A Manual for Trainers

Agricultural Marketing

A Resource Manual for Farmer’s Groups and Cooperatives
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Introduction

This training manual is prepared for the Gewog level Government staff and farmer’s groups and cooperatives. The department of Agricultural Marketing and Cooperatives of Bhutan has developed a capacity building plan to implement the Cooperative (Amendment) Act of Bhutan, 2009 and upgrading of Agriculture Marketing Services Division. This training manual is prepared based on agricultural marketing principle and already tested practical examples.

Manual is specifically prepared for the farmer’s groups and cooperatives to build their capacity on marketing concepts. It is expected that they understand basic knowledge on agricultural marketing and are motivated towards commercial agriculture farming practices. They will be trained on marketing issues that they usually confront regularly. This manual is a response to the farmer’s growing need for commercial and marketing knowledge. Most of the techniques and advice are already tested and proven in the field.

Course objectives:

The objective of this training manual is to enhance knowledge of the farmers on marketing and to change their mindset towards market-oriented production and increase volume of their produce.

Training agenda

Module 1 : Defining the market and different ways to access the market
Module 2 : Analyzing problems and opportunities for better market solutions
Module 3 : Pre and Post Harvest Management
Module 4 : Most Common Mistakes made by Groups and Cooperatives in Agricultural Marketing
Module 5 : Different types of services available for the farmers (linkages with the buyers, contract farming, inputs, market structure, market information, micro finance etc.)
Module 6 : Market Oriented Pre-production Planning
Module 7 : Successful case studies in agriculture marketing

Training methodology

This training approach is based on the principle of agricultural marketing. Attempts have been made to make the modules relevant to the needs of the farmers. Participants also act as resource
persons for each other. Farmers should be trained with an interactive discussion and giving them practical examples relating with the theory. The modules provided in this manual should be once again prepared in the flip chart so that it can be explained reading the few important bullet points. Additional details are given below which should be applied by the trainers wherever applicable as per the local context.

- Discuss topics that help farmers to understand their existing situation and identify their opportunities and constraints;
- Encourage farmers to think of ways to improve their own marketing;
- Focus on practical issues;
- Use audio-visual presentations wherever possible;
- Invite traders and use them and others to inform farmers about how the market works;
- Ensure that each topic discussed follows logically from the last;
- Provide farmers with the information they need to make decisions;
- Use case studies and examples from this manual and any other experiences;
- Anticipate the marketing problems that farmers will identify and be able to offer different solutions;
- Finish the meeting with a clear understanding of what the next steps are, who is responsible for them and when they will be carried out.

**Daily evaluation**

Table measuring participants’ mood (filled out by participants at the end of each day) is provided below. Table below should be prepared in a flip chart and placed in a wall of the training hall. Participants should be asked to give their feedback by putting a mark using marker where there prefer at the end of each day training.

<table>
<thead>
<tr>
<th>Day</th>
<th>Mood Meter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 1</td>
<td></td>
</tr>
<tr>
<td>Day 2</td>
<td></td>
</tr>
<tr>
<td>Day 3</td>
<td></td>
</tr>
</tbody>
</table>

**Materials required**

All training delivery materials will be prepared in a flip chart using different coloured markers. Short notes shall be prepared in a different coloured job cards and pasted in the walls of the training hall.
Acronyms and Abbreviations

SNV : Netherlands Development Organisation
BDFCL : Bhutan Finance Development Corporation Limited
DAMC : Department of Agricultural Marketing and Cooperatives
RAMCO : Regional Marketing and Cooperatives Office
CFC : Common Fund for Commodities
NWFP : Non-Wood Forest Products
FCB : Food Corporation of Bhutan
BPDP : Bhutan Potato Development Program
Registration sheet

A sample sheet is provided in the annex 10.1, which can be modified as required. This sheet should be prepared to monitor the actual training.
1. Training Schedule and Agenda

The content of this training manual is prepared as resource materials suitable for the farmers those who are involved in agricultural farming. The resource person involved in the training of the farmers can refer this material to deliver key messages to the farmers so that farmers are oriented towards commercial agricultural farming. The training days will be determined as per the budget allocation and time factor. A detailed training schedule can be prepared by using all the modules and reference materials in the format provided below.

<table>
<thead>
<tr>
<th>Time</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>09:00 – 10:00</td>
<td></td>
</tr>
<tr>
<td>10:00 – 11:15</td>
<td></td>
</tr>
<tr>
<td>11:15 – 11:45</td>
<td></td>
</tr>
<tr>
<td>11:45 – 13:00</td>
<td></td>
</tr>
<tr>
<td>13:00 – 14:00</td>
<td></td>
</tr>
<tr>
<td>14:00 – 15:30</td>
<td></td>
</tr>
<tr>
<td>15:30 – 15:45</td>
<td></td>
</tr>
<tr>
<td>15:45 – 17:00</td>
<td></td>
</tr>
</tbody>
</table>
2. Introduction and Objectives

Learning objectives:
By the end of the session, participants will be able to:
   a. Understand overall training details
   b. Training contents

Contents:
- Informal introduction of all participants with the names and ask them to tell what types of crops are cultivated in their farm;
- Make the participants familiar about the course objectives;
- Tell the participants to share their experiences and problems faced by them in the marketing of their produce.

Matching pairs
- Each participant is given a picture portion and must find his/her match, pairs introduce each other’s names, expectations of the training, and something of human interest (favourite food, hobbies, likes, dislikes, etc.);
- Facilitator writes expectations on flipchart

Interactive presentation
- Facilitators introduce objectives and compare them with the expectations of participants;
- The expectations and objectives remain in view during the entire training course.
3. Module 1: Defining the Market and Different Ways to Access the Market

Learning objectives:

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

a. Definition of marketing
b. Why marketing is important?
c. Different ways to access market – marketing channels
d. Actors and their role – What will happen if there are no retailers in the market?
e. Characteristics of agricultural crops
f. Estimation of market demand

Detail activities

1. Prepare contents in the flip chart
2. Interaction with the participants
3. Interactive learning

Contents:

If there are no farmers, there will be no food
There will be no production without markets

a. Definition of market and marketing

A simple definition of market is a physical place where buying and selling of goods or services take place. There is a hand over of physical goods or services to each other. There are two definition of marketing related to the agricultural sector. Marketing involves finding out what your customers want and supplying it to them at a profit.

First definition is….
Marketing involves finding out what your customers want and supplying it to them at a profit

The above definition has stated two important points.
• The marketing process has to be customer oriented,
• It is a done for marketing profit to the farmers, transporters, traders, processors, etc.
Marketing therefore involves identifying buyers, understanding what types of product they want, how they want to be supplied, selecting the right market channel and making enough profit to continue their business.

The second definition is …
The series of services involved in moving a product from the point of production to the point of consumption.

This definition says that marketing is a series of inter-connected activities. In the case of agricultural marketing, it includes:

- Planning for the appropriate products or crops
- Planting and harvesting
- Grading of products and their packaging, transport, storage, processing, distributing and sales
- Sending information from production area to market

b. Why marketing is important?

The importance of marketing can be explained from different perspectives:

1. Due to population growth rural communities have to feed more food.
2. Due to increase in incomes of people the need of food will be increase. Farmers now need specialization and skills to increase productivity.
3. This change in population distribution will create new or improved opportunities for both farmers and rural employment, particularly if roads are improved and better transport services are available.
4. The price of agricultural commodities has increased over the past few years and will further rise due to high demand to serve a large population. This has created opportunities to the rural population to engage in agricultural farming and has opened avenues to do business commercially.

Most farmers have limited knowledge and think that they do not have control over price issues. They do not know how to find new buyers nor do they know how market demand is changing and which crops/products are most profitable to grow. They lack the understanding to improve the prices and improve their profits. Those who carry out marketing have strong incentives to increase the value of trade, because increased sales would lead to higher profits.

Agricultural products are mainly sold fresh; some are eaten raw while others are cooked. Some products have traditionally been processed when no other form of storage was available, e.g. dried fruit and jams. As society develops and becomes wealthier the market for processed and prepared products develops. A market also develops products such as flowers and garden plants, which are sold for purely aesthetic reasons. Increased wealth also brings with it an increased demand for product diversity in the form of new crops, off-season varieties and different flavours.

Business are often said to be exploiting farmers and making unfair profits. They certainly try to maximize their profits, but without them farmers would not be linked to markets and would not be able to sell all their produce. Traders help farmers to find new markets at low cost. This all leads to improved production opportunities and higher incomes for farmers.

Government help them by promoting competition, provision of market information and improvement of market infrastructure.

Consumers or traders always like to pay low price to the farmers whereas farmers want high prices. The solution for such conflict on price is through an efficient and low cost marketing chain. This generally
involves using larger transport such as Tata truck to achieve economics of scale, reducing losses, and reducing other costs. Promotion of competition between buyers will also reduce the costs.

c. Different ways to access markets

There are different ways and options to sell farmer’s produce to the buyers. This includes selling directly who visit farms during harvest time, or they may decide to take their produce to the nearby village market and sell to traders or directly to consumers. Farmers can also send or take their produce to a more distant market. In some countries, farmers may have relationships with traders who have provided them with some form of credit, and they must therefore sell at least part of their produce through those traders. It is not always a best option to sell their produce in the near-by market. In the Asian countries, there are different market options available, few of them also exist in Bhutan and others are yet to be developed.

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

Farmers selling directly to the consumers

This is one of the major alternatives for the farmers selling directly to the consumers that come to their doorstep or the farmer’s garden. Farmers can take their products to either the nearby market or urban market to sell their products. For example, few farmers from Tshirang area collect vegetables in a weekend and bring it to the Cenetary vegetable market at Thimphu and return on Monday. In this approach, farmers receive more profit than selling to the traders or middlemen. However, he/she will be deprived of time spent in the farm doing productive works. Similarly, they will have to bear the risk associated with the price fluctuation, losses, etc.

Farmers to the Traders

When traders are interested to meet the farmers to purchase their produce, they visit the farm for negotiations and other formalities. Traders need various commodities as per the market demand and will be interested to purchase from the farmers if they can make some profit out by selling in the market. In few places, where there is no road access up to the farmer’s land, farmer will have to carry their produce up to the road heads. They use various available resources such as power tiller, animals, human etc. to carry their produce to make available to the traders. They usually agree on the specified place to exchange their goods. Nowadays, due to mobile and telephone communication before the physical goods are bought, they do negotiation beforehand. In many countries where there is a production pocket area, they usually have a collection centre established
and traders regularly visit to purchase. In the collection centre price is set based on the negotiation that takes place between the traders and the collection centre representatives. Collection centres enable produce to be assembled in volumes. This attracts buyers and creates competition between them. Better prices are realized and economies can be achieved in transport. There are chances that farmers sometimes have to return their produce from the market due to low rates offered by the market traders.

There is always a price war between the farmer and trader. While farmers complain that the traders’ cheat them by not giving the actual price, whereas traders say that they have given a good price to the farmers as per the market rate. There are no proper linkages and understanding between the trader and the farmer and so traders could not decide price without physical verification.

After purchasing produce from the farmers, traders will further sell it to the regional or other market wholesaler, retailer or processing company. Due to a lack of knowledge on quality management aspects, the farmers and traders usually takes the responsibility of the proper grading and packaging aspects to deliver the required quality products to the target market. Traders usually collect buyer’s specification in terms of quantity, price and quality. He then starts exploring from various pocket areas to get the required product.

**Farmers to the wholesalers**

Farmers have also the option to sell directly to the wholesaler in the market. Actually, it is very difficult for the farmers to carry their produce up to the market place, which will be normally far from their place unless they have already specified buyers who know him and have talked to him in advance through telephone. In this option, farmer should have sufficient quantity as per the buyer’s demand, and farmers should have a transport facility. If one farmer does not have the required quantity a group can combine their produce. Traders do not work only with a single farmer because he needs product of the same quantity and quality to sustain their business, and they usually look for regular suppliers who can meet his demand.

**Directly to the Retailers**

Retailers have direct contact with the farmers for transaction of required goods. This approach is popular nowadays to cut down margins of the middlemen and make the products available to the consumers at a lower price. A large department store procures vegetables and agricultural products directed from the farmers. In India, Reliance retail food chain has established direct network with the farmers in the village for regular supply of food and vegetables. Farmers will be paid money in an installment basis. In Nepal, this approach has also been in practice but there is a problem in dealing with the cash management. Farmers complain that they are not paid regularly and exploited by the owner of the retail store.

**Farmers to the processing company**

In some situation farmers sell directly to the processing company. For example, farmers sell wheat, maize etc. to the rice mill with or without any formal contract. In case of small farmer, agents will purchase from the farmers where as big size farmers transport their produce up to the factory. Mainly fruits, sugarcane, and tobacco are usually carried by the farmers up to the factory.

**From the farmer’s group or cooperatives**

There are many groups and cooperatives actively engaged in supplying agricultural produce to the wholesaler or retailer by combining their produce. In Bhutan, there are nearly 500 farmers/cooperatives groups were as 23 out of them are legally registered under cooperative acts of Bhutan. Farmers may benefit more by selling to the urban wholesalers rather than the local traders. They may have to invest in
purchasing of packaging materials such as a jute sacks, crate, etc. for transportation of produce. They may request traders to invest on it so that they do not have to invest in advance.

Cooperatives can establish a collection centre with the basic infrastructure such as weighing machine, storage, packaging, etc. In India, Nepal and many other countries have successfully operated business through the cooperative model in various sectors. Cooperatives have benefited by receiving support from Government and donors to build market infrastructure.

**From the lead farmers**

There are many practical examples from Thailand and Philippines working in this approach where lead farmers collect demand from different types of market and then purchases from the near by villages to supply with the required quantity. In Bhutan, there are few lead farmers in Tsirang, who regularly collect vegetables from the other farmers and sell in the Cenetary market. However, lead farmers are not proactive in guiding other farmers by providing information of the right selection of crops as per the market demand.

**Food Corporation of Bhutan (FCB) Auction Market**

Royal Government of Bhutan established the auction market to support agricultural marketing in 1973. Farmers can bring their produce to sell in the market. The traders at the auction yards are mostly Indian traders who purchase in a bulk and sell the produce in the major border towns. After arrival of each grower, they will be given a Lot Card as a receipt of goods. The goods are displayed at the auction yard premises. At the time of auctioning, buyers assess the quality through visual observation as the produce is displayed on the floor for inspection. The lot is given to the highest bidder. After billing is completed, goods are delivered to the bidder. FCB charges a service charge of 6 per cent as a commission. In addition, farmers have to pay unloading charges to labour directly.

**Contract farming**

Globally contract farming is popular with certain crops such as tea, sugarcane, etc., which need to be processed immediately and there are limited number of buyers. This approach works in any type of crops for transaction between the buyers and sellers.

In this approach, processing company will provide all types of inputs and services to the farmers with a provision of deducting all costs at the time of purchase. Contract can be either verbal or written form. Large company will formally sign a contract whereas a small company will verbally agree on the terms and conditions. In such a condition, breach of contract often occurs when some other traders offer more amount to the farmers. For example, at the time of harvesting if some other traders give more amounts, then what was agreed with the previous trader then farmers may sell to the later one. Even though there is a formal or informal agreement between the buyer and supplier both parties have to face the risks. For example, company has to depend on the buyers and if the price falls down due to market conditions than the company will be in loss or may also turn bankrupt. In this situation, although agreed on certain terms and conditions company will not be in a position to pay the money to the farmers.

**d. Characteristics of agricultural crops**

Important characteristics of agricultural crops are:
- They are mainly eaten as a food for essential nutrients, like vitamins.
• They are not basic food commodities and so people will not buy if the price is too high.
• Consumption levels vary, depending on the selling price and the income of the buyer.
• Many of the crops are not traded in large volumes and there is a limited market.
• They are perishable, which means there is always a reduction in quality if they are not sold immediately, usually leading to a fall in value.
• There is a wide range and variety of horticultural products. If one product is too highly priced the consumer will generally buy another.
• Price is determined by supply and demand and so varies. It is very difficult to predict.

**Examples:**

A farmer who has high quality tomatoes to sell when few other crops are available may easily get a price equivalent to many times the cost of production. However, a farmer who is trying to sell tomatoes when the market is oversupplied and, which is two days old may not be able to sell his produce at all. Wholesale prices may double or halve on the same day, depending on the skill of the salespeople and on consumer demand. Prices can fluctuate widely:
- from year to year
- from the start of the season to the main supply period
- from day to day
- from market to market

These extreme differences in price make agricultural production both profitable and very risky. Often, success depends on marketing skills and on obtaining good prices rather than on production expertise.

**e. Estimation of market demand**

Market demand of agricultural produce shall be estimated based on the past consumption data and quantity of commodity traded few years back, which may be locally produced or imported from other countries. Such data will be available from the trade statistics or market information division under the department of agriculture. The tables below describe a projection of demand of few vegetables and data of vegetables imported from India.

**Table 1: Projection of demand of vegetables based on average consumption**

<table>
<thead>
<tr>
<th>Dzongkhag</th>
<th>Cabbage</th>
<th>Radish</th>
<th>Cauliflower</th>
<th>Beans</th>
<th>Chili</th>
<th>Tomato</th>
<th>Green leaves</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mongar</td>
<td>525600</td>
<td>438000</td>
<td>525600</td>
<td>613200</td>
<td>700800</td>
<td>525600</td>
<td>788400</td>
</tr>
<tr>
<td>Lhuentse</td>
<td>216000</td>
<td>180000</td>
<td>216000</td>
<td>252000</td>
<td>288000</td>
<td>216000</td>
<td>324000</td>
</tr>
<tr>
<td>Pemagatshel</td>
<td>352800</td>
<td>294000</td>
<td>352800</td>
<td>411600</td>
<td>470400</td>
<td>352800</td>
<td>529200</td>
</tr>
<tr>
<td>S.jongkhar</td>
<td>504000</td>
<td>420000</td>
<td>504000</td>
<td>588000</td>
<td>672000</td>
<td>504000</td>
<td>756000</td>
</tr>
<tr>
<td>T.Yangtse</td>
<td>273600</td>
<td>228000</td>
<td>273600</td>
<td>319200</td>
<td>364800</td>
<td>273600</td>
<td>410400</td>
</tr>
<tr>
<td>Trashigang</td>
<td>741600</td>
<td>618000</td>
<td>741600</td>
<td>865200</td>
<td>988000</td>
<td>741600</td>
<td>1112400</td>
</tr>
<tr>
<td><strong>Total quantity in kg</strong></td>
<td>2,613,600</td>
<td>2,178,000</td>
<td>2,613,600</td>
<td>3,049,200</td>
<td>3,484,800</td>
<td>2,613,600</td>
<td>3,920,400</td>
</tr>
<tr>
<td><strong>Total quantity in tons</strong></td>
<td>2,613</td>
<td>2,178</td>
<td>2,613</td>
<td>3,049</td>
<td>3,484</td>
<td>2,613</td>
<td>3,920</td>
</tr>
</tbody>
</table>

*Source: Bhutan Baseline Study Report, 2006 (Monthly consumption pattern for vegetables (Nu/kg))*

**Note:** Average monthly consumption of vegetables is: Cabbage 6 kg, Radish 5 kg, Cauliflower 6 kg, beans 7 kg, Chili 12 kg, Tomato 6kg and Green leaves, 9 bundle.
Table 2: Import of vegetables from India in the year 2009

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Description</th>
<th>Quantity</th>
<th>Unit</th>
<th>Rate per kg</th>
<th>Amount in Nu</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Cabbage - Lettuce head</td>
<td>1175</td>
<td>Tons</td>
<td>6</td>
<td>7,177,027</td>
</tr>
<tr>
<td>2</td>
<td>Tomato</td>
<td>2200</td>
<td>Tons</td>
<td>9</td>
<td>19,580,529</td>
</tr>
<tr>
<td>3</td>
<td>Cauliflower/Broccoli</td>
<td>677</td>
<td>Tons</td>
<td>9</td>
<td>5,935,040</td>
</tr>
<tr>
<td>4</td>
<td>Chili-Fresh</td>
<td>1361</td>
<td>Tons</td>
<td>13</td>
<td>17,540,533</td>
</tr>
<tr>
<td>5</td>
<td>Brinjal - Egg plant</td>
<td>46</td>
<td>Tons</td>
<td>9</td>
<td>398,234</td>
</tr>
<tr>
<td>6</td>
<td>Onion</td>
<td>2013</td>
<td>Tons</td>
<td>14</td>
<td>27,852,611</td>
</tr>
<tr>
<td>7</td>
<td>Garlic</td>
<td>27</td>
<td>Tons</td>
<td>37</td>
<td>1,003,267</td>
</tr>
<tr>
<td>8</td>
<td>Carrot and Turnip</td>
<td>75</td>
<td>Tons</td>
<td>7</td>
<td>504,964</td>
</tr>
<tr>
<td>9</td>
<td>Peas</td>
<td>9</td>
<td>Tons</td>
<td>12</td>
<td>111,610</td>
</tr>
<tr>
<td>10</td>
<td>Mushroom</td>
<td>173</td>
<td>Tons</td>
<td>12</td>
<td>2,051,002</td>
</tr>
<tr>
<td>11</td>
<td>Capsicum</td>
<td>7</td>
<td>Tons</td>
<td>44</td>
<td>309,076</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>7,763</td>
<td></td>
<td>11</td>
<td>82,463,893</td>
</tr>
</tbody>
</table>

Source: Bhutan trade statistics

Key messages:

- Marketing is finding out what your customers want and supplying it to them at a profit.
- It is important to identify and link with the potential markets and the buyers.
- Due to rise in population and market price, it has created opportunities for the rural farmers.
- There are many ways and options to sell their produce in the market. It is not always a best option to sell it in the nearby market. There are opportunities as well as difficulties to access those markets and the choice is yours to select the best appropriate one. Some markets are profitable but require more effort and investments.
- The bottom line is, if we can work in a group then it will be easy for collective inputs and marketing so that all farmers benefit.
- Agricultural produce are perishable, which means there is always a reduction in quantity if they are not sold immediately and ultimately loss.
4. Module 2: Analyzing Problems and Opportunities for Better Market Solutions

Learning objectives

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

a. Marketing problems farmers usually face when there is commercial production;

b. Different types of farmers based on marketing perspective;

c. Constraints & opportunities and best practice solutions;

d. Marketing strategies for price, quality, packaging, brand name, importance of channels, and forward and backward linkages with the buyers;

d. Pricing issues and demand and supply concept to set market price and ways to overcome

Detail activities

1. Prepare contents in the flip chart
2. Interaction with the participants
3. Interactive learning

Contents

a. Existing marketing scenario of Bhutan

Bhutan agricultural marketing scenario is limited cultivation land, scattered production land, less infrastructure, no proper market accessibility, negative trade balance and low productivity. It is estimated that only 3 per cent of the total potential land is occupied with cultivation of fruits and vegetables. There is a less supply of products than the market demand and so price of the commodity is very high. Farmers are located in different places and so marketing cost is high in transportation and logistics. Only few traders dominate the market and there is no competition among the traders causing monopoly in the market. Due to this reason, mainly farmers and consumers are badly affected by paying high price for any commodities.

However, Bhutan has a potential to leverage its geographic advantage to produce all types of agricultural commodities having altitude variation from 500 to 3000 ft. Bhutan agricultural produce are popular within the country and also to the nearby border market for its quality in terms of taste and organic by default. Consumers are ready to pay extra premium price up to 30 per cent more.

b. Types of farmers

There are four types of farmers, which are as follows:

1. Stepping in
2. Hanging in
3. Stepping up
4. Stepping out
When farmers are only just starting to sell their products they are categorised here as “stepping in”. Such suppliers are unlikely to know whom to sell and what the market wants. There will be some farmers who are satisfied with their produce and marketing arrangements. They are said to be “hanging in”. As they are not requesting help there is no need to provide it. Most farmers, however, are likely to come into the category of “stepping up”. This means that they are currently selling a part of their production and are looking for ways to improve their income. Generally, this is achieved by selling more products, obtaining higher prices or reducing costs. The “stepping out” group are farmers who want to diversify by selling new products or by going into new markets. They require similar support to the “stepping in” group, but they already have the advantage of being commercially experienced.

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stepping in</td>
<td>• Producers interested to start selling their products.</td>
<td>• Basic knowledge of how market works and products are demanded.</td>
</tr>
<tr>
<td>Hanging in</td>
<td>• Producers showing little interest for improving the marketing of their products.</td>
<td></td>
</tr>
<tr>
<td>Stepping up</td>
<td>• Producers are already marketing their produce but now looking to improve their sales and productivity.</td>
<td>• To reduce costs, increase sales and/or raise prices</td>
</tr>
<tr>
<td>Stepping out</td>
<td>• Producers are thinking to diversify into new products and markets.</td>
<td>• Identify markets and possible contractual arrangements</td>
</tr>
</tbody>
</table>

**c. Analyzing marketing problems**

In today’s context, every business to be competitive has to either lower the cost of production or differentiate (make different in any forms either changing product packaging, or innovative taste etc.) from the others. When the cost of production is less, final retail price of the commodity will be cheaper and affordable to the consumers. This means consumers will be easily attracted at the affordable price. In reverse to that if there are possibilities to completely come up with a new innovative product which is not available in the market than there are consumers ready to purchase by paying high. To achieve those targets there are many hurdles that every business will face. Even though the problems of each individual farmer is different, some common problems that farmers usually face are listed as below.

1. There is a limited number of traders and the absence of competition between them.
2. Cost of production is usually high due to high transportation charge. In addition to that farmer’s production in small quality has caused difficulty in transporting from one place to another. Individual farmer’s produce shall be bought in the collection centre to bulk the produce so that per unit transportation charge is reduced.
3. Cost of production is high due to high overhead cost as the cultivation is done in the limited land, which is in average 0.25 acre land for each farmer in Bhutan.
4. Quantity of agricultural produce is very less as few farmers are involved in agriculture sector and have not met the local demand, which is supplemented by imports from India. Farmers lack producing in a commercial scale and only have reached the local market. They are not aware of market potential.
5. Supply channel is not yet established as traders are mostly dealing with the imports from India. Traders do not get regular supply of the same variety of agricultural produce. Market centres are not established in most of the areas.
6. Service provided to the farmer is not sustainable and mostly free or subsidized. They are mostly depended on the Government provided free services.
Farmers benefited due to market price information through radio

Due to market price information, farmers’ bargaining power has increased. The sketch in the right hand side shows a farmer bargaining in price with the trader saying “Radio says per kg tomato price is Nu 30, you are saying only Nu 20. Why there is so much of price differences?”

Identification of constraints and opportunities

The way in which problems can be solved and exploiting opportunities will change from one area to another. Farmers should be trained on identification of problems they will normally face, its possible solutions and the actions as shown in the table below.

Table 4: Analysis of constraints and opportunities

<table>
<thead>
<tr>
<th>Constraints</th>
<th>Opportunities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problems</td>
<td>Advantages</td>
</tr>
<tr>
<td>• Small-scale vegetable farmers lack access to affordable inputs</td>
<td>• Informal groups available in the working area</td>
</tr>
<tr>
<td>Solutions</td>
<td>Actions</td>
</tr>
<tr>
<td>• Access to affordable inputs for small-scale vegetable farmers</td>
<td>• Train informal groups of farmers to conduct periodic bulk buying of production inputs</td>
</tr>
</tbody>
</table>

The best solutions to the marketing problems are normally simple and do not require any major changes in production or new technologies. Complex plans or highly innovative plans are much more likely to fail.
Table 5: Examples of farmers marketing problems and potential solutions

<table>
<thead>
<tr>
<th>Problems</th>
<th>Solutions</th>
</tr>
</thead>
</table>
| Producers lack market knowledge | • Develop the market knowledge of the producers.  
• Establish a strong relationship with trustworthy buyers and gain marketing knowledge and insight from them.  
• Bring market traders to ‘Marketing Training Courses’ so that producers can observe market research interviews being undertaken, and ask questions themselves.  
• Encourage producers to visit and investigate the market themselves. |
| Small volume of produce to sell | • Use group marketing to consolidate production, to sell to wholesalers or traders or to sell direct to the consumers.  
• Jointly plan production and marketing so as to have sufficient volume of produce available at one time to provide marketing strength (i.e. concentrate on specific products, at particular times, with common harvesting days).  
• Focus production by a group on a limited range of products to create a larger volume of a smaller range of products. |

Table 6: Tested realistic solutions to the marketing problems

<table>
<thead>
<tr>
<th>Problems</th>
<th>Solutions</th>
</tr>
</thead>
</table>
| Trader don’t come to buy        | • Work to increase quantities available in order to attract traders.  
• Ask extension agent or other service providers to develop contacts with traders. |
| Trader don’t visit because roads are bad | • Work together to repair and then maintain the local road.                                                                                     |
| Low price                       | • Explore different, higher-priced markets.                                                                                                      |
| Over supply                     | • Look for alternative markets and in the long term encourage diversification and market-orientated 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                                                                                                                |
| Expensive transportation        | • Choose high value and low volume products                                                                                                     |
| Lack of inputs for production   | • Organise mechanisms to guarantee inputs                                                                                                       |
| Spoilage                       | • Improve post-harvest techniques                                                                                                               |
| Seasonal price fluctuations     | • Storage and capital                                                                                                                           |

Three different marketing scenarios are described below:

Scenario one: farmers are selling their produce in the market for the first time.

Solution to the above issue is to establish linkages with the local market buyers. When farmers have not sold their produce in the market, but they are trying for the first time then it is better to coordinate with them to gather their produce on one particular day of the week at a convenient location. Invite few traders to visit the place where farmers have gathered their produce. Traders will have an option to buy produce so that fair price is achieved. As produce is assembled in volume, cheaper bulk transport to the major markets is possible.

Scenario two: Farmers are already supplying into the local market and there is more competition in price

In this situation, there may be opportunities to start supplying to the other major adjoining markets. Survey should be done prior on requirements of produce, prices and costs. Existing produce may be taken as test marketing and also with the new produce, and if it is successful then should be done commercially on a large scale. During this test marketing, transport and logistics issues are also sorted out.
Scenario three: Places where there is already a functional market

There should be concentration on improving the existing system. In the market if the individual growers have already established good links with the traders it will be difficult to form producers groups or cooperatives, unless there is some major common problem. If the problems are very specific customized services will have to be provided to the individual farmer. Issues should be identified and addressed at various levels such as new crops, improved production practices, post-harvest techniques, better packaging, improved transport, better access to credit facility and inputs for production, improved market information services on a sustainable basis.

Finally, it is important to remember that there is always a danger of trying to make changes when they are not necessary. Any system is not 100 per cent perfect and farmers will always complain that they receive little money while consumers complain of high prices. Before doing any intervention, it needs to be carefully analyzed on the situation so that additional inputs will benefit to the farmers.

d. Marketing Strategies

As illustrated above farmers will face several difficulties and the proven solutions are described. In this section marketing strategies are discussed that will help farmers to make better decisions on following details. The details are elaborated further more in a separate heading.

1. Product specifications, varieties, colour, size, grade, quality and packing;
2. Prices, price patterns, variations according to season, quality and supply;
3. Supply, volumes, competing suppliers and seasonality;
4. Preferences of consumers;
5. Opportunities for additional production to be marketed.

Product specifications, varieties, colour, size, grade, quality and packaging

There are two major types of consumers, some are price sensitive and some are quality conscious. Farmers need to decide on whom they would like to target their produce first. Quality in terms of proper grading, packaging and display can significantly affect sales and prices. For example, the apple grown in Bhutan is sold at Nu 60 at the footpath where as the sample apple is sold at Nu 100 with proper packaging and display at the highways or fruits supermarket targeting commuters.

Due to awareness among the local people and nearby Indian border market about unique taste and quality of Bhutanese agricultural produce people are ready to pay for it even though costly. This opportunity should be cashed on with improved production and promotion made competitive price may be offered by increasing volume of production. As price becomes an important factor for export markets, in order to compete with the Indian products so from March to September, which is off-season for India, Bhutan can grow seasonal vegetables for exports.

Grading does not improve quality of produce; it separates quality and is itself a costly procedure. The question that needs to be answered is whether or not the activity is required by the market and whether the extra prices obtained will cover the additional costs. The principal purpose of packaging is to reduce damage in transport. Another purpose is to keep the produce in a sensibly sized unit for handling and marketing purposes. In addition, good packaging can contribute to the attractiveness of the produce and help to promote sales. Packaging is, however, expensive. There have been developments in pre-packaging of agricultural produce i.e. fruits and vegetable into mainly 1 or 5 kg sacks so that it is portable for the consumer.

Retailer margin of agriculture produce is very high, and sometimes it is more than 60 per cent. For example, vegetable is a highly perishable product and need to have a strategy to push products by selling at a competitive price so that it can be sold immediately to prevent from loss. Another strategy could be to sell initially at a high price giving choice to the consumer to select the better one but later when there is a less choice for the consumers than the price can be reduced.
Pricing issues

In the market, price of the commodity is set based on demand and supply factor. If there is more supply in the market then price goes down. When the price goes down eventually, there will be less supply from the farmers. Conversely, if there is less supply then price will rise. This process continues until the price is stabilized and there is optimum supply and demand. The graph below describes how price changes with respect to the quantity of product supplied in the market.

Graph 1: Cabbage arrival, wholesale and retail price in Guwahati, India, 2009

Supply is what producers are prepared to sell at a certain price
Demand is how much consumers are prepared to buy at the market price

The quantity of produce that consumers want to purchase and the quantity that producers supply are affected by many factors, the most important being:

**Demand factors**
- price of the goods;
- tastes and preferences of the consumers;
- number of consumers;
- incomes of consumers;
- prices of competing produce;

**Supply factors**
- price of the goods/products on the market;
- price of inputs/costs of production;
- technological factors;
- climate;
- storage possibilities.
Table 7: Cauliflower Retail prices, Bhutan in Nu per kg.

<table>
<thead>
<tr>
<th>Year</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>13</td>
<td>14</td>
<td>20</td>
<td>16</td>
<td>17</td>
<td>19</td>
<td>21</td>
<td>18</td>
<td>15</td>
<td>16</td>
</tr>
<tr>
<td>2009</td>
<td>12</td>
<td>12</td>
<td>11</td>
<td>15</td>
<td>17</td>
<td>19</td>
<td>24</td>
<td>26</td>
<td>24</td>
<td>26</td>
<td>26</td>
<td>24</td>
<td>21</td>
</tr>
</tbody>
</table>

Market channel

Farmers will have to work in a group to gather more quantity of produce so that traders are attracted to do business in a long-term basis. Collection centre should be established at a major production areas having basic facilities such as weighing machine, storage facility etc. It seems profitable to sell individually by carrying their produce to the market centres but to do business in a large scale it becomes difficult to do all sorts of activities by the individual farmer. It will be wise to focus their activities in farming and cultivation where as a group leader nominated by the farmers will coordinate with the traders and build relationship with them to do long term business so that all farmers benefit.

It is blamed that the middlemen make excess profits and are dishonest. They actually perform an essential function in marketing of produce. They are the channel through which produce is taken out of the rural areas taking all risks and money is returned back to the farmers. They explore market opportunities and that knowledge is transferred back to the farmers. They make profit out of total quantity sales with minimum profit margins.

Figure 1: Marketing Channel

Key messages:

- Only 3% of the total land is occupied with cultivation of fruits and vegetable and so there is less supply than the market demand.
- There are four types of farmers: Stepping in, hanging in, stepping up and stepping out
- Pricing of agricultural produce is set based on supply and demand in the market.
- The best solutions to the marketing problems are relatively simple and do not require any major changes in production or new technologies.
5. Module 3: Pre and Post Harvest Management

Learning objectives:

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

a. Pre and post harvest details such as plucking, sorting, grading, packaging, semi processing, value addition etc.

b. Explains that there is a high percentage of loss during post harvest, which could be minimized if it is taken care properly.

c. Different ways to reduce loss some are technical and others are simple common sense.

Contents

This module does not attempt to cover the technical details of post-harvest handling of crops. The main emphasis here is on the commercial implications of different harvest and post-harvest practices. The key issues are:

• Maintaining quality;
• Maximizing shelf life;
• Supplying produce when and as the market demands it.

Most of the agricultural produce needs to be sold immediately in the market. It gets spoiled very fast which will be a loss to the farmers if it is not taken care properly before and after harvesting. It is estimated that this loss is something more than 30 per cent until reaches the consumers.

Causes of loss

Loss may occur in terms of quantity, quality and nutrients. When there is a loss, it will be in a stage where people cannot consume it.

Loss during pre harvesting stage: Use of low quality seeds which gets infected by insects and diseases.

Loss at post harvesting stage: Not harvesting at the right stage either it is early or late causing more ripeness or raw.

Harvesting and prices

Harvesting early in the season can be carried out to take advantage of opportunities for high prices, e.g. cabbage harvested as spring greens, young carrots sold in bunches, green plums and new potatoes. Taking advantage of these short-term market opportunities requires close links with the market buyers.
Harvesting and crop maturity

The shelf life of the crop and its suitability for long-term storage is affected by the maturity of the crop at harvest. The optimum harvesting stage for most crops depends not only on the climate and distance to the market but also on the variety and the growing conditions. When distant markets are being investigated, experiments should be carried out to find the best maturity to harvest fruits. Send samples at different degrees of ripeness and assess which gives the best results. It may be necessary to call in expert assistance to identify whether long-term crop storage could significantly improve farmer incomes.

Harvesting and quality

Growers often do not understand the effect of their harvesting and handling on the quality of the produce when it reaches the market. Once a fruit is plucked from a plant, or a root or leaf vegetable is harvested, it is cut off from its source of food and, particularly, water. The effects of poor treatment normally show themselves some days later, when the produce is being presented for sale or is in storage. This can often result in disputes, because farmers have sent to market what they consider to be good quality products but by the time these arrive at the market the trader sees produce that has deteriorated badly. For example, capsicum was once exported to New Zealand but after four days in a ship, they arrived in a very poor condition. When the fruit was left, they appeared to be in excellent condition. Later the problem was traced and found that during harvesting, dirty knives were used which caused defects in the fruits.

Ventilation

If there is no cross ventilation or heat in the place where agricultural produce is been stored then due to its own respiratory system it causes decrease in oxygen and increases in carbon dioxide causing damage of the produce and finally loss.

If carbon dioxide is more than 5 % in the fruits then it causes softness and changes in colour.

Water content

In most of the vegetables and fruits, the water content is more than 80 per cent. When the water content is reduced, then product dries and shrinks resulting in its degrading quality which further results in lowering of its price.

Temperature

As heat and increase in temperature damages agricultural produce, it is advised to store agricultural produce avoiding direct sunlight. There should be provision of cross ventilation for maintaining temperature. If possible, it should be kept in a refrigerator if needed to store for a longer time.

Cleaning

Proper cleaning is important to preserve fruits and vegetables to maintain its water contents and quality. It removes unwanted dirt and sand and makes it attractive and fresh. Potato, radish, carrot, cabbage, cauliflower, broccoli, tomatoes etc. need to be washed properly with chorine water. In Bhutan, few farmers have wrong perception that if the vegetables are cleaned with water it quickly is spoilt.

Drying and Curing

It is done to preserve fruits and vegetables by making the outer layer harder by drying. It is said that if the outer leaves are cut and keep potatoes underground for 10 to 15 days will help to preserve for longer duration.
Drying is used mainly on bulbs in order to extend shelf and storage life. Crops such as onions and garlic can be dried in the field over about six days, by being spread in a single layer. Alternatively, drying can take place under cover in stacked, shallow trays. The aim is to harden the outer scales and remove moisture from the neck of the bulb, in order to extend storage and marketing life.

Most root crops respond to warm, moist conditions after harvest by thickening and hardening their skins. This provides protection against dehydration and infection. Wound healing occurs. This is called curing and it significantly improves storage life of products like potatoes and carrots.

**Grading**

Grading is carried out so that:
- Disease-free and defect-free produce can be selected for long-term storage;
- Top-quality produce can be selected for transport to distant markets;
- Produce can be separated according to quality, ripeness, colour and size. Separated produce is packed into different containers to facilitate marketing to consumers with differing quality requirements.

Grading is sometimes carried out on the ground under the shade of a tree. This is both unhygienic and inefficient. Specialist grading areas or sheds are generally open-sided with tin or, preferably, thatched roofs to provide shade. Standing or sitting at tables enables people to grade quickly. Tables covered with polythene sheeting are easy to clean and the sheeting can be replaced cheaply. Lighting should be good. Tin roofs can be painted white to reflect heat, while water trickling down the outside of a shed helps reduce the heat inside the building.

**Packaging**

Good packaging design will improve attractiveness of produce, easy handling, and helps to protect from mechanical damage. The packaging cost is most expensive usually containers made of wood or cardboard cost Nu 400. That is why benefits of packaging must clearly justify the investment made. Traders usually invest in packaging unless there is financial benefit to them.

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**Improving shelf life in the field**

With highly perishable produce, damp cloths placed over the top of the field carton help give protection against the sun’s heat. Some leafy vegetables may be sprinkled with water at intervals, to maintain leaf moisture. Field containers should be removed to a shaded area as soon as possible. Shaded field-assembly points, made out of natural materials or a canvas tent, should be used in order to keep the produce cool and to allow ventilation.

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**Figure 2: Packaging materials**
Produce packaging materials can be conveniently divided into six classes.

- **Locally available natural materials**: Locally available natural materials (e.g. wooden boxes or trays, baskets woven from bamboo or willow or cartons made from thin strips of wood or rushes). While use of local materials is normally recommended, overuse can have negative consequences for the environment. In northern India, for example, there have been problems of deforestation because of the use of trees for wooden boxes to store apples.

- **Wooden boxes and trays**: Fibreboard/corrugated cardboard are increasingly being used, particularly in developed countries.

- **Plastic containers**: Plastic crates are expensive and generally have to be imported. They have the advantage of being re-usable but a system needs to be in place for the containers to be returned to the farms to be refilled.

- **Bags and nets**: Bags and nets are cheap but provide no protection from damage. They are used to package onions, garlic, cabbages and potatoes.

- **Plastic and paper**: Plastic and paper are often used as lining or wrapping for produce.

Proper packaging plays an important role while transporting goods especially for exports, from one place to another. Use of bad packaging materials can deteriorate goods leading to a loss to the exporters. For example, there is an instance of Nepal coffee, which is mostly exported to the United States of America reached its destination in a very bad condition. When the Nepalese coffee Highland Coffee Promotion Company Limited (HCPCL) exported its coffee to the US based big coffee company, Holland Coffee the buyers did not accept it initially. Before exporting coffee samples were sent through the DHL courier, and it was tested in a lab for its quality test. Mr. George Wellies, owner of the company was very kind hearted and had sympathy towards farmers of Nepal and bearing his loss, 80 per cent of the money was provided. Winrock International US based development organisation working in Nepal facilitated the whole process.

**Techniques for minimization of post harvest loss at different levels**

There are chances of loss in every step in harvesting until it reaches the consumers. These losses can be minimized if proper techniques are applied which is explained in the figure below.

![Figure 3: Steps followed in harvesting and techniques to reduce post harvest loss.](image)
<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
</table>
| Production | • Ideally harvesting should take place when the crop and the climate is the coolest and the plant has the highest moisture content. This is in the early morning.  
  • On high trees, fruit shall be harvested with a hook and a catching bag on a pole.  
  • Leafy vegetables are harvested by cutting the plant with a sharp knife as close to the root as possible.  
  • Bulb crops such as garlic and onions are harvested by pulling the leaves at the neck and then cutting the leaves about 3 cm from the bulb.  
  • Many fruits are harvested by hand and so it should be hold by the palm of the hand but not by the fingers. Whenever possible the harvesting should be carried out by plucking the stem. |
| Storage    | • Keep produce in a cool, dark and humid location  
  • Separate ripe from unripe fruits and vegetables  
  • Avoid mixing produce in the same storeroom  
  • Keep produce in a shade  
  • Keep potatoes stored in the dark  
  • Store tropical produce at 10 degree centigrade or above, and temperate crops at below 10 degree centigrade |
| Transport  | Do not stamp the sacks filled with the agricultural produce. It will get damaged and lose its quality. Labourers usually neglect this aspect during transportation.  
  • Do not put too much of loads when transporting from one place to minimize cost in transportation. This causes damage to the crops. |
### Grading
- Grading can only separate different quality products, it cannot improve quality.
- Remove damaged produce from the rest. Otherwise it will lower the overall value and can be a source of infection.
- Manual grading is best suitable.
- Instead of mixed grading, it is better to do grading for quality produce, which will get more price. In the photograph, potatoes in the S. Jongkhar auction yard are graded big size separately to get high price.

### Packaging
- Protects the products from damage while transporting from one place to another.
- It helps in promotion of brand name.
- Do not reuse poor quality packaging materials with many holes. There will be loss during transportation due to fall.
- Fibreboard or corrugated cardboard, plastic containers, bags and nets are being used.

### Transport
- Do not throw packaged produce while loading and unloading.
- Use plastic crate or cardboard materials to transport agricultural produce.

**Key messages:**
- Pre and post harvest management will minimize loss and add value in marketing aspects to fetch better price.
- There are chances of loss in every stage until it reaches to the consumer.
- It is estimated that post harvest loss is more than 30 per cent until it reaches the consumers.
- Losses through wastage means lower profit margin to the farmers.
6. Module 4: Most Common Mistakes made by Groups and Cooperatives in Agricultural Marketing

Learning objectives:
By the end of the session, participants will be able to learn:

a. Common mistakes on various marketing aspects, which can be taken as important lessons from the failures

Contents
The details of the common mistakes made by the groups and cooperatives in the past have been compiled from various sources, which are explained in more details. These mistakes done in the past shall be used as a lesson so that the same mistakes will not be repeated in the future.

1. Technical skill to grow agricultural crops alone is not sufficient

Most of the groups or cooperatives usually do not have marketing skill. They are managed by someone from the members of a group who do not have any knowledge on marketing and managing business as such. Groups or cooperatives will have to use marketing strategy to run their business. Some of the innovative strategies followed are: fair price shop, branding etc. They should advocate Government to support them in providing services and finance as a seed capital to start their business.

2. Groups or cooperatives are involved in collectively producing agricultural commodities

Past experiences have shown that the group approach works only when the member of the group have similar problems. The most common problems with the farmers are marketing of their produce and receiving all types of inputs regularly. Farmers are reluctant to share their land or work in a common land for growing agricultural commodities. There are few exceptions like Mr. Sonam Rinchen, a vegetable farmer from the Bhuntang and one farmer from Pemagatshel have provided their private land to their own group. Group has worked in the land to grow vegetables and collectively sell in the local market. So, it is better to work in a group for collectively purchasing inputs such as seeds, fertilizers, pest, etc. so that the cost will be reduced and also for marketing of their produce. It is evident that the single farmer will not be able to fulfil the large order placed by the market traders. Farmers can join hands working together by bringing their produce at the collection centres to sell the traders.

3. Weak economic status

Most of the cooperative societies are not financially strong enough to deliver vibrant products and services to ensure their market share. This is a basic challenge before the cooperatives. They should be made financially self sustained by increasing the members and their contribution as a share capital. BDFCL may provide the needful financial assistance to the cooperatives. Since the money invested is more, members show real involvement in business operations and also receive a higher dividend.
4. Availability of local market

It is very difficult to manage and is costly in marketing of produce far from the cultivation. There are more market opportunities if people can identify local market needs of the consumer and farmer can easily make a profit by selling it. For example, cabbage is sold at Nu 50 in the local market where as the same variety of cabbage cost Nu 30 in the big market centres.

5. Poor management

Cooperatives are efficiently managed by experienced, trained and professionally qualified staff under the supervision and control of democratically-elected boards of directors. Organisation should be led and managed by energetic, professional and dynamic persons. Business should be conducted in accordance with modern management principles. The managers of cooperative business should be more professional in their market operations. They should be active enough to trace new marketing opportunities as and when they appear and make use of them for their further growth. They should make brilliant purchase decisions by studying the market trends. For example, investing more in fast moving products may increase the returns. Quality should be the key in cooperatives and steps should be taken to reduce the wastages and cost of goods sold. In short, the manager / secretary of a cooperative store should deliver his service in a professional way to prove himself competent and his business successful.

6. Leadership and understanding

Leadership and understanding between the team members are the success factors. If there is understanding between the members then it will be easy for visioning and planning of activities. There will not be any dispute and will be an attitude of helping each other. Leaders should take care of providing marketing services to their members without his selfishness.

7. Lack of communication and participation among the members

Interaction between the members and the management committee of cooperative is very less and takes place when there are only economic activities. This has caused difficulty in understanding their problems and issues. Experience has shown that success of cooperatives is due to strong relationship and trust with their membership, which has been built over years through effective marketing support, services support and transparency of the exchange process.

8. Absence of common brands

To make cooperative businesses successful there is a need of more common brands which is absent today. For example, dairy products in India have individual names in each state, and they are well-known as cooperative products to people of that particular state only. Instead, if we could integrate them under a common brand it will be more successful and beneficial. It will be recognized as the cooperative product of India not only by Indians but also by the people abroad. This will reduce the marketing overheads, including promotion costs and will also result in high reach as a single advertisement serves the purpose.

9. Grading improves quality

Grading never improves quality, it just separates quality one. High quality produce is mainly due to growing conditions, the production techniques used and post-harvest handling. Machine graders are very good at separating produce into different sizes. The most important is separating into different quality grades. This can be effectively done by humans too.
10. Storage of produce will profit by selling later when there is rise in price

There is a common understanding that when there is oversupply produce can be stored and marketed later when price rises. Most agricultural crops are suitable for short-term storage, maybe for few days. Storage is usually expensive and spoils its freshness and quality. In most situations, when the produce is brought out of the store it has to compete with freshly arrived produce. Finally, farmer will get less price, and in addition they have to pay for the storage costs as well. There are few crops suitable for long-term storage. Storage in production areas is often not successful because the storage facilities are underutilized for most of the year and are uneconomic.

11. Most middlemen makes excessive profits

Traders are blamed for making more profits. Usually traders are the middlemen, who will link the farmer’s produce with the consumers. Sometimes they also build linkages with the different market far away from the production area. Many times, they are neglected and tried to sell directly in the market. Actually, the profit margins for the farmers are more than 60 per cent but due to low quantity of transaction, farmers are not benefited. For examples, if farmer sells 10 kg of chilli at the rate of Nu 80 per kg then will get total of Nu 800. The retail price of chilli is Nu 100, which shows that farmers have received 80 per cent margin where as traders margin is only 20 per cent. Traders still make good money taking advantage of selling in volume. If he sells 8 tons, which is one DCM truck load and makes profit of Nu 160 thousands.

12. Modern post harvest techniques will reduce loss

Improved packaging and marketing are important to enhance the business operations of cooperatives. Agricultural cooperatives could be encouraged to participate as wholesalers in the market and hence, enhance the benefits of their members; and good grading and packaging add to the final price of the product and enable efficient handling and distribution.

13. Groups and cooperatives formed only for the sake of getting government and donor’s support.

Groups or cooperatives should be managed in a more business-like manner – these are not social clubs or charity organisations. They should provide advice to the farmers on planting suitable crops, which earn them higher income. Regular dialogues among farmers, cooperatives and market authorities should be undertaken to resolve problems. For success, the farmers’ orientation should be on improving productivity and quality. Farmers will have to take the risk at different stages of production until the marketing. So risk management strategies at various stages of marketing from production until the marketing will help to manage risk.

14. Old traditional business activities

There are many cooperatives, which do not take care of market trend and follow the same old business principle. They are not able to adjust themselves by providing knowledge on business techniques adopted by other professionals to their members.

Why farmers do not get the retail market price?

If the retail price of tomatoes is set at Nu 20 and if the same information is made available in the chart, farmers may not get the same price. There will be variation in the price received by the farmers due to various quality factors. Refer conversation between the farmer and the trader.
It is always wise and profitable for the farmers if they collectively market their produce rather than selling individually so that cost can be minimized and profit increased.

Advantages of marketing from a group

- Collection in one place to bulking of produce so that volume of produce can be achieved and the traders will be attracted to visit the farmer’s place;
- Regular supply is possible if proper planning and management is done;
- Price fluctuation can be managed if there are practices like contract farming, agreements etc.;
- Easy in communication for dissemination of information about price, volume and others;
- Cost of production can be reduced by procuring all necessary inputs using big transport;
- Collection of produce and transport to reduce marketing cost;
- Access to fund with out collateral with group as a guarantee;
- Easy access of funds and other support services by the government and donors;
- More funds can be gathered from the members if big plans are envisioned;
- Post harvest loss can be minimized;
- Provision of capacity building and training from the processing company;
- Bargaining power improved

Points to be considered for successful management of cooperatives and groups

- For successful management of cooperatives and groups a capable manager is required. Capable manager should be recruited and trained for successful operation of regular business operation.
- Cooperatives should do networking and coordinate with the other cooperatives. Few similar activities shall be done together to minimize cost and to expand market.
- Cooperatives should be capable to update themselves with the market information.
- Should be able to prepare marketing plan and implement activities
- There should be transparency in activities, responsibility, and cash transaction.
- There should be proper management of accounting, asset, etc. and proper communication to all members.
- There should be regular monitoring of progress and achievements.

Key messages

- The above mistakes have been made in the past and should be taken as guiding principles so that it is not repeated in the past.
- Risk management is another important factor to build confidence in agriculture marketing. This can be achieved by lessons learned from mistakes made in the past.
7. Module 5: Different types of services available for the farmer’s groups, cooperatives and their members (linkages with the buyers, contract farming, inputs, market structure, market information, microfinance etc.).

This section will explain the farmers about wide range of services available to them, which will help them to increase their business and better returns. Following types of services available to the farmers will be discussed as written below. Some of the services are free and some are subsidized (partial financial support) or pay for services.

Learning objectives:

By the end of the session, participants will be able to learn different types of services required to the farmers.

a. Inputs
b. Linking farmers with markets (farmers to traders, leading farmer, private company, cooperatives or groups)
c. Microfinance from BDFCL
d. Market information
e. Contract farming
f. Collection centres and assembly markets
g. Transport
h. Farmer’s groups/ cooperatives
i. Program support

Contents

Different types of services required to the farmers are elaborated below.

a. Inputs:

Both quantity and quality of crops produced are affected by difficulties in obtaining inputs. Planting material is particularly important. Consumers can have strong preferences for particular varieties, colours and tastes. For example, small size tomato with a thin outer layer is preferred in vegetables whereas big size is preferred for salads. Product colour can also be important, for example, red apples are sometimes preferred to green or golden varieties. Growers’ returns can be improved by ensuring the supply of the correct planting material, and discussed with nurseries and seed suppliers for the varieties they should stock.

Pest and disease damage will seriously reduce a crop’s price and its potential shelf life. Cardamom production in Nepal has been badly affected due to viral diseases locally known as chhirke (mosaic streak) and foorkey (bushy nanovirus) and fungal disease due to infection in 60 to 70 per cent of total cardamom land. The solution to the problem is uprooting the infected plants but farmers were reluctance...
to do so. The annual export is worth of NRs. 2 billion. Sometimes these problems can be solved by the correct crop protection practices. In India, spray programmes were introduced to control scab disease on apples in Kashmir. A crucial step in the successful introduction of this programme was ensuring that agricultural chemical shops had the recommended materials available.

b. Business linkages

Linking farmers to the different level of traders is one of the very important services required for bringing rural produce up to the market. The term linkage obviously implies a physical connection between the producer and the ultimate consumer. Linkages also involve financial transactions - the selling and buying of goods. Farmers do not know where they can sell their produce other than the local market and always tell that there is no market, where as traders at the other end say there is a huge demand in some market, and the product is not available. Farmer does not know who are the traders and traders are not aware of the producers and the types of products available. Farmers may be selling to the local trader and is not aware that wholesaler in the certain market is ready to pay better price if a sufficient quantity can be supplied. There is always a gap between the market demand and supply due to lack of linkages with the market traders and the farmers as a producer. Business linkages are made in the form of supply chains, inputs, procurement, contracting of agricultural produce to the farmers. Linkages are, in fact, driven by commercial self-interest of an individual entrepreneur but supported by Government stimulates the process through regulation and support. Linkages can be established both forward and backward. In addition to buying and selling, vertical linkages allow firms to exchange new knowledge, information and technical, financial and business services. These non-financial transactions are important elements of the buyer-seller relationships. Vertical linkage allows a company to obtain raw materials with specific quality specifications without physically involving on it. The production steps are independent, but they become a part of a larger food production system and produce according to the market demand.

Different ways to build linkages between the farmers and the traders:

- Buyers and sellers meet
- Inviting traders to meet with a farmer’s group
- Contract farming
- Promoting to a new market place
- Working with the private sectors for b2b matchmaking
- Sub- contract exchange

**Buyers and sellers meet:** Such meetings are organised by the facilitating organisations such as Government, NGOs or programs etc. inviting buyers and the traders in one venue. Issues are discussed especially on buyer’s requirement and provision to fulfil the requirements from the farmers end. This is an efficient and low-cost method to foster business matching between buyers and sellers.

**Inviting traders to meet with the farmer’s group:** Inviting traders to meet the farmer’s group creates business deals. Farmer’s group shall establish pocket area as a collection making available for agricultural produce in sufficient quantity so that traders are attracted to visit their place.

**Contract farming:** This is a private/public sector initiative in establishing backward linkages with agriculture producers. In this approach, there is a formal or informal agreement between the farmers and the traders to grow certain quantity on the specific period with a fixed terms and conditions. Farmers will be provided with inputs and services by the traders without compromising in receiving the quality produce. Long terms trust is important aspect in this approach and there are many issues from both sides. It is therefore important to have third person involved in facilitating the process so that both parties do not break the contract terms and conditions.

**Working with the private sector for B2B matchmaking:** Nowadays, there are private companies providing matchmaking services. They act as intermediaries and networking between the buyers and supplier through the promotion of a website and may also have the physical place. They will have a list
of buyers and supplier upon each transaction; they charge certain commission amount as a service. For example, http://www.alibaba.com website does matchmaking between the buyers and supplier globally.

**Sub-contract exchange:** In this approach association or business membership organisation established relationship with the big size buyers and supplying products as per their demand from their members. The services are made sustainable by taking minimum service charges. Members are benefited by the provision of specialized raw materials and services from the buyers.

**Examples of linkages between the farmers and the traders**

There are different types of the business model such as contract farming, public private partnership, direct formal or informal arrangements, etc. where farmers are linked with the market traders. Once the farmers get an opportunity to interact with the traders, there are more business transactions. Market requirement specifications such as quality, price, volume, etc. are communicated to the farmers. Gradually long-term business relationships are formed between them.

Growth-Oriented Microenterprise Development Program (GMED) was implemented with the USAID funding support in India. Project has helped in supporting many major companies and NGOs to integrate small holders farmers into commercial supply chains by increasing their capacity to meet market demand. One of the success cases was retailing company ITC has integrated smallholder vegetable farmers to supply fresh vegetables. ITC developed an integrated system to deliver a wide range of services to vegetable farmers to ensure a consistent supply of high-quality vegetables. They have provided agriculture extension services, improved varieties, better seedlings, soil and water testing facilities, access to market information services and access to tools and equipment for improving farmer productivity.

Local traders or other intermediaries can be used to improve efficiency and transparency. The Chiapas coffee project in Mexico tried to assist producer cooperatives to export directly to Starbucks. When this proved unsuccessful, it introduced a local trading company, AMSA, into the value chain to provide export services to the cooperatives. Using AMSA for export functions had a positive result for the farmers, leading to increased transactional efficiency, reduced rejection risk, and increased returns. By delegating the trading functions to the trader, the cooperatives were able to focus on fewer core functions.

**Activities to create market and business linkages**

1. Inviting traders to meet with a farmer group
   - Wherever possible explore with the traders interested in doing business.

2. Assisting traders to find new market outlets
   - This may involve identifying market opportunities for traders to explore and supporting them in expo or national and international visits.

3. Creating linkages between a group of growers and a processor
   - This could involve finding out the raw material needs of the processor and the buying prices. Farmers’ interest in working with the processor can be established, and help both parties to develop an arrangement covering production planning, technical and input support, prices and quality standards, delivery and payment terms. Ongoing support can include the monitoring of production and payments and assisting with dispute resolution.

4. Assisting farmers to overcome transport problems
   - This could involve working with a group of farmers and transport agents to develop a transport service.
5. Promoting new market places
   • This could involve encouraging the establishment of a collection centre or a farmers’ market in the local town and assisting them in planning.

6. Providing information and negotiating support to farmers and farmer’s groups
   • Farmers can be assisted by providing them with names and contacts of important businesses such as suppliers of packaging, transport companies, market agents and traders and processing companies. Farmers can be guided with typical prices, packaging, comparative transport costs, and agents with good reputations.

7. Supporting the start-up of new trading relationships
   • Act as the third party supporting in any disputes and communication.

c. Collection centre

Collection centres enable produce to be gathered in volume. This attracts buyers and creates competition between them. Better prices are realized and economies can be achieved in transport. By working together to bulking up produce in the collection centre can attract traders and reduce their marketing cost. Where unorganized shipments of produce are being made to a distant market you can consider promoting a collection centre. You could do this by:

   • Identifying a suitable location (i.e. one that is accessible to both producers and traders);
   • Agreeing with local growers to organize harvesting and deliver their produce to the assembly points on a specific day of the week;
   • Informing buyers, agents, wholesalers and truckers of when and where farmers will assemble;
   • Encouraging growers not to compete with one another on price.
d. Contract farming

Contract farming is becoming more common as agriculture develops. It has the advantage of reducing price fluctuations and therefore risk, both for growers and buyers. Contracts are generally formed between farmers and agribusinesses that need an assured supply of raw material. However, problems can arise when there is a significant difference between the contract price and the price on the open market. Growers are then tempted to make short-term profits by selling to others. This is generally a short-sighted practice because it discourages the agribusiness from working with those farmers again.

e. Market Information System

An effective marketing chain not only takes produce out of rural areas and returns money, but should also provide an ongoing stream of feedback to farmers on the state of the market. This information should keep producers in touch with the changing needs of the markets. Such knowledge enables farmers to be confident in negotiations, and provides insight on how the quality and prices of their produce compares with the competition.

Market information can be divided into short-term information, which helps farmers make instant marketing decisions on selling their products, and longer-term market information, which can be used to make planting decisions and plan marketing strategies.

Table 9: Maximum monthly retail price of Cabbage produced locally in Bhutan markets

<table>
<thead>
<tr>
<th>Market</th>
<th>Market price in Nu per kg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jan</td>
</tr>
<tr>
<td>Gelephu - Retail</td>
<td>11</td>
</tr>
<tr>
<td>S/Jongkhar - Retail</td>
<td>9</td>
</tr>
<tr>
<td>Samtse - Retail</td>
<td>5</td>
</tr>
<tr>
<td>Sarpang - Retail</td>
<td>10</td>
</tr>
<tr>
<td>Trashigang</td>
<td></td>
</tr>
<tr>
<td>Zhemgang</td>
<td>13</td>
</tr>
</tbody>
</table>

Source: RNR Statistics

f. Micro Finance and Credit

Critical production constraints are often shortage of working capital and funds for investment purposes. Potential sources of funds, apart from the farmer’s own resources, can be divided into two: formal and informal.

Formal sources: These are mainly banks and other types of financial institutions such as credit unions, savings and credit cooperatives and various types of microfinance organizations. They offer different types of loan products and normally apply market-based interest rates. In the case of banks, they require specific types of collateral in order to grant loans and credits with lengthy procedures, which tend to seriously limit loan access by the farmers. Providing banks with cost-of-production budgets, detailed information on likely returns and other relevant information about the activity at the time of the loan request will enable them to assess more accurately the risk involved and may shorten the procedures. Credit unions (Savings & Credit) and similar types of members-owned financial institutions are, by their nature, more open to farmers requiring smaller production-oriented loans. But, similar to microfinance institutions, they often face problems in providing large numbers of loans, due to limited funds.

Financial institutions have different rules as to what loan purposes they can cover. Some will only provide input loans while others may also offer loans to meet labour costs. In rare cases banks offer marketing loans to the farmers. Such loans are needed to cover the cost of harvesting, transport, packaging and
even storage of crops. The advantage of such loans is that growers are not restricted in who they sell to, which is the case when they borrow from traders.

Informal sources of the fund are from personal savings, and friends or relatives with whom we normally seek in case of any requirement. At times, loans from friends or relatives may be the only available source of financing. Such loans can be often obtained quickly as this type of financing is based more on personal relationships than on financial analysis.

g. Transport

Without adequate access to transport, farmers are at a disadvantage. They are dependent on visiting buyers. With transport, growers have control over what market the product is transported to and are therefore potentially in a far stronger marketing position. Improved efficiency in transport, e.g. larger loads, quicker turn-around times and better utilization of capacities, are all proven methods of lowering costs and opening new market opportunities.

You can have an important role in helping growers to gain access to transport. This could involve introducing farmers to transporters, planning a collection route and helping organize the initial services. Growers who do not sell to visiting traders usually have to transport produce to market in hired lorries or pick-ups. The grower generally has to either pay a fixed price for the hire of the truck, no matter how little is transported, or is charged by the box or sack. Both systems can be inefficient.

If the lorry is not fully loaded the costs per unit (e.g. box, bag) go up. Cost savings can be achieved by encouraging farmers to share transport. You could help them to assemble produce on a particular day of the week at specified collection points.

When transport is charged by the unit, transporters will generally overload lorries in order to maximize their income. By assembling produce at one point so as to guarantee full loads, a fixed price for the lorry can be negotiated and the growers can themselves ensure that the transport is not overloaded, and their produce is not damaged. It is difficult to resist the temptation to try to squeeze extra containers into a vehicle and this is often done by traders, as well as by farmers. However, the benefits in terms of reduced transport costs are usually outweighed by losses in terms of damaged produce.

Generally, the larger the individual load (i.e. the larger the truck used) the cheaper the unit cost of transport. For example, in Bhutan, 8 tons DCM truck travelling from Lhuentse to S. Jongkhar costs Nu 10,000, i.e. Nu 1.25 per kg of produce. Cost of transport can be reduced further by introducing big truck, which can transport up to 16 tons.

Farmers who are able to make investments in transport mainly buy small pick-up trucks. The unit costs of transport are therefore higher than when hiring space in a larger lorry, but such pick-up trucks do offer farmers the possibility to:

- Transport produce to the market immediately after harvest;
- Supply transport services to neighbouring growers;
- Take produce for sale to farmers’ markets;
- Make direct sales to retailers and caterers.

h. Farmer’s group and cooperatives

Establishing new outlets for growers increases the efficiency of traders and enables farmers to build up an understanding of what they need to produce to meet the demands of the market. When farmers have sufficient mutual trust there is scope for them to work informally together as groups to improve their sales. The first step in this process is for them to understand the benefits of working together and to develop commitment to coordinating their activities. These ideas are best developed collectively with the farmers. Possible ways that farmers can work together include:
• consolidating loads to facilitate bulk buying by traders or bulk transport;
• sharing transport to reduce costs;
• joint negotiations with buyers;
• Collective purchase of inputs to reduce costs.

In Bangladesh, about 90 percent of the farmer groups given marketing training developed collective marketing activities. These ranged from using mobile phones to call traders when the farmers had sufficient volumes to sell, to delegating group members to take produce to sell in markets or to agribusiness concerns.

In many countries cooperatives have been formed to market produce on behalf of farmers. An effective cooperative can increase the chances of small farms remaining viable as the market becomes more developed and demanding investments in post-harvest equipment is required (e.g. grading and packing for export or to supply supermarkets). This guide gives several examples of informal cooperation between growers. When considering the formation of a more formal cooperative you should take into account:

• The importance of producers retaining control: This is ensured through the cooperative's constitution. Either “one-person-one vote” or share capital linked to area of land farmed is desirable as the basis for decision making;
• The need to employ efficient and well-motivated staff, particularly at senior management level: Many cooperatives have failed by employing the wrong staff or paying the right staff inadequate salaries. Marketing requires a business mind. Successful cooperatives have often been established by linking the manager’s salary to turnover and/or to the net sum paid to members;
• A properly equipped cooperative must have the necessary facilities and equipment to carry out its objectives, but should avoid building up too high a level of overheads.

Key messages:

• There are different types of services available to the farmers as incentives from the Government and other stakeholders.
• Services should be made sustainable by making them available in a cost-sharing basis or initially subsidized/free and when there is awareness of services and benefits realised then is should be gradually charged.
• Bottom line is services are needed to grow business and competitiveness.
Learning objectives

At the end of the session, participants will be able to understand:

b. the advantages of proper planting materials and other inputs from the market prospective;
c. different market options and its advantages and disadvantages;
d. production planning includes selection of variety of commodities, investment ideas, and value addition possibilities;
e. calculation of production cost, gross margin per acre and break-even cost will done with the help of format;
f. calculate profit margin for different level of production, which shows effect on profit.

Contents

Farmers need to make understand about marketing and how they can become more commercial and profitable by producing crops that are demanded by the market. This module has considered ways in which farmers can adapt their production to meet the market’s needs. Most farmers are naturally conservative and will be reluctant to go into new enterprises, because they involve risk. New crops or the introduction of new technologies or production techniques should, therefore, initially be undertaken on a small-scale trial basis to balance between profitability and risk.

What is market oriented production?

In the past farmers used to just produce and hope for the best expecting that consumers will purchase them all. Now, the situation has completely changed, and farmers will have to start producing what is mostly demanded by the market. Market oriented production is planning and producing only those commodities looking at the market situation and demand perspectives. Following points shall bear in mind to adopt such a system.

- Seasonal variation and quantity of arrival in the market
- Seasonal crops and its variety, and its market demand
- Required production area and cost of production

Why it is important to produce based on the market need?

Market based production helps on following issues.

- When farmers adopt market-based production, supply will be based on its demand and so there will be an assured market for the farmers. It also reduces the risk of over supply in the market.
- Usually production quality will be good and so there will not be problems in selling those produce.
- Due to planned production, there will be a healthy competition in the market and the traders,
processors and other actors will get the required quantity from the farmers.

- When there is a regular production as per the market demand then will be jobs created to the transporters, service providers, etc.
- There will be a long-term relationship build between the service providers and the farmers and the other level of businessmen.

### Pre-production issues and production planning

Farmers need advice on which crops to grow and what market opportunities they can target. While the final decision must always be that of the farmers, you should be able to help them plan their production. Although production issues, such as labour availability and crop rotations, have to be taken into account, the key factor affecting production decisions is that production must be market oriented. This means producing products for which there is a demand and which farmers can grow profitably.

### Individual crops selection

Farmers face many challenges and one of them is the decision to select which crop or combination of crops to plant. The farmers should be made aware of the potential or net returns of the major alternative agricultural crops in the region. This will tell them which crops are likely to be the most profitable.

The market research that he or she will have undertaken should have shown whether any of the local crops have a comparative advantage. The produce may have advantages in terms of price, quality or seasonality over competing crops from other areas. Research should also have shown what varieties are favoured and the best time to supply the market. The farmers should be provided with such market requirements with practical recommendations such as:

- **Best varieties**
- **Sowing dates**, e.g. whether to extend the period of supply or aim for a particularly high priced period; whether to avoid times of oversupply
- **Other techniques** to extend production into high priced periods, such as late or early varieties, transplanting techniques, polythene tunnels, irrigation
- **Techniques** to improve quality, such as optimum fertilization, crop protection, pruning, irrigation, and weather protection.
Table 10: Selecting crop to grow

<table>
<thead>
<tr>
<th>Crops</th>
<th>Cabbage</th>
<th>Tomato</th>
<th>Chilli</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expected sales in Nu from one acre land</td>
<td>103,020</td>
<td>54,000</td>
<td>122,500</td>
</tr>
<tr>
<td>Cost</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production</td>
<td>27,024</td>
<td>2,700</td>
<td>15,333</td>
</tr>
<tr>
<td>Marketing</td>
<td>25,000</td>
<td>15,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Net Return</td>
<td>50,996</td>
<td>36,300</td>
<td>87,167</td>
</tr>
<tr>
<td>Select Crop</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

The above estimates are based on preliminary findings and may not reflect the true picture but give an idea to select the best crop, which give maximum profit. Price of few agricultural produce fluctuates so difficult to predict return. It is advised to refer past trends to understand the true picture of price of each produce.

Selection of a range of crops: It is advisable for farmers to achieve a balance between growing a wide range of crops and concentrating on those products where they have the most advantage. Producing a range of crops reduces the impact of a possible production or market failure for one crop. For example, if farmers grow only potatoes and their crops are affected by Potato Blight, they will earn nothing. However, if they grow two or three other crops and have successful harvests they will be less affected by the potato disease.

Growing many different crops can cause problems: This is because the farmer is unlikely to have the necessary expertise in all the crops and the smaller volumes of each produced makes marketing more difficult. Very often, growers will have preferences for crops that they feel comfortable growing and/or that grow well on their land. As agriculture becomes more developed, farming become more specialized. Individual farmers, such as those supplying supermarkets or agro processors, generally have to concentrate on relatively few crops. Although growers may become more skilled, they can rarely be experts in more than three or four crops. The most profitable crops are often the most risky. It is useful to have a cropping system in which risky crops are balanced against crops that can be relied upon. An example might be to grow one or two large-volume vegetable crops, such as potatoes and onions, together with higher priced products such as capsicum (green or red peppers) and leafy vegetables or salads. Small farms often have more labour available per hectare than do large farms and they can take advantage of this by concentrating on growing labour-intensive crops. These are crops that cannot be harvested mechanically and may also require transplanting, pruning, hand weeding (hoeing) and harvesting on several occasions.

Table 11: Information needed to the farmers

<table>
<thead>
<tr>
<th>Decision</th>
<th>Information Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>What crop to plant? What variety?</td>
<td>• Historical prices of different crops</td>
</tr>
<tr>
<td></td>
<td>• Prices of different varieties</td>
</tr>
<tr>
<td></td>
<td>• Production costs of different crops and varieties</td>
</tr>
<tr>
<td>When to plant?</td>
<td>• Seasonal variations in prices</td>
</tr>
<tr>
<td>When to sell?</td>
<td></td>
</tr>
<tr>
<td>Should I harvest?</td>
<td>• Current prices in different markets</td>
</tr>
<tr>
<td>Where to sell?</td>
<td>• Marketing costs for alternative markets</td>
</tr>
</tbody>
</table>

**Crop calendars**

A crop calendar can be used to compare those periods when an area is able to supply produce with the periods when market prices are likely to be high. It can also be used to compare the seasonality of an area’s production with that of a competing producing area. The table below describes harvesting calendar of five potential vegetables of Bhutan.
Table 12: A crop calendar

<table>
<thead>
<tr>
<th>Crop</th>
<th>J</th>
<th>F</th>
<th>M</th>
<th>A</th>
<th>M</th>
<th>J</th>
<th>J</th>
<th>A</th>
<th>S</th>
<th>O</th>
<th>N</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chilli</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cabbage</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radish</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cauliflower</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Harvesting month

**Cost of production calculation**

It is important to understand the cost of production of agriculture commodities but its actual calculation is complicated if all factors are taken into account. Simply cost of production is calculated with three basic parameters: input costs, manpower, and marketing cost as shown below. Estimation of cost of production will help farmers to decide on selecting the right crops and forecasting his profitability and incomes.

Table 13: Production costs, gross margin per acre and break-even cost for cabbage

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Particular</th>
<th>Unit</th>
<th>Rate (Nu/Unit)</th>
<th>Qty</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Income</td>
<td>Kg</td>
<td>30</td>
<td>3434</td>
<td>103020</td>
</tr>
<tr>
<td></td>
<td>A. Input costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Seeds</td>
<td>Pkt</td>
<td>130</td>
<td>12</td>
<td>1,560</td>
</tr>
<tr>
<td>2</td>
<td>Compost</td>
<td>Kg.</td>
<td>10</td>
<td>33</td>
<td>330</td>
</tr>
<tr>
<td></td>
<td>TOTAL (A)</td>
<td></td>
<td></td>
<td></td>
<td>1,890</td>
</tr>
<tr>
<td></td>
<td>B. Manpower/ Labour costs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Seeds Sowing/Nursery raising</td>
<td>PD</td>
<td>200</td>
<td>11</td>
<td>2,134</td>
</tr>
<tr>
<td>2</td>
<td>Bed preparation</td>
<td>PD</td>
<td>200</td>
<td>25</td>
<td>5,000</td>
</tr>
<tr>
<td>3</td>
<td>Transplantation</td>
<td>PD</td>
<td>200</td>
<td>20</td>
<td>4,000</td>
</tr>
<tr>
<td>4</td>
<td>Harvesting</td>
<td>PD</td>
<td>200</td>
<td>70</td>
<td>14,000</td>
</tr>
<tr>
<td></td>
<td>TOTAL (B)</td>
<td></td>
<td></td>
<td></td>
<td>25,134</td>
</tr>
<tr>
<td></td>
<td>C. Marketing cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Transportation</td>
<td>Kg</td>
<td>2</td>
<td>3434</td>
<td>6,868</td>
</tr>
<tr>
<td>2</td>
<td>Packaging</td>
<td>Sack</td>
<td>10</td>
<td>69</td>
<td>687</td>
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<tr>
<td></td>
<td>TOTAL (C)</td>
<td></td>
<td></td>
<td></td>
<td>7,555</td>
</tr>
<tr>
<td></td>
<td>Total production and marketing costs</td>
<td></td>
<td></td>
<td></td>
<td>27,024</td>
</tr>
<tr>
<td></td>
<td>D. Gross margin/net return per acre</td>
<td></td>
<td></td>
<td></td>
<td>75,996</td>
</tr>
<tr>
<td></td>
<td>Break-even price per kg (Total production and marketing cost /Yield)</td>
<td></td>
<td></td>
<td></td>
<td>8</td>
</tr>
</tbody>
</table>

**Note:** This calculation provides a simple example of how farmers can calculate the profitability of growing a particular horticultural crop. To carry out such an analysis, it is important to have accurate information. The calculation can also be made before growing the crop, to see if it will be profitable or not. In this case, a realistic forecast of prices is required.

In the above table, costing of cabbage produce in Bhutan is calculated. Total costing of cabbage produced in 1 acre land is Nu 27,024 with estimated average production of 3434 kg. The average selling price is Nu 30 and deducting total production and marketing cost from the total income, which gives a gross margin amount of Nu 75,996. Break-even price for the farmer is Nu 8 that means remaining Nu 22 for each kg of sales is a profit.
**Investment ideas**

Business and investment ideas are also needed. Farmers often make an investment, which is expensive, and do not give a better return. The priorities for investment decision should be:

- Investment that can assure farmer with good return
- Investment that can increase incomes by improving prices
- Investments that can improves incomes by increasing yields
- Investment which reduce production costs
- Investment that can create additional incomes sources

Investment should be done in technology such as polythene tunnels and transplantation. It should also improve marketing such as grading facilities, on-farm storage, pick-up-trucks to transport produce and even telephones to improve communication.

**Calculation of the sales price of a produce**

<table>
<thead>
<tr>
<th>A. Expenses</th>
<th>Unit</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Enter approximate monthly expenses</td>
<td>Nu</td>
<td>1500</td>
</tr>
<tr>
<td>2 Land cost (Owned or leased)</td>
<td>Nu</td>
<td>7000</td>
</tr>
<tr>
<td>3 Labour expenses</td>
<td>Nu</td>
<td>500</td>
</tr>
<tr>
<td>4 Seeds</td>
<td>Nu</td>
<td>500</td>
</tr>
<tr>
<td>5 Fertilizers</td>
<td>Nu</td>
<td>500</td>
</tr>
<tr>
<td>6 Pesticides</td>
<td>Nu</td>
<td>0</td>
</tr>
<tr>
<td>7 Water</td>
<td>Nu</td>
<td>50</td>
</tr>
<tr>
<td>8 Electricity</td>
<td>Nu</td>
<td>50</td>
</tr>
<tr>
<td>9 Tractor &amp; Equipment Rentals</td>
<td>Nu</td>
<td>1000</td>
</tr>
<tr>
<td>10 Transportation</td>
<td>Nu</td>
<td>500</td>
</tr>
<tr>
<td>11 Bags</td>
<td>Nu</td>
<td>50</td>
</tr>
<tr>
<td>12 Other Expenses</td>
<td>Nu</td>
<td>0</td>
</tr>
</tbody>
</table>

**B. Loans and Repayments**

1 Monthly loan repayment                          | Nu   | 100    |

**Total expenses (A+B)**                          |       | 11,750 |

**C. Yield (aggregated per month)**

1 Land area (in acres)                            | Nu   | 2      |
2 Approximate yield (in tones /acre)              | Nu   | 0.5    |

**Total Yield (in tones)**                        |       | 1      |

**D. Farmer’s Returns**                           |       |        |

1 Monthly minimum return or profit exptected      | Nu   | 10000  |

**E. Wastage (in percentage of volume of produce)**| Nu.  | 5      |

**F. Min. sales price ( per kg)**                  | Nu   | 22.89  |

**G. Current Market Price per kg**                 | Nu   | 12     |

**H. Profit/Loss**                                 | Nu   | -10350 |
Sample Excel sheet to assist farmers in determining their sales price.

**Note:** Only enter data in the yellow colour cells where as grey colour cells are automatically computed.

**Key messages:**

- From the discussions with the farmers on production plan, those plans should incorporate all the detailed information that will help future interventions and support services to the farmers.
- Produce what is demanded by the market in terms of quantity and quality and use market channel to make the product available in the market.
Case 1

Learning by doing of vegetable marketing by Mr. Sonam from Bhumtang, Bhutan but initially had failed to market his produce due to production of vegetables in without prior knowledge of buyer’s requirements.

Action

Mr. Sonam is one of the successful vegetable growers in Bumtang with 17 years of experience in farming. He has two acres of land where one acre of land is rented to his group to cultivate all types of seasonal and off-seasonal vegetables from March until December. He is supported by the Government with poly-house with size 32 ft length and 15 ft width were he produce vegetables, which are sensitive to the climatic conditions. Bumtang is a tourist destination with many hotels and mostly people prefer locally grown vegetables. Approximately, each year he earns Nu 150,000 by selling vegetables from his own cultivation. From his rented land, monthly sales turnover is Nu 17,000 by selling vegetables in the local market. Usually local villagers, Government civil servants, and Indian local labours working nearby come to his vegetable garden to purchase directly and sometimes he also sell vegetables to the local vegetable market. There is one local vegetable market centre with the sheds, which was build with supports from DAMC.

Decision

In the past, he had cultivated only one variety such as Radish in his whole land but when it was harvested and carried to the Sjongkhar market, price was very low, it was difficult to sell and he has to suffer loss. This bad experience has taught him to focus on local market with superior quality and different variety of vegetables. He cultivates vegetable in a 15 days cycle so that some are ready for harvest on a weekly basis. Both he and his wife work in a farm and they have two children.

Main points

He expressed that all types of vegetables can be grown in all climatic conditions if taken care with the right technology from seeds until harvesting. He is very committed with the organic farming and says that Bhutan has favourable climatic advantage and resources, which can fetch more prices. He is positive towards working in a group and sees more advantages, which can speed up the farm work by complementing each other. In future, he is planning to attract tourists in his farm as a tourist farming plot and take incentives from them, which will add more revenues.

Lesson: Before harvesting vegetables, from the very first day we should know our buyers (market trader) to whom we are selling. Local market is equally important that should not be avoided. It will give more returns than the export when dealing in a small volume.
Case 2
Chilli farmer experiencing benefits by growing chillies in adverse climatic conditions and selling in the market with a profit

Background
Mr. Phintshang Phuntsho Wangdi from Pemagatsel, from Nangkor village, is first when it comes to cultivating chillies. Traditionally, the sub-tropical farmers of the Dzongkhag grow chillies only after the monsoon rains subside so that the crop is not destroyed by excessive rain.

Action
Mr. Phintshang came up with an idea of growing chillies before the rainy season. During the initial two to three years, nobody knew about when to raise the nursery for early production, but now many have already selected this trade and have started farming chilli seriously. He has used at least one acre of land for growing chillies with the help of hired labour. He had faced difficulty due to attack from diseases and pests. He has never used insecticides or chemical fertilizers. He also faced difficulty from deer entering in the land and spoiling the chilli.

Result
His produce was available in the market during April which has fetched anywhere between Nu 60 to 80 kg. What started as a small kitchen garden has now increased into a sizeable land. His income from the sale of chilli has also increased substantially, from Nu 3,000 in the initial period to about Nu 50,000 in 2007.

Learning:
- While Phintshang is reasonably confident about chilli production, the lack of sufficient good quality seeds in the market is deterring farmers like him. He said that each year he has to look for seeds from other sources.
- Learning of nursery raising of chilli for early production by the farmers will help to get better returns after sales.
Case 3

Exporting non-wood forest products (NWFP) to Indian buyers Mr. R. K. Sinhal, Siliguri, India

Background

Mr. R. K. Sinhal is a NWFP trader located at Siliguri, India and is interested to buy all types of non-wood forest products from the registered traders of Bhutan. All types of NWFP are available in Bhutan. The farmer’s groups and the community forest groups are only allowed to harvest 41 herbs. There has been a strong linkage between the Indian and Bhutanese traders. Mr. Jamtsho, trader from Samdrup Jongkhar has paid a royalty of Nu.170,000, which clearly indicates that the quantity of NWFPs traded to India. At present, only few NWFP’s species like, Chirata, Star Anies, Rubia, Pipla and cardamom are traded to Indian traders.

Action

There were several rounds of meetings and visits from both parties. Mr. R. K. Sinhal visited Thimphu several times and met with Government officials to discuss on export potential and his interest to import all types of herbs available in Bhutan. Bhutan license holder traders exported few herbs such as Pipala, Chirato, etc. with prior sending samples and verbal agreement through the telephone conversation. Out of that Mr. Ugyen Rinzin has supplied soap nuts, but later it was identified as wrong products resulting to withholding of payment. Due to several issues between the buyers and sellers and also to build long term relationships buy & seller meeting was arranged between the NWFP groups and the traders at the S. Jongkhar. The meeting was facilitated by DAMC/RAMCO and there was participation from the SNV, and CFC.

The meeting discussed on several burning issues and suggested Bhutanese trader to initiate sharing of information on the sample by sending the sample or by sending the pictures through email before delivering the products. This sample sharing will help in product identification and price agreement. It was further informed traders that development of a business plan is necessary to have a proper outlet of the commodities collected.

Result

Mr. Sinahal expressed that the qualities of products from Bhutan are best but quantity is very less to do business. He added that in order to up-scale quantity production of products he has suggested for initiation of cultivation of those species that have high demand in the market. He has shown willingness and interest to give technical support, scientific technology, input supply and any other problems faced by our farmers. The Indian traders are also willing to send their people to work with the Bhutanese traders and other team in identification of species that has a market value. Farmers and local traders are aware of only 25 per cent species, which he demands. The traders pointed out that present royalty rate on some NWFPs are very high which ultimately effects on payment at the farm gate. There is a need on revision of royalty at the earliest. Mr. Sinhal agreed to purchase all types of herbs collected from the local level traders.

Lessons

- Exporting products to other countries require through exercise before actually export takes place.
- Proper communication skill is very important in exports and building relationship with the buyers.
- Sample should be sent to the buyers and upon his acceptance and fixing price, actual exports should take place.
Case 4
Potato marketing through Farmer’s group

Background
The potato farmer’s groups in Phobjikha, Sephu, Ura, Chhokhor, Naja, Chhapcha and Katsho Bumthang, are working together in a group. They produce quality seed and potato, and the seed potatoes are sold through a separate seed auction centre at the FCB auction yard at Phuentsholing.

Action
The initiation of farmer’s group was done by the Bhutan Potato Development Program (BPDP) with an aim to produce quality potato for both domestic and export market. The group was initially supported by inputs like seeds, packaging materials and technical backstopping. The quality is maintained through the internal quality controlling mechanism developed in each group supported by technical team from BPDP/NSC. They grade the potato and packed in a 50 kg sack. Once it is reached at the FCB auction yard the traders have a choice of either buying it through the bidding process or directly from the truck.

Result
- There is a quality production of potato. For example, Bhutan has the climatic advantage of producing disease free potato tubers and quality maintenance grading system as per the size and packaging.
- Capacity building of the groups on production and marketing aspects
- Working in a group to have bargaining power
- To reduce the transaction cost by purchasing of inputs like fertilizer and chemical in a group and collective marketing of their produce.
- After establishing the farmer’s groups more bidders have registered at the FCB Auction Yard. Before BPDP, there was less than 15 bidders but after forming of the farmer’s group and raising awareness in the neighbouring Indian market the number of bidders has increased to more than 120 benefiting the Bhutanese potato farmers.
- Payment made to the groups by FCB was faster than individual farmer’s payments.
- With FCB opened in Chamkhar, farmers and especial groups have now a choice of receiving payment there instead of waiting in a queue for payment in either cash and or kind.

Lesson:
- Marketing of the potato can be done more efficiently in a group
- Quality and quantity can be assured from the groups
- Inspection and certification will be easier in the future.
- It will be much more easier to obtain support from Government agencies/organisation
- Linkage with buyers/traders can be developed and assured
- Long-term linkage can be established.
- Inputs required for the production can be obtained at a cheaper price.
- It will be easier to build the capacity of farmers on production, management and marketing.
Case 5

Individual farmers are benefited through Poultry farmer’s group, Thimphu, Bhutan

Background

Farmer’s group named ‘Kuenphen Ugyen Tshogpa’ was formed on July 2009 in the Kawang block of Thimphu. The group has been formed to contribute the growing demand of egg in the Thimphu town and to reduce the imports from neighbouring India. Kawang is one of the potential blocks in the Thimphu District to sustain Poultry husbandry. However, due to outbreak of Bird Flu, a viral epidemic in the neighbouring countries there was difficulty in supply of pullets. It was too expensive to import these pullets from other certified and bird flu free countries. Although the government has set-up a new hatchery in Paro, it was not able to meet the demand of even the nearby farms.

Action

In the beginning, the head of the village used to gather the farmers who are then briefed by the Livestock Officers of that area about the benefit of forming a group. Farmers were trained on modern poultry management practices. The practices adopted by this group have set a role model for the other surrounding villages. The livestock department took an initiative to facilitate group formation and bring them in the mainstream poultry farming along with other livestock activities. The Livestock department has supplied 43 numbers of pullets to every member of the group at the rate of Nu 100 per pullet. In addition, each member has contributed Nu 200 towards the entry fee to the group.

According to the group by-laws, each farmer has to contribute the cost of 4 eggs per tray towards the savings of the group. Out of this, the cost of one egg is deposited in the Current deposit Account of the Poultry Farmers’ group. The cost of 2 eggs is returned to the group members after every 6 months. This ensures some savings and is generally released during the time of some festival or when the new school session starts and the cost of 1 egg is given to the person who goes to the market to sell the eggs, towards his salary and transportation charges. The cost of one egg in Bhutan is Nu 12.

Result

The poultry farms set up were successful as the farmers started fetching good incomes from their farms and many other farmers were attracted towards group. The eggs produced from each household of the group members are brought to the group for marketing. This saves the farmers from spending individually on the transportation of the eggs to the market.

Lesson

Working in a group is profitable and can enjoy benefits from the group for marketing and other services.
10. Annex

10.1. Registration sheet

<table>
<thead>
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<th>S.N.</th>
<th>Name</th>
<th>Designation</th>
<th>Agency/Dzongkhag</th>
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</tbody>
</table>
10.2. Post training checklist

End-of-Training Evaluation

Place a tick mark in the box that reflects your feelings about the following:

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<th></th>
<th>Good</th>
<th>Average</th>
<th>Satisfactory</th>
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<td>Training objectives</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Methods used</td>
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<td>Materials used</td>
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<tr>
<td>Field practice</td>
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<td></td>
</tr>
<tr>
<td>Capacity to carry out</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Which sessions did you find most useful?

2. What are your suggestions to improve the training?

3. Other comments:
10.3. References

1. FAO Agricultural services bulletin 76
2. RAMCO study reports
3. FAO website
4. Agricultural Marketing manual prepared by Department of Agriculture, Nepal and FAO
5. Potato in Bhutan – Value Chain Analysis, SNV, Bhutan
6. Citrus in Bhutan – Value Chain Analysis, SNV, Bhutan
7. Agriculture-Market Linkages: Evaluating and evolving a conceptual framework in Indian Context
8. Creating market linkages for farmers - the Efarm story, Venkata Subramanian
9. INTERIM FRAMEWORK FOR COLLECTION AND MANAGEMENT OF NON-WOOD
**10.4. Sample Certificate**

![Certificate Image]

**Certification of Completion**

This is to certify that

Mr. / Ms. __________________________

Has successfully completed a course in

*Training on Agriculture Marketing, Value Chain and Cooperatives*

12 - 16 July, 2010

Ministry of Agriculture and Forests, Department of Agricultural Marketing and Cooperatives
Regional Agricultural Marketing and Cooperatives Office
Mongar, Bhutan

_________________________________  ________________________________________
Marketing Consultant                  Marketing Advisor,

Mr. Dorji Dhradhul
Director, DAMC