All Agricultural Commodities Programme

Cotton Commercialization and market development Training Modules

TOT Capacity enhancement modules for smallholder cotton cooperatives

Developed by;

Farm Concern International,
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Module 1
Group Dynamics and Leadership for Cotton Cooperatives

Objectives of the module

1. To identify and analyze the social processes that impact on group development and performance.
2. To acquire the skills necessary to intervene and improve individual and group performance in an organizational context.
3. To build more successful cotton producer organizations by applying techniques that provides positive impact on goal achievement.
4. Help the trainees to appreciate the factors that influence success in commercial producer groups
5. Enhance the trainees' skills and their understanding on group dynamics through practical analysis and discussions of case studies and illustrations.
6. Help the trainee groups and associations understand the different leadership styles and their place in producer group management
7. To help the trainee groups and associations understand qualities of a good leader and how to identify them from group members

Contents

1. Setting the context

A group refers to two or more people interacting with each other, conscious or psychologically aware of one another to accomplish a goal or objective.

The term "group dynamics" refers to the structures and processes by which groups form and function. The study of the dynamics of a group includes questions such as:

i. How is the group formed?
ii. Why is the group formed?
iii. How is the group structured?
iv. How does the group operate?
v. How does the group affect individual members, other groups and the organization?

There are many reasons behind the formation of groups, with common interests among the members forming a group being the overriding factor. These interests can be social, cultural, economic or political depending on the nature of the group. In the spirit of pursuing the group interests, some group members may find it hard to keep abreast with the others or the group objectives for various reasons or limitations some of which may include; lack of finance to facilitate their travelling to meetings, lack of capacity to raise enough food for their family, and inability to afford basic health care among other things. In such situations the main reason why people would want to form a group and be together may be defeated but strategies must be devised if the interests are to be pursued.

Healthy and confident group dynamics require the participation of group members together for the achievement of that purpose, goal or task.

Individuals join groups for various reasons; some join groups to reduce the insecurity of "standing alone". Others join on grounds of status that by seeking inclusion in a group that's viewed as important by others provides recognition. Others join for self esteem providing one with the feeling of self worthwhile as others will join to fulfil social needs. Some will join in the quest for power as what cannot be achieved individually often becomes possible through group action that is the power in numbers. There are also those who will join them on the ground of goal achievement, that is, the need to pool talents, knowledge or power to complete a job.

Organizing producers has been an important strategy in tackling the problem of the agricultural sector in general, and micro- and small enterprises in particular. Producer organizations have functioned as lobby groups to secure rights over scarce resources such as land and water, to fulfil social functions to their members. They have also been

successful in carrying out social functions, organizing logistical support to members, giving technical advice, and negotiating sales and inputs supplies. Associations have become more market and business oriented and in more cases need formal business status to function properly.

Group activities

In an informal group discussion, enquire about the general advantages of cooperation. Use the points brought out as a stepping stone to apply them to cotton production.

2. Group formation

A group is able to share experiences, to provide feedback, to pool ideas, to generate insights, and provide an arena for analysis of experiences. The group provides a measure of support and reassurance. Moreover, as a group, learners may also plan collectively for change action. Group discussion is a very effective learning

method. The following must be taken into consideration for effective group discussions and functions;

i. Participation

Participation is a fundamental process within a group, because many of the other processes depend upon participation of the various members. Levels and degrees of participation vary. Some members are active participants while others are more withdrawn and passive. In essence, participation means involvement, concern for the task, and direct or indirect contribution to the group goal. If members do not participate, the group ceases to exist.

Groups require; participation, communication, problem solving and leadership to function effectively

Factors which affect members' participation;

- The **content** or task of the group- is it of interest, importance and relevance?
- The **physical atmosphere -** is it comfortable physically, socially and psychologically?
- The **psychological atmosphere** - is it accepting, non-threatening?
- Member's **personal preoccupations -** are there any distracting thoughts in their mind?
- The **level of interaction** and discussions - is adequate information provided for everyone to understand? - is it at a level everyone understands?
- **Familiarity** - between group members- do members know each other from before?

ii. Communication

Communication within a group deals with the spoken and the unspoken, the verbal and the non-verbal, the explicit and the implied messages that are conveyed and exchanged relating to information and ideas, and feelings. Two-way communication implies a situation where not only the two parties talk to each other, but that they are listening to each other as well. It helps in

- Clarification of doubts, confusions and misconceptions
- Both parties understanding each other
- Receiving and giving of feedback

It indicates the degree of respect between the two parties

Helpful hints for effective communication

a. Have a circular seating arrangement so that everyone can see and interact with everyone else
b. If there are two facilitators, they should sit apart so that communication flow is not in one direction
c. Respect individuals- let everyone call everyone else by name respectfully
d. Encourage and support the quiet members to voice their opinions

e. Try and persuade the people who speak too much to give others a chance
f. Ensure that only one person speaks at a time or no one else will be heard
g. Discourage sub groups from indulging in side talk

Counting 10 strides between stool and start position

Objective: To raise awareness about working together and communicating with each other.
Materials: Cloth to tie over the eyes
Steps:

a) Tie a cloth over the eyes so the participant can't see. Ask the participant to walk from a set starting position to a stool and hit it with a stick.

b) Let all participants have a go.

Discussion: Why can't we do simple things with our eyes covered? How could we have managed to do this task? What are the lessons we learn from this.

iii. Problem solving

Most groups find themselves unable to solve problems because they address the problem at a superficial level. After that they find themselves blocked because they cannot figure out why the problem occurred and how they can tackle it. Therefore an effective problem solving procedure would be to:
1. Clearly define the problem: Is it what appears on the surface or are there deep hidden aspects?
2. Try to thoroughly explore and understand the causes behind the problem
3. Collect additional information, from elsewhere if necessary, and analyze it to understand the problem further
4. The group should suspend criticism and judgment for a while and try to combine each other's ideas or add on improvements. The objectives should be to generate as many ideas and suggestions as possible. This is called "brainstorming" in a group, when individuals try lateral thinking.

iv. Leadership

Leadership involves focusing the efforts of the people towards a common goal and to enable them to work together as one. In general we designate one individual as a leader. This individual may be chosen from within or appointed from outside. Thus, one member may provide leadership with respect to achieving the goal while a different

individual may be providing leadership in maintaining the group as a group. These roles can switch and change.

Group activity

In an informal group discussion, enquire about the possible causes of lack of participation, poor communication, e.t.c. Make a diagnosis by understanding the causes after looking for clues within the group and outside the group. Some examples to illustrate the point

Problem Not everyone participates or shows interest and a few remain silent
Possible causes Perhaps the goal or task is not relevant to some of the participants. Some of the members may feel insecure or dominant on the basis of class, education or gender.
Problem Some members ignore or disregard contributions from other members
Possible causes Members of the group may be nervous and unaware of others' needs.
Problem The group is not able to come to consensus or is unable to devise a plan to implement the decision.
Possible causes Perhaps the group lacks adequate information or skills to solve the problem. Perhaps the decision is threatening to some of the group members. Perhaps the group fears failure.

3. Group Development

The developmental process of small groups can be viewed in several ways. Firstly, it is useful to know the persons who compose a particular small group.

- People bring their past experiences
- People come with their personalities (their perceptions, attitudes and values)
- People also come with a particular set of expectations

The priorities and expectations of persons comprising a group can influence the manner in which the group develops over a period of time.

2.1 Stages in group development

Viewing the group as a whole we observe definite patterns of behavior occurring within a group. These can be grouped into stages.

FIRST STAGE (**Formation phase**)
The initial stage in the life of a group is concerned with forming a group. This stage is characterized by members seeking safety and protection, tentativeness of response, seeking superficial contact with others, demonstrating dependency on existing authority figures. Members at this stage either engage in busy type of activity or show apathy.

This is the stage where members in a cotton commercial producer group get to familiarize with each other, learn their common interests and draw working relationships. This sets the modalities of working together in the future.

SECOND STAGE (**Objectives setting phase**)
In the second stage members seek out familiar or similar individuals and begin a deeper sharing of self. Pairing is a common phenomenon.

During this phase, members who have already drawn a common objective in cotton value chain will chart the direction the group would wish to take to achieve its core duty, now as a group rather than an individual. Commercial associations basically entrench their commercial ideals at this stage and thus a facilitator should ensure that all aspects to do with cotton or other commercialization and market development should be emphasized.

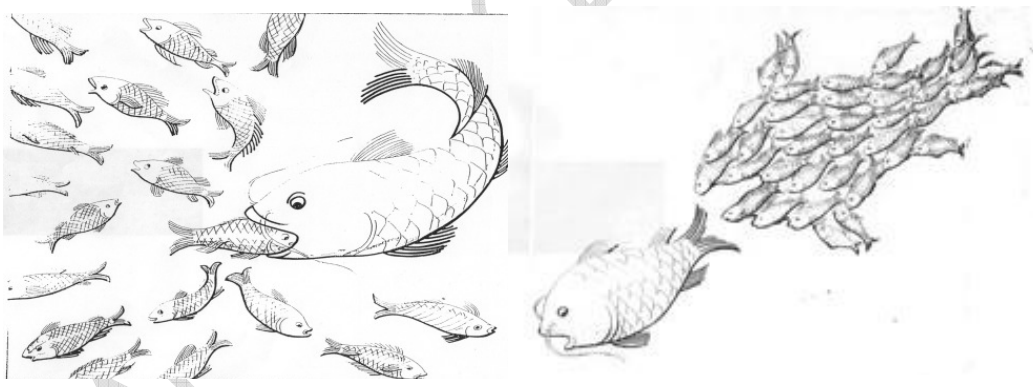
THIRD STAGE (**Rule setting phase**)
The third developmental stage is marked by a more serious concern about task performance. Efforts are made to establish various norms for task performance. Members begin to take greater responsibility for their own group and relationship while the authority figure becomes relaxed.
This is a phase is also characterized by very close ties with concrete consensus between members, and is characterized by close relationships and cohesiveness. The commercial associations should set the rules and regulations that will be governing the cotton associations ensuring that the nature of the enterprise is factored the rule setting phase.

FOURTH STAGE (**Take off and growth phase**)
This is a stage of a fully functional group where members see themselves as a group and get involved in the task. Each person makes a contribution and the authority figure is also seen as a part of the group. Various tasks in production, post harvest management and value addition are performed by designate individuals within the group. Group norms are followed and collective pressure is exerted to ensure the effectiveness of the group. The long-term viability of the group is established and nurtured.

General summaries of group formation and development

- Small groups are preferable in the beginning. Discussions are easier and more open.
- A group can work first on a trial basis. It can carry out small, limited activities. This helps to detect crucial points that might have been overlooked in the beginning. If the group solves its problems, the cooperation is extended. The group can be officially registered later.
- Seek advice from outside if necessary. Projects and institutions may assist you to come to conclusions.
- Get information about the legal and registration procedures that you need to consider.
- It is easy to increase the number of members, once a group is successfully established.
- Hold or attend regular training on leadership and group management.

4. The importance of Groups



It is important for cotton cooperatives to realize that business does not operate in a vacuum and that gaining a competitive advantage in the business environment counts. This can be attained through;

Working in groups enables individuals to accomplish tasks that would otherwise be impossible for one member

i. Performance enhancement involving making use of synergies among cooperative members
   - Workers in a cooperative have the opportunity and potential to produce more or better output than separate workers.
   - Members correct others' errors, bring new ideas to bear.
   - Leaders should build groups with members of complimentary skills.

ii. Responsive to customers: sometimes this is difficult to achieve given the many constraints such as quality issues, regulations, costs.

- Cross-functional or interactive teams consisting of members from different departments provide the wide variety of skills needed.

iii. Innovation: individuals rarely possess the wide variety of skills needed.

- Team members also uncover flaws and develop new ideas.
- Leaders/managers should empower the team for the full innovation process.

iv. Motivation: members of groups, and particularly teams, are often better motivated and satisfied than individuals.

- It is fun to work next to other motivated people.
- Team members see their contribution to the team.
- Teams also provide social interaction.

Having strong producer cooperatives and/or associations thus help achieve the following;

- Private sector companies are keen to train and support organized groups
- Achieve economies of scale for cotton and related products
- Enhance establishment of loan and credit schemes with cooperatives and farmer associations
- Access loan and credit facilities for develop of cotton enterprise
- Running high investments projects using combined resources
- Collective marketing increases help achieve bulk volumes thus attracting big buyers
- Can procure or purchase inputs in bulk thus attracting quantity discount and quality inputs
- Enable members to access business development services (BDS) either as embedded services or at lower cost.
- Increases bargaining power for the associations
- Risks and losses are shared thus reducing cost of doing business

5. An example of the benefits and challenges of working in groups

5. An example of the benefits and challenges of working in groups (Marketing group for cotton farmers)

Common problems of individual farmers in marketing
Forming a farmer group for marketing activities is useful to overcome certain farm-level constraints:

- transport
- facilities or inputs (packing materials, storage, grading facilities)
- produce in the required quantity and quality
- information on markets
- organization and management capacity

Advantages of group marketing for customers
Well-organized group marketing has advantages for the customer:

- a larger amount of produce available
- less seasonal fluctuation in supply
- a given, defined quality of the required quantity maintained
- better service offered in grading, packing, transport
- organized management (fewer contact persons)
- agreed prices and way of payment
- reliable business partner

Advantages for individual group members
In collective group marketing, some issues are of major importance for each group member:

- reliable financial agreements and payments
- standard agreements for grading, packing and transport
- reliable orders
- reliable time schedule
- ensured flow of information and communication
- availability in quantity, time and place of inputs such as packing material
- reliable internal organization of the group
- reliability and commitment of management and leaders

Difficulties to overcome in group marketing
Mainly two problems turn out to be crucial:

- cooperation among the members
- financial issues

Other problems:

- a marketing group tends to tackle people's problems rather than technical problems

- lack of transparency in financial issues and payments to individuals
- lack of clearly defined targets and marketing strategy
- unclear work distribution between individual farmer, group and customer
- reliability of individual members
- communication problems and mistrust between farmer, group and customer
- unforeseen market changes and market development
- external policy influences on the group
- production risk
- lack of infrastructure

Challenges of working in groups:

- Decision making takes longer as consultation is the rule in the collective action
- Participation 'n a group adds additional costs to the farmer for maintaining the group. In most cases these are, however, lower than the expected benefits
- Members risk loss as a result of being a guarantor to defaulters
- Groups vulnerable to political interference
- Whole group suffers if some members produce lower quality produce
- Group members lose in case of misuse of resources and authority by leaders

While the challenges are appreciated, the cooperatives should however devise ways and means of minimizing them as the advantages in strong cooperatives' development supersede the disadvantages.

General summary on marketing groups

- Group marketing is helpful to overcome an individual's problems.
- Group marketing can achieve solutions related to small-scale production.
- Group structures are problematic as such.
- Personal interests, financial situations have strong influence on groups.
- Clear definition of targets and work distribution are required.
- Commitment and reliability of group members is essential.
- Do not expect an outcome without your personal input.

Group activity:
Have a discussion session on the importance of;

- Pulling resources together to buy inputs or
- Collective bargaining during the sale of cotton

Emphasis of the discussion should be made on;

- Advantages to the group
- Advantages to each individual member and
- Possible challenges

6. Leadership styles

A leader's behavior towards his subordinates may be termed as leadership style. The behavior of a leader is determined by the leader's temperament, experience, education, environment, the circumstances and issues at stake. Different leadership styles can be described:

i. Authoritarian/Autocratic leadership
The decisions are enforced by the use of rewards and punishments

- There is one-way communication; it is from the leader to those below the leader
- The subordinates have to conform, and rewards go to those who do as they are told
- However, autocratic style of leadership permits quick decisions
- Members being lead can oppose the method of decision-making and resent the implementation

ii. Democratic or Participative leadership

This style takes into account the suggestions of members who are at the lower echelons

- It is the human approach that sees those at the bottom as being necessary in the decision making process
- Participation is sought to encourage member's commitment to the decision and to improve the quality of the decision through increased inputs to solve problems
- Participation increases the morale of the workers and commits them to the decision that has been reached collectively

iii. The Conference Leadership

The conference leadership utilizes democratic/participatory leadership in a conference or in-group discussions.

- Helps to improve the quality of decision and enhance the sense of responsibility, and improve interest in the job
- Helps to make the subordinate contribute more creatively and become more emotionally involved in the success of the organization
- Participating in the discussions allows the group members/subordinate to evaluate their knowledge of the principles
- that they have learnt

iv. Laissez-faire Leadership

This leadership style has the following characteristics:

- The leader does little of both organizing and controlling
- Subordinates are given goals and are expected to go on their own
- The leader functions only as a group member
- Group members are left so much on their own, that there may be a danger of their being exposed to incomplete and inefficient decisions and hence the objective of the organization may not be realized as envisaged

5. Leadership behaviours

From the above leadership styles, leaders can demonstrate different behaviors among which are:
(1) Directive behaviors: set goals, assign tasks, show how to do things.

(2) Supportive behaviors: look out for the members' best interests.

(3) Participative behavior: give subordinates a say in matters that affect them.

(4) Achievement-oriented behavior: Setting very challenging goals, believing in members' abilities.
The behavior used should depend on the members or workers and their tasks.

Leadership behavior has a critical role in the creation of successful organizations.

Note: it is important to note that some leaders would apply more than one style of leadership at a given time. The choice of the style depends on three factors;

(a) Forces in the leader - Traits of the person determine the force he/she can exude. Some examples include drive, honesty and integrity, self-confidence, feeling of insecurity or uncertainty and confidence in his subordinates.

(b) Forces in the subordinates- each member has different needs, wants, desires, experience, training abilities and skills. It is therefore important for the leader to understand the forces at work in his members.

(c) Forces in the situation – include environmental pressures as type of organization, effectiveness of work group, type of problem and urgency of the problem.

Group activities; D*iscuss with the groups on their opinions to each of the styles of leadership and their possible application in running the cooperative*

NB: The appropriate leadership style will depend on the situation, so all styles can be practiced.

7. Good Leadership qualities

- ✓ Dependable and trustworthy
- ✓ Able to communicate with others, Good listener and sensitive
- ✓ Able to plan organize and guide
- ✓ Able to work with others
- ✓ Able to delegate responsibility.
- ✓ Team work and builder through motivation
- ✓ Persuasive, Creative and innovative
- ✓ Respectful leaders
- ✓ Courageous , confident and patient
- ✓ well informed and wise
- ✓ Able to keep group secrets
- ✓ Good at conflict resolution
- ✓ Emotionally mature with good Self-criticism
- ✓ Flexible
- ✓ Should be risk takers while maintaining cooperative or group objectives
- ✓ Gender sensitive and one who encourages equal participation among members

A good leader is a good servant. He has to lead by example

Group activities; Member to discuss the quality that they expect in their leaders to have giving reason why they think the listed qualities are important for day to day running of the cooperative

8. Case study

Ha Ge Rabbit Co-operative (Sichuan Province)
Purpose of Case
The case will present an example of the company-plus-farmers model of organization being used in many parts of Chinese agriculture and contribute to an understanding of the role of a farmers' association in this model.

Background to Case
In Sichuan Province's Jingyan County, many farmers raise rabbits to generate income to support their families. There are no large capital inputs required for raising rabbits and feed is readily available anywhere in the county. Each household typically produces only a small number of rabbits in order to manage risk. The market for rabbit meat is growing as a result of consumers wanting a more diversified diet and because rabbit meat's fat content is lower than pork, beef, or chicken. Sales in Chengdu City are around seventy thousand tons a year, with the annual turnover of rabbits in the county being about 2.5 million.

Formation of the Association
In 2003, four growers who raised rabbits on a relatively large scale — Mr. Peng, Mr. Wang, Mr. Zhongqing, and Mr. Cheng met to discuss the possibility of working together to control disease and access marketing channels. They recognized that the small-scale operation of each household did not allow them to meet technical standards; they also faced constraints in marketing and in accessing credit for further business expansion.

At that time, Mr. Rong Xinfu, who had been a village party secretary years ago, was a successful businessman who had invested in rabbit processing, founding a firm named Ha Ge Rabbit Company Ltd. When the four farmers above exchanged views with Mr. Rong about the formation of a rabbit co-operative, he spoke highly of the initiative and indicated that if they organized farmers to raise rabbits, he would purchase all of them for processing at his plant. Encouraged by this positive response, the four growers consulted with government agencies such as animal husbandry, the science and technology commission, and the ministry of agriculture, all of whom supported the proposal. Conducting a survey, they found 200–300 households willing to work together. They then drafted a constitution for the co-operative and received comments on it from line agencies in the government. After all the preparation work was done, the organizers discussed the name of the proposed co-operative with the Ha Ge Company, which

agreed that the co-op could use its name. The four founders then went to the Industry and Commerce Administration and registered the co-operative as a shareholder company. Although the Ha Ge Company invested Y2 million worth of fixed assets as equity in the co-operative, this does not give the company access to the distribution of the surplus. The farmers can invest rabbits as equity, with twenty breeding rabbits calculated as one share (equivalent to Y500). By the end of 2004, the equity of members reached Y3.23 million, contributed by sixteen thousand shares. The distribution of surplus of the co-operative is carried out as follows: 5 percent is retained as reserves; 5 percent is kept as an educational fund; and 15 percent is maintained as a contingency fund. The rest of the surplus is distributed to members based on their shares, and bonuses are distributed according to the number of rabbits the members sell to the co-operative, a mechanism that provides an incentive for members to sell to the co-op.

8. Module Assessment

1. How is group dynamics as a topic important or relevant to producer groups and cotton cooperatives in particular?
2. What specific strengths can cotton cooperative members consider towards enhancing team work within the cooperatives?
3. According to this module group problems are inevitable, what are some of the common problems experienced by your cooperative and what would you propose as possible remedies for each?
4. How has the dynamic operational environment affected group dynamics within your cotton cooperatives/
5. How building group cohesiveness important in strengthening cotton cooperatives and what can be done to encourage this within your cotton cooperative?

Module 2
Cotton Production, Harvesting & Post Harvest Practices

This module provide practical information on cotton production, harvesting and post harvesting practices

Objectives

A. Improve coop staff's advisory services to their members
B. Improve the skills and knowledge of co-op staff on cotton production, harvesting and post harvest practices.
C. To provide specific information on cotton production, harvesting and post harvest practices
D. To provide practical guidance on requirement for a successful production of cotton.

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1. Setting the context

Today, the world uses more cotton fibre than any other fiber and the demand for cotton especially in Asia is on the rise. Cotton contribute direct income to the farm households and it production also involves the purchase of supplies and services worth millions of shillings. This stimulates business activities for factories and enterprises throughout the country. Processing and handling of cotton after it leaves the farm generates even more business activity increasing annual business revenue. The cotton industry has also been identified as one of the sub-sector targeted to fight poverty especially in marginal areas that cover 80% of the country land-mass where 27% of the Kenyan population live.

In Kenya, cotton is grown in Nyanza, Western, Coast, Central, Eastern and Rift Valley provinces under rain fed conditions. Cotton can also be grown under irrigation. Irrigation allows for the production of two crops per annum which reduces and spreads production costs. It is estimated that from a total of 400 000 hectares of land suitable for cotton growing only 24 995 is currently being utilized. The 20 000 bales produced annually is not sufficient to supply the 90 000 bales required by local mills annually.

Recently, the Cotton Development Authority (CODA) set a new and higher fixed price for cotton in Kenya, providing better opportunity for increasing income for cotton farmers. The price which formerly varied between Sh21 and Sh25 per kilo has been raised and fixed at Sh32 per kilo by the Authority. Further, the government is committed to partner with the farmers to provide transport to the ginners of buying centres.

Despite the income potential of this crop, production and harvesting practices for high quality cotton is hampered by poor production methods, which reduces the grade and consequently income from the harvested seed cotton. To be able to obtain the high prices farmers should be able to have sufficient knowledge and skills required during production and harvesting.

Group activity

Discuss the challenges of encouraging producers to sell quality cotton seed when the prices are already fixed by the government or

2. Agro ecological profiling for cotton

Cotton grows best in areas with altitude ranging from 1100 to 1372 m above sea level. Low night temperatures at higher altitudes cause long vegetative phase and reduce lint development.

Adequate soil temperature and moisture conditions at planting are necessary to ensure proper seed germination and crop emergence. The recommended soil temperature at seed depth should be above 18° C, to ensure healthy uniform stands. However, soil temperatures below 20° C, when combined with moist conditions, can reduce root growth and promote disease organisms which can injure or kill the seedlings. Cotton requires a minimum daily air temperature of 15 degrees C for germination, 21-27 degrees for vegetative growth, and 27-32 degrees C during the fruiting period.

Cotton does well in warm climate, with average rainfall making it an ideal crop for many part of our country

At least 500 mm of water (rainfall and/or irrigation) is required to produce a cotton crop. In area where cotton is grown in Kenya for example, Nyanza and Western provinces, 500 – 750 mm of well distributed rainfall during the first four and a half month will produce good yields. Untimely rainfall and/or irrigation as well as humid weather during later stages of cotton growth, primarily once the bolls begin to open, may complicate defoliation, reduce yield and quality, lower the crop's ginning properties or promote the attack of insect pests and disease organisms, such as boll rot. Planting should be done before the onset of the long rains in March – April. In area where cotton is produced for two seasons like central and eastern provinces, planting should be done before the onset of the long rains in March – April and before the onset of the short rain in October.

Cotton grows in a wide range of soil types including black cotton soils in Nyanza and Eastern provinces, the red clay soils of Western province and the sandy loam soils of the coast. The soils should be deep and free draining with a PH range of 5.0 – 8.0. The optimum PH for cotton is 6.2

3. Cotton Seed Varieties in Kenya

Selection of a cotton variety or varieties for maximum economic return should be one of the first major management decisions a grower makes at the beginning of the crop year. Currently, more than 6 different varieties of cotton seed are sold in Kenya. These varieties include:

i. U.K.A 59/240
ii. B.P.A 75
iii. SATU 71
iv. IL62
v. HART 89M
vi. KSA 81M

HART 89 and KSA 81M have been recently developed by Kenya Agricultural Research Institute and are replacing the earlier varieties

Variety	**Recommended province**	**Planting season**	**Potential yield (Ton/ha)**
HART 89M	Eastern Central and Coast	Short rain in (October-November) in Eastern and Central, Long rain(April - May) coast	2500 under rainfed conditions and 5000 under irrigation
KSA 81M	Nyanza, Rift Valley and Western	Long rains (March - April)	2000 under rainfed conditions and 5000 under irrigation

Factors that should be considered when selecting a cotton variety include yield, plant height, maturity, plant hairiness, seed size, pest management traits and fiber quality. Yield is a primary concern and will vary among varieties from location to location and from year to year. Thus, it becomes critical that growers examine data from different regions before settling on a variety.

Farmers should select varieties that are adapted to their local climate, have high production and good fibre quality. If in doubt about the variety to choose, consult with the agricultural extension officers

4. Key aspects in Cotton Seed Selection

A uniform stand of healthy, vigorous seedlings is essential if growers are to achieve the yields and quality needed for profitable crop production. It is important for growers to plant high quality seed of varieties adapted to their farm situations, management styles, and intended market uses.

Cotton yield and quality depend upon the seedlings established; therefore, timely and uniform emergence is critical. However, obtaining adequate stands is not always easy. The failure of seeds to germinate or the failure of seedlings to survive the initial few weeks of growth can be caused by a number of factors, many of which can be managed by cotton producers. Growers should not be tempted to plant cotton when cool, wet weather is expected. Planting under these conditions can lead to poor stands and may result in the need to replant.

5. Land Preparation Techniques

Land should be prepared during the dry season and early enough to allow for early planting. One ploughing followed by one or two harrowing should give adequate tilt for planting.

In areas where water logging occurs like in the black cotton soils of Nyanza, furrows should be cut to drain the excess water. Cotton may also be planted on ridges in sandy soils like in the coast to conserve water. Deep ploughing of the field in once every 4 years is recommended.

Early land preparation and timely planting essential for a successful crop

6. Cotton Planting and Spacing Techniques

Cotton farmers and researchers alike recognize the yield benefits that result from rapid early season development. Strong emergence of healthy seedlings that establish a uniform stand is the foundation enabling maximum early season growth. Once a stand is established, vegetative growth should be promoted through the judicious use of cultivation, fertilizers, and agrochemicals.

Cotton should be planted at the right time, just before the onset of rain, in areas where production is rainfed. Late planting considerably reduce yield. For examples, a delay of 4 weeks can mean 40% reduction in expected out put. This is partially because the later heavy rain may affect flowering; incidences of pest also increase later in the season. In Nyanza, Western and Coast areas Plant in March- April while in Central plant in October.

While planting date is important, soil temperature during the first 5 to 10 days after planting also influences early season cotton health and development. Weather prediction is an important part of agriculture. Ideally, an accurate understanding of future weather could guide planting so that fruiting coincides with abundant rainfall and that boll opening/harvest coincide with relatively rain-free periods. Unfortunately, neither accurate prediction nor control of weather exists in many occasions in Kenya. Weather (particularly rainfall) continues to be the single greatest factor influencing yield.

7. Seed Rate

Plant population has a profound influence on crop development. High plant populations increase the percentage of the crop set at the first position of fruiting branches while reducing the total number of fruiting branches.

Plant 9 kg seed per acre or 22.5 kg/ ha in all cotton growing regions. Plant 5 – 6 seeds, 3 – 5 cm deep use a "jembe" or "panga" or ox plough for making holes and furrows.

Farmers should plant approved seeds and use the recommended seed rate to ensure even crop and successful germination

In central and Eastern provinces, plant the seeds at a spacing of 100 cm between rows and 30 cm between plants leaving one plant hole. While In Nyanza, Western, Rift Valley and Coast provinces, plant the seeds at a spacing of 90 cm between the rows and 30 cm leaving two plant holes.

Non uniform cotton stands may be caused by poor seedling emergence, post-emergence damping-off, or insect damage. In such cases, the farmers need to decide to replant or not. No rules have been set to guide farmer in making replanting decisions. However, many growers will attempt to work with a non uniform stand rather than replant. If there are sufficient plants, work with what you have rather than replant. If the stand is unacceptable in many areas, try to replant only those areas affected.

8. Manure / Fertilizer Requirements

A good cotton-fertilization program begins with regular soil testing. Soil-test results are the most accurate and economical way to determine the fertilizer and lime needs of cotton. Although small amounts of nutrients are removed from the field at harvest, cotton requires high availability of nutrients, particularly late in the season. A good liming program usually supplies adequate calcium (Ca) and magnesium (Mg); many soils can meet the demand for phosphorus (P) and most micronutrients without annual fertilizer applications. Soil-test results can inform farmers when additions of these nutrients are required and when they are not.

Fertilization of the cotton crop should be based on the recommendation provided by the ministry of agriculture in the absence of reliable soil tests

Cotton is very sensitive to deficiencies of Nitrogen (N), Potassium (K), Sulfur (S), and Boron (B). These nutrients can be removed by leaching

rains, especially in sandy soils. Of these elements, Potassium is least subject to leaching.

8.1. Soil Acidity and Liming

Cotton is sensitive to soil acidity. Marked growth and yield increases have repeatedly occurred when fields are properly limed. When the soil pH drops below 5.5, Aluminum and Manganese dissolve from soil clays and can severely decrease root elongation, as well as reduce plant growth. Such a condition puts additional stress on cotton because stunted roots don't reach as much water or nutrients. Acidity also interferes with the availability and uptake of Phosphorus, Potassium, Calcium, and Magnesium. Poor nutrient uptake results in fewer and smaller bolls with poor lint quality.

The amount of lime required for optimum cotton production varies with soil texture, pH, organic matter content, soil minerals, and animal waste application history. Lime rate can be determined only through periodic soil testing to document both soil pH and residual soil acidity. The recommended amount of lime should be applied several months before planting to allow time for it to dissolve and react with the acidic components of the soil.

8.2. Nitrogen Fertilization

Nitrogen (N) is the nutritional element that is required in the greatest amounts by most cultivated crops. It is used in the plant to form proteins, chlorophyll, protoplasm, and enzymes. In cotton, N is needed for overall growth. Adequate amounts are important in order to obtain desired yields. Too much N can increase costs by delaying plant maturity, by increasing pests such as boll rot, aphids, and whiteflies, and by making defoliation more difficult. In addition, over-fertilization can add nitrates to surface and ground water through N leaching.

In soils that are deficient in Phosphates, N should only be used if phosphate has been applied first otherwise no profit will be gained from using N as the phosphate will inhibit growth.

8.3. Phosphorus, Potassium, and Sulfur

Adequate supplies of Phosphorus and Potassium are critical for proper plant nutrition. Phosphorus deficiencies are rare and usually associated with low pH. Plants appear darker green than normal, growth rate is slow, and plants may appear stunted. Treatments to correct Phosphorus deficiency seldom prove effective, so placement in the root zone before planting is essential. Plants deficient in Phosphorus produce fewer and slower maturing bolls.

8.4. Micronutrients

Boron (B), Copper (Cu), Chlorine (Cl), Iron (Fe), Manganese (Mn), Molybdenum (Mo), and Zinc (Zn) are necessary for plant growth, although the quantities needed are small. Boron is needed throughout the life of a cotton plant, but adequate supplies are especially crucial during flowering and boll development. Boron occurs in the soil as an uncharged molecule (Boric acid) and leaches readily. Deficiencies of Copper, Manganese, and Zinc are seldom seen in cotton.

The recommended fertilization for different part of the country is shown in the table below;

Province	Soil type/Region	Application rate /ha
Western	Reddish brown clays	150kg double supper-phosphate
	Black cotton soil	100kg C.A.N
	Soils in Busia North & south	150kg double supper-phosphate
	Soil in Bungoma & Kakamega	No fertilizer recommended
Nyanza	Kisumu & Nyando	100kg C.A.N
	Homabay & Rachuonyo	100kg C.A.N
Eastern	Meru (Giaki, Gaitu)	No fertilizer recommended
	Meru (Gitugu, Tunyai)	100kg C.A.N
	Meru reddish soils	100kg double supper-phosphate
	Embu (Mbeere)	150kg double supper-phosphate
	Kirinyaga, Kitui	No fertilizer recommended
	Machakos	150kg double supper-phosphate
Coast	Malindi, Kilifi, Mtwapa	150kg sulphate of ammonia
	Shimba hills	150kg- 200kg supper-phosphate

8.5. Manure

In many of the important cotton-producing areas of cattle, poultry and swine manures are available for use on cropland. Manure is often a cost-effective substitute or supplement to fertilizer-supplied nutrients. The largest quantities of nutrients in manure are Nitrogen, Phosphorus, Potassium, and Sulfur, along with some Magnesium, Calcium, Copper, Zinc, Manganese, and lime.

Manure should be put prior to planting because the nutrient in it are released slowly to the soil

Animal wastes should be incorporated as soon as possible after application to decrease volatile losses of Nitrogen and to lessen the impact of runoff on nearby water bodies. This leads to the major

problem with use of animal wastes on cotton: All the manure really needs to be applied before planting.

9. Thinning and Weeding Practices

Assessment

i. When should thinning and weeding be done for cotton.
ii. What are the main reasons for weeding and thinning?

After germination, thin out plant leaving one strong plant per hole in central and eastern provinces and two strongest plants per hole for Nyanza, Western, Rift Valley and Coast Provinces. This should be done when the crop is about 10 cm high but not later than 6 week after germination.

Weeding should be done early to prevent competition of cotton with weed.

Effective weed management is one of many critical components of successful cotton production. Because cotton does not compete well with weeds, especially early in the season, a given number of weeds will reduce cotton yield more than corn or soybean yield. Weeds also may interfere more with harvesting of cotton and can reduce lint quality because of trash or stain. There are different methods of controlling weeds in cotton i.e. crop rotation, cultivation and the use of herbicides

Cotton fields should be kept free of weeds, weeding should start shortly after germination because cotton is slow growing in its early stages and weeds can easily affect it in that period.

10. Insect and Pest Management

Insects and pest control is of vital importance in cotton production, without chemical pest control yield can be greatly reduced. When cotton is planted during the long rains, spraying should start during flowering, 9 – 10 weeks after germination.

Cotton should be sprayed selectively according to pest and insect population and then only by the chemical suitable to control that particular pest. Indiscriminate spraying will only increase the production cost and cause pollution.

Spraying should normally be done at weekly intervals. It is equally prudent to read the instruction for using the chemical before use. It is important to follow the manufacturers' instructions carefully. Appropriate sprayers e.g. knapsack should be used to minimize wastage of chemical. The person spraying should also wear protective clothing.

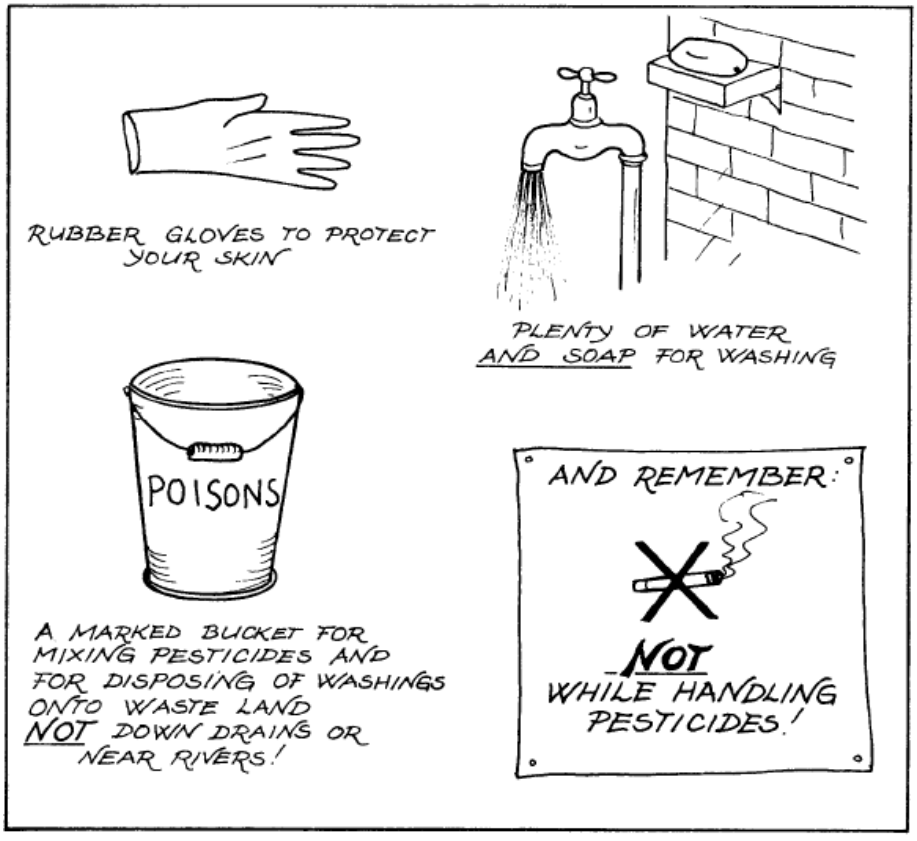
The farmer must observed any insect or pest outbreaks that may occur and respond swiftly with the appropriate chemical treatment

The table below shows the most common pest and the chemical used to control them.

Pest	Chemical to use for control
American Bollworm	Fenvalerate, Permethrin, Cypermethrin, Profenofos or Methidathion
Spiny Bollworm	Phenthoate, Carbaryl, Fenvalerate, Permethrin, Cypermethrin
Pink Bollworm	Fumigation of seed with Methyl Bromide
False Coding Moth	No Chemical measure is effective, Early planting and observance of closed season
Cotton Stainers	Carbaryl, Phenthoate,

	Fenvalerate, Permethrin, Cypermethrin - ginneries seed store buying point must be kept clean
Cotton Lygus	Fenvalerate, Permethrin, Cypermethrin
Cotton Aphid	Diazinon, Dimethoate, Formothion or Profonos
Cotton Jassid	Fenvalerate, Permethrin, Cypermethrin, Profenofos or Methidathion
Fruit Suckling Bug, Blue Redescent Bug, green Stink Bug	Carbaryl, Phenthoate, Fenvalerate, Permethrin, Cypermethrin
Red Cotton Mite	Control may not be necessary if infestation occur at the end of the season - Binapacryl or Dicofol
Bacterial Wilt	Treat seed with fungi dressing e.g. Thiram

Basic precaution when using chemicals



When mixing chemicals, take note of the following;

i. Read carefully and follow the instruction printed in the label.
ii. Use the correct rate as indicated in the label.
iii. Mix and dilute pesticides in the open and away from water sources.
iv. Do not mix two pesticides in one pump unless so advised.
v. Mix the chemical thoroughly.
vi. Pour the pesticides gently into and open container to avoid splashing.

11. Seed Cotton Harvesting Techniques

Assessment

i. How do cooperative member harvest their seed cotton?

Harvesting of cotton is perhaps the most costly and least efficient operation in cotton cultivation. It is therefore critical to reduce loses that may occur as a result of in efficiencies in harvesting. There are two major techniques used to harvest cotton, these include;

i. Machine harvesting
ii. Hand picking

Cotton should not be harvested during the rains or when dew is still on the crop.

i. Machine Harvesting

If cotton is to be harvested using machines then, prior to harvesting a cotton crop, synthetic growth regulators and defoliants are applied to fields to stimulate uniform boll maturation and leaf drop. These practices increase the efficiency of mechanical harvesting and ginning. Plant leaves (trash) clog mechanical pickers, slow harvest, and stain cotton lint. Gin costs rise with increased trash levels because a greater amount of seed cotton is required to make a bale of cotton lint. Stained lint reduces the grade of cotton.

Deciding when to apply the chemical can be difficult. Above all else, the decision should be based on the maturity of the plants and field. Harvest schedules and prevailing weather conditions. The maturation process stops when the leaves are taken off a cotton plant. Anytime that the decision is made to apply a defoliant or harvest aid chemical, there will probably be some immature bolls on the plant. However, a

grower cannot wait until 100% of the bolls are mature. Some will have to be sacrificed.

For growers reducing their use of chemicals or growing cotton organically, the choices at defoliation time are few. Some organic growers choose to rely on nutrient and water management to assist in boll maturation, opening, and plant defoliation. Growers supply only enough nitrogen to ensure fruit set and boll development on a yearly basis.

ii. Hand picking

In most of the farms in Kenya cotton is harvested by hand. Cotton is ready to be harvested when the bolls open and the fluffy boll is exposed. The Number of pickings depends on maturation habit of the variety, seasonal and cultivation conditions.

Step 1

Hand pick the cotton from the bolls. Grab the cotton ball at its base and twist it out of the boll.

Step 2

Drop the cotton balls into a bag as you go. Leave any immature cotton behind for another day.

Step 3

Spread the cotton balls out in a cool, dark place with ample air circulation to allow them to dry out completely.

Step 4

Separate the tiny black cotton seeds by hand after they have dried. Keep a bowl handy to hold the cotton seeds.

When hand picking only pick open bolls

Harvesting tips for hand picking cotton.

- If it rains, cotton should left to dry on the plant before starting to pick.
- Harvest at frequent intervals, at less than 7 days interval.
- Harvest in the morning hour's up to 10 to 11 am only when there is moisture so that dry leaves and bracts do not stick to the cotton and lower than market value.
- Pick cotton from well burst boll only.
- Remove only the cotton from the bolls and leaves the bracts on the plants.
- After cotton is picked, sort out good puffy ones and keep separately.
- Do not mix stained, discolored and insect damaged cotton with good cotton, as they will spoil the good cotton also and lower the market value of the produce.

12. Destruction of Residue

Assessment

i. Why is it important to destroy cotton residue after harvesting?

After harvesting all cotton plants and residue must be uprooted and destroyed by burning. If this is not done then pest that survive from the previous crop stalks can be carried over to the next crop and the pest invasion of the next crop will be greater. Early uprooting and burning give a longer 'closed' season and is very important in reducing the pest problem.

Destroy all previous crops residue by burning

13. Post harvest Management

Assessment

i. Discuss the major causes of post harvest loses among the farmers

Harvesting of crop is seasonal, but delivery to the market can take sometime. For most crops the market value of the produce is generally low at harvesting time. However the price of Cotton in Kenya is fixed. Regardless of the unchanging prices of cotton, farmers still need storage facility to hold a portion of produce after harvesting to prevent its value from deteriorating.

Traders and Co-operatives at market centres need storage structures to hold grains when the transport facility is inadequate. The ginneries also need storage structures to keep delivered produce before processing. Hence, there is necessity to store cotton for different periods primarily for commercial reasons. The growers, processors and transporters have to develop storage facilities for proper storage of seed cotton and seeds intended for sowing in the following seasons.

Post-harvest operations are assuming importance due to higher yields and increased cropping intensity. Due to introduction of modern technology, yield levels have substantially increased resulting in a marketable surplus which has to be stored till they are delivered to the market. The important operations carried out after harvesting of the crop are drying, packing storage and transportation. All these operation must be carried out in a way that losses are minimized. The post-harvest losses are estimated to be about 25 per cent in most cotton enterprises. All farmers must be keen to ensure that looses after harvesting are kept to a minimum.

14. Drying

Drying of cotton should be carried out soon after picking. Immediately after picking, dry the cotton in shade this is because if it is not dried, the color will change leading to lower market value. Cotton should not be dried under direct sun as the fibre strength and luster will be lost.

If cotton is not sorted at the time of picking, then it should be graded before drying. Grade the cotton into good and second quality ones.

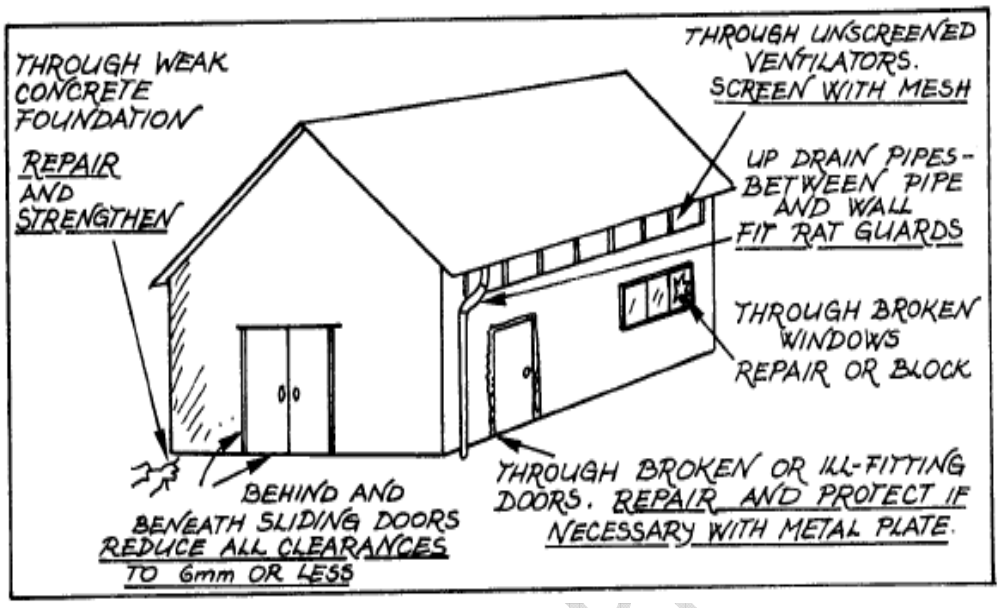
Group activity

a) Discuss how farmers dry cotton seed in their farms

b) Discuss the storage methods used by cotton farmers to store cotton crop after harvesting. Discuss the advantage and disadvantage of each method?

b) Discuss a quality regime/standard that farmers need to meet to be able to ensure that the cooperative only receive quality cotton for sale.

15. Storage and Packaging



Proper storage is essential if quality of harvested cotton is to be preserved

Storage of cotton offers many problems such as large space required, difficulties in handling due to its bulky nature - large storage space is required both at the farmer's level as well as at the market. Due to the lack of sufficient space, the farmer will be forced to bring his produce to the market. Even at the market level, the conventional packing of cotton in bales gives rise to problems such as requirement of large space and possible fire hazards. The ginners are forced to store the bales in open yards, invariably resulting into the deterioration of the quality of fibres.

Adequate storage facilities for seed cotton on the farm or at the gin are essential so that the cotton may be harvested quickly before weathering reduces its quality. Seed cotton may be stored in piles on the ground, or in sheds, storage houses, trailers or modules so long as it is protected from weather damage and from excessive ground moisture.

Moisture content, length of storage, amount of high-moisture foreign matter, variation in moisture content throughout the stored mass, initial temperature of the seed cotton, temperature of the seed cotton during storage, weather factors during storage (temperature, relative humidity, rainfall), and protection of the seed cotton from rain and wet ground all affect seed and fibre quality during seed cotton storage. For long storage periods, moisture should be below 12%.

At the farm level, packaging can be done on sacks and stored in a dry environment. Ensure that cotton is properly packed leaving no spaces inside the sack. The sack should be properly closed after packing to prevent any impurities or insects from getting into it.

The ginneries with balling facilities should bale cotton as soon as the harvest is supplied to them. Bale packaging is the final step in processing cotton at the gin. To prevent fibre deterioration in the bale, no portions of the packaged bale should exceed 7.5% moisture content. Fibre degradation increases dramatically as moisture content increases, especially above 9%.

Bales should be fully covered, and all bales covering material should be clean, in sound condition, and of sufficient strength to adequately protect the cotton. Bales are covered in natural fibres such as cotton (preferably), burlap and jute, and synthetics such as polypropylene and polyethylene. The material must not have salt or other corrosive material added, and must not contain sisal or other hard fibre or any other material that will contaminate or adversely affect cotton. For outside storage, bale coverings must include ultraviolet inhibitors commensurate with the anticipated storage period.

Group activity

a) Cooperative staff to discuss how they can ensure that they receive the best quality cotton seed from the farmers especially where the prices of cotton seed is fixed.

b) Groups to develop a plan to ensure delivery of good quality cotton seed.

c) Discuss the challenges that cooperatives face during the implementation of cotton quality delivery plan.

16. Value Addition of Cotton

Group activity

a) Discuss the possible benefits that value addition can bring to the cooperative and the cotton farmers

b) Discuss the possible value addition options that are available to cooperative and cotton farmers

Cotton can be used for many other purposes that will add income to the farming families. To benefit more from these value added product farmers must be willing to invest more or work with other stakeholders who are willing to finance value addition. Some of the area where there exist opportunities for value addition include;

i. Non-wovens
Cotton can be bleached and marketed both locally or in form of exports to the medical hygiene markets in other parts of the world, where they will use the bleached cotton for ear-buds and facial cleaning pads e.t.c.

ii. Oils
Cotton seed can be used to make oils that are used domestically for cooking; this can increase the earning of the farmer if he is able to also produce oils.

Value addition of cotton can lead to increased income at the farm level

iii. Cotton seed cake
Cotton seed cake is a by- product in the oils making process. Cotton seed cake is used to make animal feed. This can also be sold to increase income from cotton.

iv. Domestic fuels
Cotton stems can be used as a source of fuel in the homes. This is especially helpful to the rural farmers who in many occasions do not have firewood for domestic use.

v. Wood products
Cotton can also be used to make wood products like hard board, fibre board or soft board. These alternative uses can make use of the stalks of cotton that are usually burn for alternative purposes the benefit the farmer.

17. Case Study

Utilization of cotton plant by produce for value added products- the case of cotton farmers in Nagpur District, India.

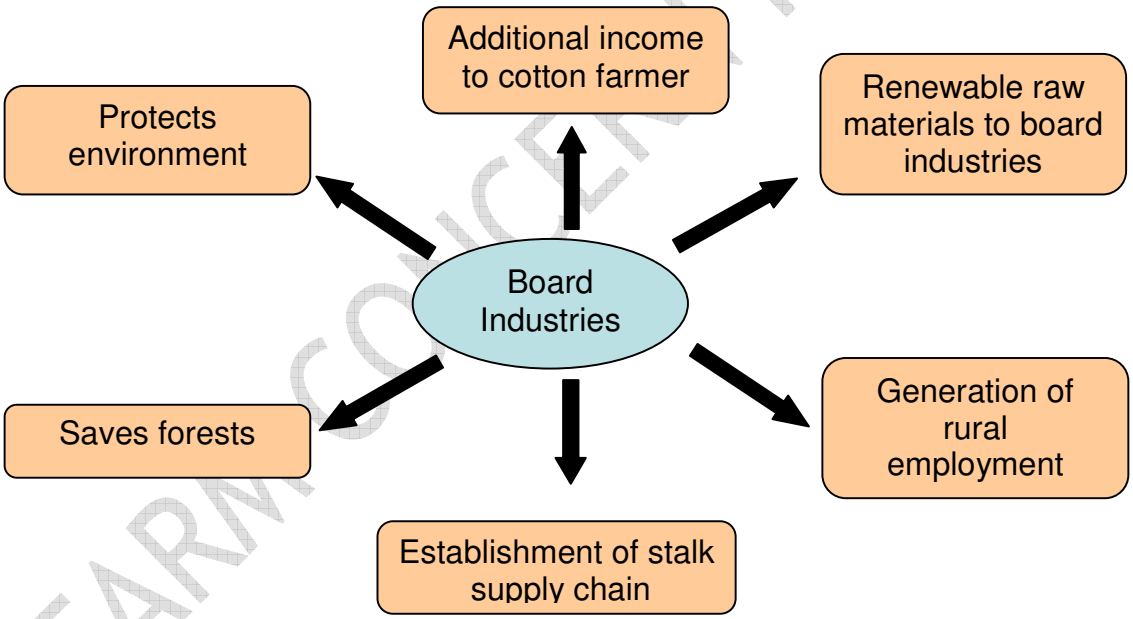
Cotton Farmers in Nagpur district, India, noticed that after every harvesting a lot of cotton stalk were being wasted by burning. Through the collaboration between the farmers, the Central Institute of Cotton Research and Technology and local companies (Ecoboard industries Ltd, Jollyboard Industries Ltd and East India Cotton Association), farmers agreed to supply cotton stalk to the local company at a cost.

The agreement brokered by the stakeholders involved:

i. Cotton farmers registering with the companies
ii. Cotton farmers to transport the cotton stalks to the industries
iii. Local company accepting all the stalk supplied
iv. Payment made on cash when the stalks are supplied

This new venture considerably boosted the farmers earning though the sale of cotton stalks but also played a big role in the conservation of the environment. The board company's capacity also increase and the industry provided employment to the locals.

Benefits of using stalk as Raw Material by Board Industries



Group activity

a) Cooperative staff to identify diversified income generating activities to increase the income of their members
b) Groups to develop a plans on how they could introduce and familiarize and advice their members on the adoption of the diversified activities list in group activity A

Objectives of the module

A. Improve cooperative staff's advisory services to their members.
B. To introduce the cooperative staff to the basic principles of farm management.
C. To help cooperative staff to make informed decisions regarding land, labour and capital.
D. To enhance coop staff skills on farm management
E. To enhance co-op staff understanding and management of natural resources
F. To acquaint co-op staff with the principles and techniques of managing farm production resources.

This module introduces cooperative staff and members to farm management principles and help them to make informed decisions concerning land, labour and capital

Contents;

Setting the context

Present day farming operations are becoming more and more business oriented than they were traditionally. Being a good producer is no longer good enough to remain in business. The key to become a successful farmer today is to be a good producer as well as a good farm manager.

The farmer must decide on what to produce, how to produce it and how to utilize the produce as well as the amount of resources that should be allocated to each of these stages of production. The three basic factors of production; land, labor and capital, cannot result in production of any product on their own unless they are organized. Farm Management and planning coordinates the use of the three factors. Hence management is basically not an input. It provides decisions on what to produce with the three factors, how much of each to use in production, when to use them and how to distribute what is produced between consumption, sale and storage.

Farm management provides decisions on how best to combine the three factors of production to increase productivity of the farm enterprise

In order to know the types of management program suitable for your operation, it is important to identify your needs, based on what your goals and plans are for your farm business. One of the most important tools for successful whole farm management is the business plan.

Farm management is a decision-making process which coordinates the factors of production to produce desired output. The functions of management include;

i. **Planning;** Planning is the establishment of organizational goals and a strategy for accomplishment. Plans that are made may be concerned about short, medium or long term goals. Setting goals as well as devising workable strategy for its attainment are important attributes of good management.
ii. **Organizing:** Organizing depends heavily on the coordinated efforts of an entire farm. Management directs the operations to achieve desired goal through motivation. Management seeks to obtain a high level of production from employees through motivation and proper guidance by maintaining a high level cooperation.
iii. **Directing and controlling**: The control function deals with the supervision of the achievement of goals and compares actual results with those envisaged in the plans and the actual performances in past periods.

2. Selecting suitable crop enterprises

Enterprise selection is the first decision every farmer needs to make before engaging into any agri-business practice. There may be many reasons that influence a farmer to select a particular enterprise e.g. culture. However, before selecting an enterprise it is important for farmers to consider the following;

i. Evaluate the available resources

Before committing to a new enterprise, there are always fundamental questions that ought to be addressed e.g. what are the business/management skills of those involved? Does everyone involved agree on how the business should be run? Does everyone involved know and understand the objectives, both short- and long-term?

The selection of enterprises is critical in determining whether or not the goals of your business will be met through farming

ii. Financial assessment

After evaluating the available resources it is then important to evaluate the profit potential of the enterprise. One way to compare enterprises profitability is by calculating a **gross profit analysis.** The gross profit or margin is the amount of money left over after all the new costs associated with the new enterprise are subtracted from the gross income generated by that new enterprise. These new expenses are separate from the general overhead expense, because they are incurred only if the new enterprise is implemented.

iii. Experience and information

Farming experience is salient requirement. Practical experience is particularly important for a new enterprise, especially if the enterprise is not related to what the farmer normally does. In cases where experience is not available the proprietor should consider hiring qualified individual or consulting on a regular basis.

iv. Market

Market availability is also a vital consideration before selecting a business enterprise. Markets will ensure that the products are availed to the buyer and that sales are made. The product must also be sold at a profit to ensure profitability of the enterprise.

Determine which enterprise in compatible with your resources

Once a specific enterprise has been selected using the criteria above, a suitable variety then needs to be selected by the farmers. Quality factors for specific end-use products and the impact on price and yield are confounding factors with cotton variety selection.

3. Variety Selection Criteria

Assessment

i. What factors should farmers consider when selecting varieties of cotton seeds to plant?

ii. How do you make sure that the variety selected will lead to increased income?

Variety selection is one of the most important decisions a cotton producer makes each season. The main focus for most growers in variety selection is consistency in the yield, followed closely by the genetic traits it possesses and fiber quality. The following are other factors that need to be considered when selecting a variety;

- Select varieties based on local growing conditions. Compare varieties for potential yield, disease tolerance and other agronomic factors. Understanding the limitations of a field or farm will help with variety selection.
- Use long-term data over many locations when comparing variety performance. Varieties that excel under one set of environmental conditions may suffer considerably under the next year's conditions. Sources of data include trials from university research stations and government demonstration plots and seed company trials. Results from at least two years and several locations provide some indication of anticipated performance. Generally, the more years and locations the better, and while data are helpful, grower experience on the farm is the ultimate test.
- Select two or three of the best available varieties. It is always good management to spread the risk. Selecting different varieties reduces disease potential and spreads the harvest workload.
- Other factors that producers consider are pest management traits. Rarely is a single variety perfectly suited to every environment. Growers must consider what other varieties should complement what they currently have in their farms.

The variety that is selected should yield well and be easy to market both locally and internationally

It is important for cotton growers to note that fibre quality factors such as length, uniformity and strength, and seed coat fragments may differ dramatically for varieties grown under nearly identical conditions. That therefore means that the variety selection should also consider the market requirement. Varieties that are preferred

by the market should be considered if they are able to perform well in the local environment.

Group activity

Mrs. Achieng was a cotton farmer in the early eighty and quite the enterprise when marketing for cotton became a major concern in 1989, she is aware that the crops can give her sufficient income if properly conducted. She was once a wealthy cotton farmer and proud of his achievements.

After more than 20 years, Mrs. Achieng would like to go back to growing cotton on her 10 acre piece of land in Nyalunya village of Kano plains in Nyanza. She is not aware of the numerous changes that have occurred in the last 20 years. Knowing very well that the area around Kano plains experience the long rains and occasional flooding in the month of March and April, the short rains in October and November.

Which varieties would you advice Mrs. Achieng to grow in her farm and why?

Farm management involves careful scrutiny of the thought processes and practice of the skills which the farmer uses while carrying out his many tasks. It also deals with statement of research objectives, the development of a method of collecting and collating data and analyzing such data so as to find solutions to present problems.

Management is a decision-making process which coordinates the factors of production to produce desired output. Decision-making is the most important responsibility of a manager. These decisions form the operations of the farm business. A successful manager is one who has the skill to choose between alternatives.

4. Management of Farm Capital

Farm incomes depend on the efficient combination of factors of production such as land, labour and capital by management. These factors involve costs.
The cost of land is the rent paid for its use. Wage is paid for labour. The cost of capital is the interest on the initial sum borrowed. Capital includes supplies and materials such as seeds, feeds, fertilizers, farm animals, buildings, machinery and equipment.

The investments we make in our farm business today will determine the value of our farm business tomorrow

Money only becomes capital when it is put into productive use. For instance, a commercial farmer may decide to hold some of his capital in the form of money for the purchase of items like seeds, fertilizers, etc. at a future date. So until it is used to purchase those items it is simply referred to as money or savings.

Investment refers to the production or acquisition of capital assets. Investment could be made in several different ways. There are three recognized methods or ways by which investment for agricultural productions are carried out.

i. By saving some produce for future use.
ii. Through their own physical efforts e.g. clearing the land, planting trees, constructing dam e.t.c., the farmer is investing because he is producing capital assets.
iii. By purchase

4.1. Capital Requirements

The amount of capital required on the farm is related to the type of enterprises being executed. Information required in assessing capital requirements may be categorized as follows:

a. Costing of Supplies and Materials for Enterprises:

The farmer should list all his enterprises in terms of size, e.g. Acreage of land and also determine his resource requirements, in terms of land, seed, fertilizer, sprays, feeds, hired labour, etc. He can then put a value on each resource requirement and estimate the total cost of supplies for each enterprise.

Capital requirements will vary from one enterprise to another and the goals of each agricultural enterprise

b. Costing Farm Machinery

Estimate cost of machinery and equipment as well as running costs. These will include tractors, cultivators, seeders, fertilizer applicators, sprayers, harvesters as well as spare parts. Estimate depreciation for each equipment and add interest on any loan used for its purchase. (Also add insurance if equipment or machinery is insured). Include estimated cost of fuel, oil, lubricants, repairs and maintenance. The labour used to operate the equipment should also be costed.

c. Land Improvements

All land improvements envisaged during the year should be costed. Such costs would include labour, machinery use and equipment. Land improvement includes soil conversation practices such as drainage systems and terraces.

d. Farm Buildings
Cost of all new buildings to be built as well as any improvements and alterations planned on existing buildings. Farm buildings are important investments.

e. Outstanding depts. And family living expenses

4.2. Borrowing to meet Capital requirements

In many cases farmer do not have all the resources needed to meet their capital requirements. To be able to meet these needs the farm manager can also refer to his farm plan and list his sources of income and the estimates on a monthly basis. It will then be easy for him to know when a deficit occurs and by how much.

Before borrowing the farmer must consider the total cost of the loan and the expected return from the investment to be made

Before borrowing money for use in the farm, the farmer must determine how much money he/she expects to generate by investing the borrowed capital. To be able to calculate this he/she should budget the investment for which the loan will be used.
Then he should compare the expected net return with the cost of the loan, i.e. the total interest charged and consider if the proposed investment will yield more than enough to repay the entire loan plus the interest charged. The manager should therefore be cautious in taking a loan. Excessive loan may not be used adequately. He must remember that the loan will have to be repaid. It is therefore important to budget the use of the loan wisely.
Most lenders are interested in the capital position of a borrower, his ability to manage his chosen line of business, the security he has to offer, and the productivity of the capital requested for. A farm manager must therefore study and use proven production techniques and master the economics of the enterprises in which he is involved before starting the farm. It is advisable to invest money where it can replicate.

4.3. Purchase of Supplies and Materials

After the manager has obtained the needed money, his next strategy should be how to use the money economically. High prices, poor quality of supplies and materials purchased, inadequate or excessive purchases, and the unavailability of materials can increase the cost of production. To guard against these, thinking and planning in advance is necessary. The farmer should know how much of supplies is required, and where and when to purchase them. The quality of material required should also be determined before hand.

4.4. The Use of Capital on the Farm

Capital management does not stop after purchasing. A farmer must make sure that supplies, materials, machinery and equipment purchased are used with minimum losses. This entails supervision. The aim is to prevent wastage in the use of seeds, fertilizer, feeds

and other inputs. Wastage increases the amount and cost of input per unit output. Losses can be avoided in the following ways:

a. Storage and Care:
Fertilizers, seeds and other inputs should be properly stored. Farm equipment when not in use should be properly stored. Rough handling of farm equipment can reduce their useful life and increase repairs and maintenance costs. A farm manager should ensure that workers operating these equipments know exactly what to do. If equipment needs repair, this should be done with minimum delay so that it can be put back to use.

b. Early Preparation for Work:
All supplies and equipment needed should be ready before the farming season begins. During slack period, all equipment must be thoroughly checked for adjustments and repairs. Regular services of farm equipment save money. Farm managers should include repairs and maintenance in their calendar of operations.

5. Management of Labour

The amount of labour available depends upon the number of people and the hours they can devote to the farming enterprise. Thus the size of the labour force and hours worked depend upon customs, attitudes, towards knowledge, leisure and income.

On both small and large scale farms, labour constitutes a major input. On small farms however, there is a tendency to pay little attention to labour management because the bulk of it comes from

family sources, for which the farmer does not incur any direct cash expense. Nevertheless, labour has a value even if no money is paid for it.

On large scale farms, a high level of hired labour is also used. Labour costs on farms are on the rise, especially with the Government's decision to raise the minimum wage. Large-scale farmers' objectives in labour management are similar to those of the small farmers. These are:-

Labour is a major farm expense and must be properly managed to obtain the best result

- To obtain the best combination of labour and capital
- To increase output per unit of labour input
- To release labour for other farm activities.

The farm manager must always bear in mind that:

i. Labour like other farm inputs, such as fertilizer, seeds, livestock feed etc., is a farm expense.

ii. Labour efficiency is also related to the morale of farm workers.

iii. Hired labour, like any other person, has different attitudes towards work, and different abilities at performing various jobs.

These points imply that labour efficiency can be increased not only through increased labour productivity and cost reduction, but also by ensuring a high morale of farm workers.

5.1. Labour efficiency can be enhanced through;

a. Enterprise Combination

Farm managers face fluctuating labour requirements during any farm Calendar year. This is due to the seasonality of farm production. It is critical to consider that even workers in the farms may be needed elsewhere during peak seasons or decide to work on their enterprises.

b. Work simplification

Work simplification involves a careful study of a job to be performed, identifying the important aspects of such jobs, and allocating available resources for the job. Work simplification can be enhanced by adequate farm layout, close and central location of farm buildings, and the energy. Poor farm layout in terms of irregular shapes of fields can result in less efficient use of labour and other resources especially machinery. For example, irregular and small fields make the operation of machinery difficult and fencing of fields more costly. To increase the efficient use of labour and machinery, fields should be arranged in regular shapes, and as much as possible,

field boundaries eliminated. The arrangements and locations of farm buildings can also affect labour efficiency. Time and energy can be expended in traversing between buildings to get jobs done. To reduce such long movements, a farm manager should locate buildings and working areas close together. Centrally located farm buildings also provide access to all parts of the farm. The equipment sheds, tools' store and the repair workshop should be close together. Work simplification also implies that energy should be saved whenever possible. Before allocating a job to a worker, a farm manager should divide the job into its component parts, identify which sub-units of the job can be eliminated without loss in efficiency, ascertain the parts which can be combined, identify all tools and supplies needed to accomplish each sub-unit of the job and plan to let the worker complete one job where another is started.

c. Operations Calendar

The main idea here is that labour needs and use must be planned well in advance. From past records and experiences, a farm manager can draw up a calendar of operations to show each enterprise and the operations to be performed on it, the dates on which the operations are likely to be performed, the amount of labour required for each operation and the urgency of particular operations, e.g.:

Cotton	Dates	Needed labour- Man hours
Ridging	January 10-15	30
Fertilizing	January 10- 15	10
Planting	January 15- 20	15
Weeding	March 20- 30	30

Group activity

Develop operation calendars for the following cotton growing areas in Kenya

a) Nyanza
b) Coast
c) Western

d. Keeping an Operations Calendar

Labour needs and use must be planned well in advance. From past records and experiences, a farm manager can draw up a calendar of operations to show each enterprise and the operations to be performed on it, the dates on which the operations are likely to be performed, the amount of labour required for each operation and the urgency of particular operations. If a farm manager is able to estimate in advance the amount of labour that will be needed for

each operation and how many workers to employ each month, he can arrange for their employment in good time and avoid last minute bottlenecks.
But farming is controlled by natural conditions which can upset a farmer's plans.
Labour plans must be flexible enough to allow possible adjustments. One way of taking care of this is through job scheduling at regular intervals. Weekly and daily work plans should be made. All jobs to be done should be listed for the day and by the week and worker posted and informed accordingly. It is also a good practice to post such work schedules with names of workers assigned to each job on notice boards in addition to informing the person involved.

e. Capital/labour substitution

Substituting capital for some labour can increase labour use efficiency. Capital may be in form of farm machinery or other labour-saving technologies such as herbicides
An important aspect of the capital/labour substitution situation is that displaced labour becomes available for other needs. It is however important that the change from hand labour use to any form of capital use be budgeted for to ensure that it pays to affect the change. In such a budgeting exercise added returns as a result of the substitution should not outweigh added costs.

Group activity

Table: Labour (man hours) input per acre for different crop enterprises by month

Enterprise	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Nov	Dec	Total
Ground nuts	-	-	2	5	17	73	22	6	24	41	28	28	-	**246**
Cotton	6	3	5	-	8	27	21	28	45	4	3	4	20	**174**
Sugar cane	123	57	38	53	35	34	100	3	10	20	14	11	22	**520**

1. Assume a farmer must grow all these crops as shown in the table in a particular year.
   a) Which enterprise has the least labour Demand
   b) Which enterprise has the highest labour demand
   c) Calculate the labour requirement for the year
   d) Calculate the total labour requirement by month
   e) Which month has the highest labour demand

2. If the total labour the family can supply per month is 90 man-hours. In which of the months will hired labour be required and by how much?

f. Motivation of workers

Farm labour can work poorly or efficiently depending on their attitudes to a particular work and how capable management can

influence their morale. Related factors are discussed under the following headings:

- Adequate supervision of workers
- Favorable working conditions.
- Cordial employer-worker relations

Group activity; Discuss the challenges of managing labour for small scale and large scale cotton farmers

Trainers notes: Further notes on labour scheduling is in module **6**

6. Management of Land

Land acquisition is one of the most important decisions made by a beginning farmer. The importance of the decision does not end with the initial purchase; an established farmer may add land to his farm business several times to expand his farming business. The characteristics of the land obtained and the way in which it is acquired will shape many subsequent farming decisions.

6.1. Land Acquisition

There are various ways of acquiring farm land. These are;

i. inheritance,
ii. allocation and gift,
iii. sale,
iv. loan and
v. Trust.

Land must be prudently allocated for different purposes

Characteristics of Farm Land

From farm management point of view, land is considered as a factor of production. However, it has certain characteristic that distinguishes it from other factors of production.

i. Land is durable

Land is a durable asset meaning that it will not be used up in a production process, although land may be depleted by use. Land can be used for more than one purpose and will react in different ways to various applications of labour and capital. In addition, existing institutional arrangements can influence the use of land.

ii. Land is well suited as security for loan.
It is easier to borrow money with land as collateral than if other farm assets are used as security. Because a portion of a land can be bought at a time someone with limited capital can buy land.

iii. Prestige goes with owning land
Many people experience a feeling of satisfaction when they make an improvement on something that belongs to them. Farm management analysis can determine if this satisfaction comes at a cost, and if so, can help to determine the amount of this cost.

iii. Land offers opportunity to enjoy windfall gains
Owning land provides opportunity for one to enjoy windfall gains especially if the price of land suddenly skyrockets. When this happens the owner eventually benefits.

6.2. Buying a Farm
The other aspect of farm property valuation is as a capital asset to the farm business. This means that the land itself must be capable of producing a return. The farmer must determine, regardless of its market value, whether the productivity potential of the land he considers buying justifies its purchase. Since land, as an asset, is long lived, it will yield a return for years in the future. This future contribution must be taken into account through discounting. If soil maintenance practices are followed, land can be considered as having an indefinite life.

7. Control and Evaluation of Land, Labour & Capital

The control function involves the observation of the results of implementation to see if the specific objectives are being met. Many things cause a plan to change. Deviations between actual and expected achievements should be identified as soon as possible. Then steps should be taken to ensure that desired results do not move outside an acceptable range.

Record keeping is mandatory to be able to successfully evaluate the productivity of land, labour and capital

Control requires a system of record keeping, making regular checks on the plan, and monitoring progress and results against established goals. Information from control should be used as feedback into planning in order to make corrections to the existing plan or improve future plans. This feedback sets up a continuous cycle of planning, implementation, monitoring, and recording of progress. This is followed by a re-

evaluation of the plan and the implementation procedures using the new information obtained through the control function.

8. Natural Resource Management

Natural Resource Management activities seek to increase agricultural productivity through adoption of practices that maintain the long term ecological and biological integrity of natural resources. The goal is to provide better economic returns to individuals and contribute to the quality of life and economic development.

The crucial factors, which influence crop yields per unit area of land is the extent to which the soil and water conditions are optimum for that crop species. Soil properties and annual rainfall and its distribution during the growing season vary from one area to another.

There are concerns that the country is experiencing serious depletion of its soil resources even in areas that were formerly very fertile, while rainfall is not efficiently used. Soil is lost through both water and wind erosion and soil fertility decreases due to crop nutrient removal without replenishment and, hence, the soils require additional/mostly more expensive inputs to sustain profitable crop harvests.

These losses also result in environmental degradation including pollution of rivers, water logging and salinity, and increased incidence of waterborne human and livestock diseases. The scenario is rendered more damaging because most of the Kenyan farming is rain-fed. The management of our farms requires a concerted effort to ensure that the resource base is not degraded further.

Practices that maintain long term ecological and biological integrity of natural resource will ensure that the resources assist in production for a long time.

Practices that maintain long term ecological and biological integrity of natural resource will ensure that the resources assist in production for a long time

8.1. Soil management

Natural physical factors such as slope soil depth, drainage and erosion susceptibility favor soil erosion. Despite these physical factors integrated management methods can be put in place to enhance soil fertility and also reduce soil erosion. The recuperation, conservation and adequate management of soils must necessarily include;

- the use of different types of green manure or cover crops with abundant and vigorous root system
- the continual supply of fresh organic matter
- the use of conservationist systems of soil preparation, such as minimum tillage and direct planting
- crop rotation

- judicious application of fertilizers

Conservation Tillage: preventing erosion and improving soil quality
The two guiding principles of soil preservation are:
1) minimize topsoil lost to erosion; and
2) improve soil health. Typically, both of these objectives are accomplished by increasing organic matter with winter/cover crops and minimizing the amount of tillage used on the soil.

To control weeds and diseases, traditionally producers were forced to remove all plant residues and weeds from the soil surface prior to planting, and then continue to cultivate the soil while the crop was growing to control late emerging weeds. While tilling does control some disease and weeds, it also loosens the soil. Today, thanks to seed treatment fungicides, herbicides, diseases and weeds can be controlled without tilling, allowing what is referred to as "no-till" and conservation tillage systems to be adopted.

In addition to preserving the soil, reducing tillage significantly reduces fuel use and its associated cost to growers.

8.2. Water management
This is a system approach towards controlling water on a farm in a manner that provides for the beneficial management of water for satisfying the irrigation and drainage needs of a crop under the constraints imposed by the prevailing physical social, governmental, and production systems. Water, or the control of water, affects most crop production activities. Sufficient water must be present in the root zone for germination, evapotranspiration, nutrient absorption by roots, root growth, and soil microbiological and chemical processes that aid in the decomposition of organic matter and the mineralization of nutrients.
To satisfy the objectives of water control, adequate soil water content must be maintained in a field. This must be done in a timely manner and within constraints imposed by characteristics of the area;

- Physical - soil types, depths, and characteristics, field layout, water sources and sinks.
- Climatic - frost potential, drought potential, rainfall amounts and intensities.
- Economic - market prices, material availability, labor cost and availability.
- Social - governmental regulations, environmental concerns, safety considerations.

In farms where irrigation systems are used, decisions on when to irrigate and how much water to apply are the main concerns. Both

concerns can be eliminated by considering the evapotranspiration needs of the crop and rainfall patterns. Water must be applied to the root zone before drought stress can cause irreversible damage to the crop.

In areas where there is high rainfall, adequate drainage is mandatory for crop production. Drainage systems must be compatible with crops grown, field layouts, and cultural practices such as crop rotation and cultivation. System choices include open ditches, tile drains and land forming for increased surface runoff. The four methods can be used separately or in different combinations.

Storage of water should be considered in all farms regardless of the level of intensification. On a long-term basis, on-farm reservoirs or ponds can provide water for irrigation either as primary sources or to augment the primary source in times of need. These reservoirs or ponds can hold agricultural runoff for later use, thus reducing the demand on the basin-wide system in times of drought.

A well-managed system will, under most circumstances, not subject a crop to either drought or flood conditions that would result in yield reductions.

The increase in conservation tillage practices has resulted in a reduction of runoff from agricultural lands, decreasing non-point source pollution of fertilizer and pesticides.

9. Farm Records and Inventories

Good record keeping is important, not only for tax purposes but also for efficient farm management. Using financial records and methodology will help the farmer to understand how and where the business is going. Record keeping and sound data interpretation will help define the weakest links of the farm business operation and enable the farmer to start corrective action plans.

The first and most important step in taking control of the farm operation's financial well-being is to keep good and accurate financial and inventory records. There are three main reasons farm operators should keep good financial records:

i) ***Income tax reporting:*** A good set of records is required for the preparation of complete and accurate tax documents. Poor records often lead to preparing income tax returns

Record keeping and sound interpretation will help farmer to decide on the weakest link of their farm business and plan for corrective measures

that result in either underpayment or overpayment of taxes.

ii) ***Obtaining credit***: If you decide to borrow money for your farm business operation, the loan officer or bank will ask to see your financial records including a balance sheet, an income statement and a cash flow statement. The creditor will require these statements in order to determine your repayment capacity.

iii) *Management tool:* Accurate financial records, along with production data, will help the farm business operator analyze the information and make the necessary adjustments to operate more efficiently, thus increasing profitability. Such analysis will help you plan for the future, and it will pinpoint the weaknesses of your farm business and allow you to act accordingly.

9.1. Characteristics of record keeping systems

Keep the following guidelines in mind when implementing or reviewing your financial record keeping system.

• Keep it simple. If the record keeping system is unnecessarily complicated, you are more likely to make mistakes.

• Maintain financial records that have the appropriate level of detail depending upon the complexity of your business. A more complex farm operation requires a more detailed system.

• Make sure that your records provide essential information on a timely basis.

• A record keeping system should include the following:

- A business checking account to handle business transactions.
- An income ledger by calendar month.
- An expense ledger by calendar month.
- An inventory ledger for physical counting and valuation.
- A depreciation schedule for pro-rating original costs of assets.
- A balance sheet to determine net worth.
- An income statement to determine net profit or loss.
- A cash flow statement to measure flow of funds.

The following records need to be kept to ensure proper running of the farm business enterprise;

i) Recording receipts and expenses.

Record all receipts, including payments from cotton sales, e.g. program payments, custom hire work, etc., as well as expenses, such as cost of chemicals, seeds, fuel, interest, etc. Recording this information is basic for income tax reporting purposes. With each entry, include date, customers or vendor's full name and address,

description of the transaction, method of payment, check number, etc.

ii) Keeping and using inventories.

Progress in the farm business operation cannot be determined from year to year without an annual inventory. Using the cash method for record keeping, that is, keeping a record of receipts, expenses, and purchase cost during the year, plus depreciation schedules. However, this procedure does not reflect any changes in inventory in the farm business operation. When these changes are recorded, net income can be calculated. The main problem in dealing with inventories is arriving at a value for different farm products and property

iii) Recording crop information.

The most important elements of this phase are; method and organization. The farm business operation should have a complete, but simple, filing system that includes, through field records, all the relevant information pertaining to the different farm enterprises. When this information is recorded annually, the producer will be able to use it to make crucial production decisions and set goals for the future.

iv) Analyzing the farm business.

The analysis of the farm business helps the farmer to understand;

- Where the income was produced.
- Strengths and/or weaknesses of the farm business.
- Returns for labor and management.
- Trends in net worth.
- The operation's production efficiency.

10. Risks and uncertainty in farming

What is Risk?

Risk is defined as the situation which exists when the future can be predicted with a specified degree of probability. With the perfect knowledge situation it is possible to say definitely and positively that an event will happen.

What is Uncertainty?

In the case of uncertainty, there is no valid basis for assigning any kind of probability to future events. Yet the farmer must make plans for the future even though he is unable to determine the probability of future events. In a quantity sense, the outcome cannot be established. Uncertainty is subjective in nature. It refers to the anticipations of the future and is peculiar to the mind of each individual producer. Examples are variability in yield and weather. Risk is insurable but uncertainty is not.

Methods of Overcoming Risks and Uncertainty

i) Risks

There are many situations in agriculture that may be classified as risk. If a possible unfortunate incidence can be insured against, it can be classified as risk. There are various kinds of insurance that are available. The farmer must decide whether to pay to have the risk transferred to some other person, or if he can afford to bear the risk himself. A number of factors will affect decisions. Not all insurance can be viewed in the same way since different amount of protection against unforeseen events are provided. The following classifications of insurance are available to the farmer.

- Property insurance – valuable property – fire or damage
- Liability insurance – against large losses
- Yield insurance – against loss of yield due to flood or bad weather.
- Life insurance – against accidental death.
- Health insurance – against sicknesses requiring hospitalization

Certain risk situations cannot be covered by insurance owing to the difficulty of securing reasonable data to establish fair premiums. For example, breakage of eggs, loss by rodents and grain waste. They are regarded as costs of production.

The uncertainties of weather, yields, prices, government policies, markets, and other factors can cause wide swings in farm income.

ii) Uncertainty

Uncertainty can be classified as follows:

a. On-Farm Uncertainties

- Production – physical or biological
- Family welfare – farmers and family.

b. Off-Farm Uncertainties

- Markets and prices
- Factor or input prices

Government and institutions

- Price subsides
- Production control
- Credit policies as they affect interest rates etc.

Individuals

- Bankers, landlords and employees.

Precautions against Uncertainty

i. Flexibility:

Planning in such a way that new information may be taken into account as it becomes available. For example, building plans can be designed to adapt to different uses. One structure can be built to be

used for machinery, grain, or livestock depending on need. Machines that can be used for many different crops by making proper adjustments should be used. Enterprise varies in amount of flexibility they provide. Some enterprises are inflexible because of the time involved to realize returns. For example orchards in production may be difficult to convert to some other venture in the short run.

ii. Diversification

Diversification is important to reduce variability of income. The theory behind this is that the prices and yields of different enterprises do not fluctuate together and that a combination of enterprises will tend to stabilize income over what it would be if the enterprises were produced separately.

Growing or producing many crops to stabilize income is a common feature of the traditional farming system in Kenya. If one crop fails another one may succeed and therefore providing security for food in periods of drought or other calamities under the control of the farmer.

Growing crops in mixture or different types of livestock enterprises may not necessarily stabilize income. What affects the price or the yield of one must not affect the prices and yield of the other.

To successfully manage risks farmers need to choose among alternatives that reduce the financial effects of such uncertainties.

iii. Asset Management

The existence of uncertainty in agricultural production has a profound effect on the management of assets in farming. The farmer may hold a higher percentage of his assets in liquid form than if the future were more certain. Liquidity may be defined as those characteristics that of an asset that permits it to be converted into cash easily. When necessary, liquid assets can be converted into cash and be used for either consumption or investment.

iv. Discounting for Risk

Out put is reduced every year in order to reduce losses in bad years.

v. Forward Contracting

Arrangement can be made to deliver products at a given price and time. The disadvantage is that one may lose future gains if prices outlook turns out to be better in the future.

vi. Choice of Enterprises

Farmers may prefer more reliable enterprise, with yield and prices that do not fluctuate from year to year, though things may be less profitable. Food crops would normally give enough guarantees for food no matter what happens.

Causes of Price Instability in Agriculture

Price of agricultural products fluctuates more than prices of industrial products.

1. Supply of agricultural products is directly affected by natural factors like weather, diseases and pests than industrial products. Farmers therefore have very little control on the conditions under which they produce. There is therefore a difference between planned and actual output as compared with industrial output which can be easily forecast.

2. Once a given amount of crop has been planted it is difficult to interfere with its potential output. Farmers to some extent cannot stop the crop from growing and animals from producing.

3. Price fluctuations depend on the degree to which it is possible to store the products. Producers can retain some products in storage and sell to the market latter. But most of the agricultural products are more perishable than the manufactured products.

Effects of Price Fluctuations on Farmers

Because farmers have limited control over demand and supply of agricultural products, it makes farming a risky business because farmers are always uncertain of their income from a given level of input. They are not sure of the price they will receive for the output from their farms. This affects consumption and investment expenditure. Because incomes are not certain, farmers are unwilling to adopt new supply probably because surplus supply will lower prices.

11. Case study

Mr Njenga a small scale farmer in Githunguri has increased his monthly income to 60,000/= after being trained by Farm Concern International in 2007 on the importance of farm management.

Mr. Njenga, who only has a 3 acre piece of land, has been able to archive this increased income by being able to manage his land and money prudently. He has about 1.5 acres of his parcel on tea and uses the rest of the land to grow assorted indigenous vegetables. In 2007 before the training Mr. Njenga only had a small portion of his land under vegetable cultivation and could only afford to use can irrigation. Through the commercial village commercialization concept of Farm Concern International, Mr. Njenga was able to market his produce to Uchumi supermarket under a contractual arrangement. From the increased income he bought a motorized water pump in

2008 and increased his production. In the same year Mr. Njenga received 100,000/= loan from his group (Mugima self help group) though the Njaa marufuku program of the government and invested the money in the farm.

In 2009, Mr Njega was able to pay and get electricity connected to his home through the rural electrification program. This enabled him to buy an electric water pump and is now able to pump water to higher ground opening up more area of his farm for vegetable production and also use some of the water for domestic uses.

These achievements were only made possible by the good management of resources by Mr. Njenga. He was able to manage his land, Capital and labour to realize profit

12. Module Assessment

1. In traditional farm setting give examples of what you would include under (i) materials and supplies (ii) farm equipment (iii) land improvements (iv) farm buildings.

2. List three ways in which investments are carried out

3. How can you minimize losses during purchase of farm inputs?

4. What is the basis of labor management?

5. What factor would you consider when selecting and agricultural enterprise?

6. What are some of the uses of farm records?

7. What are some of the records required for a successful business enterprise?

Module 4
Business Planning

Objectives of the module

1. To help the cooperative staff understand the basis of business planning, its objectives, how to develop a business plan and appreciate its importance
2. Give the cooperative staff the basic principles in business planning and its role in the management of producer groups and /or cooperatives
3. Give the trainee business skills to run the cooperative or farmer organization successfully

Contents

1. Setting the context
2. Understanding the business planning process
3. The business plan
4. Case study

Assessment

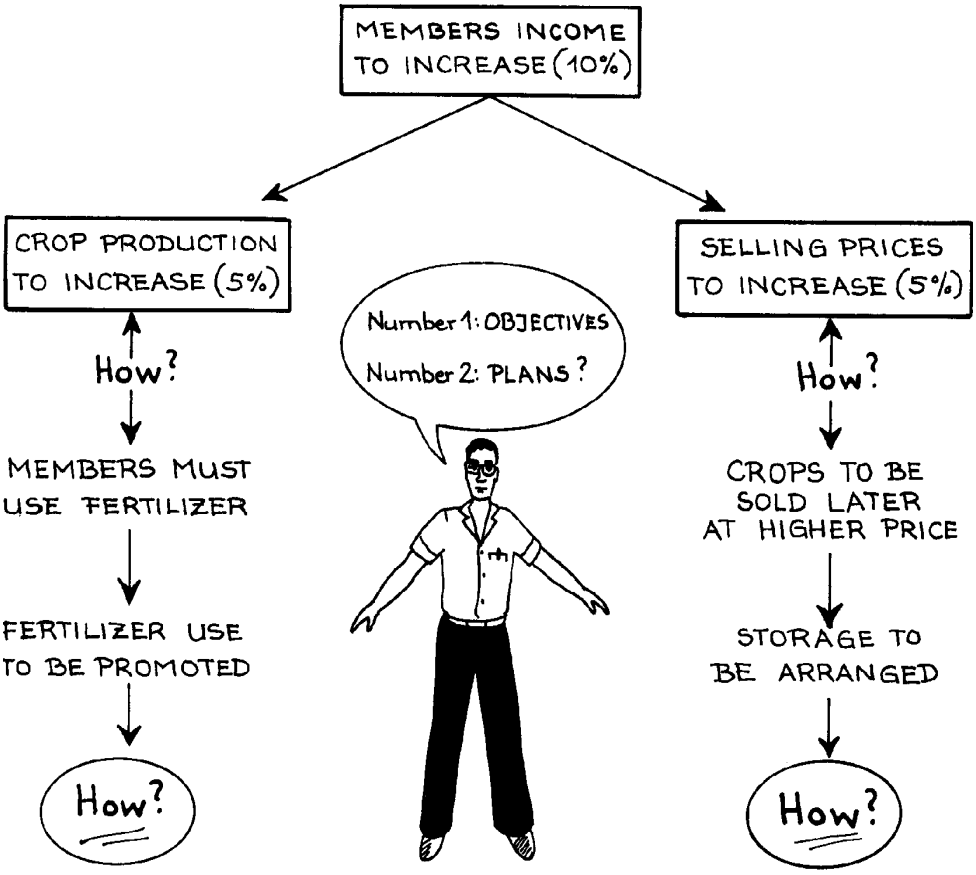
1. When are business plans done and for what reasons?
2. Planning is of paramount importance to any enterprise including cooperatives however not many cooperative do planning. What are the probable reasons for this?

1. Setting the context

Today, there is an increasing need to help farmers and farmer organizations to become more effective managers of agricultural enterprises. Careful planning is often critical to the success of a business in every sector of the economy. However, the farming sector is often seen as lagging behind in the application of the modern management and planning techniques that create sound business enterprises. This is mainly due to a shortage of the necessary skills and knowledge that would help in the planning process.

Planning outlines where your organization/ business wants to be at some determined time in the future and defines how you intend to get there. A plan is usually a concise summary of activities surrounding the creation and expansion of the business. It describes the product or service, customers, competition, production and marketing plans, management, financing and anything else relating to the product or service that the business will provide.

Agricultural businesses need more than money and dreams to keep them alive and profitable; they need careful planning



Group activities

Members to discuss what they understand by the term planning and elaborate the importance of planning in a cooperative society

2. Understanding the Business Planning Process

2.1 Record keeping

The first and most important step in taking control of the cooperative is to keep good and accurate records. No business plan can succeed without proper records of business activities. Effective record keeping will help you in preparing your plan and when monitoring its implementation.

It is important to record the following in the cooperative:

i. ***All your incomes and costs*** each day so they may be summarized by week, month and year. By comparing your annual income to you annual cost you can determine whether you have made a profit or a loss over the year.
ii. ***Sales prices*** *received* for products each day and so a graph can be prepared on prices for specific crops throughout the year and so enabling you to prepare produce for market when the best prices are likely and to negotiate better with buyers
iii. ***Yields obtained and total sales*** (by volume and price) for specific products in order to enable you to compare with previous years and make a forecast for future years
iv. ***Applications made*** such as fertilizers, chemicals, water or machinery (type and usage time), in order to compare costs of applications against increased (or decreased) yields and quality (such as measurement of pesticide application)

Group activities; Describe the monitoring and record keeping system for your cooperative. What other activities do you need to record? What kind of records do they feel are necessary during preparation of the business plan?

2.2 Analyzing the cooperative

A SWOT (*S*trengths, *W*eaknesses, *O*pportunities and *T*hreats) analysis is a particularly valuable tool for determining the ability of the cooperative to compete and survive in a competitive environment. It is the first step in recognizing your options and potential problems and in preparing a strategy to act. It helps the cooperative to identify their own strengths and weaknesses (such as the financial resources, experience, structure, management, skills, products etc.) as well as the opportunities and threats arising from the external environment.

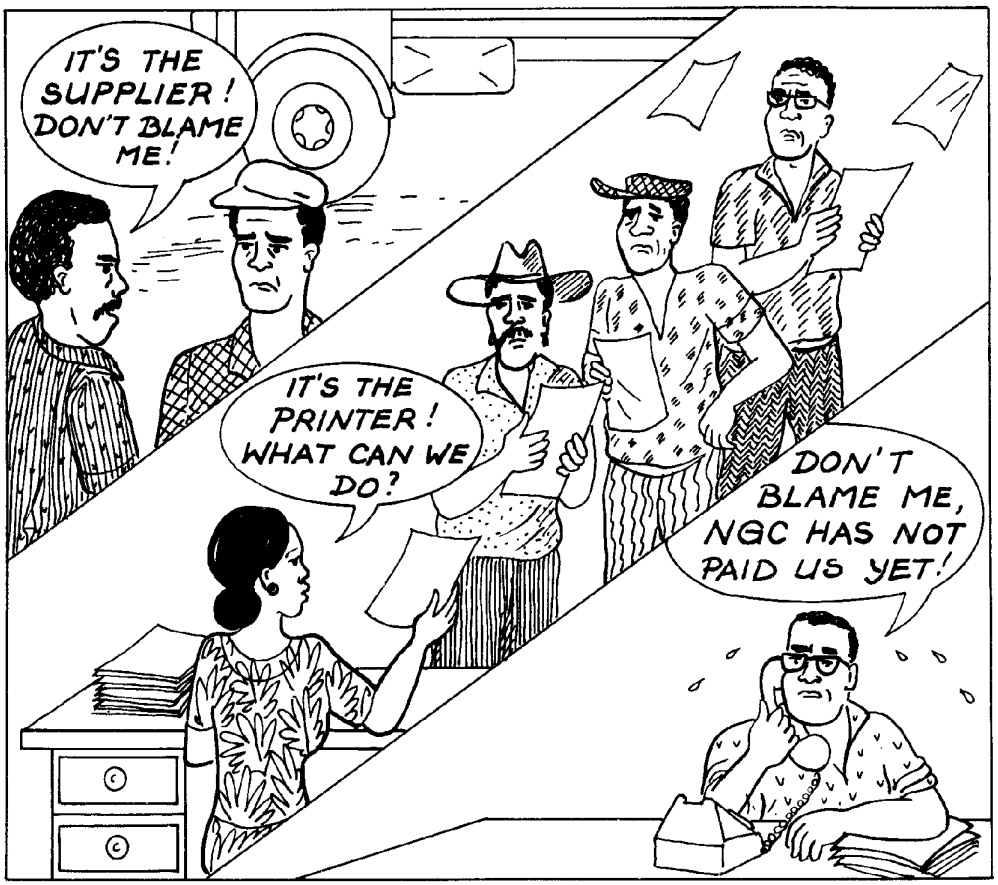
Before writing the business plan it is critical to carry out an analysis of the cooperative business. This will help to be realistic and plan with the strength of the business in mind

External environmental issues may include political, economic, social and technological issues as well as demographic and ecologic factors. The competitive environment will also need to be considered including competitors, customers, suppliers and new products on the market. The following table presents an example of a SWOT analysis for a cotton cooperative:

Strength	**Weaknesses**
➢ Skilled and experienced workers ➢ Strong links with local markets ➢ Growing sales ➢ Quality packaging	➢ Insufficient storage rooms ➢ Low production capacity ➢ Low capitalization ➢ Lack of promotion strategies ➢ Insufficient know how of quality control schemes applications
Opportunities	**Threats**
➢ Greater customers interest in ➢ traditional food products ➢ New markets in foreign countries ➢ Relatively low milk price	➢ Strong price competition ➢ Strict legislation concerning quality assurance procedures ➢ Price pressures from retailers

Group activities; Think of the strengths, weaknesses, opportunities and threats of your cooperative business. Prepare your SWOT analysis as in the example above.

3. The Business Plan



A good business plan should generally have the following;

(a) Executive summary

The executive summary contains a concise review of all the major aspects in the business plan. In particular it should give insights into the product or the service along with benefits to the customer, the pertinent markets, management competence and investment requirements with potential returns.

Each component of the business plan is important in the success of the enterprise.

It highlights the key elements of the cooperative;

- Brief history of the business
- A description of the product/s/ activities/services
- Market
- Marketing strategies
- An assessment of the competition
- Operations strategy
- Financial needs and projections

- Critical risks and analysis

This should enable the reader to understand the business at a glance. A cotton cooperative's business plan should for instance consider the target recipient and customize the summary to reflect or blow up the key areas as per the client.

(b) Cooperative objectives/goals

The primary emphasis of this section is to describing the future positioning of the cooperative. Explain the strategy, success factors and important milestones.

The key issues to address are:

- What is the cooperative vision?
- What long-term goals have the cooperative set?
- What are the main success factors?
- What strategy does the cooperative intend to use to achieve these objectives?

- The *vision* for the cooperative may be stated as a *mission statement* outlining what the cooperative is and what it is aiming to be in the future.

Setting goals and objectives

It is important to define the cooperatives goals when preparing a business plan. It is important to consider the following issues:

- What are the *cooperative goals*?
- What is the *vision* for the cooperative? (Stated as a mission statement)
- What are the cooperatives *objectives*? (Projections in terms of volume and value during the time period that the plan covers) and how do you plan to achieve them?
- What is our *strategy* for getting there? (Where are we now? Where do we want to go? How are we going to get there?)
- How much finance do we need, where will we get it from and how will we get our money back?

Group activities

Fruit company mission statement: "to highlight the cultural value of typical products as well as the value of the Nairobi region and to be leaders on the market for all people who value good taste in food, gourmet foods, quality cuisine and search for high quality food products".

Cheese Company mission statement: "to concentrate on quality production, rather than on quantity and to add value to products through preserving their unique and traditional qualities".

Wheat/Barley farm mission statement: "to continue sustainable farming and to integrate conservation in all aspects of farm management, using pesticides selectively and to a minimum".

1. Read carefully the mission statements above and evaluate them according to the important considerations mentioned above
2. Identify other examples of mission statements in newspapers, magazines and brochures
3. Try to create a mission statement for your cooperative. Present it to your colleagues and discuss it
4. After completing these tasks, how do you think that this mission statement will help you and your colleagues run your business?

This part of the plan should provide an outline of your products and business operation and include information related to:

1. ***Your business*** - *the cooperative location* and how it serves your business needs e.g. proximity to markets, pack-houses, suppliers, transportation and location of competitors

2. ***The product or service activity***. Presenting a timetable of production activities and cultivation periods will be useful. You can prepare planting schedules in order to assure harvesting in periods of high prices and enable production stability.

3. ***Land, buildings, facilities and equipment*** required including their costs and financing (lease or own), renovations, taxes payable and utility costs. You can also combine the necessary machinery with the products produced and summarize this information as shown in the following tables:

Type of equipment	Time of purchase or lease	Supplier	Quantity	Unit cost	Total cost
1. Tractor	1/1/2010	Toyota	1	2,000,000	2,000,000
2.					
3.					

4. Your *labour* needs and especially skilled labour, for example for harvesting or specialist use of equipment

5. *Input supplies and materials* (such as seeds, chemicals or fertilizers), including details of where they will be purchased and their cost

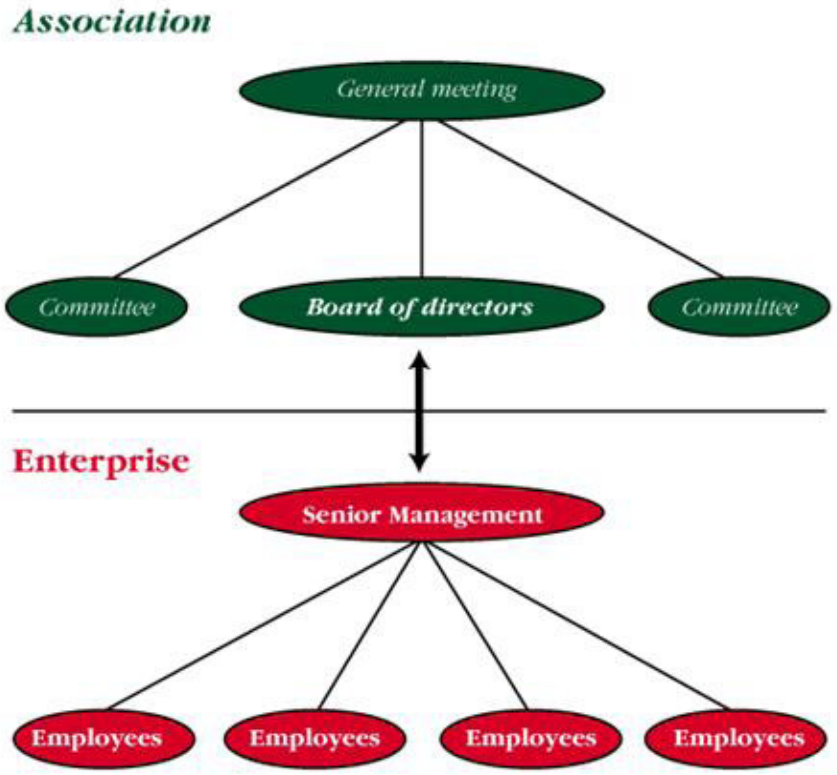
6. How *value may be added* to your product, such as by packaging, processing, storage or transport

7. What ***after sales support*** to customers may be required e.g. transport

(c) **Human resources planning**

Recognition of the contribution by yourself and other employees to business success is essential. Your people plan should outline how you intend to identify, recruit, develop, promote and motivate key people and maintain a strong sense of collective achievement and an effective team. This component of the plan should also include an *organizational chart* (see figure below) and with the role and position of each person outlined. Supporting documents should include job descriptions of key positions in your business.

Organizational Chart for most cotton cooperatives in Kenya



Within the cooperative plan you should consider:

- Who are the *key people* in your business? How experienced, skilled, educated and trained are they? Keep records of their curriculum vitae and training attended
- What are your needs for *seasonal workers*? How many will you need? What skills are necessary and how much will you pay them?
- What are your needs for *advice and training* from professionals outside of your business?
- What are the main *strengths and weaknesses* in your people team? Present your strategy to build on their strengths and overcome their weaknesses within a clearly defined time frame e.g. through training recruitment of new employees, hire outside advisors etc.
- Who are the *board of directors* (if any)? How often should they meet and what should be their key tasks?
- Calculate the *expected costs for labour* and indicate whether the salary and other benefits you give your staff are

Human resource plan should outline how you intend to identify, recruit, develop, promote and motivate key people and maintain a strong sense of collective achievement and an effective team.

competitive. You can use the following table for calculating your labour costs.

Calculation of labour cost

Name	Specialty	Education/Training and experience	Salary/ wages	Annual cost	Total cost
1.					
2.					
3.					

(d) Market planning

Market opportunities to a large extend determines and influences business success and as an area would require a careful consideration by cotton cooperatives. The spirit of the cooperative is most likely determined by the extent to which the businesses are able to access high value markets translating into high incomes and profits.

In designing a business plan key marketing aspects to be considered by the cooperative include;

1. the customers
2. the competition
3. the pricing
4. promotional and distribution strategies

Trainers notes: Further notes on Marketing is in module 6 (Marketing)

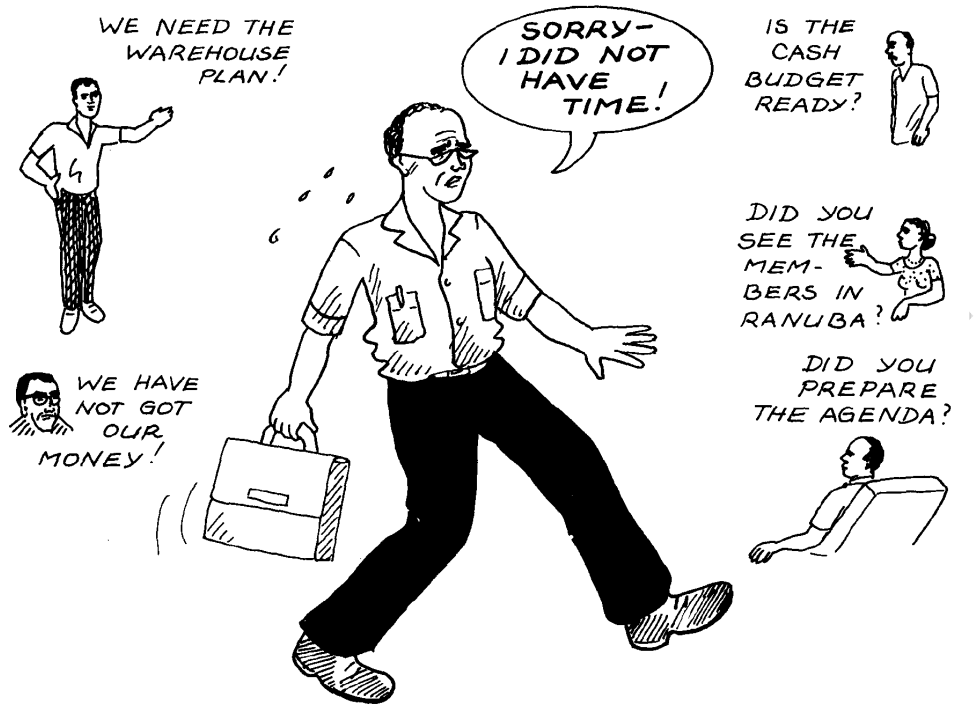
(e) Financial planning

Finance is a scarce resource yet vital factor of production that a cotton cooperative should put into consideration.
Under this the cooperative must consider;

1. The required financial resources sufficient to support the business for a given period of time
2. The available financial resources
3. Sources of the deficient financial resources and the costs
4. Costs, revenue and profit projections which help set prices for products and services

Trainers notes: Further notes on Financial planning is in module 4 (Financial Management)

Poor Business planning can lead to failure of the cooperative to perform its functions



4. Case study

Cooperativa Euroortofrutticola Del Trigno

Euroortofrutticola is the largest producer group organization in Italy. It was founded in 1960 initially as a wine and oil cooperative and then in 1971 turned itself into a fruit cooperative. Finally in 1996 a producer group organization was established according to EU legislation.

The Cooperative comprises of 1,200 producers and of which 800 are fruit producers, 200-250 produce grapes and wine and the rest have mixed cultures. The average farm size of individual producers is 2-2.5 ha and only 30 of them have landholdings of 20 ha. Most of the members of the Cooperative are part-time farmers. All large landholders are EUREPGAP certified and some farmers are also registered for organic production with a total annual organic production of 80 tonnes. The cooperative is divided into 5 sections, fruit, vegetables, wine, oil and the quality assurance that tests each member farm once every two years. Producers take their products to the cooperative where the products are weighed. 3% of products are checked for quality parameters (such as sugar content, colour, shelf life etc.) and the price is determined. Each year, around 500 samples

are sent out to an external laboratory where further analysis is carried out. The cooperative is responsible for the packaging and distribution of the products.

It employs 14 permanent staff and around 400 seasonal workers from San Salvo. When the cooperative was first established the EU funded 100% of fixed investments. Now the EU gives 50% funding for the new investments.

The Cooperative exports 50-60% of its products mainly to Germany and England (other export countries include Denmark, Sweden, North and East European countries) and the rest goes to the local market.

The members of the group can buy the input supplies they need (fertilizers, chemicals, seeds etc.) from the cooperative at low prices since the cooperative buy these supplies in large quantities and then sell them directly to their members. The cooperative also owns a shop that sells products directly to consumers, and so obtaining better

Module 5
Financial Management

Objectives of the module

1. To help the trainee understand the importance and objectives of financial management for a commercial producer or cooperative
2. To enhances the commercial producer or cooperative members understand the principles applied in the implementation of a producer group financial management system and their application
3. To help the trainee to understand the use and application of common financial statement
4. Help the cooperative managers to understand how to manage capital, assets and credit

Contents

1. Setting the context
2. The role of financial management
3. Financial statements
4. Funding for Cooperative Enterprises
5. Risk and Uncertainty in Farming
6. Case study
7. Module assessment

1. Setting the context

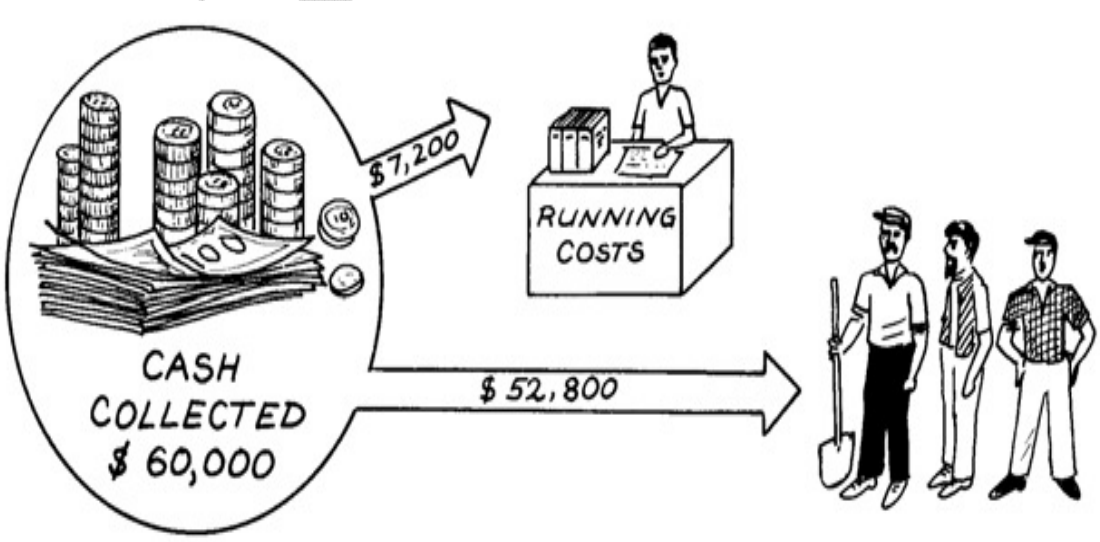
Financial management is a process of making decision on how to acquire and utilize financial resources effectively with an objective of maximizing the profitability of a business or maximizing shareholders wealth.

Financial management is one of the most critical and important activities for the successful management of cooperative business. It influences all important management decisions, financial and otherwise. At the same time, many cooperative managers, and even business owners, have had relatively little professional exposure to, and training in financial management.

Unless minimum financial performance levels are achieved, it is impossible for a cooperative to survive over time. At the same time, many cooperatives do survive for relatively long periods without satisfactory levels of profitability.

Financial management therefore focuses on what it entails to acquire adequate financial resources and how such financial resources will be managed to ensure good utilization. Cooperatives need to develop skills on ways of managing their finances to optimize their business and generating returns for members'. Without proper knowledge on financial management, groups will face challenges either in sourcing or in utilization of financial resources.

Financial management entails judicious management of financial resources



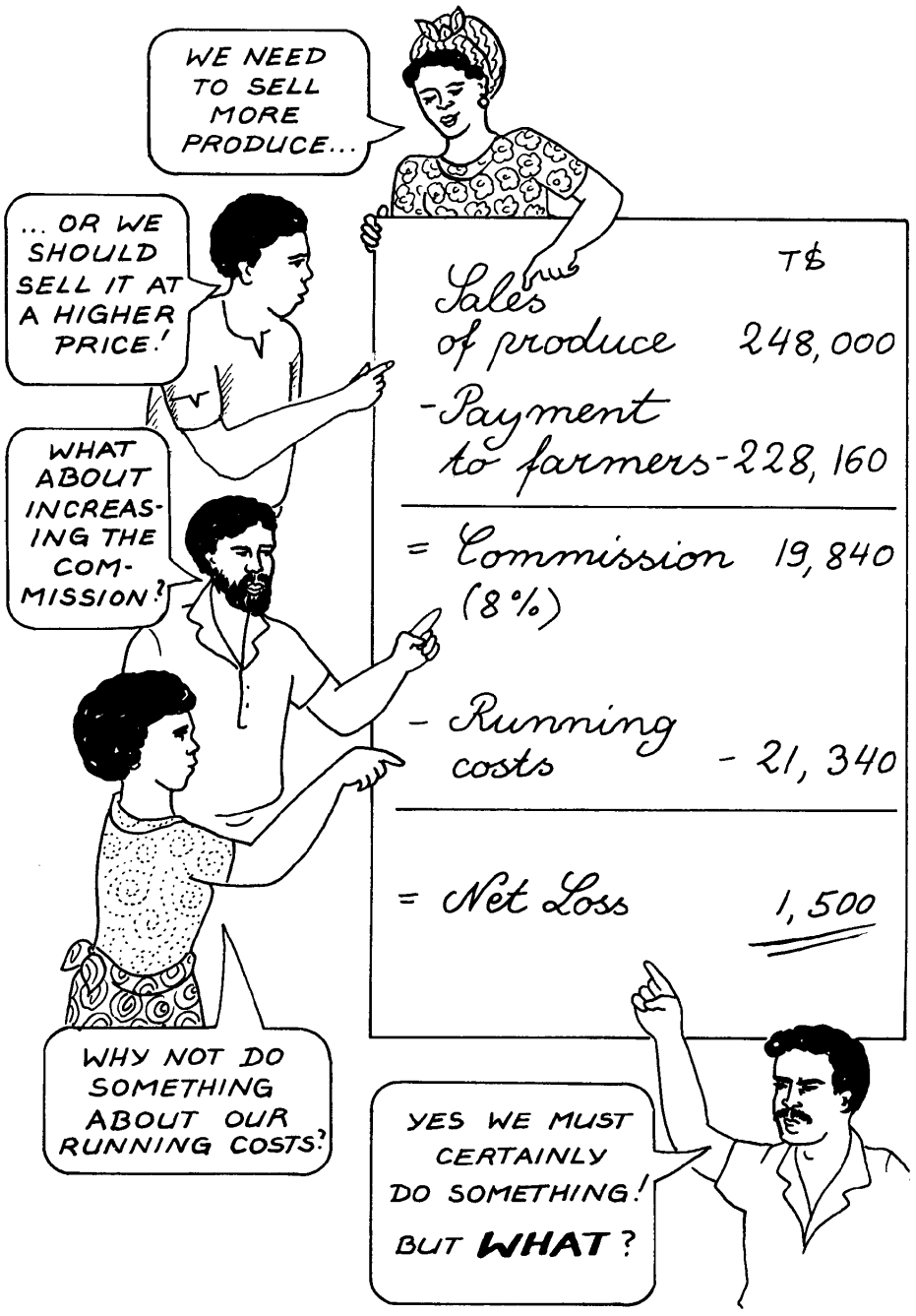
2. The role of financial management

Financial management for farmers groups or associations requires well defined policies, rules and systems necessary to ensure proper and efficient utilization of financial resources. This is meant to ensure a harmonized approach within the association while further fostering a well calculated integrated organizational system. Most specifically it determines and/or defines the means and tools for accounting and controlling financial resources and also sets up and harmonizes budgeting.

The above aspects are very critical to the success of any business; in the same way the cotton cooperatives should in their practices incorporate the principles. Finances in cotton corporative should be managed with respect to all the various activities from receiving members' contribution, sourcing of inputs, marketing income. Appropriate steps should be taken when making decisions on how and where each shilling is utilized. The members must as well factor aspects like expected cash flows and risks and consider ways in which finances can be applied to cushion any expected risk. Diversification options can be considered where farmers intercrop cotton with sunflower or other short term crop varieties to optimize total production or yield per unit acre.

Lack of proper financial management for group or cooperatives may lead to conflict among members

3. Financial Planning



The cooperative should work out a budget for all the operations to be undertaken and explain how the activities are to be financed. Whereas an accountant should draw this section the cooperative must participate. The financial plan should as well consider how the

finances will be managed to ensure a strong portfolio for the cooperative members. This should include a description of the control systems for the finances.

The financial plan is a key component of your business plan because the process of creating financial projections for your business revenues and expenses, cash flow, and financial position will oblige you to examine all the other key components of your plan. In doing this you will be able to describe your plan in financial terms and detect any discrepancies, gaps or unrealistic assumptions you have made earlier. The financial plan is also a valuable tool for creditors, investors or government agencies when evaluating your business needs and use of funds.

A concrete financial plan determines how to spend money wisely and make money work for the business

Cooperatives are unable to operate without proper finance. Inputs have to be bought and bills have to be paid. A basic understanding of finance enables a farm manager to make strategic decisions to ensure efficient operations. Important financial statements that you need to generate and understand for your business are balance sheet and profit and loss account

a) Budgeting

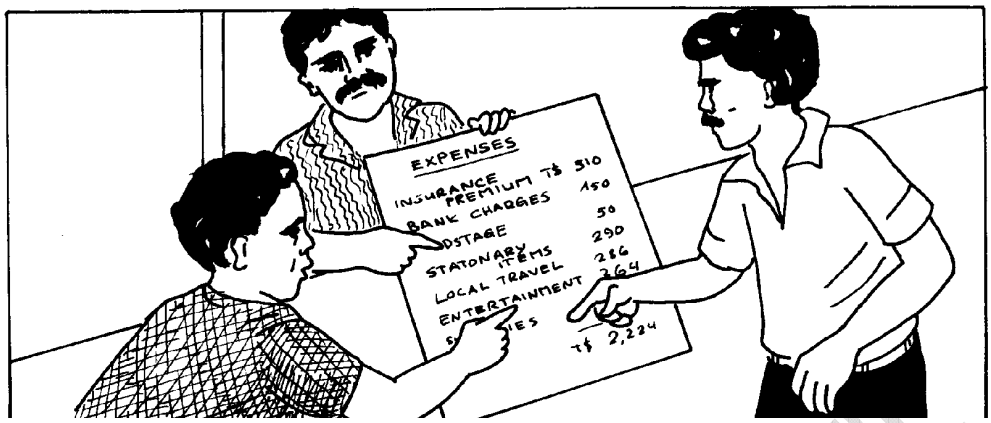
Budgeting is one of the tools for effective financial management and planning. It is also a simple tool, easily understood and widely used.

What is a Budget?

A budget is a detailed physical and financial plan for the operation of a farm or organization for a certain period. The aim of a budget is to compare how profitable different kinds of enterprise combinations can be. In a nutshell, budgeting involves considering the resources to be used, the choice of enterprises to be pursued and a calculation of expected receipts, expenditures and net farm income. Each line of the budget should give;

- the description of the goods and services required
- the prices of goods and services
- the quantities which will either be bought or sold in a given period, and
- the activity to which the total cost will be allocated

Understanding the importance of budgeting is essential for successful financial planning



Advantages of Budgeting

Some of the several advantages of budgeting are:

1. Budgeting assist managers to select factors of production more wisely.
2. As a planning tool, budgeting causes the cooperative managers to think more accurately, plan more carefully and completely. Through the process of budgeting, the manager refines his ideas and is better able to make more accurate decisions.
3. Bankers favor men who have written plans. A well thought-out budget creates a good impression on people and also gives the impression of a careful scrutiny of one's production and finances.
4. A budget is a money saver because it is cheaper to make mistake on paper than in practice.
5. Budgeting provides an excellent learning device for the student on how to organize and reorganize business enterprise.
6. Lending agencies use budgeting process as a basis for appraising the business of their clients.
7. Budgeting helps a manager to determine when to borrow money and how much to borrow. It can also help him in setting up repayment schedules.

b) Cash flow statements/ budgeting

A cash flow statement shows the amount of money coming into and going out of your business over a period of time. A forecast of cash flow enables you to decide what you can afford, when you can afford it and how you will keep your business operating on a monthly basis throughout the year.

For a cotton cooperative dealing with the production and selling of seed cotton, the revenue will be realized by determining the volumes of the same realized [total yield] times the monetary value per unit yield. It is important however to note that revenue in itself does not have real sense since it normally carries with it a component of costs

or expenses incurred in producing and availing such products to the market. Thus the cotton producer should factor all the costs incurred and use this to determine the profits which refers to his or returns on investment. To do this the producer can work estimates on the basis of I acre piece of land production, consider the monetary value of all the inputs and compare them with the monetary value of the yields realized from the same piece of land.

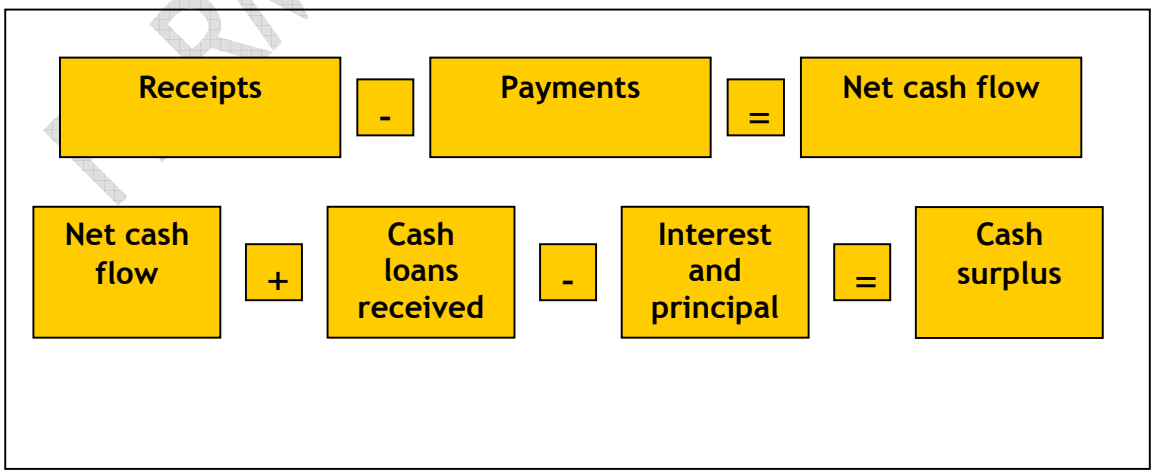
Income diversification for the farmers and for the cooperative

Cotton cooperatives must seek the various alternatives of making sure that other than just planting cotton as a stand alone other enterprises are also considered within the same piece of land to optimize returns on a unit piece of land implying a number of product lines. Maximizing return on investment thus calls for a strategic thinking that is open to the various ways of doing business in a more effective and efficient way [refer to strategic options discussed in the marketing manual].

Cash flow analysis is important in farm management for two main reasons:

- It provides information on income and expenditure that can be used to assess how profitable a cooperative has been (or is expected to be) in a given period.
- It enables sound management of the financial side of the cooperative business, ensuring that the farmer has sufficient liquidity to meet his or her obligations.

The concept of cash flow is best described through various cash flow measures, represented below:



The first row shows how to derive the *net cash flow* of the cooperative as the total receipts from all operations minus the total payments

made to undertake these operations. This equation can be expressed for different periods, from a week to many years. The choice of period depends on what information the cooperatives want from the analysis. A farm plan for the next year might need a cash flow budget with quarterly intervals. Annual intervals are likely to be used to plan the introduction of a new long-term enterprise, such as a tree crop or intensive livestock enterprise.

Where the cooperative has borrowed money to conduct these its operations, details are needed on how much has been borrowed during the period of analysis and how much has been paid to the lender in interest and principal repaid. These transactions are shown in the second row. The result is called *farm cash surplus*.
The structure of a cash flow statement on a quarterly basis is presented in the following table:

Cash flow	1st Q	2nd Q	3rd Q	4th Q	Total
A. Production activities					
(+) Revenues from customers					
(+) Other revenues from production					
(-) Payments to suppliers					
(-) Payments to employees					
(-) Payments of taxes					
(-) Payments of interest					
(-) Payments of overheads					
…….other					
A. Net cash flows from production activities					
B. Investment Activities					
(+) Revenues of sold assets					
(-) Purchases of assets					
……other					
B. Net cash flows from investment activities					
C. Financial Activities					
(+) Revenues from loans					
(-) Loan Repayments					
(+) Stakeholders capital contribution					
……other					
C. Net cash flows from financial activities					
TOTAL (A+B+C)					

You can use the above structure to prepare a cash flow statement for your own business. But customize the statement according to your special needs.

Investment budget forecast and financing schedules

Investors and lenders may require detailed information on the capital purchases that are anticipated during the planning period as well as information on how these assets are to be financed and their expected useful life. Capital assets include land, buildings and equipment. Information can be presented for a new business where forecast values can be given, or for an established or expanding business, which would detail just the changes anticipated. An investment budget can be prepared using the table below:

Investment budget forecast

Type of expenses	**Description**	**Cost factor**	**%**
Land purchase/ Renovation			
1.			
2……..			
Total			
Machinery/ Equipment			
1.			
2……			
Total			
Operational cost			
1. Supplies			
2. Labour			
3. Overheads			
4. ……..			
Total			
Total cost invested			

A financial schedule provides a summary of existing and new loans that will be taken by your business. Information should include the interest rates being paid, frequency of payments, security given, type of loan and expected term of a loan. The name of the financial institution should also be indicated. The following table provides a simple structure for a financing schedule.

Investment financial schedule

Sources of funding	**information**	**Total amount (value)**	**%**
Your own capital			
Loan financing (types of loans, interest rates, term, name of financial institution etc.)			
Funding from state/grants			
Total			

4. Funding for Cooperative Enterprises

Before applying for a loan some of the key areas that the cooperative needs to address include;

1. Prepare a good business plan!
2. Conducting appraisal for the co-operative?
3. Credit management skills available with cooperative management
4. Identifying various types of business finance available.

i. Co-operative or group appraisal

The purpose of appraisal is to enable the group or cooperative determine their credit-worthiness. This process is important as it reinforces personal assessment done on the loan application, feasibility study of the business, business records and business plan. During self-appraisal, the cooperative tries to identify the following:

- Their skills and competency in the running of the cotton business
- Past experience or information especially on handling loan
- Farm business performance in terms of sales volume for the past and current period. Past business records are good source of this type of information.
- Availability of real assets at the disposal of the group that can act as a collateral
- Members' ability to access funding from other sources.

Getting funds enables cooperatives to be able to expand and meet emerging challenges as well us fund new ventures

ii. Specific Questions for assessing the cooperative

- Does the cooperative currently showing a lot of profit or losses ,
- Why is the cooperative not making profits or making losses
- Is the current cotton market sufficient
- Which plans do the co-operative have for repayment of this loan
- Is the co-operative financial forecast well done?
- Amount of loan to go for to avoid excess/ deficit funding or defaulting

Factors to be considered during cooperative's appraisal:

- Ability to achieve set goals
- Level of entrepreneurial motivation
- Readiness and attitude to take risk
- Ability to manage and repay the loan
- Members' commitment and confidence with operation of the cooperative

- Competency and efficiency in planning and implementation of plans
- Purpose of loan: This is to determine the type of loan e.g. short-term or long-term to go for and if loan will meet the objectives
- Collateral for the loan: This is to determine how much assets are at group's disposal, which can be used as collateral.

iii. Acquiring and applying credit management skills

Loans need to be well managed to ensure that it is used for the purpose for which it was obtained and that repayments are promptly made. The cooperative has to appraise itself on the technical ability of her members to do this. An accountant may also be required to help the cooperative manage the funds where the technical expertise can not be internally obtained.

In some instances borrowed money has been diverted into unplanned use undermining the business and its capacity to repay the loan. This among other things calls for need for the cooperative staff to institute structures and have some of their staff trained on the basics of managing credits.

iv. Identifying various types of business finance

There are various source of finance and the cooperative must consider the various finance source options and evaluate them against a set down criteria. It is important to determine those factors that are critical to the group in sourcing the fund while also considering the cost of borrowing. This will help the co-operatives get loan from the financial services providers with most favorable services.

Group exercise

1. Member to discuss their past financiers and their experiences. The discussion should focus on the requirements, the challenges and their thoughts on future financing.

Major sources of funding for cooperatives

TYPES OF FUNDING	ADVANTAGES	DISADVANTAGES
A. Personal savings	1. Keep all of the profit.	1. Chance of loss
	2. Reduce amount of debt.	2. May force personal sacrifices.
	3. Care taken to avoid loss by provider	3. Loss of return from use of savings in farming
	4. Shows good faith at any potential farmer.	
B. Donations	1. Easy source of cash.	1. Risk of destroying personal relationship.
	2. Less pressure and restrictions.	2. Many encouraged unwanted involvement in your farm.
	3. Informal arrangements.	
	3. Share financial risks.	
C. Incorporating the business	1. Raise large amount of cash.	1. Give up part of the profits.
	2. Share financial risks	2. Give up share of control and ownership.
	3. Reduce legal liability	
	4. Tax savings.	
D. Working with financial institutions	1. Quick and easy to obtain.	1. Interest costs are high.
DEBT FINANCING (including all forms of borrowing)	2. Maintain control and ownership of the farm business.	2. Risks that future profit will not cover payments.
	3. Repay at more advantages times	3. Easy to abuse and overuse.
	4. May save money.	4. Must share financial and confidential information.
	5. Costs are tax deductible.	5. Lender may impose limitations or restrictions on borrower.
	6. Inflation allows repayment in cheaper currencies.	

Group exercise

2. Groups to discuss some of the challenges of managing funds from different sources i.e. Members Savings, Donations and loans

i. Types of business finance

The possible sources of finance that can be exploited by businesses, producer groups and cooperatives include;

(a) Short term funds

These are funds from external sources used in the farm and are payable within a period of one year. This includes; bank overdraft, bank loan, borrowing from private sources, e.g., family, friends, and relatives.

(b) Medium term funds

These are funds from external sources used in the farm and are payable within a period of 5 years. For example: bank loans, and loans from non-bank financial institutions such as, small enterprise finance company (SEFCO), industrial commercial development corporation (ICDC), agricultural finance corporation (AFC) industrial development bank (IDB), Kenya industrial estates (KIE), rural development fund (RDF).

(c) Long term funds

This are funds from external sources used in the business and are repayable for a period exceeding 5 years. For example bank loans and loans from non-bank financial institutions, ICDC, IDB, KIE, and AFC.

Some Institutions, Which Train and/ Or Lend Money to Small Scale Enterprises in Kenya, Are;

1. Rural Private Enterprise Project
2. African Project Development Facility
3. Partnership for Productivity
4. Undugu Society
5. Women Enterprise development
6. K-Rep Bank
7. FAULU Kenya
8. Kenya Women Finance Trust (KWFT)
9. Small & Micro-Enterprise Program(SMEP)
10. KADET
11. OXFAM

Group activities

Request each group to design a financial plan for their cooperatives. Each group makes a presentation on the basis of which discussions are made.

5. Illustration

Mr. Wanjau who has been working for a manufacturing company at Nairobi. He retired last year after having served the company for 20yrs. He relocated and went to live with his wife in up country. He decided to begin a small business of selling clothes. So he took part of his benefits and bought his first stock. He also decided to employ a young gentleman who would help him in the daily running of the business. This shop was a welcome idea and every one in the village was happy that finally one of their own had decided to bring them services closer home. With time he had to restock his business. So he went and took a portion of his benefits again to add on his working capital. This concerned his wife and she requested him if he could first try and reconcile his accounts. He brushed this aside and said he knew what he was doing, and that all monies spent on the business was inside this new business and there was no cause of alarm. This did not please the wife and she continued to insist that he needed to have a system of expenditure. All this fell on deaf ears.

One day a long time friend of Wanjau came by and was impressed by the fantastic choice of clothes that his friend had. He then requested to pick a few pieces but to pay latter since that day he was not prepared. That same day his land lord passed by to collect rent and he paid him from the sales he had made on that day. Unfortunately Wanjau forgot to note this expenditure some where, thinking that he would remember.

This business became famous and people would pop in anytime to great him. He would buy them tea and snacks using his days sales. This he did for many days and this accumulation of irregular expenditure ate into the business capital without his notice. He tried to balance his accounts but could not trace where he had gone wrong. Since his working capital had dwindled he had to close down business leaving him poorer than when he began.

Exercise:

1. Describe the business character of Wanjau
2. Why did Wanjau business collapse and what is the role of friends and how should we treat them.
3. If you are to advice Wanjau what are some of the measures he would take.

6. Module Assessment

1. Explain how financial management is relevant to matters of cotton cooperatives

2. What factors will you consider in the identification of a financier for your cotton cooperative?

3. Why is an appraisal important in sourcing of finances for use by a cooperative?

4. What are the benefits of budgeting for cooperatives

Module 6
Marketing

Objectives of the module

1. Understand the importance of effective marketing to cooperatives
2. Know how to prepare a marketing plan
3. Understand how to undertake simple but effective market research
4. Understand the relative importance of product quality
5. Determine appropriate channels for distributing products to customers

Contents

1. Setting the context
2. Definition of Marketing
3. Market research
4. The marketing plan
5. Components of a Marketing Plans
6. Marketing Channels and Selling Options for cotton farmers
7. Case study
8. Module Assessment

1. Setting the context

The cooperative should clearly identify and describe the targeted customer(s). In our case, ginners comprise the main buyers especially for seed cotton; however for processed products other secondary buyers will have to be considered. The cooperative should also clearly identify the other movers or dealers of similar or substitute products and further provide a description on how the competition is to be handled.

Pricing is a marketing aspect requiring great attention from each group. Cooperatives should consider pricing strategies that competitively attract customers while creating the anticipated incomes to the cooperative members. It is however worthy noting that prices within the cotton sub sector have in the recent past been market determined (globally) leaving the cooperatives with the option of efficiencies for competitive advantages.

Consumer awareness partly influences the rate of consumption and thus a good business plan for the market group should clearly describe the promotional tools, channels and campaigns to be applied. Customers may not be confined in a similar place thus the need to identify capable distributors.

2. Marketing Concepts

2.1 Definition of Marketing

Marketing is the process by which a farmer seeks to maximize the return from farm production by providing buyers what they want and supplying it at a profit. The process involves – commodity or crop selection for the market (varieties, etc.) identification of any special field procedures, post- harvest handling, packaging, transportation and storage to meet the market requirements combined with techniques for minimizing product losses and maintaining the quality of produce. Sometimes the marketing process also involves **value adding** through grading, packaging and/or farm processing the product.

Marketing is the series of activities and services relating to moving a product from the point of production to the point of consumption

The Most Important Elements of Marketing

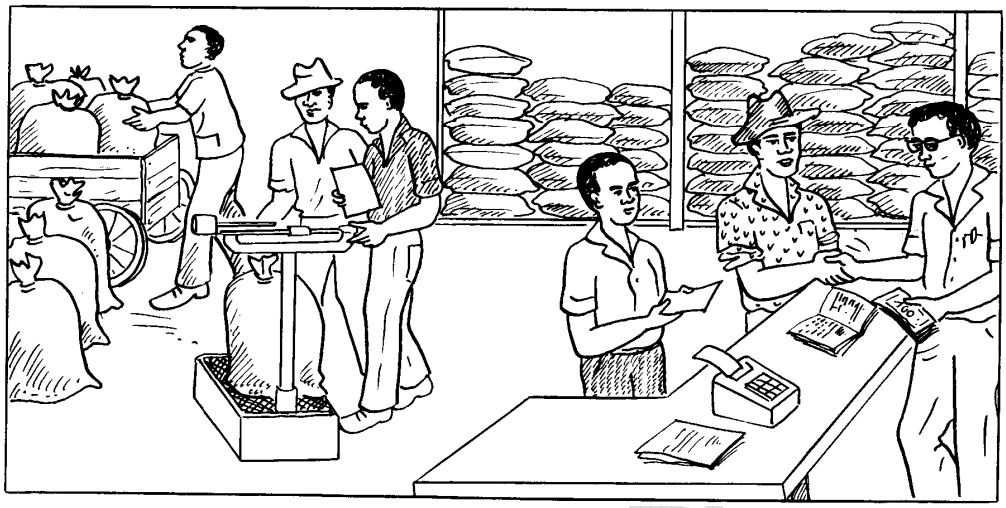
There are four important elements in the marketing process:

- **Prioritizing the customer:** Marketing begins with the customer, not the product. Knowing what the customer needs or wants is essential.
- **Process of selection:** The farmer needs to know who to sell the product to. This will determine how and where the produce is marketed.
- **Promotion:** The farmer is selling something that other people want to buy. Naturally, it is helpful to let them know that the product is available and of good quality.
- **Trust:** Good marketing occurs when the customers trust the farmer. The customer should feel they are not being cheated and they are getting value for their money.

In thinking about these elements, farmers need to ask themselves about the six Ps:

- **People:** Who are the customers? What do they want or need? Who is actually going to market the product?
- **Plan:** How is the product going to reach the selected customers? What are the steps?
- **Product:** What product is going to be marketed? Is the family producing what the customer wants? What services (for example, a cooked product), if any, are requested by the customer?
- **Place:** Where is the product going to be marketed?
- **Price:** What price will the product be offered on the market for?
- **Promotion:** How are people going to be informed that the product is available?

The answers to these questions require a farmer to obtain market information and advice, to do market research and to develop a marketing plan.



3. Market research

Developing a marketing plan starts with analyzing the market to see your market, your competition and consumer trends to be able to forecast potential sales volumes and prices. You can conduct market research yourself or contract research agency. But avoid gathering facts for the sake of it – look only for what you can use. In particular it is vital to build up a clear picture of who your customers are.

Exercise:

i. Who are the current and potential buyers in your identified market?
ii. Where are your customers located?
iii. Who makes the buying decision?
iv. Can you get an adequate share of the market by offering a better product or service than competitors? What are your unique or different sales advantages?
v. What do your customers need in terms of product features and quality?
vi. How best to grow, price, promote or distribute your product to your preferred market?

Market study should be a short exercise so as to keep the costs low, but time and effort spent on reliable research of the market will be rewarded

You can also get information about existing and potential customers from a variety of desk based sources, such as:

i. Your own farm such as invoices, dispatch notes, mailing lists or sales statistics
ii. Competitors catalogues
iii. Specialist libraries
iv. Government trade desks and Chambers of Commerce
v. Embassies
vi. United Nations and World Bank statistics and reports
vii. Indexing services and abstracting from business newspapers and magazines
viii. Government statistics
ix. Trade associations
x. Trade and technical journals
xi. Market research reports
xii. The Internet
xiii. Banks and accounting firms

4. Marketing plan

The purpose of a Marketing Plan is to:-

a) Define the Market
b) Refine the Production Plan to market requirements
c) Develop a marketing strategy
d) Minimize risk

a) Defining the Market and Commodities-

Market demand and prices -An assessment based on published market information , discussions with local extension staff, farmers, dealers and buyers of the commodity of the likely demand and prices on offer during the year and during any period of seasonal shortfall.

Market Requirement- Varieties, size, grading, packaging, maturity demanded by the buyers in the particular market.

b) Refining the production plan

i. Crop timing There should be an accurate assessment as to when the crop will be ready for harvest.

The marketing plan consists of a set of objectives, strategies, and tactics which will help the farmer make production and marketing decisions.

ii. Post Harvest handling-Quality Grading Packaging and Presentation

• What are the quality, grading and packaging requirements of the specific target market?

• How will grading and packing be done? What are the costs?

iii. Transport and Storage

• How will commodity be moved to the target market? Costs per kg?

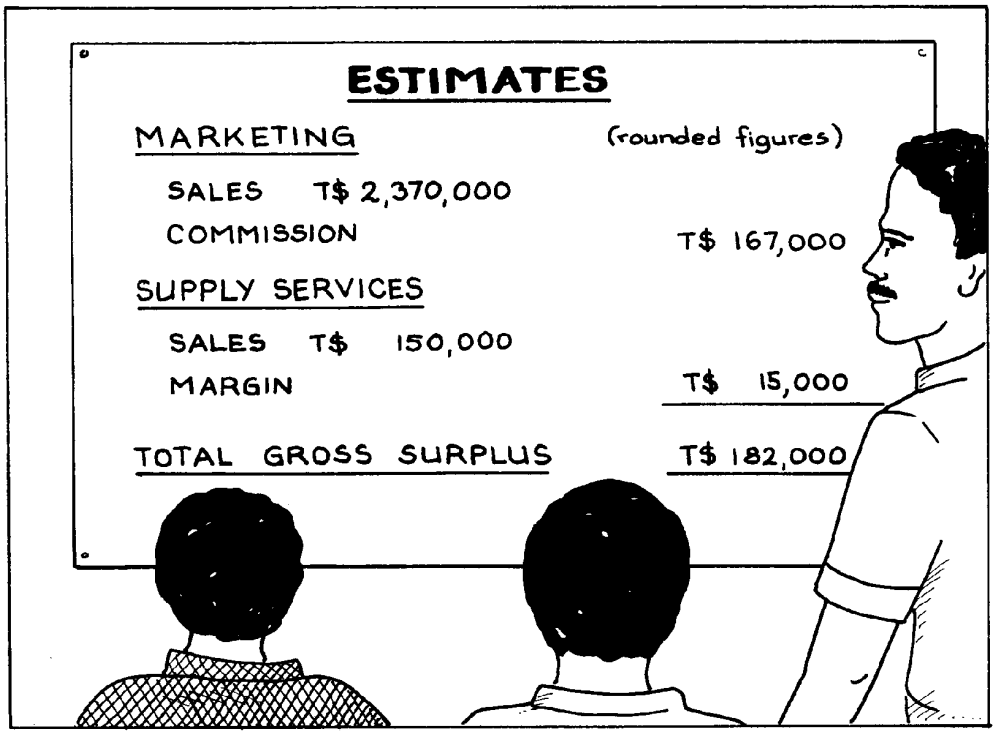
• Storage. Will cold storage or other storage be required? Where / Costs per kg?

c) Developing a Marketing Strategy

i) Cooperative marketing or use of an agent or dealer?

ii) One market or Various Markets?
All production/grades sold to one target market or the products sold to various markets.

d) Marketing risks –
Risk of not being able to sell all production can be reduced by using various target markets. Risk of increased costs and reduced returns with greater time spent on product preparation selling delivery and other marketing. Risk of reduced prices from negotiating for sale of smaller quantities



5. Components of a marketing plan

A good understanding of marketing planning should help an entrepreneur/ cooperative to;

- Clearly State the importance of a marketing plan
- Write a marketing plan of his/her agribusiness / small holder business

I. Situation Analysis

Situation analysis in cotton farming business should detail the current situation facing the business. This entails doing a SWOT analysis of the forces within and outside cotton business that affect it; the internal and external situation is assessed. Internal situation involves all those factors or parameters within the control of the business including resources, people, equipment and machinery among others.

The analysis should provide information on the following;

a) Marketing Situation

Information on;

- Markets segments –
- Customer needs, requirements and specifications

- Attitudes,
- Size of customers' business capacity; cotton ,
- Buying patterns and other factors that may affect the customer purchasing behavior

b) Production Situation

Analyse the type(s) of product(s) produced and marketed by the business, in this case cotton cooperative.

- Analyse the performance of the product(s) in terms of prices, sales, and profit margins

c) Competitive situation

Analyses the major competitors; cotton imports, other cotton cooperatives/unions in Kenya

- their market shares,
- their marketing strategies,
- their strengths and weaknesses

The business assesses its own strengths which typically emanate from the company resources such as financial, human or physical resources. Weaknesses emanate from inadequacy of the business in given areas.

Opportunities refer to those external attractive areas for business marketing action in which the business can enjoy competitive advantage. A good marketing opportunity must be compatible with company resources and objectives. Analysis of market opportunities is vital in the identification of profitable sectors to enter.

d) Distribution

This describes the recent development in the major distribution channels and their recent sales trends

II. Marketing Objectives

After situation analysis, the next task is to establish specific marketing objectives. Cotton marketing objectives should be stated both for the long and short-term. Long-term objectives tend to be broadly worded statements which provide a general direction for the business. The short-term objectives are more specific as to what the business wants to achieve. Marketing objectives can be stated in terms of sales volume, market share, profits or return on investment.

III. Specification of Target Markets

The marketing plan should identify the target markets or segments. It is important to stipulate the target markets as they shape all activities within enterprise.

IV. Development of Strategies

The plan will also stipulate the operating strategies. Using the objectives set earlier, the marketer decides on specific strategies that need to be implemented to achieve specific objectives.

Objective: Increase sales revenue by 15%

Strategy Statements:

Target market	Companies with particular emphasis on cotton products.
Product line	Add two processed products.
Price	Price above competitive products.
Distribution	Increase effort to penetrate export markets.
Promotion	Increase sales promotion budget by 15% to develop product awareness.
Advertising:	Develop a new advertising campaign directed at the target market that supports usage of product. Increase advertising budget by 20%.

Group activities; Divide the participants into three groups and let each of the groups draw a marketing plan for their cooperative. Let each group present their plan

6. Marketing Channels and Selling Options for Cotton Farmers

Group Activity

Participants to discuss their cooperative marketing activities and present these activities in a plenary for discussion

When marketing a particular product, the co-op must not only take into consideration how much it will cost them to produce it but also the costs of getting it to market.

i. Farm Gate Marketing

This is marketing done by the farmer at the place where the product is produced – from the "farm gate". Consumers come to the farm to buy produce.

Advantages of farm gate marketing:

- no transport costs;
- can be marketed by the farming family, thus costs are reduced;
- better suited to the small-scale farmer.

Disadvantages of farm gate marketing:

- farming family must accept the local price for their produce which may be lower;
- farm may not be well located to market the product
- once the local market's demand is supplied, the farmer has to look to more distant markets.

Numerous intermediaries can be found between the grower and the consumer, but the length of this path will depend on the product and the target market.

ii. Sales to Local Dealers, Packers, Exporters

There are usually dealers in any area willing to buy produce directly from farmers. These may be merchants who sell to exporters or larger institutional buyers or to urban markets. In some cases they may be acting as agents for a processor.

Advantages:-

- Produce can be delivered locally so transport is less
- Larger volumes can be sold
- Farmer does not have to spend time in marketing
- Production can be of only one or a few commodities

Disadvantages:-

- Price will be less than direct sales to consumers as the dealer's profit margin and handling and transport costs will be reflected in lower prices offered

ii. Export Markets

Because of the complexity and risk of exporting produce, small farmers and small groups of farmers are advised to sell export produce through established exporters or traders rather than attempting to export them:

A decision to supply to an export market will mean significant changes in the Farm Business

iv. Contract Marketing

The farmer markets directly to a buyer under a contract arrangement. Agreements may be formal i.e. a written contract or informal. The contract arrangement usually covers the quality requirements of the buyer as well as the quantity, timing, method of delivery and packaging.

This arrangement may be with:

- A major user e.g. ginneries.
- Merchants or dealers, locally or in an urban market who may subsequently sell the commodity by retail or export or to another merchant or to processors or exporters.

In some situations other models of contract arrangements may apply including inputs such as seed, fertilizers, and packaging materials being supplied by the buyer of the farmers produce.

Trainers notes: Further notes on Contract management and contract farming is in module 7

Group Activity

1. Discuss how different cooperatives are marketing their cotton and the challenges they are facing
2. Discuss the measure that the cooperative have put in place to enable them to overcome these challenges

v. Co-operative Marketing

Co-operative marketing by a number of farmers or a formal farmer marketing group may mean markets which an individual cannot supply can be supplied. If some post harvest processing or packaging is

required then this can be done for a larger volume at a lower per unit cost.
A farmers' association may also get together and jointly market their crop in a formal market.

Advantages of co-operative or communal marketing:

- Wider market opportunities
- Lower costs per unit for post harvest handling and transport
- Lower marketing costs overall
- better prices and smaller price fluctuations;
- Builds solidarity among farmers.

Disadvantages of co-operative communal marketing:

- Returns may only be as good as the management of the group/co-operative
- The farmer does not have as much say on final markets and prices
- Constant supply is needed;
- Prices must be flexible.

Collective action has been exercised by some farmer associations mostly at production and value addition technologies adoption levels but less in marketing. Collective actions in marketing of cotton products can be achieved through strategize collective marketing. Collective marketing involves the sharing of common resources and pooling of abilities which enables a group of people or cooperative harness synergies thus servicing a certain market demand competitively. This was one of the main reasons behind the formation of cooperatives where the various members' competences or strengths are put together to enhance their trading capacities.

Some collective key words to be observed by the cotton cooperative include;

(a) Pooled skills and abilities

i. Bargaining power for inputs, cotton association can reduce the cost of doing business by pooling their resources and buying inputs collectively through quantity discounts and bargains for ,reduced prices and quality inputs – fertilizers, production tools, technology etc
ii. Bargaining power for markets, cotton associations selling market intermediaries can bargain on the basis of volumes supplied to get better prices form bulk buyers thus getting huge market share.
iii. Ability to service a huge order; Most of producers in individualized marketing systems also produced in haphazard manner

and thus can sustain market demand. Thus through collective marketing, associations schedule their cotton production to get bulk seed cotton in bulky to service huge order and keep all ginneries running.

(b) Common Resources

1) Common land and ecological conditions; Cotton producers and societies can utilize the common opportunities such as land and climate to get optimal returns.

2) Receiving common training at reduced cost or at no cost on marketing and enterprise development

3) Share common inputs and equipments like ginneries and oil processing that can be acquired through capital building or through loans for collective use.

4) Share cost of marketing operation include; (a) transportation from farms, society stores, union stores to ginneries and other buyers factories (b)Communication; Marketing sub-committees communicate with buyers rather than every producer calling market intermediaries and marketing personnel (c) Share common facilities; Cotton producers can share (d) bulking facilities and stores (e) Ginneries (f) sheds and equipments (g) Sharing duties and assignment among the group members (h) Access of credit facility for the groups' members through group guarantee system that is prevalent in Kenya MFI industry.

(c) Servicing Common Market demand

This concepts outlines the basic requirement for a market led production process for cotton or any other agricultural commodity which must based on demand. Key things that cotton association should put in considerations are;

i. Demand size for association, union or society.
ii. Producing common product(s), all association members must agree to produce or process similar products.
iii. Collective production system

(d) Maintained Competitiveness

Cotton associations achieve competitiveness and satisfy cotton products buyers by;

i. Ability to maintain consistency in supply as a result of scheduled production and ginning
ii. Minimization of risk i.e. lowered production as a result of unforeseen risks or poor planning shouldered
iii. Ability to sell to the outlets and eventually to consumers at lower cost as a result of synergy from common resources sharing.

Group activities: What are the market channels for supply of cotton to the buyers. Discuss the advantages and disadvantages of the listed channels

7. Case study

Cotton contributes about 14% of foreign exchange earnings to Tanzania's economy. More than 95% of Tanzanian cotton is grown in the Western Cotton Growing Areas while the rest comes from the Eastern Cotton Growing Areas. Cotton production is dominated by smallholder farmers, harvesting on average 600kg seed cotton per hectare.

The cotton pilot is currently only operating in Moshi. The Tanzania Cotton Board is currently running the ginnery on a short-term lease from the Kilimanjaro Native Cooperative Union (KNCU) who in turn is offering toll (contract) ginning services to primary societies. The main depositor is the Oridoyi Rural Cooperative Society (a smallholder primary society) from Manyara Region in Eastern Tanzania.

The Oridoyi Rural Cooperative Society was established in 1995 and has a current membership of 600 farmers. The Society began using the warehouse receipt system (WRS) to market their cotton in 2003/04 season. The process of depositing involves the primary society sending seed cotton to the Moshi Ginnery. Because of the toll-ginning service offered, the primary society is able to use the deposited seed cotton as collateral, allowing them to obtain finance of TZS390 million in the 2005/06 season from the CRDB Bank. The loans obtained are used to make initial payments to the members. The initial payment to the producer is often set close to the minimum price set by the Tanzania Cotton Board at the beginning of each season.

After ginning, the primary society markets the lint and cotton seed. In the 2004/05 season, the group was able to market cotton lint directly to a UK-based merchant, with the assistance of the Tanzania Cotton Board. Proceeds from the sales are channeled through the bank, allowing the bank to recover loans and related interest costs and charges. The balance is credited to the primary society, which deducts operating and administration costs after which point it can opt to make a second or third payment to the depositors. During the 2003/04 season, the society financed expansion of area under cultivation by about 4 hectares for each member from the profits made from the sale of lint and cotton seed. This explains the substantial increase in output the following season (2004/05) as shown in the Table below.

Season	Seed Cotton Deposited under WRS (kg)
2002/03	103,273
2003/04	229,470
2004/05	826,000
2005/06	1,200,000

However, the WRS cotton pilot was seriously hampered by the use of old gin stands which were in operation at the Moshi ginnery. Following recommendations by the WRS project, four gin stands were imported from India with funding from the Ministry of Cooperatives and Marketing (MCM). This installation of new gin stands improved ginning efficiency substantially. The efficiency in ginning is expected to substantially increase the net income of the depositors, through reducing the cost of servicing loans and obtaining higher lint quality.

The main challenge for the WRS Project team is to expand use of the system to the Western Cotton Growing Areas. The LMU continues to work tirelessly to replicate the Oridoyi success story in the West. Further to this, there is need to identify ginners willing to provide toll ginning services to the farmer groups intending to use the WRS. The financial benefits of a ginner providing toll ginning services to producers, and for cotton producers to market lint cotton instead of seed cotton is being explored.

Source: http://www.nri.org/projects/wrs/tanzania.htm

8. Module Assessment

1. Evaluate distribution channel options for a cotton cooperative giving their advantages and disadvantages

2. How possible is for our cooperative to engage in collective marketing?

3. What major steps should a cooperative consider in the preparation of a marketing plan?

Module 7
Operation Management

Objectives of the module

1. To introduce the trainees to the general principles and activities involved in operations management/ logistics
2. To help the trainees to conceptualize the cotton business, its processes, activities and interrelationships.
3. To help enhance the trainees capacity in the prioritization and organization of activities related to the cotton business
4. To help enhance trainee practical skills in operational management

Contents;

1. Setting the context
2. Scheduling of activities
3. Procurement processes for cotton
4. Logistics and transport management
5. Information management systems
6. Human resource management
7. Controls and coordination of activities
8. Evaluation
9. Illustration
10. Module assessment

This module is designed to provide a basic framework for understanding operations management and its organizational and managerial context

1. Setting the context

Businesses exist for the main purpose of producing goods and services aimed at addressing customer needs and wants. To do this there is a wide range of activities and processes which are involved in a systematic and controlled manner for assured effectiveness and efficiencies. The success of any business will largely depend on how such processes and activities are coordinated and integrated. Operational management on one hand will be concerned with a detailed analysis of a business' supply chain resulting into the identification of the various steps necessary to addressing business goals and objectives.

Farmers and farmer associations must embrace this concept by first enumerating all the activities that must be undertaken at the various stages and prioritize them. Planning is of critical importance in operations as resources are consumed. The cotton cooperatives must as such identify the various processes involved from the purchase of farm inputs to marketing. In addition, they must enumerate all key activities that must be undertaken for each process which then guides the allocation of resources.

Prioritization and enumeration of all activities involved in the cooperatives must be done before any operation system can be put in place

Group activities

Discuss the roles and responsibilities of their various cooperatives and the services that members expect to receive from the cooperative.

Discuss the major challenges that prevent cooperatives from delivering the services.

2. Scheduling of activities

Planning and managing cooperative activities from the farm level to the end of the cooperatives role in the activities will ensure that all task are well coordinated. To be able to properly monitor the produce and maintain high quality cotton the following activities must be properly planned and monitored;

1. Land preparation
2. Planting
3. Weeding
4. Harvesting
5. Packing
6. Transport to receiving point
7. Weighing
8. Grading
9. Valuing
10. Paying

All tasks involved should be carefully identified and responsibilities allocated to individuals who are competent to enable completion of the tasks assigned

A schedule covering these entire tasks will greatly enhance the cooperative reputation and profitability. These are some of the basic considerations that must be made by the cooperative management while making schedule of activities for the different levels of cotton production. These include:

1. Land preparation
   - ❖ When will land preparation be done?
   - ❖ Will the cooperative coordinate land preparation?
   - ❖ Will the cooperative provide machinery/tractor?
2. Planting
   - ❖ When will the planting be done?
   - ❖ Are input required like seed or fertilizer be provided by the cooperatives?
   - ❖ If the cooperative does not provide input then how will they ensure the farmer get the input and plant in time?
3. Weeding
   - ❖ When is the weeding to be done?
   - ❖ Who will coordinate weeding activities?
4. Harvesting
   - ❖ Members do it.
   - ❖ The cooperative does it.
   - ❖ How is the quality monitored
5. Packing
   - ❖ The members provide it.
   - ❖ The cooperative provides it.

- ❖ Who provides the packaging materials

6. Transport
   - ❖ Members provide it themselves.
   - ❖ The cooperative hires a contractor to provide it.
   - ❖ The society provides it with its own vehicles.
7. Weighing, Grading and Valuing
   - ❖ The members observe it.
   - ❖ The members rely entirely on the cooperative and do not observe it.
8. Paying
   - ❖ Cash on delivery.
   - ❖ Cash at a later date.
   - ❖ Cheques at a later date.
   - ❖ Who is responsible for making payments

It is equally important to note that it may be necessary to consider preparing schedules of activities that target specific farmers or a group of farmers who are involved in the activities at the same time. The activities must be properly planed and responsibilities allocated to the appropriate individuals i.e. farmers or cooperative staff member

Some general principles for making a schedule:

- Be realistic in scheduling. A schedule shouldn't be an unattainable wish list, but a real guide to help you plan farm activities well.
- Be flexible in following your schedule. From time to time, things will come up that require you to deviate from your schedule.
- Evaluate your schedule periodically every couple of weeks, look over the farm schedule and evaluate the progress of the planned activities. Revision may be necessary.
- As you evaluate the schedule of activity the farmers must keep in mind that there are other farm management operations that cannot wait.

3. Procurement processes for cotton

3.1. Determining the best alternative of procurement

The major concern of cotton procurement is the cost of getting the cotton from the farmers to the cooperative and eventually to the market. Managers of cooperatives must determine the cost of alternative collection systems that may be available to them and choose the most cost effective methods of procurement. The procurement system that is chosen must be for the benefit of the members as well as be financial viable for the cooperative.

Example

The different alternatives could be;

System A: One central collection point costing KSh 5, 000 a year to run for the cooperative.

System B: Ten village collection points costing KSh 1, 000 each to run for the cooperative.

With these two options it may be obvious that the cooperative will save money if system B is selected. However, it will be important to consider the cost that the members of the cooperatives may have to incur in order to deliver cotton to the collection points. If the following costs were involved for the farmer while using the following systems;

System A: It will cost you KSh. 20 to deliver your crops to the Central Collection Point.

System B: It will cost you only KSh. 5 to deliver your crop to one of the Village Collection Points, because it is much nearer to your home.

Cost and logistics involved need to be considered when determining a procurement system

In such cases the farmers would prefer system B because it is cheaper. The managers must therefore be able to determine the most cost effective system. In calculating the cheapest system the costs incurred by the co-operative society and by its members must be considered.

If there were 400 members in the cooperative and you had to make the decision between Systems A and B, how would you do it?

System A: Society's costs	KSh 5,000
Members' costs 400 x KSh20	8,000
Total	KSh 13,000

System B: Society's costs 10 x KSh 1,000	KSh 10,000
Members' costs 400 x KSh 5	2,000
Total	KSh 12,000

System B costs the least in total, and is therefore the alternative you should choose. To be able to get the right solution the managers of the cooperatives know how much it cost the cooperative to run the collection point, how much it cost each member, to transport his crop to the collection point nearest to his farm.

The system of collecting produce from members is crucial to the success of a marketing cooperative. It involves transport operations but also testing, grading, weighing, packing, recording and arranging to pay the farmers. It is important to organize and sequence such steps as weighing, grading, testing and payment of members. The process should be organized in such a way that farmers take the shortest time possible while delivering cotton to the cooperative. The requirements for packaging should be well understood by the farmers and the right packaging equipment should be used. Should the cooperative require a standadised packaging container then all farmers should be supplied with the same and credit the farmers account.

Once the packaging questions are settled, you must decide exactly what has to be done at the receiving point, listing each operation and how long it takes. Critical issues involving the quality of the produce must also be considered during reception. Instructions and pre-determined standards should be established and the farmers must be aware of these requirements.

The option on which method to use for inspection is equally important. Visual inspection is quick, cheap and easy to understand, but it may be inaccurate since it is based on personal opinion which may be disputed. However, inspectors should be very knowledgeable and well trained.

Cotton should be carefully graded payments made to the farmers based on the quality of the crop they deliver to the cooperative. This also acts as a motivation to ensure farmers comply with the quality requirements. There are many different indicators of quality and a number of ways to measure each one. These may include:

- Appearance
- Moisture content
- Colour
- Proportion of impurities

All the features can be measured in at least two ways. One is simple, quick and inaccurate (visual inspection); the other is usually complex, slow and accurate. As co-operatives develop and improve the quality of what they sell, they often have to move from simple methods, involving only acceptance or rejection, to more complicated scientific methods, allowing a variety of standards.

Group activities

a) Develop a quality control mechanism for the cooperative to ensure that the required quantity and quality of cotton are received from farmers.

b) Develop a method of rewarding farmers who deliver the right quality and quantity and a method for sanctioning farmers who do not deliver the required quality of quantity

4. Logistics and Transport Management

Transport is probably the worst-managed service of any cooperative. It is also the service most easily improved if the society can select the right transport and manage it properly. The movement of produce from field to the packing shed or stores or market requires transport over short or long distance. Generally, during production and packing, transport takes place mainly over short distances. Tractor-trailers, animal carts and pick-up trucks can achieve the movement of produce for large farms, while human portage, push carts and animal carts can also be used for small holdings.

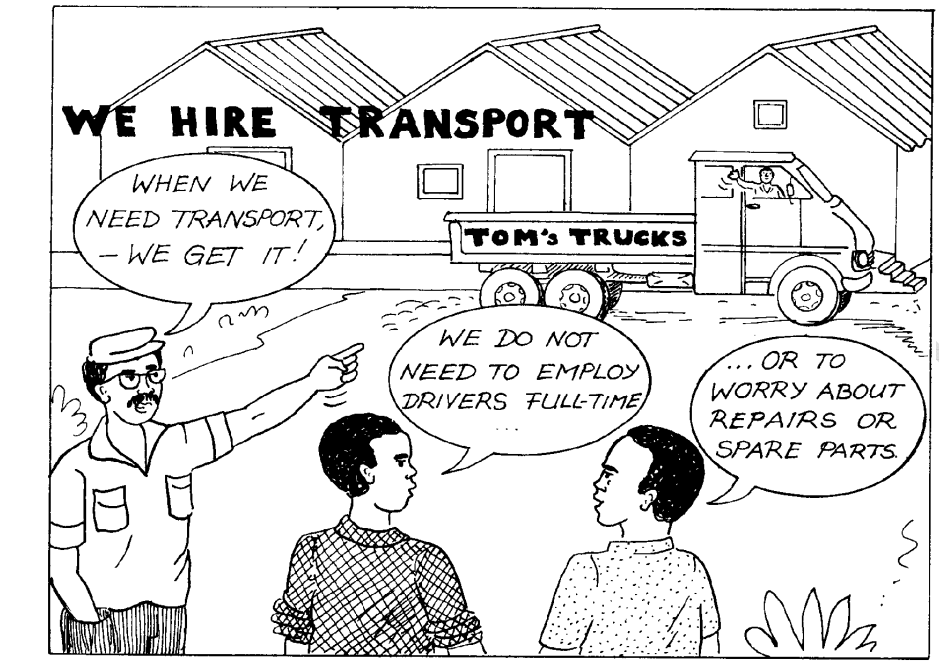
Transport organization for cooperatives may involve:

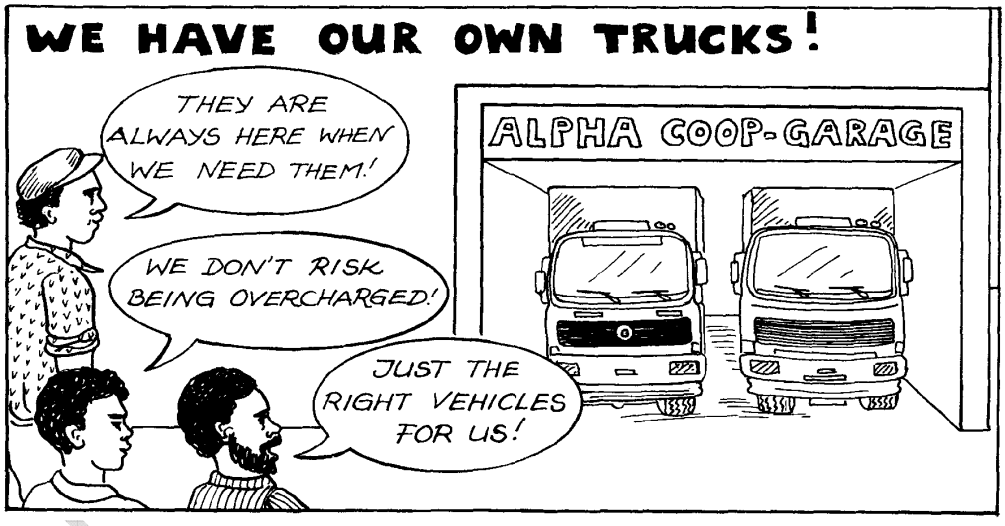
- transporting cotton from member farms to the co-operative
- transporting seeds, fertilizer and farm equipment from suppliers to the society's store
- transporting these supplies from the society's premises to the farms of members

More efficient transport schedules can only be made if the transport manager has all the request for transport in time to enable him/her to plan

Some co-operatives may carry out all these services; others provide none. In case where the cooperative provides for transport then the option of either hiring or owning a motor vehicles should be

considered. However, the pros and cons of hiring or owning a motor vehicle should be taken into account.





Regardless of the option chosen by the cooperative, the next task in managing transport logistic is vehicle scheduling. Poor management like can easily considerably increase the transport cost. Vehicle scheduling involves making the most effective use of the vehicles or means of transport available. Scheduling means that you:

- find out in advance what the transport needs are;
- balance the available transport against the needs;
- decide what tasks must be done at specific particular times, and what can be
- more flexibly timed;

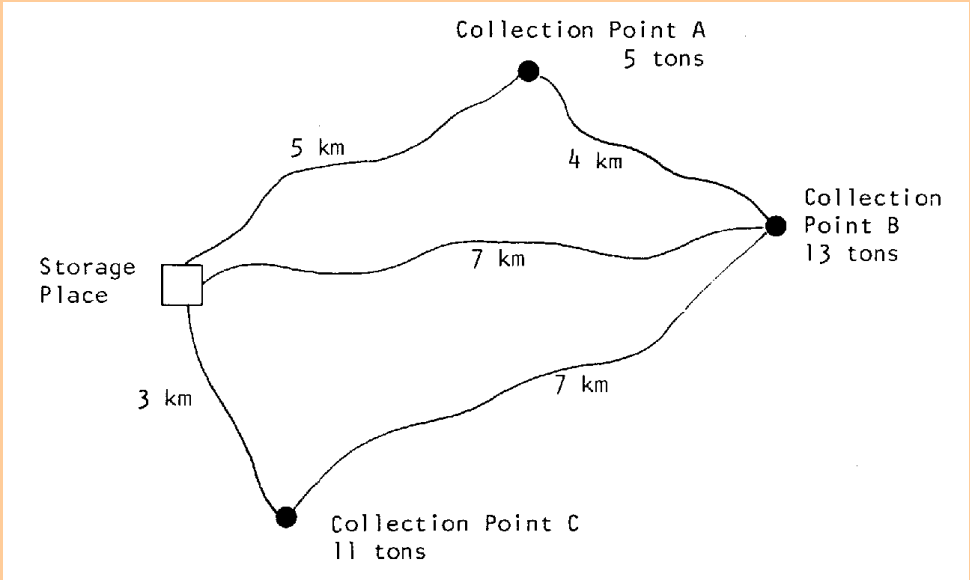
- allocate the vehicles to the tasks;
- draw up a programme stating what vehicles are doing what, when;
- leave some flexibility for unexpected needs or problems;
- Monitor, maintain and (when necessary) modify the programme as it is implemented.

For effective scheduling it is necessary to have one person responsible for all these tasks. (It may be the manager himself, a staff member designated as transport supervisor or a special transport manager.) He will have to ascertain the transport needs and decide how each available means of transport is to be used, every day.

To facilitate the work of the transport supervisor, his colleagues in the co-operative should submit their requests to give him adequate preparation time. He can then lay out a more effective transport schedule.

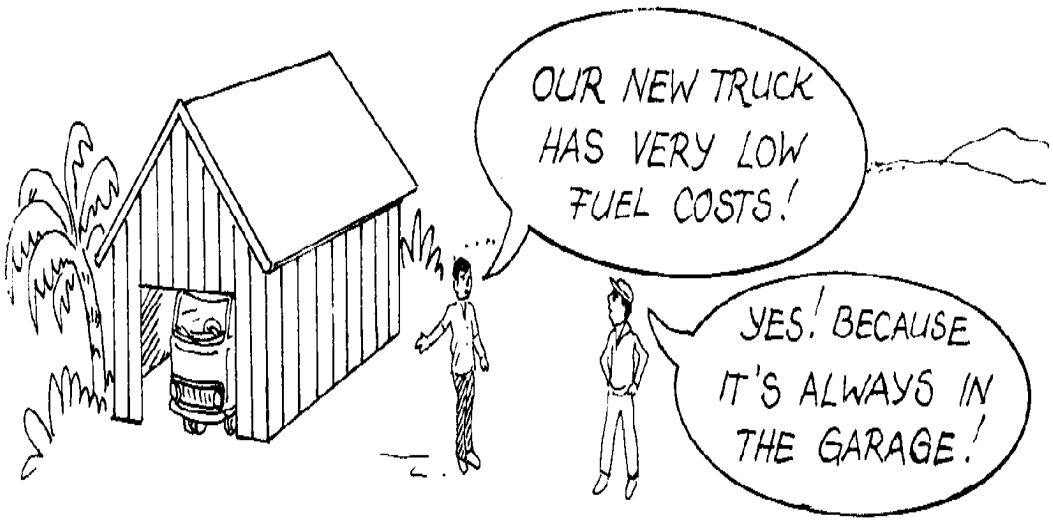
Group activities

Look at the following simplified map of a co-operative area. It has a central storage place and three collection points from which members' crops must be brought to the centre. How would you organize the transport, if you had one 10-ton truck and there were 5 tons to be collected from Point A, 13 tons from Point B and 11 tons from Point C?



The following would be more economical:

- First journey to collect 5 tons from Point A and 5 tons from Point B.
- Second journey to collect the remaining 8 tons from Point B and 2 tons from Point C.
- Third journey to collect the remaining 9 tons from Point C.



5. Information Systems Management

Information is vital for planning, monitoring and evaluation. For instance, for an activity such as farm gate services, the manager of an integrated cooperative should have information regarding the following:

- Structure of the farm cost of important cotton grown in the area. This should be compiled by the farm guidance section.
- Levels of existing and new technology available to the farmers. This information should be readily available with the regional research station.
- On the basis of the above parameters, he should calculate a realistic estimate for requirements of crop loans.

He should compile information regarding:

- Price Policy
- Relative profitability of various crops grown
- Employment pattern and potential of various crops
- Establishment of management standards or operational norms for various types and sizes of farmers.

Relevance, validity, clarity, adequacy and timely delivery are the important characteristics of the information required by a manager.

In most of the cooperatives, information systems are absent or the operational methods followed are cumbersome. They often cause

annoyance to members. There is a constant need for the societies to ensure that all its activities are systematically organized.

There is a need for inter-departmental co-ordination and co-operation if plans are to be successfully implemented. The marketing department can pass signals regarding the quantity and quality that would be required in the market. Information regarding the quantity of cotton, expected for processing can be assessed and passed on by the farm guidance department to the primary cooperatives for supply. Before starting the processing, the ginning and pressing department should plan the required number of shifts and the operational schedule of labor requirements, etc. In turn, it can pass on information regarding the quantity of cotton lint available for sale.
The marketing department can organize forward sales, etc. The need for inter-departmental coordination can be affected by citing a particular situation.

6. Control and Coordination of Activities

Control and coordination helps to check the errors and to take the corrective action so that deviation from standards are minimized and stated goals of the cooperatives are achieved in desired manner.

Control is the most important tool of management. It is the major mechanism to keep the organization going in its planned direction. The pre-requisite of a good control system is the existence of a good planning and organizational system. Control should be exercised in all relevant areas, namely;
i. Time: It can be used for many purposes in an Integrated Cotton Cooperative system such as timely supply of credit, effective weed and pest control, extension services to cotton farmers and scheduling of ginning activity

ii. Finances: Most cooperative activities require finances which are sometimes limiting; these need control to avoid deficits when finances are required

iii. Material: In cotton ginning and pressing unit the following would be inventory items: fuel, jute cloth, spare parts for machines and lubricating oil

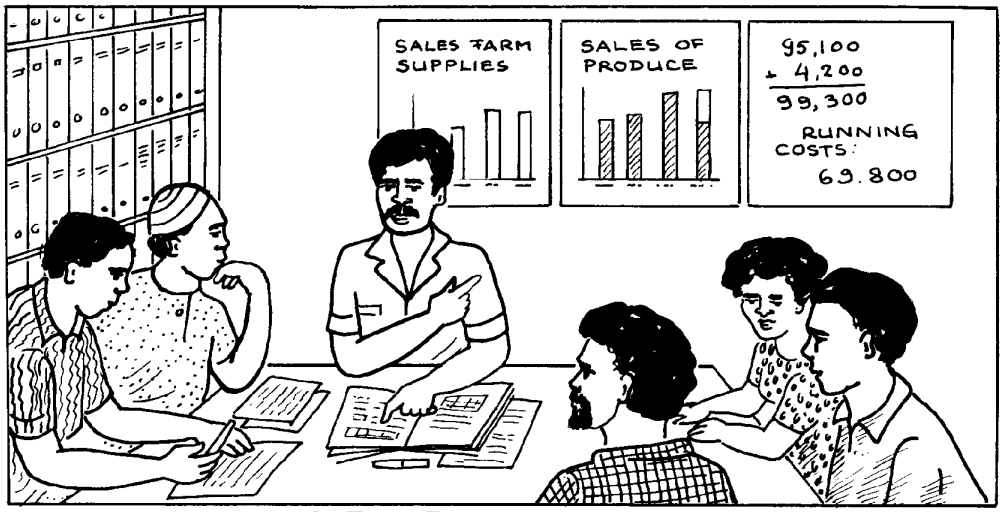
iv. Human Resources

Control in all these areas will ensure that the overall performance is satisfactory.

Group activities

The group members should discuss the major problems that cooperatives face in controls and coordination of activities the discussion should be based on the following topics

a) Financial control
b) Human resources
c) Time
d) Inventory/ material controls



8. Evaluation

Evaluation is carefully collecting and analyzing information in order to make decisions. A cooperative must evaluate its performance in relation to its objectives and understand the factors influencing the performance. When carrying out an evaluation, the cooperative should be able to answer the following questions and where there are weaknesses adjustment are required.

1) Has the yield of cotton increased over time?
2)
a. To what extent have members sold cotton to the cooperative?
b. Does this show an upward or downward trend?
c. What is the production of other farmers and what proportion of their cotton is delivered to the society?
3) Examine the quantity and quality of cotton supplied by the farmers.

4) How efficiently has the society marketed its produce?

a) What was the price received last year?

b) What is the price received this year?

c) How well does it compare with prices obtained by other societies and also by farmers not under the cooperative umbrella?

d) What innovative practices were tried in the cooperative?

5) How efficiently have various costs been controlled by the cooperative?

10) How does the cooperative ensure members' loyalty?

a) Does it rely on social pressure of groups to recover loans or to market cotton to the society, or does it use other techniques?

Proper evaluation allows cooperatives to be more responsive and adaptable in today's rapidly changing world

The cooperative society can exert social pressure on its members. For instance, a farmer who fails to deliver cotton to the cooperative can be corrected by social pressure. All managing committee members can visit his house and enquire about the reasons for his disloyalty. Publicity can be made on the price paid by the society for cotton. Install information boards in the villages to show the farmers the price in the primary market and in the terminal market. Other measures for ensuring loyalty of members include;

a) The society can also give an incentive bonus to loyal members. In a cotton cooperative, the price paid can be proportioned to the quantity delivered over a period of time.

b) Non-financial incentives can also be used with advantage. Names of loyal members can he publicized.

9. Module Assessment

1. What are some of the factors that make it difficult for manager to organize cooperatives operation effectively?
2. What role would you play in enhancing the operational and management skill of the cooperative?
3. What are some of the methods you would consider to motivate employee to ensure they perform better?
4. What are the role of cooperative members in operational management and logistics?

Module 8
Contract Farming & Contract Management

Objectives of the module

1. To provide a brief overview of contract farming with special reference to cotton cooperatives
2. To examine the technical aspects of contract farming
3. To outline the nature and function of contract management and critical elements for a successful result
4. To outlines the key contract management processes and tools for managing a Partnerships

Contents;

1. Setting the context/introduction
2. Contract planning
3. Requesting and receiving offers
4. Evaluation of offers
5. Contract award/agreement
6. Contract management
7. Legal issues in contract management
8. Case study and/ or Illustrations
9. Module assessment

This module outline the critical element and principles for successful management of contracts

1. Setting the Context

Contract Farming is a system for the production and supply of land based and allied produce by farmers/primary producers under advance contracts, the essence of such arrangements being a commitment to provide an agricultural commodity of a type, at a specified time, price, and in specified quantity to a known buyer. Increased market demands for cotton and the increasing expansion of international trade have provided the impetus for the development of contract farming. Contract farming has provided alternative markets for small markets and guarantees consistent supply to the markets.

Contracts provide opportunities for cooperatives to promote production and marketing of cotton

The success of the contracts depend very much on three major factors namely its effectiveness, ability to withstand obstacles in the competitive market and the competitiveness of those who run this business. However, Well-managed contract farming is an effective way to coordinate and promote production and marketing of cotton.

The contracts could be of three types;

(i) procurement contracts under which only sale and purchase conditions are specified;
(ii) partial contracts wherein only some of the inputs are supplied by the contracting firm and produce is bought at pre-agreed prices; and
(iii) Total contracts under which the contracting firm supplies and manages all the inputs on the farm and the farmer becomes just a supplier of land and labor. The cotton cooperative society must therefore be able to determine the types of contract that best meet their needs.

Both parties to the contract would prefer to only take care of their interest for different reasons, however, contacts must be negotiated and an agreement made between the cotton cooperative and the service provider/firm. Therefore it is not only important for the cooperative managers to completely understand what is expected of them when planning, requesting, receiving, evaluating and awarding contracts but also to be able to make informed decisions for the benefit of the cooperative during negotiation.

The potential advantages of contract farming for the smallholder cotton farmers can include:

- Better access to sources of extension advice, mechanization, seeds, fertilizers and credit, and to guaranteed and profitable markets for their produce
- Increased access to new market opportunities and services required to support intensification, diversification and commercialization.
-Higher productivity and increased awareness about improved farming methods, quality, consumer preferences, and health and safety standards.
- Awareness and adoption of a business and commercial approach to farming.
- Awareness of the need for collective efforts for their common good and promotion of group and farmer association development.
-Household spillover effects that can include increased income as a result of the adoption of improved husbandry methods in the production of food crops.
-Regional spillover effects associated with the improvement in services in the areas where contract farming is prevalent.

With respect to the contracting agri-business, the main potential advantage is the guaranteed and reliable supply of the required quality and quantity of produce as opposed to relying on unreliable open-market spot purchases.

Group Activity; discuss the challenges of contract farming for cooperatives.
How can the challenges be overcome

2. Contract planning

Planning is a major component before engaging in contract farming. Planning involves evaluating the cooperatives ability to enter into and facilitate all the requirement of the contract. The following pre-conditions need to be assessed during the planning process for successful Contract Farming;

i. Partnerships
A private sector and cooperative partnership must be based on common goals, with the planned results practically defined and roles and relationships and responsibilities clearly established. Where the goals of the cooperatives and a partner differ then a compromise has to be negotiated

Proper planning makes it possible to analyze the pros and cons of a contract

ii. Management
A systematic management of the production process is necessary to guarantee good cotton yields, high quality and derived financial benefits. The farmer's role in management is necessary to ensure that that the growers concerns are heard and that the productivity enhancement concept is accurately communicated. Without proper management it will be impossible for cooperative to maintain the contract agreements.

iii. Finance
The cooperative must ensure sufficient financial control and evaluate the availability of resources that are necessary to sustain the expectations of contract. Tight financial control should be maintained throughout, supported by accurate and transparent record keeping.

iv. Strategy
Social issues e.g. food security, labor and should be supported within the programme as these livelihood factors ensure that the grower remains capable and committed to performing his role. This will also enhance loyalty and make the cotton producer feel part of the whole process.

v. Benefits
The partnership must provide a win-win result so that parties involved derive immediate material benefits. Early benefits provide the basis for further commitment from farmers in the pursuit of long-term common goals. However, the expected benefit must be sustainable to make it possible for both parties to develop and confidently plan both in the long term and the short term.

3. Requesting and Receiving offers

In many cases cooperative will source for offers and evaluate which of the service provider would give the cooperative the best deal. However, in a number of cases the cooperative may send request to any interested service provider. Whichever method of getting/ receiving offers that is used by the cooperative it is important to ensure that the process is transparent and provide an opportunity to any interested service provider to apply or show interest.

All requests of offers should circulated to all interested services providers

There are five recognized methods by which cooperatives request for offers from the market. These are:
- Requests for Quotation
- Requests for Expression of Interest
- Requests for Proposal
- Requests for Tender
- Selective procurement (sole source selection)

The minimum requirement for the service provider must be determined before hand, to prevent receiving offers from service providers who are not able to meet the obligations which are mandatory in the contract. The request made should contain the details of the requirements for the service provider and this will act as a bench mark for all interested companies.

On receipt, offers are stored in a secure location until they are opened and registered. Once the closing date/time has passed, the offers are opened and the following details should be recorded:
- The supplier's name
- Confirmation that the offer was received by the closing date/time

As a general rule, late offers should only be accepted if there is no possibility of collusion or the late bidder having gained an advantage by being late. Details of any late offers, including the date/time of receipt, are recorded. If the late offer is not accepted, the supplier will be advised accordingly.

When offers have been received a set criteria must be put in place for short listing or preliminary evaluation of offers. This will ensure that only those service providers that meet the minimum requirement are considered for evaluation.

4. Evaluation of offers

When evaluating offers it is not only important to look at the offer with the best price but also to consider other details listed in the contract that will affect the cooperative both in the short term and long term.

Some of the factors that need to be considered include;

i. Price

The price offered must be able to ensure that cooperative members are able to make profit from the sale of their produce

ii. Quality requirement

The farmers must be able to meet the quality requirement set by the service provider.

iii. Volume

The cooperative must be in a position to meet the volume requirement that may be needed in the contract and like wise the partner should have sufficient capacity deal with the volumes supplied by the cooperative

iv. Logistics

The cooperative should consider cost involved in the transportation, packaging and financial logistics in running the contract. In some cases the cost of running the contract may be high and such contracts can lead to serious looses.

v. Payment plan

The payment plan offered in the contract should be conducive to enable the cooperative member to continue with production. Contract with regular payment or shorter payment intervals are preferred.

vi. Duration of the contract

The duration of the contract need to be considered in order to be able to plan and consider the sustainability of the contract. It is necessary to know how long the cooperative can be able to rely on one of the agreement. Long term contract with possibilities of amendment and re-negotiations are preferred to short term contracts

vii. Ending the contact

The contract may specify a date at which the contract ends. It may also state other ways it can be terminated and what notice is required before termination. Each party should be in a position to end the contract. However, some contracts provide that they may be terminated for any reason. Other contracts say that they may only be terminated for good causes.

viii. Renewing or renegotiating contract

The contract may state how it can be renewed or modified. Changes to the contract should be made in writing and signed by both parties.

Evaluation must be based on a predetermined criteria that is set by the team handling the offers

Price offered is not the only consideration that should be considered when evaluating contract

Perhaps the price of seed or other supplies will change, or perhaps demand will increase or decrease.

ix. Dispute resolution

Some contracts set out how any disagreements between the cooperatives and the service provider must be handled. The contract may call for the use of Alternative Dispute Resolution, such as mediation or and arbitration. Mediation is an attractive option to some, because it employs a neutral third party to help the parties to discuss the disputed issue. This can help the parties resolve problems while preserving the relationship. Mediation is not binding, so if one or more of the parties are not satisfied, they may still take the dispute to court.

After considering all the factors included in the contract the cooperative to select the best option according to their circumstances

Group Activity

Group to discuss and describe some scenarios during contract negotiations between cooperatives and cotton companies. A case study of one cooperatives contract should be used to further inform the trainees

5. Contract Award/ Agreement

The best time for cooperatives to weigh the pros and cons of the contract being negotiated is before the cooperative commits itself into any arrangement with the partner e.g. borrows large sums of money from the service provider. Having a written contract to review emphasizes to the cooperative that an important decision-making stage has been reached.

The first step in reviewing a contract is to read it carefully. Cooperatives should make sure that they know how the contract addresses the important issues that may arise. If there is any doubt about the meaning of contract terms, cooperative managers should consult a lawyer or request for interpretation from the service provider. It must also be considered that the cooperatives negotiating power is usually greatest before signing the contract.

All negotiation should be completed before signing any contract

Alternatively the cooperatives can draft a contract. However, the contract should include all of the terms agreed to by the parties, and should include sufficiently detailed information to describe the parties' agreement.

The decision to award contract should be made by the cooperative committee after carefully evaluating all the offers available. The involvement of the committee contributes a great deal to the ownership of the contract. The successful service provider and unsuccessful service providers should be informed on the award decision on writing, simultaneously and individually.

The design and the nature of contract must also be determined before hand. Cooperative must also be aware of the challenges that are involved in contract farming and the end of the award process means facing the challenges which may arise from the contract. These challenges include;

i. Contract Default
A company may break a contract with farmers for example by failing to deliver farm inputs and services at the correct time, reduce to receive a produce or arbitrarily raising quality standards and late payments. Farmers can also default sometimes because of a production failure or simply because farmers have sold the produce to competing buyers partly to avoid repaying debts

ii. Scale of farmers Operations
Potentially high transaction costs in for example in service delivery and monitoring tend to result in the exclusion of smallholder farmers in contract farming. Also the production risk of cotton farmers may also be higher especially in rain-fed marginal lands. Larger farmers may have better crop management skills and have greater access to extension services reducing the risk of crop failure. Regardless of the scale of operation the cooperative should ensure that extension and relevant information is availed to the cotton growers.

iii. Abuse of Power
There could be inadequate protection of cotton farmers against firms that hold dominant market positions and corrupt behaviors of agribusiness firm employees. Corrupt employees may get kickbacks from purchases of farm inputs supplied to, and eventually paid for by, contracted farmers. Delivery may also present opportunities for corruption in different quality standards or delivery schedules are applied to different growers. The cooperative managers must be able to ensure transparency and monitor all the activities which involve the agri-business partner and the cotton farmers.

6. Contract Management

Group Activity

1. Why is contract management and important component of contract farming?
2. Why is relationship management important in contract farming?

Contract management is the process that enables cooperatives and the service supplier to meet their obligations in order to deliver the objectives required from the contract. It also involves building a good working relationship between the cooperative and service provider. The central aim of contract management is to obtain the services as agreed in the contract and achieve value for money. This means optimizing the efficiency, effectiveness and economy of the service or relationship described by the contract

6.1. Service delivery management

Service delivery management involves cotton cooperative management ensuring that what has been agreed is delivered to appropriate quality standard. Responsibilities for managing service delivery must be clear and appropriately apportioned between the cooperative and the agri-business service provider.

Well-structured service delivery management will help the cooperatives to:

- Quantify benefits and costs
- Ensure that responsibilities are clearly defined and agreed
- Charge the price for cotton delivered efficiently and fairly
- Ensure that the cotton delivered comply with the agreed business requirements
- Have a better knowledge of current and future customer needs.

To be able to successfully manage contracts the parties involved should be able to anticipate future needs as well as react to the situation that arise

Managing service delivery involves more than simply gauging whether services are being delivered to agreed levels or volumes, or within agreed timescales. The quality of the service being delivered must also be assessed.

6.2. Relationship management

Managing the relationship comprises a set of responsibilities and activities that, for larger contracts, may be assigned to a nominated individual or to a team. Even if the responsibility for managing the relationship is to be met by the same individual or team responsible for managing cotton delivery for the cooperative, it is important to

ensure that the specific tasks of relationship management are carried out.

Contractual arrangements may commit the cooperative to one provider or small number of providers to a greater or lesser degree, and for some time. Inevitably this involves a degree of dependency. The costs involved in changing provider are likely to be high and, in any case, contractual realities may make it highly unattractive. It is in the organization's own interests to make the relationship work.

The three key factors for success are:

- Mutual trust and understanding
- Openness and excellent communications
- A joint approach to managing delivery.

Good communications are always the make-or-break in managing a relationship. Many cases of mistrust or concern over poor performance in a service relationship result from a failure to communicate at senior management level, or from each party's failure to understand the business goals or intentions of the other.

Good communication is an enabler of a particular culture between customer and provider: one built on openness, trust and mutual benefits. Communication will pave the way for more openness between the parties and the individuals involved in the relationships. In addition, the way people involved in the relationship act and the attitudes they hold about other organizations in the relationship, and about the concept as a whole, are crucial. Attitudes and behaviors, as well as the discipline of good communication, are vital to creating a productive culture in a relationship.

The objective is a relationship in which customer and provider co-operate to ensure that problems are recognized and then resolved quickly and effectively.
Apart from service performance issues, problems can arise in a number of areas and for a wide range of reasons: clashes of personality; slow or incorrect submission of invoices; slow payment of invoices; problems with contract administration procedures.

Relationship between the contracting parties is built on openness, trust and mutual benefits

Whatever the nature of the problem, it is vital that:

- Problems are recorded as they occur, in order to highlight any trends and to help in assessing overall performance and value for money
- The provider is notified of problems by an appropriate route and at an appropriate level
- Approaches to resolving problems are clear and documented
- Escalation procedures are followed.

6.3. Contract administration

Contract administration is concerned with the mechanics of the relationship between the customer and the provider, the implementation of procedures defining the interface between them, and the smooth operation of routine administrative and clerical functions.

Contract administration will require appropriate resourcing. It may be that the responsibility falls on a nominated individual. If not, and the responsibility is shared across a contract management team, it is important that all members of the team deal promptly with contract administration tasks, particularly during the early stages of implementation.

The procedures that combine to make up contract administration are as follows:

- Contract maintenance and change control
- Charges and cost monitoring
- Ordering procedures
- Payment procedures
- Budget procedures
- Resource management and planning
- Management reporting
- Asset management.

These procedures will need to be designed to reflect the specific circumstances of the contract and the organization.

Keeping the contract documentation up to date is an important activity, but it should not be a burden. The effort required may be reduced by ensuring that the contract is sufficiently flexible to enable changes to the requirement and pricing mechanism within agreed parameters without needing to change the contract documentation.

Applying document management principles involves:

- identifying all relevant documentation (including contract clauses and schedules, procedures manuals etc)
- change control procedures, and ensuring no changes are made without appropriate authorizations
- recording the status of documents (current/historic, draft/final)
- ensuring consistency across documents.

Group Activity

Develop a sample of the contract to be used by the cotton cooperative for cotton supply to the Kanyamkago Ginnery

NB: a sample of cotton contract is attached; this should be used for training on the contents of the agreements after the exercise

7. Legal Issues in Contract Management

Agreements, in the form of a written contract or a verbal understanding, usually cover the responsibilities and obligations of each party, the manner in which the agreement can be enforced and the remedies to be taken if the contract breaks down. In most cases, agreements are made between the sponsor and the farmer, although in the case of multipartite arrangements and some others, the contracts are often between the sponsor and farmer associations or cooperatives. In the case of arrangements through intermediaries, the sponsor contracts directly with the intermediaries who make their own arrangements with farmers.

7.1 Elements to consider when drafting contracts

Four aspects need to be considered when drafting contracts:

i. The legal framework

Farming contracts, whether written or oral, should comply with the minimum legal requirements of the country. At the same time, however, it is important to take into account prevailing practices and societal attitudes towards contractual obligations, because in almost all societies these factors can produce an outcome that differs from the formal letter of the law.

ii. The formula

Each contract is designed for a specific situation, the formula of which may be based on one, or a combination, of the following:

- **Market specifications;**

Under a market specification contract only quality standards are specified. The sponsors normally provide only minimal material and technological inputs. This is the most elementary type of contract formula and is commonly used by individual developers under the informal model.

Farming contract should comply with the legal requirement of Kenya

- **Resource specifications;**

In this type of contract key components are stipulated, such as varieties and, perhaps, fertilizer rates, crop husbandry practices and the conditions under which the crop is purchased. Normally few financial or material advances are provided under resource specification formulas. Product prices tend to be based on the open market and income guarantees are minimal.

- **Management and income specifications;**

Contracts that focus on management and income specifications usually strictly regulate product standards. They are basically a combination of the market and resource specification formulas but, in addition, sponsors may establish predetermined pricing structures

and make heavy commitments in the form of farm input advances, technical inputs and managerial control. This formula is the most commonly used by the cooperatives

- **Land ownership and land tenure specifications.**

This type of contract is an extension of the management and income model, with additional clauses relating to land tenure. Wherever private companies or government agencies lease land to farmers for contract farming, formal cropland tenancy contracts on a long-term basis are necessary. These contracts should be legally binding and can contain clauses relating to both crop and land husbandry.

iii. The format

The various formats that a contract may take are:

a) Formal agreements

Explicit, legally endorsed contract formats, which closely detail the conditions and obligations of each party, are particularly common in projects that involve heavy investment in capital infrastructure or where sponsors lease land to farmers specifically to grow crops under contract. However, such contracts can also be used when land tenure is not a factor.

b) Simple registrations

These are a common contract format used by most centralized operations and, to a lesser degree, under the informal model. The term "registration" refers to a signed confirmation from the farmer that he/she wishes the sponsor to reserve a contract for him/her. Simple registrations are based on trust and patronage that bypass formal legalities.

With a flexible and sensitive managerial approach, a simple registration is a proven and practical way to sustain contractual arrangements. The technical aspects of the agreement are drafted in short, simple terms, clarifying the responsibilities of both sponsor and farmer. Pricing formulas in the financial section are designed to encourage farmers to produce maximum yields

Regardless of the format of contract adopted, the agreements are binding and should be respected

c) Verbal agreements

Unwritten or verbal agreements are commonly used by informal individual developers and sometimes by corporate sponsors. A major problem of verbal agreements is the interpretation of responsibilities and specifications. Confusion and misunderstanding can easily occur if the agreements are not clearly explained by management to the farmers and their representatives. In turn, the managers' field extension staff must also have a clear understanding of the terms of the agreement.

iv. The specifications

Contracts will need to specify some or all of the following aspects of the sponsor-farmer agreement:

- **contract duration;**

Contracts duration should be negotiated before hand. This will e for short-term crops such as table vegetables are normally issued and renegotiated on a seasonal basis, whereas crops such as tea, coffee, sugar cane, and cocoa require long-term contracts that can be amended periodically.

- **quality standards;**

Product quality has far-reaching consequences in terms of market acceptance and future expansion. Most contracts contain detailed quality specifications so that produce that does not conform to the agreed criteria can be rejected. It is important that farmers fully understand the reasons for standards and also understand that the acceptance of poor quality produce from some farmers will ultimately affect an all the members of the cooperative and thus there is no long-term advantage to individual farmers to trying to cheat.

- **production quotas ;**

Overproduction can mean costly stockpiles. Conversely, underproduction caused by poor farmer selection, disease or climatic factors could eventually result in a project becoming insolvent. Moreover, if the cooperatives are unable to meet pre-arranged marketing contracts, future orders could be decreased or cancelled. Quotas are employed in the majority of contracts in order to: utilize processing, storage and marketing capacities efficiently, guarantee markets for all farmers ensure quality control and monitor farmers' performance.

Both must be able to meet the obligation specified in the contract. In case where challenges may arise both parties should find an amicable solution

- **cultivation practices;**

When sponsors provide seeds, fertilizers and agrochemicals, they have the right to expect that those inputs will be used in the correct quantities. They also have the right to expect that farmers follow the recommended cultivation practices. Of particular concern is the possibility that farmers may apply unauthorized or illegal agrochemicals which can result in toxic residues, with dramatic repercussions for market sales. It is therefore essential that all contracted farmers adhere strictly to the project's input policies. Managers and their extension staff must make every effort to explain to farmers why the specifications and input recommendations must be followed.

- **crop delivery arrangements;**

Arrangements for collection of cotton or delivery by the farmers may vary from one cooperative to the next. Some ventures stipulate that farmers should deliver their harvest to sponsor or cooperative at

given dates; others may include the use of the sponsor's transport to collect harvested crops at centrally located buying points.

- **pricing arrangements;**

Pricing and payment arrangements are the most discussed and challenging components of all farming contracts. The application of transparent pricing formulas is crucial and the drafting of a clear pricing structure and the organization of a practical method of payment encourage confidence and goodwill. There are several ways prices offered to farmers can be calculated, including: fixed prices, flexible prices, prices calculated on spot-market values, prices on a consignment basis and split pricing.

- **payment procedures**

For all farmers the most convenient method of payment is usually cash-in hand immediately following delivery of any part of their crops. However, this is not always possible. Also, the company may have the obligation to repay loans advanced by banks to farmers using the contract as collateral. In the majority of cases payments are made periodically throughout a season, perhaps two to four times, with the final payment after the last harvest. Any material and cash advances given to farmers during the season are normally deducted from the final payment.

- **Insurance arrangements;**

Agricultural investments always involve risk. The five most likely reasons for investment failure are poor crop management, climatic calamities, pest epidemics, and market collapse and price fluctuations. The standard agribusiness approach to indemnify against quantity shortfalls is crop insurance. Although, there are no crop insurance schemes for cotton in Kenya.

7.1. The Enforcement Issues/Breach of Contracts

The enforcement mechanisms either in the case of monitoring the compliance of contracts or breach of the same involving both the promoter/agent and the small-scale farmers are weak if not non-existent. Farming contracts, whether written or oral, should comply with the minimal legal requirements that apply in Kenya. It is important to take into account prevailing practices and societal attitudes towards contract obligations, because in almost all societies these factors can produce an outcome that differs from the formal letter of law.

The legal or litigation process is usually slow and expensive and therefore may act as a disincentive to enforcement action both on the part of the agribusiness firms and the cooperatives. The areas of breach of contract for the cooperative mainly involves the act of cross or side selling resulting in default on input loans.

As regards the agribusiness firms the area of breach of contract is mainly the changing of prices mid-stream of existing contract. Considering these areas of possible breach of contract it is necessary to put in place a more quicker and equitable way of conflict resolution such as mediation or arbitration system.

Summary

A good contract should have the following elements:

- Two or more willing parties
- All parties equally knowledgeable
- Legally sound and binding
- Clearly spelt out obligations
- Should have witnesses
- Specific in scope
- Technical support from third parties
- Must not be exploitative
- Must take care of production costs
- Must operate within an established policy and regulatory framework
- Must have options for insurance
- Must have specified time frame

Group Activity

a) What action would the cooperative take in cases where the contractor fails to deliver inputs/services on time or reject the produce due to unclear quality standards.

b) What if the cooperative fail to deliver the product required due to crop failure, poor quality crop; side-selling; defaulting on repayment of credit e.t.c.

8. Case study

Case study 1

A contractual agreement between vegetables growers in Kiambu and Uchumi supermarket was established in 2004. The contract which was facilitated by FCI has ensured that farmers get consistent order from Uchumi, and Uchumi get consistent supply of quality vegetables. The contract outlines the following:

i. Role of farmers group
   - Supply quality fresh vegetables
   - Supplies vegetables in bundles of 500 grams
   - Day and time of delivery
   - Quantities per delivery

ii. Role of Uchumi supermarket
   - Buy fresh vegetables from farmers at an agreed price
   - Train farmers groups on quality assurance
   - Pay farmers after 30 days

iii. Other details are;
   - Price per bunch (500grams)
   - Standard weight of a standard bunch
   - Quality aspects
   - Payment mode (cheque)
   - Invoicing procedures
   - Replacement of breakages

Case Study2: Chad Cotton Sector

The cotton sector in Chad is organized primarily around a vertically integrated state-owned enterprise, CotonChad, which has become an increasingly loss-making concern because it has been exposed to negative terms of trade, with declining world commodity prices for cotton fiber. Transaction costs arise within the hierarchical production structure where informational and incentive shortcomings persist. The following transaction cost analysis illustrates how to begin to structure thinking about transaction costs associated with contractual relationships; it begins by placing the actors in two basic categories: macro and micro institutional actors.

Macro-level actors

Macro-level actors are those sectoral agencies and organizations— including CotonChad— agricultural extension agencies, research outfits, and regulatory bodies.

Micro-level actors
The micro-level actors include cotton farmers, farmer's organizations, transporters, and a particular institution called Interface, made up of agents employed by CotonChad.

Payments and quality assurance: the role of the middlemen
CotonChad set up an intermediary structure, Interface, which is charged with distributing lumpsum payments to the delegates of cotton-producing villages at the time of harvest, as well as selling and distributing inputs (such as seed, fertilizer, farming implements, and so on) for the coming season. Interface is also represented on the five-person teams in the villages when cotton quality is rated for the different villages, because payment from CotonChad is based on three grades of cotton: high, medium, and low. CotonChad reports that 98 percent of the cotton it receives is of "high quality" and pays Interface accordingly (to distribute payments to the producers themselves). However, villages complain that their outputs are downgraded by Interface on the basis of poor sampling techniques and that they consequently receive lower payment from Interface.

Coordination and collective action problems
These problems include;
(1) Systematically poor access to key information, particularly on the prices of inputs;
(2) A lump-sum payment structure that lacks transparency;
(3) A seemingly poor mismatch of governance and incentive structures; and
(4) Poor access to sources of rural/microcredit. These problems cumulatively explain village-level collective action problems and threats to social cohesion. Poor cotton farmers are purchasing inputs from Interface at the beginning of the season on credit extended to the village, producing nothing during the season, while actually re-selling their inputs elsewhere simply to alleviate critical cash-flow needs. At the end of the season when the individual is not able to repay, the village is held responsible.

Source: Adapted from Tools for Institutional, Political and Social Analysis of Policy Reform: A Sourcebook for Development Practitioners (Conference Edition) (2007). The World Bank, Washington, DC

9. Module Assessments

1. If you were a manger of a cooperative, what would you do if you are unable to supply the quantity and quality required in the contract agreement?
2. List five recognized methods by which cooperative request offers from the market?
3. List and briefly explain 4 aspects that should be considered when drafting a contract

Sample Contract: Zambia Seed Cotton Production Contract

This agreement is made ... (date) between.... (Distributor's name) (Hereinafter called the distributor) of the one part and..... (Producer's name) in..... village.... in the district of.... Province of the Republic of Zambia (hereinafter called the producer) whose next of kin is.... (name of next of kin).

Here as:
The Distributor has various farming inputs supplied solely by (name of the company) relevant to the growing of Seed Cotton.

The Producer has land suitable for the cultivation and growing of Seed Cotton but requires inputs to cultivate and grow the said Seed Cotton.

The Distributor is willing to supply the Producer with all of the necessary direct inputs and in addition the provision of Harvesting Materials, the delivery of Seed Cotton from point of sale to the ginnery and market access for the crop (including payment in cases within two (2) weeks of the week of purchase of the Seed Cotton).

The Producer is willing to plant, care for and harvest Seed Cotton under this Production Agreement on behalf of the Distributor the terms and conditions set out hereunder at the Producer's own risk.

The definition of Producer and Distributor shall in both cases include their successors in Title.

The parties agree as follows:
1. Definitions

In this Agreement unless the context requires otherwise the following words shall mean:
"Seed Cotton" harvested white bolls produced by the cotton plant, which bolls are ginned to produce cotton lint and cotton seed.

"Inputs" include but are not limited to planting seed, pesticides, foliar, fertilizers, buffers and sprayers.

"Harvesting Materials" include but not limited to picking bags, woolpacks, (on a refundable deposit and which woolpacks remain in sole property of (name of the company) and sewing twine.

2. Production of Seed Cotton

2.1 The Distributor hereby agrees to supply the Producer with the indicated inputs referred in to the schedule below (subject to reasonability) at an agreed value and the Producer in exchange agreed to accept the Inputs referred to in the said schedule and to plant, manage and harvest all of the said Seed Cotton produced from the Inputs on behalf of the Distributor at his own.

Description	**Code**	**Quantity**	**Unit cost**	**Total Value**
Planting seeds				
Chemicals				
Sprayers				
……..				

2.2 The Distributor agrees that the Inputs to be provided to the Producer will be sufficient to ensure that the producer is able to produce and harvest the projected quantities of Seed Cotton.

3. Exclusivity

3.1 The Producer agrees and undertakes that once he/she executes this Agreement he/she shall not under any circumstances execute any parallel or the other similar agreement with, nor take Seed Cotton production Inputs on credit from any other distributor, inputs supplier or buyer of Seed Cotton or any other person whatsoever relating to the production of Seed Cotton.

3.2 After execution of this Agreement the Producer further agrees and undertakes not to carry out any production of Seed Cotton on behalf of any other person or entity on whatever terms or to sell, deliver or in anyway use to repay credit any Seed Cotton produced from the Inputs supplied under this Agreement to any person or entity except the Distributor.

4. Duties and Responsibilities of the Producer

The Producer agrees and accepts that the following shall form part of his/her duties:

4.1 To plant the agreed number of Hectares and to thin, gap fill, weed, cultivate, spray, pick, grade and to do all things and take all steps as are deemed necessary to produce, safeguard and harvest all of the said Seed Cotton.

4.2 To allow the Distributor or his/her duly appointed agent or nominee, reasonable access to inspect the said Seed Cotton whenever the Distributor requires to do so.

4.3 To prevent any other person, whether or not they may have an interest in the land on which the Seed Cotton is planted, from interfering with the production process.

4.4 To ensure that as soon as practicable after harvest the said Seed Cotton is promptly packaged into wool packs bearing XXX Limited mark or any other distinguishing mark prescribed by the Distributor and thereby clearly identifiable from harvest belonging to any other entity or person and to deliver the same total production quantity to the Distributor.

5. Duties and Responsibilities of the Distributor

5.1 The Distributor agrees to organize the supply of Harvesting Materials

5.2 The Distributor agrees to arrange the purchasing of the Seed Cotton crop either by himself/herself or by any other buyer so appointed by the Distributor, under the terms of the Distributor's Agreement with (name of the company).

5.3 The Distributor agrees to arrange the payment of the Producer in cash within two (2) weeks of the week of purchase of the Seed Cotton at a price not less than the pre-planting price (or the announced pre-harvest price, if higher) for the entire Seed Cotton crop less the agreed value of the inputs supplied, which shall be deducted from the first deliveries of the Seed Cotton to the Distributor.

6. Security

The parties agree that the Distributor at all times retains full rights to the Seed Cotton produced by the Producer at all times during the subsistence of this Agreement and that the same shall form part of the Distributor's security to cover the Inputs supplied to the Producer.

7. Termination

The parties agree that either party may terminate the Agreement by giving one month written notice to the other party of its intention to terminate. Provided that if the producer terminates after he/she

received Inputs he/she shall be bound to deliver Seed Cotton to the Distributor in terms of clause 4.1 above.

8. Assignment of rights and obligations under this Agreement.
The parties hereto agree that the Distributor may at any time assign his/her rights and obligations under this Agreement to (name of the company), which reserves the right to enforce this Agreement as if it were the Distributor.

9. Variations
The parties agree that this Agreement may be amended and varied at any time by agreement of the parties provided that such variation is in writing.

10. Producer's Warranties
10.1 The producer warrants as follows:

10.1.1 That he/she has authority and control over the land intended to be used to plant and care for the Cotton Seed and other inputs supplied by the Distributor.

10.1.2 That he/she possesses the necessary skills to farm the supplied Cotton Seed and Inputs.

10.1.3 That he/she will deliver the entire crop harvested to the Distributor.

10.1.4 That in the event that the entire crop produced not being sufficient to discharge the liability of the value of Inputs supplied, the Producer shall repay the Distributor any shortfalls.

11. Force Majeure
The parties have agreed that no party shall be liable for any failure to perform its obligations under this Agreement where such failure is as a result of Acts of God (including fire, flood, earthquake and other natural disaster).

As WITNESS the hands of the parties hereto or their duly authorized agents the day and year first before written.

Signed by ..... (Distributor)
In the presence of
Witness .....
Address:

Signed by .....
(Producer)
In the presence of
Witness ....
Address: