availability of quality seeds	Not aware about the seed selections and alternative planning of crops	Training on selection of seed for planting, appropriate selection of seed varieties
4	Seed treatment	Not practicing any seed treatments methods. Seed treatment impact is not accepted by the farmers	Not known/aware about the impact of seed treatment practices. Farmers are not aware about the seed treatment importance and benefits.	Impart the practice of seed treatment for improved germination
5	Nipping	Poor awareness on weeding	Since farmers are preparing the soil bed without any proper guidance.	Build awareness on sowing techniques either soil bed preparation or coco peat preparation and weed control management

No.	Crop Life Cycle Stage	Problems	Reason	Solution
	Stage at the crop life cycle	*Problems that are faced in production/ sales with respect to the particular commodity*	*Reasons for these problems*	*Solutions to solve the problems*
6	Flowering and fruiting stage	Use of pesticides without knowing the need. Chilli pest attacks in the root zone as well as in the upper side of the leaf due to decrease in temperature.	Insects and Pests are already existing in soil and are not examining the plant for any pest attack.	Training on (IPM) Integrated Pest Management.
7	Harvesting	Labour issues	Harvesting should be done at the right stage of maturity	Harvesting equipment shall be introduced
8	Marketing	Local traders	As the farmers keep 50% for consumption and market rest in the local market for low price. Farmers sell it via middlemen	Market the products through FPOs at high prices. Facilitate the marketing linkage for FPOs/Farmers
9	Soil Health	Not doing any soil treatments	Not aware about the importance of soil management practices	Farm training on soil health management/ treatment
10	Water	Non availability of borewells to lift the water from canal or river	Rainfed area. Lack of irrigation facilities and affordability	Provide the irrigation facilities for farmers

Brinjal - Good Agricultural Practices

No.	Crop Life Cycle Stage	Days from the date of Sowing	Good Practices	Type of Inputs
1	Land Preparation	15-20 days before sowing	The soil should be thoroughly prepared by ploughing 2 to 3 times before transplanting the seedlings. Bulky organic manures like well rotten cow dung or compost should be incorporated evenly on the soil.	Ploughing equipment, Organic manures
2	Crop Selection	30 days before sowing	Low temperature during the cool season causes deformation of fruits. A long and warm growing season is desirable for successful brinjal production.	Various seasonal crops
3	Varietal Selection	30 days before sowing	Varieties should be selected according to climatic conditions	Existing varieties - (need to get)
4	Seed Selection	25-30 days before nursery raising	Obtain quality seeds from the reliable sources Agri departments	Certified seeds - (need to get)
5	Seed Treatment	On the date of sowing	Treat the brinjal seeds with Trichoderma viride @ 4 g / kg or Pseudomonas fluorescens @ 10 g / kg of seed.	Trichoderma viride Pseudomonas fluorescens

No.	Crop Life Cycle Stage	Days from the date of Sowing	Good Practices	Type of Inputs
6	Nursery raising/ Sowing	One month before transplantation	Apply FYM 10 kg, neem cake 1 kg, VAM 50 g, enriched superphosphate 100 g and furadon 10 g per square meter before sowing. Area required for raising seedlings for planting 1.0 ha is 100 sq.m. The seedlings are ready in 4-5 weeks for transplanting, when they attained a height of 12-15 cm with 3-4 leaves.	FYM Vesicular Arbuscular Mycorrhizal (VAM)
7	Fertiliser Application	After 30 days of planting	Basal dose: FYM 25 t/ ha, NPK 50:50:30 kg/ ha. Topdressing: 50 kg N/ha on the 30th day of planting or during earthing up.	Nitrogen, Potassium, Phosphorus (NPK) FYM
8	Irrigation	Every 7 to 12 days after planting	Timely irrigation is quite essential for good growth, flowering, fruit setting and development of fruits. In plains, irrigation should be applied every third to the fourth day during hot weather and every 7 to12 days during winter.	Water
9	Weed Manage-ment & Inter-culture	After 30 days of transplanting	Regular or frequent shallow cultivation should be done at regular intervals so as to keep the field free from weeds and to facilitate soil aeration and proper root development.	Labour

No.	Crop Life Cycle Stage	Days from the date of Sowing	Good Practices	Type of Inputs
10	Harvesting the crop	After 90 days of transplanting	The brinjal fruits are harvested when they attain full size and color but before the start of ripening. Tenderness, bright color and glossy appearance of the fruit is the optimum stage of harvesting of fruits.	Labour
11	Important pests and diseases	After 15 days of sowing	Spray Neem Seed Kernel Extract 5% starting from one month after planting at 15 days interval Leaf Spot: Leaf spot can be controlled by spraying Mancozeb 2 g/lit in brinjal farming. Little Leaf: Remove the affected plants in the early stages and spray Methyl demeton 30 EC @ 1.0 ml/lit. to control the vector.	Mancozeb Methyl demeton

Brinjal - Production Management

No.	Crop Life Cycle Stage	Problems	Reason	Solution
	Stage at the crop life cycle	*Problems that are faced in production/sales with respect to the particular commodity*	*Reasons for these problems*	*Solutions to solve the problems*
1	Land Preparation	• Land gets compacted after the first few irrigation. • Uneven slope of land. • Proper bed preparation is not possible.	Due to lack of ploughing equipment and lack of knowledge about the land preparation.	• The field is ploughed to fine tilth by giving four to five ploughing with a sufficient interval between two • ploughing. • Planking should be done for proper levelling. • The field is then divided into beds and • channels. • Well-decomposed FYM is thoroughly incorporated at the time of land preparation.
2	Seeds	No Problem		
3	Seeds selection	Farmers don't select the seeds as per the market demand	Lack of awareness	Farmers should have gone to the market knowing the market demand. So, that they can cultivate hybrid varieties as per market survey.
4	Seed treatment	farmers don't do the seed treatment.	1. Lack of awareness	Seed treatment with Trichoderma viridae @ 2g /100 g of seeds to prevent seed and soil borne infection of fungal diseases.

No.	Crop Life Cycle Stage	Problems	Reason	Solution
	Stage at the crop life cycle	*Problems that are faced in production/sales with respect to the particular commodity*	*Reasons for these problems*	*Solutions to solve the problems*
5	Interculture Operation	The farmers generally do not focus on weeding and cultivation.	Weeds compete with the crop and reduce the yield drastically.	• The field should be kept weed-free, especially in the initial stage of plant growth. • Frequent shallow cultivation should be done at regular intervals so as to keep the field free from weeds and to facilitate soil aeration and proper root development. • Two-three hoeing and the earthing up are required to keep the crop free of weeds.
6	Nipping	No Need		
7	Flowering and fruiting stage	• Farmers don't know the exact dose of fertilizers application in the different growth stages of plants. • Flower dropping is the main problem in the flowering stage of the crop.	Lack of Knowledge. Farmers don't meet with progressive farmers.	• Farmers should have to visit the local progressive farmers farm and should have to discuss with them. • Farmers should have to attend the agriculture related discussion meetings. • Farmers should have to consult with the trusted consultant or may be with krushi seva kendra's.

No.	Crop Life Cycle Stage	Problems	Reason	Solution
	Stage at the crop life cycle	*Problems that are faced in production/sales with respect to the particular commodity*	*Reasons for these problems*	*Solutions to solve the problems*
8	Harvesting	Late harvesting of fruits or Early harvesting of fruits.	Farmers aren't aware about the harvesting criteria of fruits.	The harvesting of the fruits should be done as soon as it attains a good size and colour.
9	Irrigation	• Damping off of seedlings immediate-ly after the transplanta-tion is a major problem in Talasari. • Wilting of seedlings after seedlings.	• After transplanting immediately a high quantity of irrigation is the main reason for damping off. • Lack of moisture around the root zone of the plant.	• A light irrigation is given on the first and third day after transplanting. • Continuous supply of moisture should be maintained around the root zone of the plant. • A pre-soaking irrigation is given 3-4 days prior to transplanting.

Bottle gourd - Good Agricultural Practices

No.	Crop Life Cycle Stage	Days from the date of Sowing	Good Practices	Type of Inputs
1	Land Preparation	30 days before sowing	Plough the land with disc harrow followed by three cross ploughing with cultivators. Mixing the land with FYM will make the soil rich so that better yield with quality vegetables can be expected.	Tractor FYM
2	Crop Selection	45 days before sowing	About 10 kg of seeds is required for a hectare.	
3	Varietal Selection	30 days before sowing	Seeds should be carefully selected from the certified organic farms or from farmers' own field which is raised organically	
4	Seed Selection	30 days before sowing	Disease resistant and locally demanded variety	
5	Seed Treatment	On the date of sowing	Before sowing, the seeds must be treated with four grams of Trichodermaviride or ten grams of Pseudomonas fluorescens	Trichodermaviride Pseudomonas fluorescens

No.	Crop Life Cycle Stage	Days from the date of Sowing	Good Practices	Type of Inputs
6	Nursery raising	Before 40-45 days of Transplanting	Seedlings will be protected under the shade-net house, hence there are less chances of spreading of pests and diseases. Fresh seeds are sown in well prepared nursery beds. The nursery bed is usually raised from ground level and is prepared by thorough mixing with compost and sand.	FYM Biomass materials
7	Fertiliser Application	After 30 days of transplant-ing. Every 30 days	Apply 10 kilogram of farm yard manure along with 100 grams of Nitrogen, Phosphorous, and Potassium mixed in a ratio of 1:2:2 as basal dose per pit and 10 grams of Nitrogen per pit every 30 days.	FYM Nitrogen, Phosphorous, Potassium
8	Sowing		Seeds about three to four are sown per pit by dibbling method and thin weak seedlings to two per pit after 15 days.	Labour
9	Irrigation	Irrigation should be done judicially depends on soil and climatic conditions	Usually irrigate the fields before dibbling the seeds and thereafter irrigation is done once a week. Drip irrigation is recommended when plants are grown on raised beds.	Borewells Irrigation facilities

No.	Crop Life Cycle Stage	Days from the date of Sowing	Good Practices	Type of Inputs
10	Weed Management & Inter-culture	After 25 days of sowing	Intercultivation is followed by hand weeding to check the weed growth. Interculture is necessary to keep the field free from weeds, which apart from robbing the crop of nutrients, harbour insects and diseases.	
11	Harvesting the crop	After 100-120 days of trans-plantation, once vegeta-tive phase is started	The fruits should be harvested when they are still green and tender. Delay in harvesting causes the fruit to become hard. Harvesting should be done only after 10 days (at least) of insecticide / fungicide application.	
12	Important pests and diseases		Integrated pest management (IPM) should be followed. Control of borers by poison baits. (5kg bran + 500g carbaryl or 500ml Monocrotophos or Chloropyriphos + 500g jaggery mixed with sufficient quantity of water) and made into small balls and broad cost them in the field in the evening time, so that worms come out from the cracks in the night and eat the bait and are killed.	Jaggery Bran Carbaryl

Bottle gourd - Production Management

No.	Crop Life Cycle Stage	Problems	Reason	Solution
	Stage at the crop life cycle	*Problems that are faced in production/sales with respect to the particular commodity*	*Reasons for these problems*	*Solutions to solve the problems*
1	Land Prepara-tion	• Not Practicing deep ploughing. • While land preparation farmers do not prepare raised beds and they don't maintain appropriate spacing between row to row.	Farmers are not much aware about deep ploughing. Farmers don't know about the actual spacing requirement of bottle gourd.	Demonstrate them about the deep ploughing of soil.
2	Seeds	Seeds are available as per requirement of farmers. (Where will it be available?)	Usually farmers do prefer the recommenda-tion of the Local Agriculture Clinic Service Centre.	Every year new seeds have to be used to avoid diseases and pests.
3	Seeds selection	Farmers do not select commercial bottle gourd variety seed.	Low awareness on seed replacement and advance cropping	Training on importance of seed, seed replacement and advance planning and making the seeds availability in FPOs
4	Seed treatment	Seed and soil borne fungi can cause germination and emergence problems.	Not aware about the seed treatment and impact of treatment not ascertained to farmers	Soak seeds in cow's urine solution (1 part cow's urine + 5 part of water) for 30 minutes prior to the sowing. This will inhibit the seed borne diseases. Treat the seeds with Trichoderma viride @4gms/kg of seeds and then sow after 24 hours.

No.	Crop Life Cycle Stage	Problems	Reason	Solution
	Stage at the crop life cycle	*Problems that are faced in production/sales with respect to the particular commodity*	*Reasons for these problems*	*Solutions to solve the problems*
5	Sowing	Planting more seedlings or seeds without knowledge on spacing transplantation	Transplanting more seedlings or seeds will yield more. This is the understanding of the tribal farmers. But, in fact, different crops required a specific distance at the time of transplanting.	Training on transplantation spacing between plant to plant and row to row
6	Flowering and fruiting stage	• Vegetative, Flowering and Fruiting growth stages need precise levels of required fertilizers. Farmers don't know the schedule of fertilization due to lack of education awareness. • Generally, farmers apply Urea and DAP in excess quantities. But, in actual there is not that much of application of Urea and DAP. • Flower dropping and a smaller number of female flowers, results in less production.	Not aware/Lack of knowledge on use of fertilizers	• Spray magnesium sulphate for reducing the flower dropping from the plant. • Spraying vines with flowering hormone (i.e. application of gibberellic acid) at six to eight leaf stage increases the number of female flowers and can double the number of fruits.

No.	Crop Life Cycle Stage	Problems	Reason	Solution
	Stage at the crop life cycle	*Problems that are faced in production/sales with respect to the particular commodity*	*Reasons for these problems*	*Solutions to solve the problems*
7	Staking and trellising	Usually, farmers do not adopt a good trailing system.	Low knowledge on farm techniques - staking and trellising methods	Use effective ways of staking and trellising methods. Vines need support by bamboo stakes, which help vines freely climb and reach the top.
8	Pruning	Farmers not following proper pruning techniques and affects the yield. For improving yield, bottle gourd vine need good pruning practice.	Not aware about the pruning practices	Provide the knowledge of proper pruning techniques. To improve yield, removal of lateral branches until the runner reaches the top of the trellis should have to do. Leave 4-6 laterals and cut the tip of the main runner to introduce early cropping. Removal of lateral branches in the first 10 nodes has a positive effect on total yield. Without pruning, most of the female flowers occur between the 10th and 14th nodes.
9	Harvest-ing	Bottle Gourd storage life is less after harvesting.	Depending on variety and crop management, the crop yield can vary.	Bottle gourds that are not fully mature or that have been injured do not store well. Fruits should be cut from the vines carefully, using pruning shears or a sharp knife leaving 3-4 inches of stem attached.

No.	Crop Life Cycle Stage	Problems	Reason	Solution
	Stage at the crop life cycle	*Problems that are faced in production/sales with respect to the particular commodity*	*Reasons for these problems*	*Solutions to solve the problems*
10	Marketing	Here in Talasari there are lack of communication problems for marketing the Agriculture produce. Also, farmers don't get good value for their harvested produce. Lack of warehouse and godown facilities.	Farmers are marketing through middlemen at lower price. They come and collect the vegetables in village itself	Farmers should have to be updated with market rates of agricultural commodities. Warehouse facilities in the form of godown should be available for sorting/grading and storage purposes.
11	Soil Health	Heavily compacted soils	Soil compaction is because of continued cultivation in the upper layer of soil and also excess use of Urea and DAP. Also, farmers don't do proper cultivation and ploughing of soil.	Soil should be cultivated properly before sowing. Also, compost should have to apply. So, proper aeration results in better soil condition.

Cluster bean - Good Agricultural Practices

No.	Crop Life Cycle Stage	Days from the date of Sowing	Good Practices	Type of Inputs
1	Land Preparation	30 days before sowing	In order for the plant to get soil aeration and better root development, the lands needs to be ploughed 2 or 3 times, which is followed by planking.	Tractor FYM
2	Crop Selection	45 days before sowing	The optimum seed rate for both summer and kharif season crop is 15 kg per hectare	
3	Varietal Selection	30 days before sowing	Seeds should be carefully selected from the certified organic farms or Agri departments	Certified seeds -
4	Seed Selection	30 days before sowing	Farmers should prefer locally demanded variety	
5	Seed Treatment	On the date of sowing	Seed should be treated with either Trichoderma @ 4 g per kg of seed	Trichodermaviride Pseudomonas fluorescens

No.	Crop Life Cycle Stage	Days from the date of Sowing	Good Practices	Type of Inputs
6	Nursery raising/ Sowing	Before 40-45 days of sowing	Sowing depends on rain. Seeds are sown by a broadcasting method which involves spreading of the seeds in the soil, followed by ploughing of the soil so that seeds are properly mixed with the soil.	Soil FYM
7	Fertiliser Application	After 30 days of trans-planting. Apply every 30 days	This crop is able to grow in areas of less rainfall and high temperature. It doesn't need a lot of fertilizer as it is a legume able to fix nitrogen from soil. Application of FYM or compost is useful for improving water holding capacity of the soil and also to supply all the nutrients required for the plant growth.	FYM Nitrogen
8	Irrigation	Irrigation should be done judicially depends on soil and climatic conditions	The irrigation should, however, be provided whenever, crop suffers moisture stress, if irrigation facilities are available.	Borewells Irrigation facilities
9	Weed Manage-ment & Inter-culture	After 25 days and 45 days of sowing	Usually manual weeding is very effective for controlling all types of weeds. Two manual weeding given at 25 and 45 days after sowing are sufficient to keep the crop weed free.	Labour

No.	Crop Life Cycle Stage	Days from the date of Sowing	Good Practices	Type of Inputs
10	Harvesting the crop	After 100-120 days of transplanta-tion, once vegetative phase is started	The fruits should be harvested when they are still green and tender. Delay in harvesting causes the fruit to become hard. Harvesting should be done only after 10 days (at least) of insecticide / fungicide application.	Labour
11	Important pests and diseases:		Most common are Leafhopper, Ash weevils, Pod borer. There are various ways by which we can control pest manifestations: Leaf Hopper: spray Methyl Demeton 1ml/l of water. Ash Weevils: spray Phospholane 2.0ml/l of water . Pod Borer: spray Carbaryl 50 WP 2gm/l of water.	Methyl Demeton Phospholane Carbaryl

MODULE 2

Agricultural Business Transformation Pathway

Module Description

An introductory module for all participants to understand the training objectives, its various components, preliminary discussion over Agri-based livelihoods in Talasari, and building their aspirations for the future.

TOPICS:

- Present Agriculture Practices of Smallholder Farmers
- Current situation
  - Analysis of Current Market Practices
  - Aspirations of Farmers versus Market Realities
  - Assessing the market need and demand
- Vision Building
  - Working together vs individual action
  - Possible activities at collective level
  - Institutional form for collectivisation
  - Planning for short term strategies to mitigate market risk

Module Outline

	TOPIC	MINS
DAY 06	**SESSION 1**	
	• Agricultural Business Transformation Pathway	30
	• Barriers in Smallholder Agriculture	120
	• Reduce Costs of Production Inputs	60
	• Collective Output Marketing	60
DAY 07	**SESSION 2**	
	• Production Management Value Chain Upgradation Diversification	120
	• Individual Action vs. Collective Action	120
DAY 08	**SESSION 3**	
	• Understanding the Market	120
	• Assessing the Market Need and Demand	120
DAY 09	**SESSION 3 (COUNT.)**	
	• Responses to a Fluctuating Market	120
	SESSION 4	
	• Recap & Assessment	90
	• Conclusion and Takeaways	30

Session 1:

Agricultural Business Transformation Pathway

Session Summary

OBJECTIVES:
By the end of the session, participants will be able to:
- Understand the present agricultural practices of small and marginal farmers
- Challenges faced by the small and marginal farmers
- Know the pathways to increase the income

EXPECTED TIME: 4.5 hrs

REQUIRED MATERIALS:
Flipchart and markers, overhead projector, Index cards, Name tags and name tents, Prize(s)—folder, pen, key chain, and so on

ACTIVITY:
Group discussions, brainstorming questions and answers followed by discussions

Session Notes:

- Present Agricultural Practices
- Barriers in Smallholder Agriculture
- Pathways to Increase Incomes
- Individual Action vs Collective Action
- Understanding the Market

Present Agricultural Practices in Smallholder Agriculture

CLASSROOM ACTIVITY
- List down the Agricultural Business Cycle - the various stages and activities in each stage
- Use the example of any commodity for discussion and discuss the various activities involved

Agricultural Business Cycle

INPUT
- Seed purchase
- Vermicompost
- Fertilisers
- Pesticidies
- Water
- Land preparation

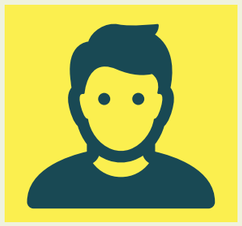
PRODUCTION
- Sowing
- Weeding
- Good Agricultural Practices
- Irrigation
- Support Weather Information

POST HARVEST
- Roasting
- Grading
- Sorting
- Drying
- Thresher
- Pickling
- Processing
- Polishing
- Storage
- Warehouse
- Transport
- Packaging

VALUE ADDITION
- Drying
- Pulping
- Milking
- Powdering
- Oil Extraction
- Ready to eat
- Food packaging
- Cleaning

MARKETING
- Aggregation
- Transportation
- Packing (with branding)
- Obtaining certificate & licence

Story of Aditya and Gouri



Aditya

AGE: 44
Education: 10th class
Occupation: Farmer
Language he speaks: Marathi, Hindi

Aditya cultivates rice, palak and methi. He has land of 2 acres in xxx village in Talasari.

I wait for the weather forecasts to tell the rainfall I can expect, and then I go to buy the seeds … After planting, I have done my part. Then I hope for the best … A week after the rains, I check to see if seeds have germinated …

After the harvest … I keep about 50% of the rice for my family's subsistence … the remaining I sell it to the local trader … because I do not have sufficient storage space, nor do I know where to sell for a better price

He earns about 30,000 rupees at the end of the year

Gouri

AGE: 33
Education: 8th class
Occupation: Farmer
Language she speaks: Marathi

Gouri cultivates rice, tomatoes and green chilli. She has land of 2 acres in xxx village in Talasari. I do farming in the kharif and rabi season. I also do goatery.

I try to sell the tomatoes and chilli at the local market. The goat is sold at the town shop.

25% of the tomatoes get damaged after harvest.

I earn about 42,000 rupees at the end of the year.

Classroom discussion:

Narrate the story of Aditya and Gouri. Ask the below questions

- What are the risks faced by Gouri, Aditya and other small and marginal farmers? List down the risks on a white/black board.
- What are the production related risks?
- What are the market related risks?

Key Points:

1. PRODUCTION RISK

- Small landholding, Low investments, Low yield, Low income
- Poor soil fertility
- Limited irrigation, groundwater depletion and unpredictable rains
- Poor access to farming equipment and new technologies
- Pest attacks

Adverse weather destroys the crops planted by the farmer. A farmer is always concerned about the type of weather he has to experience once he plants his field. The seeds planted by farmer sometimes or most of the times do not germinate or guarantee profitable yield at the end of the season. This is due to less or inadequate information regarding weather, seed quality etc, lots of agricultural producers are forced to make decisions based in haste, which can detrimental for the crop production. At times uncertain market conditions such as occurrence of labour strikes/transportation problems/ changes in government policies like import duty revisions, banning exports etc. are detrimental to farmer during crop production.

2.MARKET RISK

- Fluctuating prices in input/output
- Quality of the products
- Lack of knowledge, Inadequate information on the market prices
- Poor access and availability of markets

Pathways to Increase Income - Classroom discussion

If Gouri and Aditya must increase their income, what are the possible options they have?

- Is there a scope for Aditya to improve his agriculture practice by ensuring application of the right amount of fertilisers - to improve quality? 2. Ensures timely delivery of quality inputs.
- Is there a scope for Aditya to improve his yield by choosing the right varieties of seeds and fertilisers - to improve volumes of production?
- Could Aditya engage in some allied activity like backyard poultry - to diversify his risk?
- Could Gouri buy seeds in bulk - along with fellow farmer members - to reduce her costs?
- Could Gouri do basic sorting of tomatoes between semi-ripe and ripe tomatoes before selling to the market?

KEY POINTS:

- Reduce cost of production inputs
  - a. Credit, water, inputs, machineries, etc
- Improve Productivity and Quality
  - a. Productivity enhancement efforts - follow Good Agricultural Practices
  - b. Introduction of new technology to enhance efficiency

- Get better prices for their outputs
  - a. Aggregation, packaging and transportation
  - b. Accessing different markets, reducing the number of layers in the market
- Do value addition of products
  - a. Grading, Sorting, Packaging, etc.
- Reducing Risks by diversifying portfolio of activities
  - a. Allied activities, Non-farm enterprises

Classroom Discussion:

REDUCE COSTS OF PRODUCTION INPUTS

If Gouri and Aditya have to reduce their costs on input supplies, what are the possible options they have?

- Different traders
- Purchasing in bulk
- Other option

PRODUCTION INPUTS

Could the farmers buy essential inputs such as seed, fertilizer, pesticide in bulk?

BENEFITS

- The inputs are sold to the members at a lower price

Group Activity

Let us understand the total value of inputs purchased in your village.
Divide yourself into 6 groups.

- Each group takes one commodity (cultivation of paddy, chilli, spinach, lady fingers, bottle gourd and poultry)
- List down all the inputs purchased by a small farmer
- What is the price per unit of purchase?
- What is the average quantity of purchase?
- What is the frequency of purchase?
- What is the average value of purchase per season?

FORMAT

Sr. No.	Inputs	Price Per Unit	Average Quantity	Frequency	Average Value of Purchase	Average No. of Farmers	Total value of goods purchased
1	Paddy–Seeds	Rs. 100 / acre	5 packets	Once	Rs. 500	100	Rs. 50,000

Better Price Realization for Output

If Gouri and Aditya have to get better prices for their produce, what are the possible options they have?

DISCUSSION:

Could the farmers sell their goods collectively?

Benefits:
Selling them to big traders and companies for realizing better prices

Group Activity:

Let us understand the total value of commodities produced in your village.
Divide yourself into 6 groups.

- List down the major commodities in a single season cultivated by a small farmer (paddy, chilli, spinach, lady fingers, bottle gourd and poultry)
- What is the average land size?
- What is the average productivity per acre?
- What is the total production?
- What is the marketable surplus in quantity terms?
- What is the value of surplus output?

FORMAT

Average Landholding Size	Acres	2
Total Production Per Member	Quintal / Acre	4
Percentage of commodity provided as marketable surplus	Quintal	8
Marketable Surplus	Quantity	6
Value of Surplus Output	Rupees	9000 (1500 per quintal)

FORMAT

Sr. No.	Average no. of farmers	Average Value of Marketable Surplus	Total value of goods to be sold

Session 2: Value Chain Upgradation & Diversification

Session Summary

OBJECTIVES:
By the end of the session, participants will be able to:
- Know the value chain upgradation and diversification
- Understand the strengths of collective action

EXPECTED TIME: 4 hrs

REQUIRED MATERIALS:
Flipchart and markers, overhead projector, Index cards, Name tags and name tents, Prize(s)—folder, pen, key chain, and so on

ACTIVITY:
Group discussions, brainstorming questions and answers followed by discussions

Session Notes:

VALUE CHAIN UPGRADATION

If Gouri and Aditya have to upgrade the value of their products, what value addition could be done for their products?

GROUP ACTIVITY
Divide yourself into 6 groups.
- List down the major commodities in a single season cultivated by a small farmer (paddy, chilli, spinach, lady fingers, bottle gourd and poultry)
- What is the scope for value addition in each commodity?

FORMAT

Sr. No.	Commodities	Value Addition - Possibility 1	Value Addition - Possibility 2	Value Addition - Possibility 3	Value Addition - Possibility 4

Diversification

If Gouri and Aditya have to get additional income, would it be possible to diversify their activities?

DISCUSSION:

What are the diversification options available?

Keep in mind the constraints small farmers operate with - small landholding, limited irrigation, etc.
To get additional income, can they engage in activities with the same asset base?
List down the possible allied activities: goatery, poultry, fish in rice fields?

Working Together versus Individual Action

Difference between individual farmer and farmers collectively working together
- In terms of their activities
- In terms of their earnings

CLASSROOM DISCUSSION
Differences between Individual Farmer and Farmers in Collective Business

	Input Supply	Production	Post-Harvest	Value Addition	Marketing
Farmers Collective (PG/FPC)					
Individual farmer					

Differences between Individual Farmer and Farmers in Collective Business

	Input Cost	Selling Price	Profit Gained
Farmers Collective (PG/FPC)			
Individual farmer			

Key Points:

PRODUCER GROUPS:

Farmer Producer Company

- *Cluster level 10-12 villages*
- *1000 farmers*

- *Credit*
- *Input*
- *Technology*
- *Capacity Building*
- *Marketing Linkages*

Farmer Producer Groups

- *Village level*
- *10-15 farmers*

- *Crop Planning*
- *Seed Production*
- *Demonstration*
- *Knowledge Sharing*
- *Aggregation*

- It is clear that some activities can be done at an individual level, while for others we need farmers coming together to form producer groups.

PRODUCER GROUPS ARE:

- self-managed, independent group of farmers
- shared goal and interest
- pooling their existing resources, gaining better access to other resources
- share in the resulting benefits

STRENGTHS OF COLLECTIVE ACTION VERSUS INDIVIDUAL ACTION

- Affinity, trust and unity among farmers
- Democratic functioning by leaders to improve transparency and accountability
- Increases the economies of scale and reduces transaction costs
  - possibility of sharing knowledge and learning
  - Get inputs at a lower price
  - to take market opportunities (i.e., to negotiate a premium price with the large distribution channels).

WEAKNESS

- Some don't see the benefit from other member's activities
- Higher time spent initially compared to individual actions in the beginning.

Group Activity:

Balancing benefits for Individual Farmers and Collective Business

Service	Farmers Expectation	Viability of Collective Business
Fertilisers Supply		
Agriculture machinery		
Procurement of vegetables		

SAMPLE ANSWERS:

Balancing benefits for Individual Farmers and Collective Business

Service	Farmers Expectation	Viability of Collective Business
Fertilisers Supply	Low cost, door delivery	Low margins in fertilisers business
Agriculture machinery	All members need at the same time	Fast depreciation of machinery, high O&M costs
Procurement of vegetables	High price for poor quality Spot payment	Risk of quality deterioration Market Risk

Session 3: Understanding the Market

Session Summary

OBJECTIVES:
By the end of the session, participants will be able to:
- Know the current market practices
- Prepare the strategies to mitigate market risk

EXPECTED TIME: 6 hrs

REQUIRED MATERIALS:
Flipchart and markers, overhead projector, Index cards, Name tags and name tents, Prize(s)—folder, pen, key chain, and so on

ACTIVITY:
Group discussions, brainstorming questions and answers followed by discussions

Session Notes:

ANALYSIS OF CURRENT MARKET PRACTICES

CLASSROOM DISCUSSION:
Let us understand how small and marginal farmers like Aditya and Gouri buy and sell their produce. Let us analyse their current market practices - and reflect on some questions:
- Who are the farmers like Gouri and Aditya selling to and what markets are they accessing?
- What are the pros and cons of each market player and what is their selling place?
- What are the Advantages / disadvantages of each market?
- What is the value chain of the product they are producing and the price differential at each step in the value chain?

GROUP ACTIVITY
- Share the different crops that grow in their region, market players and market places that they are currently selling to
- List out 3-4 major growing crops in their areas
- In 2 charts, write who they are selling to and where they are selling

- Share the role that each participant plays and the advantages / disadvantages of selling to them
- List down the accessibility, and frequency of each market
- Share the advantages and disadvantages of selling in a particular market

Question: Who and Where are the Customers?

FORMAT
Who are the Customers?

Crop	Selling to whom	Role they play	Advantages	Disadvantages

Who are the Customers?

Crop	Where	Accessibility	Frequency	Advantage	Disadvantage

SAMPLE ANSWERS
Who are the Customers?

Crop	Selling to whom	Role they play	Advantages	Disadvantages
Paddy	Millers	Buys produce, processes it and sells it in the market	Better Price that Traders bypass APMC etc.	Payment Strict Quality requirements
Bottle Gourd	Commission agents	Sells produce to traders and other buyers taking a commission	Provides Credit Cash Payment no need to deal with traders	Poor pricing

Where are the Customers?

Crop	Where	Accessibility	Frequency	Advantage	Disadvantage
Bottle Gourd	APMC –	50 km	Daily	Good Price	Accessibility Issues
Mango	Direct Selling APMC	0 Km 15 Km	On Request Daily	Good Price, Quality standards, Purchase Assurance	High Volumes, Poor Prices

Key Points:

WHO ARE THE CUSTOMERS:
Commission Agents, Money Lenders, Traders, Aggregators, Millers, Processors, Wholesalers, Mall, Retail Sales (Individual Buyers) etc.?

WHERE ARE THE CUSTOMERS:
Mandi, Haat, APMC, Direct Selling?

SOME FACTORS THAT AFFECT MARKET PRICES

- Accessibility
- Volume Requirements
- Quality Requirements
- Time of Purchase from Buyer's (Advance Order vs Selling in the market)

Marketing

CLASSROOM DISCUSSION

What is the value chain of the product they are producing and the price differential at each step in the value chain?
How many steps are there after harvest of crops and an End Buyer / Consumer getting the product?
Is the market player an end user of the product or does he sell it to some other counterparties?
Does the market player add any value to their product like milling, grading and sorting, polishing etc?
Are there particular markets that individual farmers cannot access at the moment?
Can the Farmer Producer Company access these markets more effectively?
Is there a difference in the price that they sell at soon after harvest at the first point against the price at which the End Buyer / Consumer buys the commodity?

Key Points:

- Key value added by the Intermediaries in the value chain is
  - grading and sorting
  - assured quality
- In order to undertake various activities in the value chain, we would require understanding buyer expectations
- Think of the market in terms of buying and selling
- Various components in a value chain
- Need to keep the market demand in mind from the input stage onwards

Assessing the Market Need and Demand

GROUP ACTIVITY

- Divide yourself into 3 groups. Each group takes one agro-commodity.
- Recall Price Range of Major Crops over past 3 years
- List down reasons for the same

FORMAT

Crops	Year	Price Range	Factors
Crop 1	2018		
	2017		
	2016		
Crop 2	2018		
	2017		
	2016		
Crop 3	2018		
	2017		
	2016		

Crops	Year	Price Range	Factors
Onions	2018	4000-5000	High production due to good rains. Good stocks from the previous year. Hence too much supply, hence low prices
	2017	6000-9000	Imports lead to start of decrease in prices Unfulfilled demand from previous year High production due to good rainfall
	2016	6000-10,000	Drought leading to failure of crop across major growing area. Major Diseases. Less supply, hence high prices.
Crop 2	2018		
	2017		
	2016		

Key Points:

- Market demand and supply changes seasonally, as well as every year.
- Focus on Assessing the Demand based on the Market Needs
- Some factors are going to be relevant over the current season alone, and some factors for the next few seasons
- Some factors might be relevant to changes in future demand and supply.
- For crops with limited harvesting period, price starts reducing once the harvesting starts, and more and more supply reaches the market.

Classroom discussion:

Let us understand the different types of factors which affect prices of produce

- Weather
- Crop diseases
- Excessive sowing
- Imports
- Excess stock
- Export bans
- Changes in eating patterns (like increase in consumption of organic products) Etc.

Let us classify whether they are within our control

- Factors which are under our control
- Factors which are not under our control

SAMPLE RESPONSES:

Factor	Under Our Control / Not Under Our Control
Good crop production due to good weather	Not Under Our Control
Crop Disease	Under Our Control
Export Ban	Not Under Our Control
Excessive Sowing	Under Our Control

KEY POINTS:

- Supply and prices follow seasonality patterns
- Best Prices in market may be in general obtained either at the beginning or end of harvesting season
- Markets move both year and year, and seasonally and the factors underlying both.

RESPONSES TO A FLUCTUATING MARKET

- **What:** the kind of crops farmers are planting and are available to market will matter

- **When:** the price at which the farmers can sell will depend on seasonality and how the market condition is when they actually harvest the produce.
- **How:** whether the harvested crops are sold without any value addition or with value addition (like de-husking, grading and sorting, polishing, milling, and packaging).
- **Where:** the place where market produce is being sold - local mandi, haat, APMC or in a different city / state or even country is also a factor.

Long Term Responses	Short Term Responses
• Collective planning of sowing and harvesting • Setting up a system for aggregation grading and sorting • Creating storage facilities • Selling to end-buyers directly	• Finding out alternate markets when markets undergo correction • Selling to processors and millers • Direct selling to bulk buyers • Selling to retail companies • Waiting for prices to increase and then selling etc

SHORT TERM STRATEGIES TO MITIGATE MARKET RISK

Organisation Related Activities	Market Related Activities
Discussing with farmers and agreeing upon the expected price, volume and quality	Closely following market trends, understand the prices, volume and quality requirements from the customer
Planning for procurement processes as per the requirements of the buyer	Identifying alternate buyers and negotiating the price, in line with price expected by farmers
	Identifying storage space on rental - to sell produce when the markets offer better prices, or to ensure quality does not deteriorate
	Ensuring payment collection from buyers - to ensure we have enough working capital with us

Session 4: Recap & Assessment

Session Summary

OBJECTIVES:
By the end of this session, participants will be able to:
- To condense and emphasize the learning of everything covered in the module
- To encourage them to build the aspirations for future

EXPECTED TIME: 1.30 Hours

REQUIRED MATERIALS:
Flipcharts and Markers

Remind the participants of the earlier 5 days discussion with them.

Group Activity:

Organize the participants into groups and consolidate the learnings of entire sessions. Ask them to present in a group.

Document the learnings and feedback of the participants.

Module Description

This module will introduce the participants to the input supplies, market value chain and marketing management for agro-commodities.

Module Objectives

- To help them build knowledge and skills to make their farms more profitable.
- Establish and Institutionalize the VO/PC centric Market Value chain in Talasari Block
- Train and equip VOs functionaries in Operation Management
- Understand the elements of marketing process and prepare a marketing plan for key commodities
- Buyer and Seller Management

Module Outline

TOPIC	MINS
SESSION 1	
• Agri business management - Group Activity 1	30
• Agri business management - Group Activity 2	45
• Agribusiness - Classroom discussion	30
• Product Pricing - Classroom discussion	45
• Classroom exercises - production, storage and transportation cost	45
• Determination of MSP	30
SESSION 2	
•Individual business and Collective business - Group Activity	45
• Benefits of farmer aggregation - Key discussion	20
• Establishment of procurement centre - Classroom discussion	45
• How to run a procurement centre? - Group Activity	45
• Key discussions - How to set up community-based procurement centre	20
• Key licenses to be obtained - Classroom discussion	20
SESSION 3	
• PC Operations plan - Classroom discussion	20
• Steps for formation of PC - Classroom discussion	30
• Operation mechanisms - Classroom discussion	30
• Safety Measures of Procurement Centre	20
• Concluding and recap of objective 3	15
SESSION 4	
• Setting the context of Objective 4	10
• Marketing concepts - Classroom discussion	30
• Marketing plans - Group activity	45
• Assessment of target markets - Group activity	45
• Role play - Production to Marketing	45
• Sales forecasting - Classroom discussion	30
• Bulk Marketing - Group Activity	30

• Advantages of bulk marketing - Classroom discussion	30
• Marketing problems and solutions - Classroom discussion	30
• Field visit - Finalize action plan with farmers	240
SESSION 5	
• Setting up the context: Buyer & Seller Mgt - Classroom discussion	15
• Role play - Buyer and Seller	30
• Key discussions	30
• Demand Management - Group Activity	45
• Sales plan - Classroom discussion	30
• Mapping of buyers - Classroom discussion	20
• Demand vs Supply - Communication	30
• Concluding and recapping of module objectives	60

Session 1: Input Supplies, Production Marketing and Credit

Session Summary

OBJECTIVES:
By end of this session,
- To understand the process of carrying out agri business
- Give direction on how to determine the pricing of agriculture commodity markets
- To raise the understanding on output marketing/agriculture commodity trading

EXPECTED TIME: 2h 40 minutes

REQUIRED MATERIALS:
Flip charts and markers

Session Notes

GROUP ACTIVITY – AGRI-BUSINESS MANAGEMENT
Divide the participants into 5 groups and ask participants to discuss the process carried out in agri business
Explain the framework for the group discussion
- What- Mention the activity in brief
- Whom- for whom- Who is the customer, and Who is the supplier
- Why- Reasons for choosing the activity
- Who- Who will be responsible to carry it out- staff, FIG, individual farmer?
- When- When to start and when to finish? Also take seasonality into consideration
- Where- Location of the activity; and where to obtain the resources for carrying out the activity
- How- Process of carrying out the activity

EXERCISE FORMAT

S. No.	What (activity)	Whom	Why	Who	When	Where	How
1	Input						
2	Output						
3	Value Addition						
4	Marketing						
5	Administration						

Key Points

INPUTS - AVAILABILITY OF INPUTS TO FARMERS
- in proper quantity
- of good quality
- at appropriate time
- at appropriate cost

PRODUCTIONS
- Crop planning
- Maximize production
- Maximize input use efficiency
- Food Security

AGRICULTURE MARKETING AND PROCESSING
- Identifying the market
- Proper return to farmer
- Higher consumer satisfaction
- Appropriate market channel
- Low marketing cost
- Lesser wastage
- Increase value addition

PRODUCT PRICING - DISCUSSION
- Cultivation/Production cost-seed, fertilizer, watering, etc/raw material, processing, packing, labelling, etc,
- Harvesting cost-cutting/threshing, soaking, drying, grading
- Storing cost-gunny bags, tablet cost, treatment cost
- Transportation cost

- Value addition cost
- Selling price

Agriculture Product Characteristics - Discussion

RAW MATERIALS
- product sold by farmer soon loses its identity
- farm product becomes food
- considerable distance between the farmers' product and the consumers' product
- producers believe that their task is only to produce raw commodities

BULKY IN NATURE
- high transport and storage cost

PERISHABLE PRODUCTS
- if not consumed, lose the value over time
- speedy handling
- high storage cost
- problem in quality control
- withholding farm products from the market is extremely difficult

Production Cost - Discussion

- Cleaning, such as removing soil
- Trimming, to remove unwanted leaves, stems or roots
- Grading, to separate produce into similar sizes and quality
- time cost
- higher costs can be expected to result in higher return

Packaging Cost - Discussion

- Convenient way of handling and transporting the produce
- Protection for the produce
- Segregate the produce into convenient units for retail sale
  - Different functionaries may use different type of packaging

Transportation/Handling Cost - Discussion

- Farmer or labourer loads on produce to tractor
- Labourer unloads produce at assembly market and it is weighed
- Wholesaler or his employees repackage the produce in wholesaler's containers
- Produce is carried to and loaded on wholesaler's truck
- Produce is unloaded at wholesale market and weighed
- Produce is repacked in retailer's containers
- Produce is unloaded at retailer's store

Classroom Exercise - Product loss on quality

Assume an example involving a consignment of 100 kg of tomatoes as follows:
- 50 kg sold at Rs 1000
- 20 kg sold at Rs. 800
- 20 kg sold at Rs. 500
- 5 kg sold at Rs. 200
- 5 kg cannot be sold due to very poor quality

Calculate the average selling price of Chilli

Classroom Exercise - Storage Cost

Assume that a warehouse is rented for 120 days of the year at a total cost of Rs. 60000 for storing 250 bags of Chillies, each containing 100 kg of Chillies.
The present market price of potato is Rs. 5 per kg.
Calculate the cost of storage

Determination of MSP

At harvesting time, farmers can compare the market price prevailing in the area with the MSP declared by Govt of India. Crops covered under MSPs in Talasari Rice, Wheat, Red gram, Cotton, Sugarcane

FACTORS PLAY A KEY ROLE IN THE DETERMINATION OF MSP:

- Cost of production
- Trends in market prices
- Changes in input prices
- Demand and supply curve
- Input-output price parity
- Effect on cost of living

Farm Financing - Classroom discussion

SAVINGS: Linked to savings, as this enables producers to save for lean times and future investments

CREDIT: Agriculture-related cash flow patterns and investment needs.

AGRICULTURAL INSURANCE: Insurance helps to deal with the high risk related to specialised agricultural production in particular

Session 2: Establish and Institutionalize the VO/ PC centric Market Value chain in Talasari Block

Session Summary

OBJECTIVES:
By the end of this session, participant will be able to:
- Understand the importance of collective agri business and farmer aggregation
- Learn about the community-based procurement centre
- Helps to know the legal compliances of procurement centre management

EXPECTED TIME: 3 hours

REQUIRED MATERIALS:
Flip charts and markers

Classroom discussion

Can farmers of one village be engaged in Collective Purchase and Supply of Agricultural Inputs?

For example
- Average No. of Farmers: 500 farmers
- Average Value of Purchase: Rs. 1000 per season
- Potential Revenue: Rs. 5,00,000
- Potential Income: Rs. 25,000 (assuming 5% profits)

Brainstorming questions

List down the entire list of activities which needs to be carried out for procurement of inputs

Is it legal to collect money from the farmers for purchasing inputs in bulk and supplying it to the farmers while keeping certain margin?

List down the entire list of activities which needs to be carried out for output marketing

Can a group of farmers do the purchase input/output in bulk and supply it to all the farmers in their village?

Do we have enough capabilities to engage in Collective Purchase and Supply of Agricultural Inputs/Output?

Key Points

- Understand which inputs (DAP, Urea, Vermicompost, Seed etc.) will be collectively procured
- Identify companies from whom they will purchase inputs, negotiate the terms (what inputs, quantity, price, how payment will be made etc).
- Since capital is too low to pay the advance to companies, need to collect money from the farmers
- Delivery of inputs, and operations
- Inputs Licence required which will be given only to a registered company.
- APMC marketing license is required which will be given only to a registered company.
- Company requires to pay cess for every sale, to the APMC
- Company contacts several buyers and negotiates the terms (quantity, price, delivery, payment etc.)
- Company requires products of certain quantity and quality.
- Company should arrange for transportation and loading/unloading the goods, handle the procurement, payment collection and develop long term partnerships with buyers so that the company can get better terms and assured market

Individual business and collective business - Classroom Discussion

- Ask the participant of two scenarios: Individual farmer and Farmers collective to understand the differences of their business
- Ask any individual participant farmer to share the below details and write down on the board

Current Agriculture Product	Input cost	Selling price	Profit gained

Key Points - Discussion

- Leads to improved production and processing
- Leads to easy access to markets - Marketing and selling to a larger range of purchasers, including wholesale, retail, food service and export markets
- Leads to easy access to finance
- Leads to reduced transaction costs - enables smallholders to reduce transaction and overhead costs by purchasing inputs together, reducing the cost of transport per farmer and accessing discounts through bulk purchasing.
- Buy inputs as a group from dealers or suppliers there are good chances to get discounts as the purchase could be made in bulk.

Group Exercise

Divide the participants into 5 groups and ask them to discuss about the procurement centre establishment and operations at village level

- What are the requirements of a procurement centre?
- What logistics do we need?
- Is the centre necessary?
- What are the benefits? Who benefits from this?
- How do I run it? How do make it sustainable?

Group Exercise

Facilitate the participants and ask them to share all the requirements to run the procurement centre at village level
Write down same in the board and facilitate the discussions

Key Points - Procurement Centre

Procurement centre is where Farmers' Organisations (FOs) can assemble grain prior to delivery to a customer, such as a trader
What Procurement centre staff should do:

- Should register the quantity of farmers' produce, a day in advance
- Should generate the demand on daily basis
- Make arrangement of logistics at centre
- Check that the quality of grain entering the store is of at least the minimum acceptable grade This minimum should be set by the FOs
- Weigh and record the number of bags of grain entering or leaving the store
- Maintain the records - Cash or payment to the farmers

How to set up a community-based Procurement Centre?

- Essential infrastructures and Machines
  - Weighing machine
  - Packing materials: Gunny bags, stitching machines, markers
  - Tarpaulins, moisture meters
- Conducting value chain analysis and identify the potential procurement centres at village level
- Build HR capacity and identify the potential community resource persons trained in bookkeeping, quality control mechanisms and business development
- Every PC is assisted by an organizational structure in the form of various committees such as purchase and sales committee, quality control committee which has a clearly defined role
- Developing market activity calendar and to plan resource needs
- Anticipation of each procurement centre for yearly procurement of quantity, it may be crop wise such as Raw Rice, Chilli, Mango, Watermelon, vegetables etc

KEY LICENCES TO BE OBTAINED

Licenses	Description	How to Apply
Seed Licence Wholesale		

Licenses	Description	How to Apply
Seed Licence Retail		
Fertilizer Licence Wholesale		
Fertilizer Licence Retail		
Pesticide Licence Wholesale		
Pesticide Licence Retail		
Trade Licence		
FSSAI Licence		
Weights and Measures Licence		
Packer Licence		

Session 3: Train and equip VOs Functionaries in Operations Management

Session Summary

OBJECTIVES:
By the end of this session, participants will be able to:
- Understand the formation and operational mechanisms of procurement centres
- Learn on how to plan for procurement centre operations in each crop season

EXPECTED TIME: 2 hours

REQUIRED MATERIALS:
Flip charts and markers

Procurement Centre

OPERATION PLAN
For the next discussion, ask participants to discuss the following questions for 30 minutes in group and ask them to share in larger group
- How to bring procurement centre in to operation/effect?
- What kind of steps we should take up?
- How to generate the demand?
- Who will be anchoring the process?
- Shall we do it cluster wise or CRP wise?
- Shall we do it Pada wise or GP wise?

FORMATION MECHANISMS

- Identification of the potential commodities and crops for sale
- Anticipation of the surplus commodity for marketing
- Open dialogue with VO executive committee to appraise the necessity of PC
- Formal approval in their respective monthly meeting which is recorded in minutes book
- Selection of an anchor CRP as contact or point person for PC
- Purchase of Logistics such as Weighing Machine, Tray, by VOs with its due approval in the meeting
- Identification of separate room adjustment to living area or house
- Procurement as per the supply available with 1-day advance booking with anchor
- Formation of PC management committee
- Maintenance of Record/ Procurement and payment registers
- Placement of Flex boards- price list, committee, title board

OPERATION MECHANISMS

- Separate place with PC look
- All logistics essentials such as separate room, weighing machine, gunny bags, tray, registers, anchor, flex boards must be in place
- Point Person is contacted by concern farmer and informed / registered his/her commodity quantity, quality and time a day advance
- The concern CRP/Anchor/Point person, informs to the promoting organization team about the same on the same day
- The Agri Marketing Manager contacts market player to know the quality wise rate/price
- The concerned farmer is asked to place the photo of his /her commodity on WhatsApp to confirm the rate on the same date
- Next day farmers start plucking and brings produce to the centre in the evening time
- Procurement is done at particular centre and and the commodity is sent to the market on the day when it was procured
- The payment is made either through Cash or VO's account whichever is feasible on the next day and same is distributed to farmers by Anchor with the knowledge of VOs

Key Points

After the group exercise, explain the processes of input procurement to the participants and discuss according to the Talasari crop calendar.

- Purchasing Seeds in bulk
- Demand Generation from the farmer in the month of April
- Collection of Advance in the first week of May
- Placement of order to seed/input company
- Delivery in first week of June
- FPO focal point - Data Collectors > Demand > FPO order > Wholesaler> FPO level disbursement

Safety and Neatness Measures of Procurement Centre

- Pucca room/Semi concrete room to keep the logistics
- Wooden fencing around the centre
- Proper lighting system
- Should be adjacent or part of the living family
- Quality lock - Keep the Agri produce locked
- Insurance

Key Points

- Space / Place /Room for Procurement Centre
- Logistics such as Weighing Machine, Tray, Gunny bags, Flex board, Digital Photo Banner, Registers, Table, Light, Fans, Calculator, water jar etc
- Paid Anchor to run the centre
- Accounting bill book/Voucher/Receipt
- Separate / VOs Account to transact the business

Session 4: Understand the Concepts of Marketing Process and Prepare a Marketing Plan for Key Commodities

Session Summary

OBJECTIVES:
By the end of this session, participant will be able to:
- Understand the concepts related to marketing
- Get introduce on marketing management for Agri-commodities
- Evolve a marketing plan for the key commodities, taking into account the production forecast

EXPECTED TIME: 8h 45 minutes

REQUIRED MATERIALS:
Flip charts and markers

Session Notes

INTRODUCTION - SET THE CONTEXT
Write the word 'Marketing' on the left side of the board and ask participants what they understand by this term. Note key words from their responses under the word 'Marketing'. Then write 'Market' on the right side of the board. Again ask participants what they understand by this term, and note their responses under the word 'Market'.

MARKETING CONCEPT
Ask participants that you would like them to spend some time discussing their experiences in marketing. Use the following questions to guide the discussion and make sure that some key marketing concepts and terminologies are introduced:
- Who has sold produce at the market?
- How did you identify a particular market?
- Whom did you sell?
- What products did they sell?
- What quantity did they sell?
- How did they take the product to the market?
- What was the market like?
- What difficulties did you have?

Key Points

EXPLAIN DEFINITIONS AS FOLLOWS:
Marketing is the process of chain of procuring and selling the inputs and outputs between the producer (farmer) who sells, and the consumer who buys.
Market is the place where the exchange of goods and services takes place. It is made up of sellers, buyers, products and prices.
Market is the backbone of our economy, without which the growth path remains stagnant.

DIFFERENT WAYS TO ACCESS MARKETS

Group Activity 1

Ask participants in each group to help one another to think about their marketing plans. They should discuss the following questions:

- Which market should I use?
- How much can I sell in each market?
- What price would I get if I sold my product at the farm gate?
- What price can I expect from each market?
- What costs can I expect to incur in each market?
- Shall I sell my commodity collectively?

While the groups are working, move from group to group to listen and help. Finally ask each group to share their market plan

Group Activity 2

Divide them into 5 groups and ask them to assess the target markets for marketing the farming products based on their experience in Talasari context

After group discussion, ask participants to present. Listen carefully and explain other advantages

Target market	Advantages	Disadvantage
Fellow farmers		
Individual or household consumers		
Local retailers		
Urban retailers/vendors		
Processors		

ROLE PLAY - PRODUCTION TO MARKETING

Facilitator has to follow the below steps

- Have the participants create a play of the marketing of green chilly in their area
- Together, identify the different chain actors involved and the roles they play
- Find 5 different people involved in marketing from point of production to the consumer and share their roles in it

- Marketing chain actors: Farmer, PC specialist, Wholesaler, Retailer and Consumer
- Ask participants to play the practical scenario in marketing green chillies

SALES FORECASTING

In order to forecast the sales, tell the participants that a CRP should have this below data in your hand. Write down on the board

- Data of production – Number of farmers who cultivated, Number of acres planted, Quantity available for consumption and market
- Cluster wise production assessment
- Anticipating the production based upon last year
- Reliability of the transport
- Procurement place or point
- Expected trading - traders and buyers

Group Activity 3 - Bulk Marketing

Break the participants into 5 or 6 groups

Ask all the groups to pen down the advantages of buyer and seller (farmers) due to bulk marketing , Ask each group to present and listen carefully

Particulars	List of advantages
Buyers	
Sellers (Farmers)	

ADVANTAGE OF BULK MARKETING

FARMERS

- Reduced input costs due to backward linkages with input dealers
- Prevention of the middlemen charges/ transaction cost
- Increased bargaining and negotiation capacity of the farmers
- Increases the involvement of the farmers and makes them independent
- Market expansion- taping more markets

BUYERS

- Overcoming multiple transactions
- Assured supply of produce
- Quality of the produce guaranteed
- Free from stress of market fluctuations
- At reasonable rate at door step

Problems in Marketing

Start the discussion on common problems that farmers face on marketing in Talasari
Write down the problems on board

INDICATORS:

- No of traders
- Quantity of Agricultural produce
- Quality of Agricultural Produce
- Local market rate
- Commodity absorption capacity of Local Market

After the discussion, try to share the solution for context-based problems and ask participants to plan piloting in your respective areas

Solutions of Marketing Constraints

Problems	Solution
Traders don't come to buy	Work to increase quantities available in order to attract traders
Low price	Explore different, higher-priced markets, produce quality produce
Excess supply	Look for alternative markets and in the long term encourage diversification of the crop and market-oriented production
Lack of market places	Develop a small-scale market on specific days
Many scattered producers	Establishment of collection centre and group enterprise
No bargaining power	Provide more price information and find new markets /traders
Lack of inputs for production	Organise mechanisms to provide guarantee inputs
Spoilage	Improve post-harvest techniques- introduce sorting out the commodity
Seasonal/ Market price fluctuations	Storage facility and working capital/cash to meet farmers urgent needs

Field Visit - Finalize action plan with farmers

- For this session, you need to find 5 farmers in working area of UNDP project, you should consult with farmers about the purpose of visit and the kinds of questions the participants will ask
- Organize the participants into teams of five, explain that they will be visiting the field to discuss with farmer, explain that the purpose of the visit is to learn and finalize the action plan of farmers to cover inputs, production and post harvest processing
- Explain the framework to prepare the action plan

Framework

INPUTS:

- How will farmers make sure the critical inputs are available when needed?
- How will farmers get the money they need, especially to cover cash flow? - What external support will be needed, and how will it be obtained?

PRODUCTION:

- What to grow; how much to grow; when to plant and harvest; how to grow it
- Are all the resources ready: land, time, finance, inputs, skills, involvement of family members?
- What happens if too little can be harvested? How will the chain ensure a high-quality product is still sold at a profit?

POST-HARVEST:

- How will the crops be processed (grading, washing, drying)?
- How will they be stored to protect its quality?

INFORMATION:

- What information will farmers need before, during and after production?
- Who will collect the information and how will it be communicated to everyone who needs it?

Session 5: Buyer and Seller Management

Session Summary

OBJECTIVES:
By the end of this session, participant will be able to:
- Explore the needs, wants and demands of marketing
- Explicate various aspects of marketing management (buyer and seller)

EXPECTED TIME: 4h 20 minutes

REQUIRED MATERIALS:
Flip charts and markers

Role Play - Buyer and Seller Management

This exercise will start with a role play. Ask 5 of the participants to act as buyers and sellers

SITUATION:
The farmers have just finished harvesting. There is a lot of produce in the village. There are many traders coming to the village offering various prices and terms.

The three farmers have to fix the price of commodity (In what basis, they will fix the price). The three farmers are working together trying to get a better price for their produce. The two buyers are working together trying to get the produce at the lowest possible price.

Key Points

After role play, explain the purpose of the session to the participants. Tell the participants to carry out the following methods for better buyer and seller relationship
- Regular touch with buyers
- Access for permission
- Quality goods
- Labour management
- Understanding each other's abilities and requirements

- Reliability and honouring commitments

Demand Management

- Divide the participants into 5 groups
- Ask participants to map the traders in Talasari and across locations
- Facilitate the discussion for demand management

Traders details	Where	Capacity	How much do they purchase every year?
Manoharlal seth	Vapi	500 tons	
Yougesh Kedar	Mumbai	100 tons	

Sales Planning

Explain to the participants about the necessary steps/prerequisites to be taken for planning the sales
- How many procurement centres? How did we transport? Necessary logistics gunny bag, tray, machine etc
- Who are the traders? How many traders in a market?
- Purchasing capacity of traders
- Contingency plan - Plan for storing or cold storage or value addition or tie up with company/stores

Mapping of Buyers

List down the potential buyers in and around the Talasari

Big basket, tribal development corporation, APMC based traders

Different buyers should be identified - Reliable buyers

Mapping nearest buyers - Big wholesalers, Retailers

Communication of Demand vs Supply

- Anchor the PC - Place the Flex board with contact person's name and number therein
- The farmers will contact the anchor of PC and inform the expected quantity in a day advance
- Manager will inform the rate of the product on the same day
- Anchor will reach out to the farmers to get supply quantity on mobile number very next day morning
- Inform one day advance to buyer about the expected quantity and quality
- Trader/Buyer will arrange the vehicle accordingly
- Trader will come up with manpower and pick up the commodity

MODULE 4

Post Harvest and Value Addition

Module Description

This module will introduce the participants to the need for value-addition of Agri-commodities, and operations and marketing management for Agri-commodities.

Module Objectives

- Understanding the post harvesting techniques/methods
- Impart the knowledge of value addition of Agri commodities to the participants
- Marketing management of agricultural commodities

Module Outline

TOPIC	MINS
SESSION 1	
• Introduce the Module objective	10
• Brief the objective 1	10
• Brainstorming - Commercial farming mindset	30
•Group Activity 1 and Discussion - Post harvesting methods	45
• Group Activity 2 and Discussion - Post harvesting methods	45
• Group Activity 3 and Discussion - Post harvesting methods	45
• Group Activity 4 and Discussion - Reducing post-harvest loss	45
• Classroom discussion - Reducing post-harvest loss	45
• Group Activity 5 and Discussion - Aggregation, Transportation and Storage	60
• Classroom discussion – Branding	60
• Concluding the objective - Key points discussion	45
SESSION 2	
• Brief the objective 2	10
• Setting up the context - Classroom discussion	30
• Group Activity 1 and Discussion - Key players of value chain	45
• Group Activity 2 and Discussion - Value Addition and Need	45
• Group Activity 3 and Discussion - Processing	45
• Group Activity 4 and Discussion - Problems in Agri supply chains	45
• Concluding and Key points discussion	30
SESSION 3	
• Market Information System	15
• Operational Stages	30
• On the basis of transactions	30
• Supply/Delivery	30
SESSION 4	
• Field Visit - Post harvest management & Value addition	240
• Recap and Discussions	90

Session 1:
Post-Harvest Methods and Techniques

Session Summary

OBJECTIVES:
By the end of this session, participant will be able to:
- Understand post-harvest methods/techniques
- Assessing post-harvest losses and quality problems for crops
- Get background of collective approach especially for crop aggregation and marketing purposes

EXPECTED TIME: minutes

REQUIRED MATERIALS:
Flip charts and markers

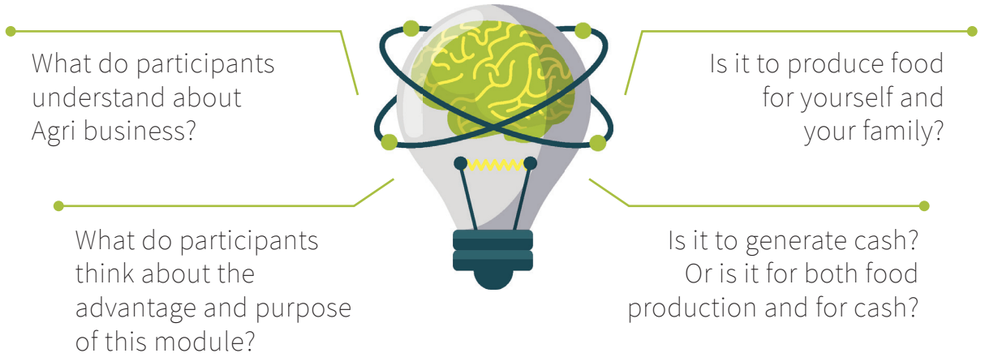
ACTIVITY:
Brainstorming questions, Group discussion and answers followed by discussions

Introduction

All activities that a farmer carries out after the maturity of crops are referred to as postharvest management. These activities are called post harvesting activities and include:
- Harvesting
- Transportation and temporary storage
- Primary processing
- Treatment
- Storage
- Secondary processing
- Marketing

Brainstorming:

Ask participants to brainstorm the following questions and facilitate the discussion.



Tell the participants that the whole module will deliver through interactive and discussions methodology.

Group Activity - Mindset of commercial farming

- Ask participants to explain the changes - How do you explain the following changes in farming practices?
- This brainstorming exercise is to facilitate a smooth transition from subsistence farming towards commercial farming.
- Draw the template on the board and write down the points shared by participants

	Farming for Food	Farming for Cash	Why this change
30 years ago			
10 years ago			
Today			

Agribusiness Systems

Explain to the participants about the agribusiness system
It includes,

- Not only production, but grade, size, weight, length, colour, shining etc
- Organization which provides inputs (e.g., fertilizer, equipment and tools, pesticides and seeds)

- Processing the output (Ex. Value addition steps)
- Manufacturers - Find the manufacturing companies using raw material
- Transporters/Sellers
- Godown, Storage/ cold storage facilities
- Manpower/Labour
- Provide inputs (Ex. seeds, chemicals, nutrients)
- Process the output (Ex. processing plants)
- Manufacture goods and commodities using produce
- Transport/sell the products (e.g., retail grocery stores, wholesalers)

Group Activity

- Ask participants to share locally grown crops in Talasari
  - Rice, Chilli, Bengal gram, Chauli, Red gram
- Divide participants into 5 groups and ask them to discuss and share key post harvesting problems faced by smallholder farmers

Group Activity

- Tell the participants that the next discussion is to understand the entire process of post-harvest methods till it goes to home.
- Divide into 5 groups and ask participants to write down the process of after cutting till it comes to your home.
- After the presentation of each group, Explain the post-harvest methods mentioned in the handbook.

Group Activity

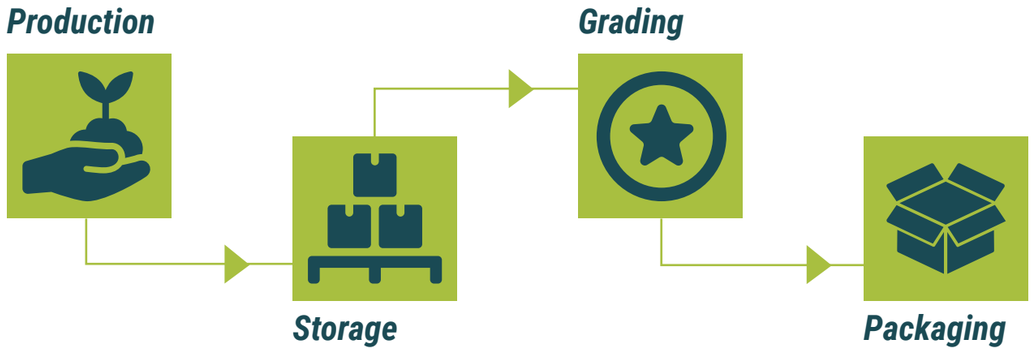
- Divide the participants into 5 groups and facilitate the group activity
- Group discussion regarding the importance of drying grain thoroughly, and ways of testing whether grain is dry enough. You can share the key areas for discussion in groups.
  - How to protect grain against damage during storage?
  - How to store grain safely on farm?
  - How do you take care for preserving it for one year or two years inside the house?
  - How do you identify the quality of grain for storage?

Group Activity - Reducing post-harvest loss

In the classroom, ask participants about the techniques to reduce post-harvest loss. Write down on the board and share the inputs after discussion.

Level	Techniques/Description
Production	
Storage	
Transport	
Grading	
Packaging	
Transport	
Loading and unloading	

Key Points:



PRODUCTION:

- Ideally harvesting should take place when the crop and the climate is the moderate and the plant has the lesser moisture content.
- Leafy vegetables are harvested by cutting the plant with a sharp knife as close to the root as possible

STORAGE:

- Keep produce in a shade and humid location
- Separate ripe from unripe fruits and vegetables
- Avoid mixing produce in the same storeroom

GRADING:

- Grading can only separate different quality products, it helps us in sorting out quality and low-quality commodity
- Remove damaged produce from the rest.

PACKAGING:

- Protects the products from damage while transporting from one place to another
- Do not reuse poor quality packaging materials with many holes. There will be loss during transportation due to fall.

Q&A

- What do you understand by postharvest losses?
- How long does it take to harvest your crop?
- What are the components of post harvest management? Emphasis on the postharvest management pipeline.
- How should Rice, Chilli, Bengal gram, Chauli, Red gram be harvested? Shelled? Dried?
- What are the causes of insect infestation in Rice, Chilli, Bengal gram, Chauli, Red gram?
- What is the best way to bag and package Rice, Chilli, Bengal gram, Chauli, Red gram for storage or transport to market?

Group Activity - Aggregation, Transportation and Storage

Ask participants to group 5 teams and ask them to clearly listen to the set of questions to understand the aggregation, transportation and storage for all locally grown seeds.
Each participant will discuss the below questions in their group and share the presentation.

DISCUSSIONS - AGGREGATION, TRANSPORTATION AND STORAGE

TRANSPORTATION

- Ask participants to list down all forms/modes of transportation they know for smallholder farm produce transportation
- Let the participants reflect on the pricing per unit of produce transported
- Ask participants to discuss why is it that they do not transport their produce to the processors or big traders in the nearby main trading centres or cities and town?
- How do vendors transport their produce from their markets to their main central places or main buyers?

- Ask if it is possible or they have ever seen smallholder farmers transporting produce in bulk.

STORAGE AND AGGREGATION

- Ask how storage is done at individual farmers' level
- Find out how vendors and traders store their aggregated farm produce
- Discuss with the participants on the importance of produce pooling and individual storage
- Similarly, find out what has been the trend in pricing when smallholder farmers trade as individuals as compared to collective marketing
- Find out the reasons why smallholder farmers who usually produce low quantities do not access reliable and profitable markets as individuals

Branding

- Write the word "Branding" on the left side of the board. Ask participants what they understand by this term. Note the key words from their responses under the word "Branding"
- Write down the benefits on the right side of the board. Ask participants to explain the benefits of branding Agri commodities.
- Ask participants to share some of the brands in India that are selling agricultural commodities/vegetables products.

Conclude the discussion by explaining key points.

Key Points

Brand means a name, design, logo, symbol. It identifies a particular organization's product. Branding also adds value to products simply because consumers generally believe that known branded products have better quality or more attributes than unbranded products.

BENEFITS:

- To earn a higher price for the producer and can lead to brand loyalty.
- Branding a product adds value by differentiating the product, making it stand out from the other items in the market.
- Branding is the sense of pride or community that can be experienced by the producer.

GOOD QUALITY GRAIN FOR BETTER MARKETS

- Produce better quality grain for a higher income
  - Find out what grain quality is needed to sell into a more rewarding market.
  - Invest in improved postharvest technology for greater productivity and higher quality.
  - Sell to a buyer who will pay a better price for high quality grain.

- Prepare yourself before harvesting

  - Planning ahead is essential – Where storing will be done
- Harvest the grain on time
  - Harvest on time, when the crop is mature
  - As soon as possible, transport crops from the field to the homestead for further drying.
- Dry the grain
  - Dry grain until it is sufficiently dry
- Shell/thresh the grain
  - Clean the grain carefully
- Ensure good storage at home
  - Put grain in sacks and sew them shut.
- Move to the collection site/procurement centre

Session 2: Process of value addition to agri commodities

Session Summary

OBJECTIVES:
By the end of this session, participant will be able to:
- Understand value chain concepts
- Learn about the basic value addition processes and requirements

EXPECTED TIME:

REQUIRED MATERIALS:
Flip charts and markers

ACTIVITY:
Brainstorming questions, Group discussion, and answers followed by discussions

Introduction

Before starting with this section, the participants must obtain information on the price of 1 kg of fresh chilli and 1kg of chili sauce or look for a product that is common in the area. Now show participants the three packets of rice (one nicely packed). Ask them that if they were to take the three forms of rice to the market, which one do they think will fetch the best price? Why?

Guide the discussion towards the fact that price was enhanced due to the following:
- Grading of rice/chilli/tomato/lady's finger/brinjal
- Packing and packaging of the rice
- Cleaning of rice

Value Chain Practical-understanding the key players and stakeholders - Group Activity 1

- Put a clean flipchart paper and ask participants to list down all the stakeholders involved in the rice value chain i.e., production, marketing, processing, consumption, service provision etc. If possible, allow the participants to mention even the actual/specific names of the stakeholders as per their knowledge in Talasari
- Expound more on processing and ask them what do they know about value addition. Make it a plenary question. List down all the suggestions and responses coming from the participants.

Value Addition - Group Activity 2

Give the instant case and divide them into 5 groups, then ask participants to share the preserving and value addition steps. Take one crop which is grown in Talasari, and explain the value adding steps of any agri commodity.
- If chilli is not sold, how do you preserve?
- What kind of steps to take to add value?
- What are the value-added products we can process through processing?

Explain the participants that in this exercise they will look at how to add value to a product through processing.

Group Activity

Organize participants into five teams based on previous activity and ask each team to brainstorm about how this product can be made.
- They should also identify who would actually do the processing.
- Can they do it themselves?
- Does it have to be done by someone else?
- Would they like to process their product in this way?
- Who would do it?

Ideally, encourage the participants to form teams that can work together in taking their ideas further.

Group Activity

Break the participants into 5 groups and ask participants to mark the common problems in Agri supply chains in Talasari.
Ask each group to share and listen to the problems. Try to find out the possible solution through the discussion.

Production	Supply Chain	Processing	Marketing

Need for Value Addition

Explain the participants about the need of value addition in agriculture commodities and conclude the discussion.

- To improve the profitability of farmers
- To empower the farmers and especially women through gainful employment opportunities
- To reduce the post-harvest losses
- To have best use of available raw material
- To provide the better quality to the consumers
- Avoid the distress sale of Agri commodity and exploitation in the hands of traders
- To provide ready made products and utilities

Value chain

Specific type of chain where the actors actively seek to support each other so they can increase their efficiency and competitiveness

- long term relationship between buyer and selling, building trust.
- exchange of market information, potential to innovate.
- negotiation of prices, quality standards, supply continuity, etc.
- potential for collective agreements (farm level).

Mapping of Sub Value Chains

Divide the participants into 5 groups, ask the group to discuss the main products which are produced from chilli and major commodities in Talasari.

EXERCISE FORMAT

Sub value chains	Process	Use of consumers

Value chain actors and functions

Chilli as cash crop, ask participants to map the chilli production systems for Talasari region

- Chilli - Seed production
- Nursery bed
- Land preparation
- Transplanting process
- Farming
- Harvesting
- Drying process at farm level
- Loading/logistics
- Processing and packaging
- Transport from farmer to wholesaler

Chilly - Sample Value Addition

Drying of Chilly

The farmers who want to make Red Chilly must follow the following process for drying.

It's better to let the Chilli dry at the plant to lose the moisture content. The red colored Chilli at the plant looks redder and shiny.

If it is not possible to let some chillies dry at the plant, then such chillies can be plucked and dried under the shed for a longer period of time so that they lose the moisture and get the red color. Usually, it takes 12 to 15 days to lose the moisture post which these chillies need to be further dried in hot temperature for 3 to 5 days. The chillies can then be stored in sacks

STEPS FOLLOWED FOR DRYING CHILLI

- Pluck the chillies, sort them, remove the leaves and spoiled ones and spread the good ones on the floor
- The green Chilli must be dried under the shed only and not in hot temperature.
- The place used for drying Chilli must have ventilation to avoid fungus infection
- The Chilli must be equally spread, must not be placed in debris form
- The Chilli must be protected from fungus infection by spraying solution of 9 gram salt in

1 litre water. It shoud be done only once
- Thereafter not a single drop of water should be applied to Chilli
- During the drying process of 12-15 days, no animal should come in contact of chilli
- By the 12th day, the chilli should convert to Red Chilli.
- If not, again dry it for the next few days to get red colour.

Post-Harvest Marketing Choices

Group Activity

Divide participants into 4 sub-groups and each group will be given the following topic and after discussion they will come up with information based on the table below.
The participants will fill the possible activities (opportunities) as well as challenges. For each activity, opportunities/challenges – financial, technical, political, social, human resource.

Group 1:	Group 2:	Group 3:	Group 4:
Input Business	Output Business	Value Addition	Marketing

EXERCISE FORMAT

Sl. No.	Opportunities / Activity	Challenges	Feasibility of activity (Y / N)

MARKET INFORMATION SYSTEM

Decisions	Information Required
What crop to plant? What variety?	• Historical prices of different crops • Prices of different varieties • Production costs of different crops and varieties
When to plant? When to sell?	• Seasonal variations in prices
Should I harvest? Where to sell?	• Current prices in different markets • Marketing costs for alternative markets

Wholesale buyers

- A wholesale buyer buys and re-sells or distributes produce to retail grocers, restaurants, food service companies, and/or other wholesale markets.
- Two goals of wholesale buyers are: to get the product at the best price and quality and to get enough volume of the product to meet their customers' demand. Wholesale buyers resell products to other wholesalers, produce brokers, retail stores, restaurants, schools or other institutions.
- Growers sell/market their produce directly to wholesale buyers

ADVANTAGES AND DISADVANTAGES

Advantages of working with wholesale buyers	Disadvantages of working with wholesale buyers
• Can move large volumes of produce • Don't have to deal with end consumer directly • Transportation managed by wholesaler	• Hard to keep customers— if not enough volume or year-round product • Need good market price information (can be hard to get) • Must bill customers and collect money

Direct Marketing - Advantages and Disadvantages

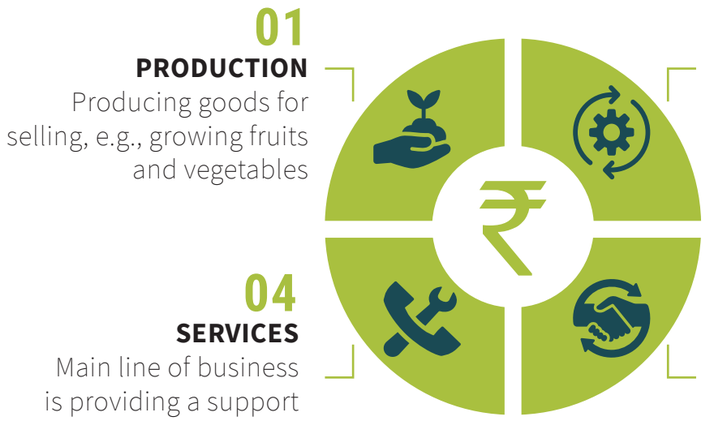
Advantages	Disadvantages
• High prices • Less difficult to get good market price information; less elaborate billing system, cooling, label, standard cartons and packaging, harvest crew, delivery because the products don't need to travel a long way and customers do not require standardized packaging	• Farmers need marketing skills • Fairly complicated, need much more infrastructure than with a grower/shipper/packer • Limited market • Small amounts per customer • Customer service is most important, yet can be costly and difficult

How to Calculate Cost of Production?

Cost of production = total fixed costs (TFC) + total variable costs (TVC)

FIXED COSTS: Costs that remain the same no matter the level of production of the business. For example, lease for land.

VARIABLE COSTS: Costs that change depending on the amount of output. These may include inputs, wages, fuel for machines, etc.



OPERATIONAL STAGES

ON THE BASIS OF TRANSACTION

- Spot or cash markets: Produces are exchanged for money immediately after sale or within a reasonable short period of time.
- Forward or future markets: Here, a transaction takes place for a standardized commodity with a promise to pay and deliver a commodity at some future date

COST OF INDIVIDUALS/PCS

Features	Cost characteristics	Cost to individuals/PC
Choosing a location	Identifying location specific to need	Location-specific transaction costs
Selecting farmers	Identifying farmers with specific characteristics	Household-specific transaction costs, opportunity costs

Financial Transactions

Mapping of farmers and list of farmers having which commodity

- Preparation of logistics and upgrading the centre
- Advocacy of PC in various forum - SHGs, VOs
- Sharing through social media
- Farmers expressing the offers through phone call to CRP
- CRP will review the quality and quantity through visits
- Pricing will be decided as per the quality - Two-way communication and confirmation of pricing by both the party
- Farmers bring the commodity to PC
- Physical verification/validation of commodity
- Assessing Grade
- Formal weighing of commodity
- Writing the name, grade and weight on the gunny bag
- Recording in the procurement register
- Transportation to the trader point

TRADER POINT:

- Trader will make payment - Direct Cash to Farmers, Bulk payment through VO
- 10% cut off from the payment

Field Visit - Post Harvest Management & Value Addition

For this session, you need to find 5 farmers in working area of UNDP project, you should consult with farmers about the purpose of visit and the kinds of questions the participants will ask

Organize the participants into teams of five. Explain that the purpose of the visit is to learn the post-harvest management, post-harvest losses occur, value addition (Rice and Chilli) and marketing/sales (procurement centre) of produce for crops grown in Talasari.

Group 1:	Group 2:	Group 3:	Group 4:
Post Harvest Management	How Post-Harvest Losses Occur?	Value Addition (Rice & Chilli)	Makerting & Sales in Procurement Centres

MODULE 5

Diversification Activities

Module Description

This module will introduce the participants to the need for diversification of livelihood activities

- Understanding of existing allied and non-farm activities of Talasari
- Preparing the business plan for allied and non-farm activities

Module Objectives

- Mapping of Allied and Non-farm enterprises in Talasari
- Exploring feasibility and business viability for potential activities
- Functional business planning - 2 Allied and 2 Non-farm activities of Talasari

Module Outline

	TOPIC	MINS
DAY 01	• Introduction	10
	• Brief the objective	15
	• Setting the context – Brainstorming	30
	• Need for diversification	30
	• Identify the allied and non-farm activities	30
	• Mapping of allied and non-farm activities - Group Activity	45
	• Business components – Framework	60
DAY 02	• Dairy Farming – Scope	30
	• Suitability of dairy farming - Group Activity	45
	• Mapping of potential dairy farmers in Talasari	30
	• Challenges and solutions in starting a dairy farming business	45
	• Limitations of dairy farming	20
	• Group Activity - Application of BMC framework for dairy business	60
	• Business plan – Components	30
	• Marketing Management	60
	• SWOT - Dairy farming	45
DAY 03	• Goat Farming – Scope	30
	• Suitability of goat farming - Group Activity	45
	• Mapping of potential goat farmers in Talasari	30
	• Challenges in starting a goat farming business	45
	• Group Activity - Application of BMC framework for goat business	60
	• Business plan – Components	30
	• Marketing Management	60
	• SWOT - Goat farming	45

DAY 04	• Field Visit - Understanding the cost, income, profitability for Dairy and Goat rearing business	240
DAY 05	• Field presentation and Non-farm Activities	15
	• Suitability of tailoring	20
	• Business viability - Tailoring business	45
	• Market feasibility - Tailoring business	45
	• SWOT for tailoring business	30
	• Suitability of candle making business	20
	• Business viability - Candle making	45
	• Market feasibility - Candle making	45
	• SWOT for tailoring business	30
	• Recap & Follow up discussion	45
	• Assessment and Feedback	30

TOTAL DURATION (MIN): 1540 MIN

Session 1: Introduction

Session Summary

OBJECTIVES:
By end if this session, participant will be able to
- Understand the need of diversification of allied and non-farm activities
- Identify the existing allied and non-farm activities of Talasari
- Understand the business components framework

EXPECTED TIME: 220 minutes

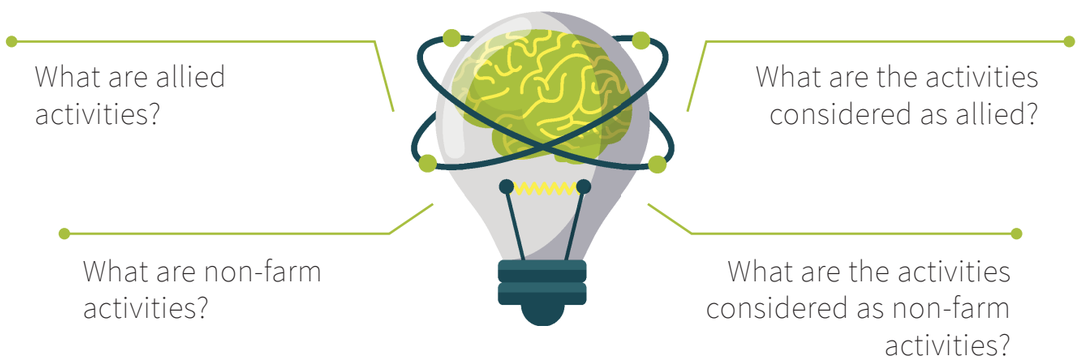
REQUIRED MATERIALS:
White board, Flipcharts and Markers

ACTIVITY:
Brainstorming questions and answers followed by discussions

Session 1: Notes

Recap the previous module and brief the objectives of this module to the participants. Let us understand the allied and non-farm activities of Talasari.

BRAINSTORMING QUESTIONS:



NEED FOR DIVERSIFICATION:
There is a need for diversification to allied activities as depending on a single activity for earning or living has more risk.

EXAMPLE:
Depending only on farming has higher risk, in case of any climatic changes, floods or pandemic situations etc there is no alternate source of income for farmers. Therefore, working in different types of activities reduces risk.

Classroom discussion

Let us understand the potential allied and nonfarm activities in Talasari.
Ask participants to list down the potential activities. Write down on board and ask participants reason for identifying it.

Allied Activities	Non-farm activities
Dairy farming Goat farming Poultry Fishery Rice Value Addition	Tailoring Candle Making Agarbatti making

Mapping of allied and non-farm activities

Group Activity:

- Divide the participants into smaller groups
- See if you can brainstorm the list of allied activities & nonfarm activities and plot the activities involve and source of income
- After the group presentation, ask participants to map the potential areas of farmers involved in these activities in their working area.

List of allied activities	Activities involved in it	Source of income
Dairy farming	Breeding, rearing and caring of livestock	Business of producing, storing and distributing milk
Goat farming	Breeding and raising of goats	Milk, meat, wool and other by products are the source of income
Tailoring	Stitching, embroidering	Selling of clothes and designing
Candle/ Agarbatti making	Making candles, Agarbatti	Selling of Agarbatti, candles in bulk

BUSINESS COMPONENTS - FRAMEWORK

To help the participants understand their existing potential allied/nonfarm activities and the key drivers of their business using Business Model Canvas (BMC) framework

Session 2: Dairy Farming

Session Summary

OBJECTIVES:
By the end of this session, participant will be able to:
- Understand the scope and suitability of dairy farming business in Talasari
- Prepare the business plan for dairy farming

EXPECTED TIME: 365 minutes

REQUIRED MATERIALS:
White boards, flip charts and markers

ACTIVITY:
Field visit, Group Discussions, brainstorming questions and answers followed by discussions

Session Notes

SCOPE OF DAIRY FARMING:
- Dairy farming is the potential business for generating extra income and employment opportunities for rural households
- Demand for quality milk products is increasing

SUITABILITY OF DAIRY FARMING:

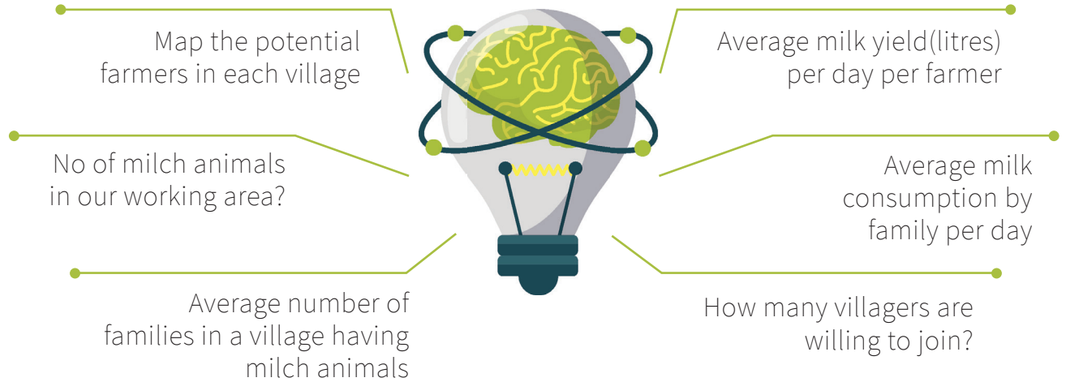
Group Activity:

- Divide the participants into 5 groups
- Facilitate the discussion by brainstorming the suitability of dairy farming in Talasari with respect to:
    - Geographical factors - Climate, water and soil
    - Socio economic factors - Labour, capital, markets and transport
    - Other factors - feed and fodder
- Ask participants to present the suitability of dairy farming in talasari based on their experiences.

Key Points:

- Huge market of milk and milk products
- Out of total area in these villages, 29% area is under forest and large part of area is uncultivable
- The perennial high yielding hybrid napier grass can be planted on the field bunds and in irrigated areas
- Village Manor, which is very close to these villages, is a hub for supply of dry fodder to big dairy farms located around Mumbai and in cities of Gujarat like Surat, Vadodara etc. and adjoining UTs
- The animal waste can be converted into biogas and slurry into quality vermicompost manure which increases crop productivity.
- Animal husbandry department is implementing various dairy farming schemes to promote this activity in Talasari Tehsil

MAPPING OF DAIRY FARMERS - BRAINSTORMING
To understand the dairy farming scenario of Talasari, ask participants about the present status of dairy farming



At the end of discussions, each CRP to map the potential farmers who are doing dairy farming and can start new, based on the experiences.

MAJOR PROBLEMS OF DAIRY FARMING
- Low productive breeds
    - The low productive breeds are prevalent among the farmers, which is the main reason for the lower milk productivity.
- Production management
    - Different practices are followed by the farmer community during the production process.
- Health problems in livestock
    - Production in milk reduces due to health problems

LIMITATIONS

- Require more investment
- Water requirement is more and there may be shortage in summer months
- Require veterinary facilities

CHALLENGES OF STARTING A DAIRY FARMING BUSINESS

- Brainstorm the participants to discuss the challenges in starting a dairy farming business in Talasari.
- Ask participants to list down the challenges

Challenges	Solutions
• Marketing of milk or dairy products is quite a challenge because these products are less likely to be produced in rural areas • The maturity period for the cows to start producing milk takes time thus, leading to tight profit margin. • The problem of the quality of the milk produced. • Maintaining high production efficiency. • It is labour or management intensive • It is capital intensive. • Outbreak of diseases.	• Experience in handling cows and understanding their mood • Purchase the best cow breeds suits to the area • Keep cost low as possible: Own labour and self-rearing • Connect with other dairy farmers • Acquire knowledge about the dairy farming industry locally

Business Canvas Model - Dairy Farming

GROUP ACTIVITY

- Divide the participants into 5 groups
- Facilitate the discussion by brainstorming business components of dairy farming in Talasari
- Ask participants to present the business components framework of dairy farming in talasari based on their experiences.

Business Plan - Components of Dairy Farming

- **Land** – for growing green fodder crops for cattle in the farm.
- **Shed** – proper shed in place before getting a cow's farm.
- **Water** – Clean and abundant water facility is required for both cattle and to grow the green fodder.
- **Fodder** – Dry fodder, green fodder and feed concentrate (for extra nutrition) are required to feed
- **Breed Selection** – Selection of a good breed of cows which yield more milk is essential in dairy farming.
- **Vaccinations** – To control diseases and protect the cow health

Marketing Management:

MARKETING CHANNELS

- Producer-customer
- Producer-milk hawker-customer
- Producer-processor-customer
- Producer-processor- retailer-customer
- Producer-dairy co-operative -processor-retailer -customer
- Producer-milk transporter-processor -retailer-customer
- Producer-dairy coop - milk transporter-processor-retailer-customer

The functions of marketing can be further divided into buying and selling as exchange activities; storage, transport, processing and standardizing as physical activities; and financing, risk-bearing and market intelligence as auxiliary activities.

MARKETING AGENTS

Individuals, groups of individuals or organizations that facilitate the flow of dairy products from producers to consumers through various activities, such as production, purchasing, processing and selling.

Examples of market agents include farmers selling dairy products, retailers, wholesalers, dairy cooperatives, importers and exporters.

- **Milk producers -** Rural subsistence farmers, rural market-oriented farmers, commercial dairy farmers and urban and peri urban milk producers.
- **Milk collectors -** Contractors, village milk collection centres and dairy cooperatives (MPOs).
- **Dairy processors -** Large-scale private dairy processing corporations

SWOT analysis of Dairy Farming

- Divide the participants into 5 groups
- Ask participants to plot the strengths, weakness, threats and opportunities in dairy farming based on the context of Talasari

Strength	Weakness	Opportunities	Threats
• Huge proportion of fodder land • Good no. of Milch animal • Educated farmers • Willingness in dairy	• Less cross breed animals • Awareness and branding	• Huge market potential • Off farm employment generation	• Poor support services • Existing local players

Session 3: Goat Farming

Session Summary

OBJECTIVES:
By the end of this session, participant will be able to:
- Understand the scope and suitability of goat farming business in Talasari
- Prepare the business plan for goat farming

EXPECTED TIME: 345 minutes

REQUIRED MATERIALS:
White boards, flip charts and markers

ACTIVITY:
Field visit, Group Discussions, Brainstorming questions and answers followed by discussions

Session Notes

SCOPE OF GOAT FARMING
- Rearing goats has numerous advantages particularly to the poor peoples.
- Goat is a multi-purpose animal producing milk, meat, skin, fiber and manure at the same time.

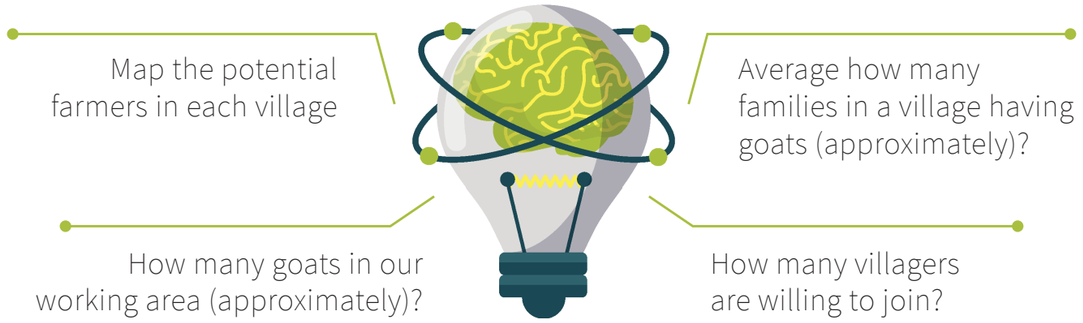
GROUP ACTIVITY
- Divide the participants into 5 groups
- Facilitate the discussion by brainstorming the suitability of dairy farming in Talasari with respect to:
  - Geographical factors - Climate, water and soil
  - Socio economic factors - Labour, capital, markets and transport
  - Other factors - feed and fodder
- Ask participants to present the suitability of dairy farming in Talasari based on their experiences.

Suitability of goat farming - Key points

- Goats are multipurpose animals havingl less gestation period compared to other animals.
- Sexual maturity reaches within 7-12 months
- Higher multiplication ratio, per year two kidding cycles with 1.5 to 2 kids per cycle/goat.
- Can feed on variety of fodder, which is locally available and can be planted on bunds.
- Water requirement is less hence less risk in drought prone area.
- No need for a high-end housing system.
- Can be milked as often as required and thus minimizes cost of refrigeration and storage.
- Has potential to create self-employment for all groups of households.

Mapping of Goat farmers - Brainstorming Activity

To understand the goat farming scenario of Talasari, ask participants about the present status of goat farming



Challenges of starting a goat farming business

- Unavailability of high genetic potential breed - Entrepreneurs who want to run commercial goat farms.
- Lack of organized markets
- Poor housing and habitat are the primary constraints in failure of goat farming
- Most of the farmers are least concerned about the health of their animals which leads to huge losses in their farm.
- Veterinary care is limited or completely unavailable to most of these farmers

Business Canvas Model - Goat Farming

GROUP ACTIVITY
- Divide the participants into 5 groups
- Facilitate the discussion by brainstorming business components of goat farming in Talasari
- Ask participants to present the business components framework of goat farming in Talasari based on their experiences.

Business Plan Components

1. MANAGEMENT

- Shed construction - Land for shelter and feeding green fodder in the shelter with zero grazing
- Nutritious feeding
- Treatment of diseases and vaccination
- Parasite control

2. BREEDING

- Selection of goat breed is the primary root cause for profit and loss in any goat farming business

3. PRODUCTION AND INCOME GENERATION

- Selling after rearing

Marketing Management

GROUP ACTIVITY

Ask participants to map the potential marketplace in Talasari for selling live goats, goat meat and goat milk.

Goat Markets	Markets in Talasari	Distance and Transportation cost
Market of live animals		
Goat meat markets		
Goat milk market		

KEY POINTS

- Identifying the need - Buyers require goats of different ages, size, breeds and quality
- Specific group of customers - Individual traders and export market
- Products - live goats, goat meat, skins, milk and manure
- Right quantities - plan production and quantity
- Right time and place - plan production and logistics
- Direct marketing is highly profitable.
- Involvement of middlemen can reduce the price of animals.
- Marketing should be done when the goat attains 25 -30 kg weight or at the age of 3-4 months whichever is earlier.

SWOT Analysis

GROUP ACTIVITY

Divide into groups and ask participants to discuss the SWOT (Strengths, Weakness, Opportunities and Threats) of goat farming business in Talasari context

Strength

- Vast unused land resources
- Price of goat milk and its products
- Moderate climate appropriate for fodder production
- Raising awareness amongst local population on properties of goat milk

Weakness

- Small number of goat farmers
- Farmers unaware of opportunities offered by goat sector
- Low market orientation of goat farmers

Opportunities

- Orientation of commercial farmers to have value added product
- Relatively high prices of goat products
- Existence of conditions for organic production
- Self-employment in goat sector

Threats

- Increasing prices of grains
- Outbreaks of infectious diseases

Session 4: Field Visit

Session Summary

OBJECTIVES:
By the end of this session, participant will be able to:

- Understanding the cost, income, profitability for Dairy and Goat rearing business
- Prepare the value chain and income of dairy & goat farmers

EXPECTED TIME: 240 minutes

REQUIRED MATERIALS:
White boards, flip charts and markers

ACTIVITY:
Field visit, Interaction with farmers

Dairy Farming		Goat Farming
Animals Cattle shed Equipment	**FIXED COST**	Shed Construction Roof construction Labour Goat Purchase
Dry fodder - feed Labour Miscellaneous Veterinary services	**VARIABLE COST**	Fodder and forage plantation Labour Insurance Feed
Sale of milk to vendor Sale to customer Sale of milk to wholesaler	**INCOME**	Meat production Kids production Sale of goats

- Ask participants to visit the dairy rearing farmer in Talasari block. Explain them to understand the dairy management practices, work out the costs and income of one dairy farmer per month.
- Ask participants to the present the entire dairy value chain and income of one dairy farmer per month.

Session 5:
Non-Farm Activities

Session Summary

OBJECTIVES:
By the end of this session, participant will be able to:
- Understanding the cost, income, profitability for Dairy and Goat rearing business

EXPECTED TIME: 240 minutes

REQUIRED MATERIALS:
White boards, flip charts and markers

ACTIVITY:
Field visit, Interaction with farmers

Session Notes

The Rural Non-Farm Sector (RNFS) encompasses all non-agriculture activities: mining and quarrying, household and non-household manufacturing, processing, etc.

TAILORING AND GARMENTS

POTTERY/CARPENTRY

SHOP KEEPERS

SMALL SCALE MANUFACTURING

VEHICLE REPAIRING

CANDLE MAKING AND AGARBATTI MAKING

Importance of Non-farm Sectors

Employment growth in the farm sector has not been in consonance with employment growth in general.
A planned strategy of rural non-farm development may prevent many rural people from migrating to urban industrial and commercial centres.

- It may facilitate employment growth.
- It may prevent many rural people from migrating to urban areas.
- It offers more remunerative activities to supplement agriculture income.
- It provides a means for the rural poor to cope when farming fails.

DEEP DIVE INTO THE POTENTIAL NON-FARM ACTIVITIES OF TALASARI

- Tailoring/Garments business
- Small scale manufacturing business
- Candle making/Agarbatti making

Suitability of tailoring business

Tailoring can also be done at home. Many women do this at home, but to work at a good level or to open a boutique, you have to face the market.
For this purpose, a shop which has enough room to keep two-three machines and work on them will be suitable.

Business Viability

Customers & Competition	In the case of the tailoring business who are the customers & their needs? Competitors are any other business which sells the same or similar products or service as ours
Capabilities	Capabilities of the tailoring business: Skills – The owner should know how to stitch the clothes Equipment – Needs a sewing machine, embroidery machine etc
Costs and profits	Costs involved in buying the sewing machines and raw materials
Capital	Capital for tailoring businesses: Machines, equipments and place
Environment of the business	Factors influencing the business • Suppliers of raw material • Availability of skills • Availability of technology • Availability of capital

Application of BMC - Tailoring Business

Ask participants to discuss the Business model for tailoring business.
Sample answers are listed below.

Consideration for Technical feasibility

GROUP ACTIVITY:

- Divide the participants into 5 groups
- Ask them to discuss and put down the technical requirements for tailoring business by giving the below framework

Assessment points	Probable Answers
Production process	What is the process of producing the product? How much does it cost to produce one unit of output?
Raw materials/ Equipment	What type of equipment and technology will the business need to produce its product/service? What costs are involved to purchase and set up the equipment? Who are the potential suppliers of the equipment?
Manpower	Availability of skilled labours or own family members involved in the activity

Consideration for market feasibility

GROUP ACTIVITY:

- Divide the participants into 5 groups
- Ask them to discuss and put down the market assessment for tailoring business in Talasari by giving the below framework

Assessment points	Probable Answers
Type of product/service	
Types of consumers	
Types of resources	
Types of equipment	
Demand of the product	
Market channel	

SWOT Analysis of tailoring business

Strength

- Need low capital investment
- Abundant raw material

Weakness

- Lack of promotion of product
- Inadequate information new technology

Opportunities

- Large, potential domestic markets
- Expanding the market

Threats

- Presence of local tailoring shops
- Pricing competitions

Suitability of small-scale manufacturing business

Some factors to be considered while finalising the small-scale manufacturing businesses are:

- Ease of availability of raw-material
- Process Technology
- Accessibility to the market

Market information is also important for product selection. Products, which are likely to have a number of players in the market, are best avoided.

Brainstorming activity - Candle making business

Ask participants to answer the following questions to understand the the business variability of candle business in Talasari

Consideration for Technical feasibility

GROUP ACTIVITY:

- Divide the participants into 5 groups
- Ask them to discuss and put down the market assessment for candle making business by giving the below framework

Assessment points	Probable Answers
Type of product/service	
Types of consumers	
Types of resources	
Types of equipment	
Demand of the product	
Market channel	

SWOT Analysis - Small scale manufacturing business

Strength

- Need low capital investment
- Skilled manpower provides competitive

Weakness

- Competition with other candle manufacturers

Opportunities

- Large, potential domestic markets

Threats

- Not giving more importance to the candle

Recap & Follow-up

- Emphasize the need of diversifying the activities - depending on a single activity for earning or living has more risk.
- Emphasize the learnings of allied and non-farm activities
- Advise them to start from their working cluster/village and identify every action that needs to be taken in order to explore the business opportunities.

MODULE 6

Institutions, Operations and Governance

Module Description

The participants need to be oriented about the different stakeholders for the business and develop business plans. The training will conclude by recapping all the previous contents.

Module Objectives

- Emphasizing the participants about the structure of SHGs/Producer groups/VOs and its operations
- Developing the comprehensive understanding about the different stakeholders
- Orienting about the different stakeholders for the business and business plan

Module Outline

TOPIC	MINS
SESSION 1	
• Brief the objective	10
• Institution Building	30
• SHG Federation, UMED Mission and Livelihood Functions, Structures and Functioning	60
• Producer Groups - Formation, Functions, Governance	60
• Village Organizations - Functions	60
• Marketing Entity - Group Activity	30
• Functional Sub-Committees - Roles & Responsibilities	60
SESSION 2	
• Inventory Management	10
• Functions: Supplier Assessment, Budget Provision, Inputs Purchasing Methods, Storage, Distribution	90
SESSION 3	
• Resource Management	
• Setting the context - VO Resource Management	45
• Human Resources Management	45
• Financial Management	45
• Commodity management	45
• Assets Management - Machines, Equipment's, Infrastructure	45
SESSION 4	
• Sustainability	
• Setting the context - Business Planning	60
• Group Activity - Business Planning	90
• Strategic Planning	60
• Group Activity - Strategic Planning	90
• Convergence	30
• Linkages and Partnerships	30

• Transparency and Accountability	30
• Monitoring & Reporting	30
• Audit and Legal Compliance	30
SESSION 5	
• Field Visit and Recap	240
SESSION 6	
• Assessment and Feedback	45

TOTAL DURATION (MIN): 1430 MIN

Session 1: Institution building

Session Summary

OBJECTIVES:
By the end of this session, participant will be able to:
- Understanding the institutional arrangements as well as operational mechanisms between the producer groups, community networks
- Know the UMED mission and its livelihood functions

EXPECTED TIME: 310 minutes

REQUIRED MATERIALS:
Flip charts and markers

ACTIVITY:
Brainstorming questions and answers followed by discussions

Session Notes

UMED MISSION:
To reach out to 45 lakh rural poor households of Maharashtra and stay engaged with them till they come out of poverty.

STRATEGIES:
Diverse strategies towards poverty eradication which include social mobilization, institution building, convergence

UMED LIVELIHOOD FUNCTIONS:
- Stabilize and promote the existing livelihoods portfolio of the poor, in farm and in non-farm sectors.
- Support for sustainable agriculture and allied activities like animal husbandry, non-timber forest produce and fisheries.
-

Key Points:

SOCIAL MOBILIZATION
For addressing the livelihood issues of the poor, men and women of poor households would be organised into institutions (including farmers' organisations, producers' cooperatives etc.)

INSTITUTION BUILDING
Promotion of specialised institutions like livelihood collectives, producer's cooperatives/ companies for livelihoods promotion, which will work on scale, ensure backward and forward linkages, access to information, credit, technology and markets.

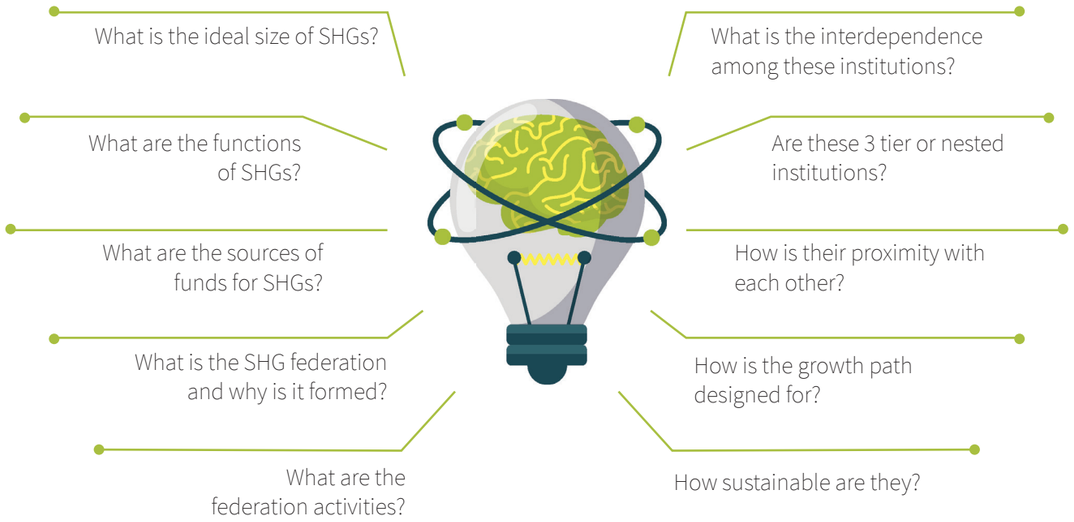
Self-help groups (SHGs)
Village Organizations (VOs)
Cluster level federations (CLFs)
Producer groups (PGs)
Farmer Producer Company

STRUCTURE:

Federation Model	Functions	Level
SHGs (10 to 20 members)	Thrift and credit activities Monitoring member performance Micro credit planning Financial intermediation with mainstream banking Audit and Accounting Diversified Saving Products	SHG level
Village Organizations (VO) (10-12 SHGs)	General body - 2 representative from each SHGs Strengthening of SHGs Arrange credit line Commodity marketing Showcasing development activity Bringing up new innovations Promoting small scale enterprises	Village level

Federation Model	Functions	Level
Cluster Level Federation (CLF)	General body - 2 representative from each VOs Support to VOs Linkages with Financial institutes, Govt, markets Identify and nurture CRPs Auditing, Guiding CLFs, Showing Growth Path to VOs, CLFs Mobilizing funds from different agencies, submitting development proposals	Cluster level

SHG Federation – Brainstorming



Key Points:

- Self Help Groups (SHGs) are formed at the village level, which are then federated into Village Organizations (VOs) and further into Cluster Level Federations (CLF).
- At the village level or cluster level, Producers' Groups (PGs) have been formed with women farmers involved in similar kinds of activities like agriculture, livestock or NTFP.
- The PGs are small sized, unregistered entities with little scope for significant business transactions

- Process of formation of SHGs which includes: organising the women into affinity-based groups, developing group norms, practicing Pancha sutra (regular meetings, regular savings, regular inter-loaning, timely repayment and up-to-date books of accounts), leadership development
- Focuses on linkages, which include: capacity building, micro investment plan (MIP), strengthening the existing livelihoods of the members, linkages with banks and setting up primary federation.

Needs of Federation

- Access credit, or help in procurement of inputs,
- Marketing of produce brought in by the members of the PGs,
- It could engage in policy advocacy.
- Showing Growth path to VOs/ SHGs
- Diversified Development approaches exploration
- Mobilizing funds and grants from different sources
- Submitting development proposals to funding agencies
- Providing wider services to its members
- Showcasing development models
- Widening the sphere of activity and operation

Functions of Federation

FINANCIAL FUNCTIONS

Access to credit, promotion of savings, diversified savings products, insurance facilitation, money transfer and pension products, mobilizing the funds and grants, developing proposals for diversified interventions.

NON-FINANCIAL FUNCTIONS

Institution development, livelihood services and social development services, quality governance at all level, legal compliances, conducting Annual General Body Meetings, submission of Physical and Financial Plan along with annual report and get it approved in GB meeting, Grading of all SHGs and VOs from time to time or at least once in 6 months

LIVELIHOOD SERVICES

Market information and linking with markets, processing and value addition, business plan development, promotion of enterprises, supply of inputs, bulk procurement of required material, helping in acquiring assets, skill training, etc.

INSTITUTION DEVELOPMENT FUNCTIONS

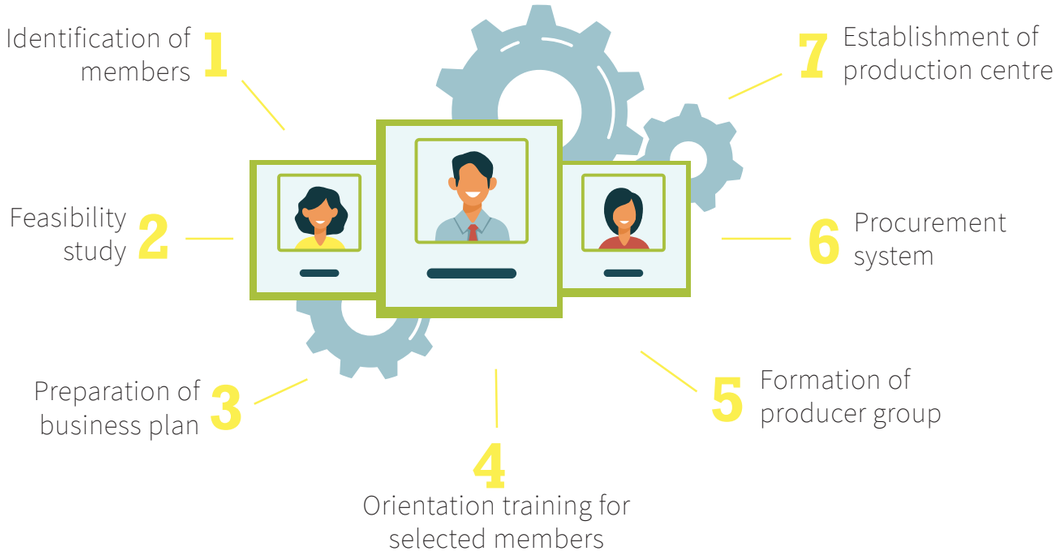
Monitoring and Auditing of SHGs, Grading of groups, support for bookkeeping, facilitation of SHG bank linkage, conflict resolution, new group formation, training and leadership development, good governance practices among SHGs.

SOCIAL DEVELOPMENT FUNCTIONS
Addressing various social issues like child marriages, domestic violence, social discrimination and others, health initiatives, family counselling, etc

Producer Groups:

- Producer groups comprising of 10 -20 members
- Pave a way for producers to overcome many constraints in agricultural production and marketing.
- Help farmer's access credit and strengthen their negotiating power through collective marketing
- Community institutions promoted in the area under various government and non-government Programmes have to be kept in view while promoting producer group
  - Self Help Groups (SHGs)
  - Village Organisations (VOs) (Federations of SHGs at village level)

FORMATION PROCESS:



Village Organizations:

- All SHGs at village level form into village organization for strengthening the SHGs,
- The Village Organization brings all SHGs under one umbrella to address social issues and access all Government programmes and services at village level
- The VO provides facilitation support to all SHGs to nurture best practices in group norms, financial norms, Bookkeeping and SHGs' meeting processes
- The VO facilitates the leftover BPL households to form into new SHGs / enrol in the existing SHGs.

- The VO will act as a financial intermediary to arrange resources to the SHGs for the member's socio-economic upliftment.
- Village Organization contributes towards social integration by bringing together all the members of SHGs belonging to different categories (SC /ST /BC /OC /Minorities, etc.,)
- Village Organization contributes towards elimination of middlemen and exploitation by enabling them to arrange collective procurement and marketing of their produce.

STAKEHOLDERS OF VO:
- Board of Directors
- Agriculture Marketing Manager
- Farmers
- Buyers
- Traders

ROLE OF CRPS:
- Deal with Farmers, SHGs, VOs and Farmer Interest Groups
- Formulate goals and strategies, identify business opportunities
- Facilitate different services to farmer members
- Information, training and orientation to members
- Maintain books of account
- Deal with support agencies - banks, APMC, etc.
- Liaison between VO and District Administration
- Ensuring Government entitlements
- Liaison with gram panchayats

GROUP ACTIVITY
Divide the participants into 5 groups and ask participants to explain the functions of their existing VOs.

FUNCTIONS OF VILLAGE ORGANIZATIONS
- VO is a primary level institution where all SHGs members are its members at village level
- It is a village level organization in which SHGs representatives attend and conduct monthly meetings
- It is a support organization to facilitate and strengthen SHGs
- It acts as an intermediary organization between SHGs and MS to bring village level issues of the poor to Mandal level forum and assists the members in seeking solutions
- It builds a cadre of activists and paraprofessionals with the help of Mandal Samakhya and make them available to the SHGs and their members for achieving effective linkage with village level and Mandal level Government institutions, programmes and services

FUNCTIONS OF VILLAGE ORGANIZATIONS IN VALUE CHAIN

- To establish the procurement centre
- Arrange the logistics
- Build the skills and capacity of farmers to increase income
- Provide the input, output marketing facilities
- Demonstrate the new technology, crop demo
- Conduct the knowledge building workshops for farmers
- Ensure the payment to farmers
- Promote the bio pesticides and bio fertilizers

Functional Sub Committees

Sub committees	Roles & Responsibilities
Agri Commodity Procurement Centre Management	• To find out the place and establish the Agri commodity procurement centre • To map out the potential farmers for linking to procurement centre • To visit the site or field of farmers for convincing and motivating to sell commodities through VO. • Visit the procurement centres once in week and assess the situation • Learn the market value chain with the help of CRP/ CMS/UNDP • Manage the portfolio of procurement centre with the help of BK, LCRP or anchor • Prepare physical and financial plan of yearly procurement through PC
Agri Extension Services Management	• To understand and use the AES provided in her/his own field • To organize the extension melas, workshop, FFs with the help of CRP • To learn new and modern POPs and get delivered through CRPs • Visit the demo site/ field of farmer and learn from him at site and share the same in VO meeting • Invite the best farmers in FFs and get his knowledge shared with many more farmers in FFs • Identify the best practitioners and felicitate them in the open FFs
Institution Building and Monitoring	• To be present for every SHG/VO meeting without fail • Identify and motivate the left-out families and get them in SHGs • Visit 1-2 meetings of SHGs in a month to get glimpse of proceedings • Have Grading of SHGs/VOS at every 6 months on certain parameters • Call the VO level Mahasabha /General Body meetings to understand the expectation of SHG members from VO/CLF • Conduct the half and yearly audit of each SHG by CRPs • Help the VO to prepare its annual institution building plan

Session 2: Inventory Management

Session Summary

OBJECTIVES:

By the end of this session, participant will be able to:

- Know the activities of inventory management
- Understand the role of inventory management in Village Organizations

EXPECTED TIME: 100 minutes

REQUIRED MATERIALS:

Flip charts and markers

ACTIVITY:

Brainstorming questions and answers followed by discussions

Session Notes

INVENTORY MANAGEMENT ACTIVITIES:

- Supplier Assessment
- Budget Provision
- Inputs purchasing methods
- Storage
- Distribution/Supplies methods
- Records

Supplier Assessment

While placing purchase orders with input suppliers, it's important to consider key factors as mentioned below

- **Quality -** supplier's ability to deliver goods or services that will satisfy customers' needs
- **Reliability -**supplier's ability to consistently deliver inputs that meets quality standards
- **Timeliness -** ability to deliver promptly

- **Price -** ability of supplier to deliver inputs of required quality at minimal cost
- **Payment terms -** ability of supplier to sell the inputs to FPC on credit.

The VO should maintain a list of input suppliers who are within district, outside district and outside state and rate them on the basis of Quality, Reliability, Timeliness, Price and Payment terms.

Budget Provision

- Budget should be prepared by the committee and submitted to the VO.
- The VO should vet it and submit it to the Board of Directors for final approval.
- Budget should be verified by the Procurement sub-committee of VO and approved by the Board of Directors in a Board Meeting to purchase the inputs.
- Once approved, the same should be updated in the Resolution/Minutes of Meeting book.

Purchasing methods

Request for Quotation- VO and Procurement committee are responsible for purchasing of inputs after assessing the demand. They should contact xx suppliers maintained in the list (as per the rating) and request for xx quotations.

Agreement- Committee should assess the Quality of inputs and recommend the same to VO and Board of Directors.
The VO must pay 50% of the total input worth in advance to the supplier.

Storage

- Maintain input lots on
- First In First Out-Inputs stored first are to be distributed first to the farmers
- First Expiry First Out basis- Inputs that expire the earliest are to be distributed first
- Maintain labels-dates with old inputs on top of stack and recent inputs on the bottom for easy identification. This also helps in identifying expired stock.
- Based on the nature of input, care should be taken while storing to ensure the quality is not compromised.
- Inputs should be stored always at a height to avoid damage in case of water seepage

Records

Sales and Purchase register, Stock Register at PC/VO level to be maintained whenever a transaction takes place by procurement committee

Alternate Storage Mechanisms

- Private storage facility
- If there is a private storage facility, find out the procedure to rent and submit the required documents
- Government storage facility
- Find out the procedure to rent the facility. Usually, only farmers are allowed to store their inputs, but not VO.
- Special permission has to be obtained by VO from the district administration to store the inputs

Distribution Methods

Inputs must be distributed to the farmers of the Procurement Centre on a First in First Out/First Expiry First Out basis. The inputs must be transported to the Procurement Centre in villages where farmers will come to collect as per their demand.

Session 3:
Resource Management

Session Summary

OBJECTIVES:
By the end of this session, participant will be able to:
- Know the key components of resource management and its implementation

EXPECTED TIME: 225 minutes

REQUIRED MATERIALS:
Flip charts and markers

ACTIVITY:
Interactions and Brainstorming activity followed by discussions

Session Notes

HUMAN RESOURCE MANAGEMENT
Core team: CRPs, Livelihood Coordinator., Bank Sakhi, Udyog Sakhi (Enterprise Development)
Support team:
- PRI representatives
- Locals reputed from NGOs (E.g., Agri Marketing Manager)
- Community Based Organizations

Maintains profiles and other records of all its HR including staff members, CRPs
Trainings/Capacity building and attended

FINANCIAL MANAGEMENT
Ontime auditing and ensuring the financial management reports
Key Areas:
- Planning, Budgeting, Accounting, Financial reports, Auditing, FM monitoring
- Implement a regular system of review of audit process, including quality of audit at VO, audit observations and monitoring compliance of the observations

COMMODITY MANAGEMENT
- Maintain information regarding produce, commodity wise details
- Committee should perform the operations of commodity handling
- Suitability of markets and understanding of commodity markets

- Prepare the estimation of commodity procured (Quantity procured, operating cycle - storage go-down, work in progress, finished goods, goods in transit, logistics cost)
- Commodity marketing strategy and use of E-trading platforms

ASSETS MANAGEMENT
- A detailed list of assets to be created
- Create the asset register and maintain the databases of machines, equipments and infrastructures
- Assets managed by committees of VO
- Account the procured assets and accounted for
- Verification of assets and monitoring

Session 4: Sustainability

Session Summary

OBJECTIVES:
By the end of this session, participant will be able to:
- Understanding the importance of partnerships to address different dimensions of poverty
- Developing the business and strategic plan for Village Organizations

EXPECTED TIME: 450 minutes

REQUIRED MATERIALS:
Flip charts and markers

ACTIVITY:
Interactions and Brainstorming activity followed by discussions

Session Notes

BUSINESS PLANNING
- An economic system, in which Goods and Services are exchanged for one another or for money on the basis of Perceived Worth
- Business plan is the written document that will help in Executing the Business, Manage the operations, and ultimately realize the business goals and objectives
- Business for Village Organizations: Small-holder livelihood improvement through mobilization, aggregation
- Business planning is essential for:
- To compete in the market,
- Become financially sustainable, and
- To deliver real benefits to their members.

GROUP ACTIVITY
Make into subgroups of VOs and ask participants to discuss and prepare the business plan
- **Farm -** Coverage, Crops, Inputs, Training, Outputs, Productivity, CoP
- **Farmer -** Coverage, Knowledge, Practices, Entrepreneur, Income from agriculture, Income from allied activities, Access to resources/services
- **FIGs/SHGs/VOs -** No. of FIGs/SHG/FC, Enterprises, Linkages, Social and business performances

Strategic Planning - Key Points

- Provide a basis for planning
- Serve as a framework for decisions
- Assist benchmarking and performance monitoring
- Stimulate change in the organization
- Determines where an organization is going over the next year or more and how it is going to get there

GROUP ACTIVITY
Divide into 5 groups and ask participants to develop the strategic plan for VOs for next 5 years

01 — Where do we want to go - Vision, Mission, Goals?

02 — Where we are - Looking back, programs, Business, environment, SWOT

03 — How do we go - What new business or services? Value addition? Org structure, systems, resource mobilization

04 — How do we measure - Systems for monitoring business operations, activities, viability, profit impact etc?

Convergence with government programmes

- **Entitlements –** PDS, MGNREGS, social security, Right to Education.
- **Improving quality of life –** health and nutrition, clean drinking water, sanitation, permanent housing, electricity etc.
- **Enhancing capabilities –** elementary education, vocational, technical education, skills enhancement etc.
- **Creating livelihoods opportunities –** institutional finance, agriculture, animal husbandry, watersheds, MSME development, food processing etc.
- **Physical infrastructure schemes –** roads, electricity, telecommunications etc.

Linkages and Partnerships

- NGOs/CSOs - Provide linkages, generate, manage and disseminate knowledge, advocacy etc.
- NABARD, Banks & Other financial institutions and Insurance companies -

- Mobilize bank loans to the eligible SHGs and assist them in loan application.
- Generate awareness and avail services to address the issues of their SHG/VO
- Training and Research Institutes - Identify opportunities from training & research institutes and converge for development of their group.
- Industry Associations - involved for skill development and placement.

Transparency and Accountability

- Building accountability and transparency of operations is vital to the community institutions in view of the multiple stakeholders involved.
- The stakeholders include community members, project staff, NGOs, banks and the government agencies.
- Preparation of annual statement of accounts and their audit by qualified external auditors, besides meeting the statutory requirements.
- Approval of the annual reports and audited statements of accounts by the annual general body meeting of the community organizations
- Further, quality maintenance of financial and other records of VOs also assumes importance in view of the need to promote transparent and equitable use of funds.
- Good record keeping would also support MIS and process and performance monitoring.

Session 5: Field Visit

Session Summary

OBJECTIVES:
By the end of this session, participant will be able to:
- Understanding the roles and responsibilities of VOs and its sub committees.
- Know the functions of Village Organizations

EXPECTED TIME: 240 minutes

REQUIRED MATERIALS:
Flip charts and markers

ACTIVITY:
Interactions, group discussion and presentation

Group Activity:

- Make the participants into 5 groups
- Facilitate them to visit the 5 Village Organizations in Talasari. Describe the purpose of visit is to understand the functions of VOs, Sub committees
- Ask them to explore the sustainability of each VOs.
- Ask participants to present the existing functions of VOs/Sub committees and pertaining functions

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