Facilitators' Guide for Running a Farmer Field School

An adaptation for a post emergency recovery programme

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CONTENTS

FOREWORD

Northern and North Eastern Uganda was for a long time considered as one of the "granaries" of Uganda, consistently producing surpluses for domestic and international markets. However, as a result of the two decade civil strife (1986 – 2006) that left hundreds of thousands dead and led about 2 million people into internally displaced persons' camps (IDPs), it turned into a net importer of food, dependent on food aid, that was exacerbated by a general loss of livelihood assets and inaccessibility to the key factors of agricultural production.

The Food and Agriculture Organization of the United Nations (FAO) is a specialised agency of the UN that leads international efforts to defeat hunger and build a food secure world for the present and future generations. In response to the situation in the northern regions of Uganda, FAO spearheaded various interventions to address the plight of the affected communities. This was enhanced by FAO's coordination role of the Food Security and Agricultural Livelihoods (FSAL) cluster in Uganda, extensive presence through local field offices and existing strong collaboration with a large number of NGOs in the region.

FAO's programmes in the affected regions have been responsive to the needs of the local communities. Through the Farmer Field School approach, FAO has been able to provide the necessary support to over 48,000 farmers in the affected regions within three years. The FFSs approach is designed to empower rural communities with skills to undertake improved agricultural practices, engage in commercial farming for improved livelihoods. The approach has been tested as unique for creating viable farmer groups that are able to solve their day to day field problems and build sustainable farmer institutions able to address farmer's needs and problems.

The production of this manual provides a foundation for quality and continuous improvement of the FFSs programmes not only in Uganda, but also as a contribution to the international FFS efforts. It will contribute significantly to Government efforts to institutionalise the FFS in the government extension services in Uganda.

I am confident that this manual will remain a relevant and useful guiding document not only for FAO programmes, but also for government extension services.

Percy W. Misika
FAO Representative in Uganda

PREFACE

The state of affairs in Northern and parts of North Eastern Uganda coupled with effects of the drastic climatic changes threatened to keep many of the farmers in the region vulnerable and dependent for a longer time. This dictated the nature of intervention by the various stakeholders in the regions. Initially, the support to affected communities followed the traditional emergency approach through provision of essential agricultural inputs including seeds and tools to mitigate the immediate effects of the war and to restore their productive capacity and food security. This was usually supplemented with some basic training in agronomy. However, as the security situation progressively improved and farmers accessed more farmland, the existing state of conventional extension service delivery became severely overstretched and inadequate in addressing the unique nature of the IDP and settling communities' urgent needs to re-engage in meaningful self-reliant and sustainable agricultural production.

To Link Relief, Recovery and Development (LRRD), FAO through its Emergency and Rehabilitation Coordination Unit (ERCU) and within the framework of the Food Security and Agricultural Livelihoods (FSAL) cluster progressively shifted from the traditional free seed and tool distribution to recovery-precursor approaches.

The ERCU strategy was to support short and medium term food security and livelihood interventions aimed at exposing the displaced and resettling communities to various opportunities as a means of restoring their productive capacities, food and income security in a shorter time. In this regard, therefore, the ERCU adapted the Farmer Field Schools (FFSs) as a comprehensive and holistic approach for empowering the resettling communities to manage their own destination. The FFSs under the post-emergency and resettlement context are flexible to suit various beneficiary categories including populations in IDP camps, transition sites or settlements of origin. They are comprehensive in nature, tailored to build the livelihood assets of the communities, restore the cohesion and enhance their resilience to shocks.

We, in the Emergency, Rehabilitation and Coordination Unit of FAO in Uganda are proud to produce this manual, the first of its kind under the context. We hope it will make a valuable contribution towards the implementation of Farmer Field School programmes.

This Farmer Field Schools Facilitator's guide has been prepared as a cumulative output of a series of Training of Trainers' courses conducted between 2007 and 2009 for facilitators drawn from different NGOs in Uganda, and working under varied conditions in either emergency or development contexts. The guide has since been improved and edited based on the authors' knowledge, experience and perceptions of its purpose of use; and on the facilitators' field experiences with regard to its adaptability, ease of use, language and recommendations from a wide range of stakeholders.

USING THIS MANUAL

This manual has been developed for use by facilitators. The reader should not treat it as a step-by-step guide. Rather, it is a useful resource meant to be read before starting the FFS and then used as a reference along the way. It is not subject specific but provides key operational aspects of the FFS process. Therefore, the facilitator should not use this manual as a stand alone resource, but should obtain the respective enterprise-specific content from other sources.

The content of this manual is specifically aimed at you, the facilitator, and will not necessarily be appropriate for farmers. As a facilitator, part of your job is simplifying the information given here for farmers' consumption. This manual will help, but your ability to tailor the topics and learning process to the specific needs of your FFS and the community is vital to the group's success.

The manual is meant as a supplement to the training for facilitators provided by FAO. It is not meant to replace training. While FAO deems intensive training to be a prerequisite for FFS facilitators, one objective of this manual is to simplify the FFS material for broader consumption while asserting FAO's role in quality assurance.

Although it can be used by any FFS practitioner, this manual is specially designed for the facilitator working in a post-conflict setting. Civil conflicts throughout northern Uganda have radically altered peoples' environments and ways of life. Many have been displaced from their homes and villages. The FFS approach is meant to help people regain some control over their lives and livelihoods.

LAYOUT

This manual has 3 units:

UNIT 1: Introduction to Farmer Field Schools

This unit provides background to the FFS approach and the manual as well as Participatory Rural Appraisal (PRA) tools.

UNIT 2: Group Formation Process

Unit 2 takes you through the steps of researching and mapping your FFS community and planning the group's main activities.

UNIT 3: Learning Activities

Unit 3 contains helpful notes on the structure of FFS sessions and topics to be presented and discussed by the FFS. It includes content on how to create a sustainable group that can function after you have worked yourself out of a job.

Units 2 and 3 of the manual are laid out in a mostly chronological order based on the FFS learning cycle. Participatory Rural Appraisal (PRA) tools are found in Unit 1 but will be used throughout the FFS learning cycle.

Throughout the manual, you will have a chance to read actual facilitator experiences. FFSs have been active in Uganda since 1999. Those who have already served as facilitators have many valuable lessons to share. Their experiences will also show you how facilitators have adapted the FFS format to suit difficult or unusual situations. These personal testimonies are in the gray sidebar boxes labelled "From the Field".

In addition, there will also be notes in the "sidebars" of this manual that are designed to remind you as a facilitator of ways in which you can handle key issues. Each note will have a special drawing to let you know what it will discuss.

NOTES AND THEIR ICONS

EXPERIENTIAL LEARNING

Because **experiential learning** is new for many facilitators and farmers this manual will help you to maintain a participatory "bottom-up" process of learning. Look for the experiential learning icon.

ENVIRONMENTAL SUSTAINABILITY

It's your job to ensure that members have proper information on **environmentally sustainable** techniques so that they balance financial concerns with long-term environmental wellbeing. The environmental sustainability icon will assist you.

GENDER CONSIDERATIONS

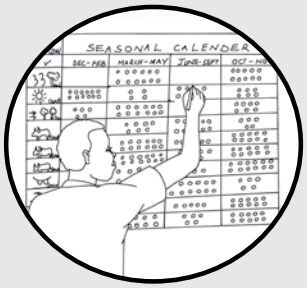
As a facilitator you are in charge of ensuring that **gender** is considered at every stage of the FFS process. The gender icon will show you points where it is especially important to consider gender roles.

RECORDKEEPING

The **recordkeeping** icon will serve as a reminder of some of the most important records you need to keep throughout the learning process.

RECOVERY SETTINGS

This manual is specific to **recovery settings** where people are returning to agriculture after a period in camps or away from their farms. Therefore, situations on the ground are less than ideal and require sensitivity and perceptiveness on your part. This icon will provide tips on how to run a FFS in a post-conflict situation.



PRA TOOLS

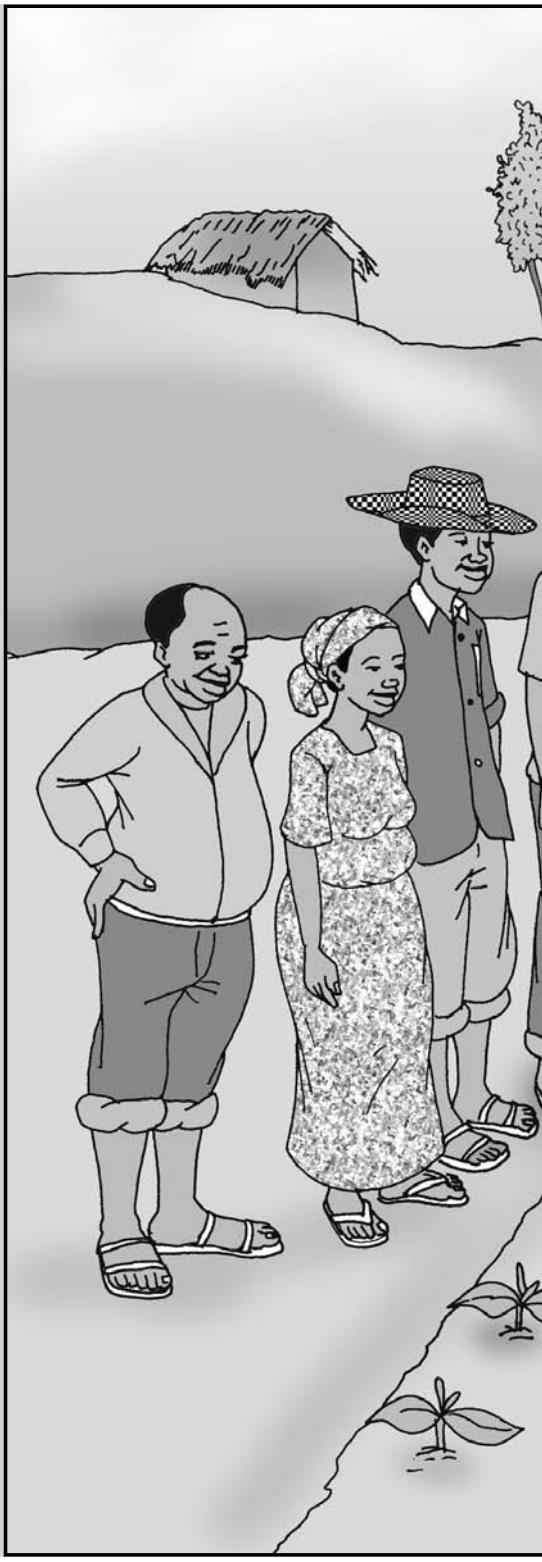
Participatory Rural Assessment (PRA) tools are designed to help you and the group in making decisions while gaining a deeper understanding of the community. They can be applied at many points during the FFS learning cycle. Look for tips on where to apply these useful tools.

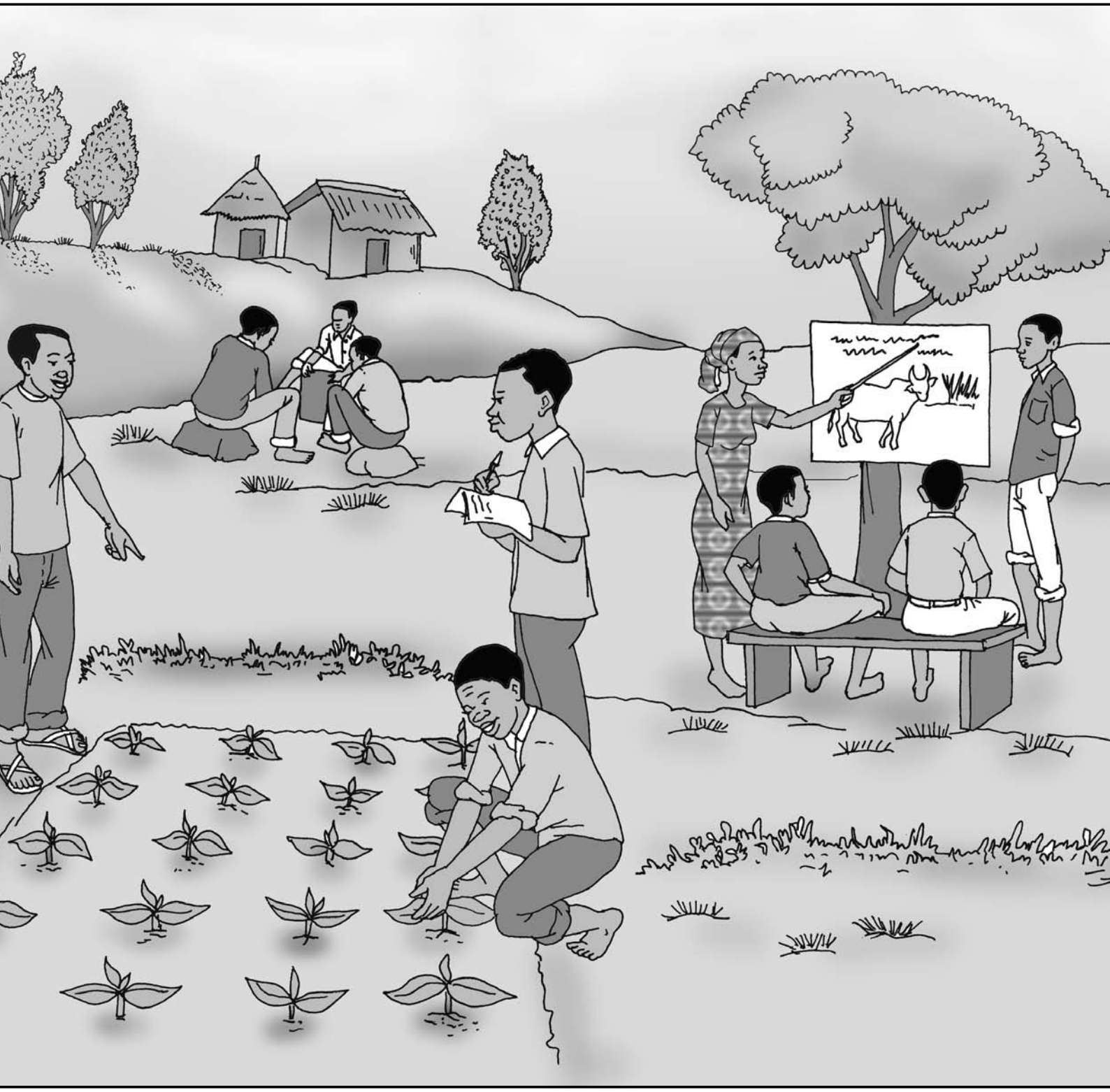
UNIT 1:

INTRODUCTION

CHAPTER 1:

Introduction to Farmer Field Schools





BACKGROUND

The term "Farmer Field School" (FFS) comes from the Indonesian expression Sekolah Lapangan, meaning "field school". This name reflects the three educational goals of a FFS: (1) learning takes place in the field; (2) field conditions define most of the curriculum; and (3) real field problems are observed and analysed from planting to harvesting. Farmer Field Schools bring together concepts and methods from agro-ecology, experiential education and community development.

At a Farmer Field School, a group of people come together with a common interest that they want to learn about together. Topics of interest can vary from pest management to animal husbandry to organic agriculture. Members meet on a regular basis to study the "how and why" of their topic. They make regular field observations and relate these observations to the ecosystem. They combine their local knowledge with new information to make logical and appropriate decisions about how to manage their farms and livelihoods. This process builds self confidence and teaches decision-making, problem-solving and management skills.

The FFS grew out of the Training and Visit (T&V) extension approach in 1988. The previous Technology Transfer model of extension had failed to contain large-scale outbreaks of the Rice Brown Plant Hopper, which threatened rice self-sufficiency in Indonesia. Since 1989 the Food and Agriculture Organization of the United Nations (FAO) has been promoting the FFS approach as part of its international effort to defeat hunger and build food security across the globe. Today, an overview of the global status of FFSs is difficult to obtain since many different organisations have implemented FFSs in over 87 different countries. A global survey carried out in 2005 estimated that by 2008 between 10 and 20 million farmers had graduated from Farmer Field Schools globally.

Over the years, the FFS approach has successfully been adapted from a monocrop rice production system in Southeast Asia to the complex and diverse small holder farming systems in Africa. The approach was introduced to East Africa in 1995 and by mid-2009 more than 7,000 FFSs had been implemented in Uganda, Kenya and Tanzania under different contexts. These FFSs have focused on such topics as integrated production and pest management, land and water management, disease management, self-reliance of refugee communities, dissemination of new crop varieties and, recently, rehabilitation of agricultural livelihoods among resettling communities in a post-emergency context, which has required a number of innovations.

The program in East Africa adopted a flexible and iteractive implementation strategy with modifications to ensure that Integrated Pest Management (IPM) is treated as an integral concept of production and not a stand-alone and highly-technical subject, as is often the case. As a result, the notion of Integrated Production and Pest Management (IPPM), a broader and more holistic approach which could effectively be used to accommodate any production-related issues beyond pest management, emerged. This was critical in enhancing a flexible and demand-driven approach that permitted respective groups to identify their own situation-specific entry points upon which the core IPM activities would be anchored.

THE FFS IN UGANDA

The FFS approach was introduced to Uganda in 1999 and has been implemented under two distinct contexts: development and emergency.

Development context

In a development context, FFSs are implemented in a stable setting to help the farmers address a specific issue within their farming system. This issue forms the entry point and basis upon which the learning curriculum is developed. The farmers have an opportunity to go through a comprehensive learning program for at least two successive growing seasons. Some of the common entry points have included integrated crop management, pest management, land and water management, conservation agriculture, disease management and dissemination of new varieties of crops. Some of the key features of the FFS under the development context include:

- A ***livelihoods*** dimension to ensure a direct link between the broader entry point and the three principle objectives of Farming as a Business (FaaB): (1) minimising the costs of production; (2) maximising output per unit area; and (3) taking advantage of high market prices by presenting a good quality product. The combination of these three objectives leads to profit maximisation.

- Establishment of FFSs follows a ***"foci model"*** (in which groups grow outwards from a core nucleus), where successive FFSs are established in the immediate neighbourhood to form a cluster. In terms of human capital, this enhances the frequency of interactions and allows for a horizontal flow of information among the different groups. As a result, innovations and the rich resources of indigenous knowledge tapped from remote rural settings can be transferred faster to other groups.

- The groups are supported by ***resident facilitators*** drawn from the mainstream government extension services. However, due to the limited availability of extension staff, their efforts are supplemented by farmer facilitators from the community. Involving the farmers in facilitation increases ownership of the process. Their motivation, coupled with a better understanding of the community, makes them more responsive to the community's needs. With farmers taking on a direct role in facilitation, extension staff can slowly broaden their community development responsibilities by linking the vibrant groups to services beyond agricultural training.

- In an attempt to cultivate a spirit of ownership and match interventions to priorities of respective groups, a ***self-managed grant*** system was introduced through which groups are advanced grants ranging from the equivalent of US$ 350-500 based on their submission of a simple proposal detailing their planned activities and how they intend to achieve them. The grants are channelled

through respective groups' joint savings bank accounts to cover the facilitators' allowances, meet learning process expenses and fund commercial enterprises alongside the study fields. Proceeds from the study fields and commercial enterprises are reinvested by the group or saved in its account. The self-managed grant system empowers the groups to organise and manage their affairs beyond the learning cycle. This has progressively led to the emergence of self-financed FFSs, in which groups apply for an educational revolving fund that is paid back after two successive growing seasons.

- As the number of FFS alumni groups increased and the focus broadened, challenges that could not be solved effectively by the individual groups led to the emergence of ***FFS networks*** as platforms for coordination among FFSs to take advantage of economies of scale. Three key roles of the FFS networks are to facilitate the collective marketing activities of its member groups, manage the accumulated capital investments and manage the revolving fund to ensure capital remains available for groups' investment needs.

- All the FFS groups and networks are ***formalised as legal entities*** with constitutions and bylaws; they are registered as community-based organisations with their respective district community development offices. This has been very important for achieving recognition, safeguarding members' rights and arbitrating disputes.

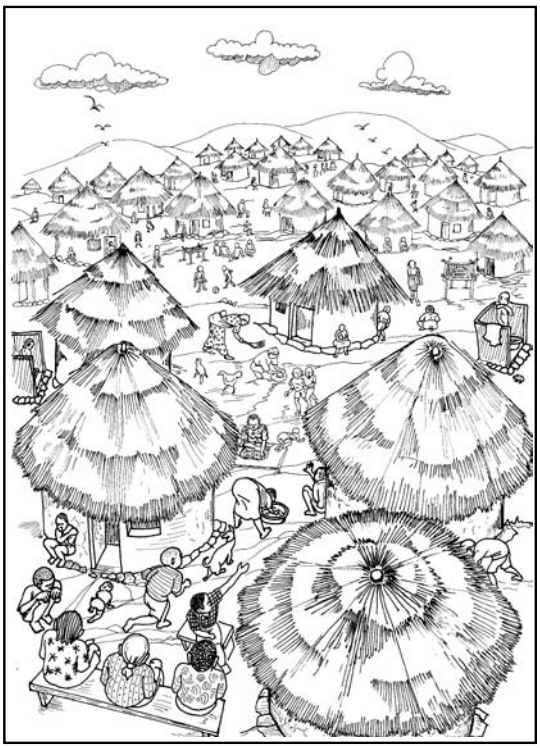
Emergency context

The FFSs under an emergency context in northern and northeastern Uganda are adaptations of conventional FFSs. In the emergency context, modifications of the FFS model have been made to both meet the unique and urgent needs of communities in transition from emergency to recovery and support the voluntary return of internally displaced persons (IDPs). The two-decade long civil strife in the region led to massive displacement of communities into camps, leaving a dent in the agricultural sector in a number of ways:

- Extension services were virtually nonexistent in most of northern Uganda and, where existing, the capacity and coverage was very limited.
- The breakdown of the traditional informal learning system hampered the transmission of vital indigenous knowledge. This left an entire rural generation with extremely limited exposure to good agricultural skills. As a result, the population became more vulnerable and was pushed to the edge of chronic food insecurity. This region had formerly been considered a food basket for the rest of the country but was now a net importer of food and completely dependent on food aid.
- To cope with food and income insecurity, communities resorted to alternative livelihood activities like uncontrolled charcoal production and timber extraction, which posed major threats to the environment and long-term food security.
- Lack of essential farm inputs hampered the resumption of meaningful agricultural production even when the security situation improved.

- Poor farmers lost livestock during the time of encampment.
- There was a breakdown of the traditional seed saving system, which conserved and preserved local varieties with good characteristics like resistance to pests, diseases and drought.

Under such circumstances, no standard technological solutions were available to quickly restore and enhance agricultural productivity in the region. The situation required a more responsive and holistic approach that included a social protection component to help affected communities recover from the shocks of war. At the same time, the communities needed to re-engage in meaningful and sustainable livelihood options in the shortest time possible. The FFS approach offered the most viable practical alternative. FFSs could deliver tailored and comprehensive training on various production, entrepreneurial and life skills issues to such fragile communities.



Emergency context: Life in IDP camps, such as the one above, left an entire generation with limited exposure to good agricultural skills. FFSs provided a solution to this problem.

As mentioned above, social protection of communities was a key component of the FFS strategy. FFS interventions that supported this component included:

- building group cohesion
- developing group and individual skills
- encouraging income generation and asset buildup
- creating social networks as support forums
- enabling linkages to existing government, private sector and other development initiatives

The FFS interventions have been holistic and three pronged:

1. Provision of **essential agricultural inputs** with the requisite comprehensive skills development;
2. Provision of **investment grants** to enable the groups to responsibly engage in income-generating activities like seed multiplication of improved varieties or other commercial activities of choice;
3. Provision of **strategic assets** to increase production (e.g. ox–ploughs and oxen) as well as small scale agro-processing equipment (e.g. maize mills, oil pressing machines, and rice hullers).

The skills development component follows a season-long curriculum. This ensures that the settling communities are exposed to all essential good agricultural practices within a crop's lifecycle. Alongside the core learning process, the FFS approach integrates other essential skills required to address local problems identified by the groups. The following skill topics

Vegetables have formed the common study enterprises due to their short growth cycles, which fit within the short funding cycles associated with emergency and post-emergency projects.

are frequently included:

- ***Good production practices*** (agricultural and livestock, including aquaculture)
- ***Quality seed*** production and preservation
- ***Environmental protection*** practices such as improved soil management, conservation agriculture, promotion of organic manure, woodlots/fruit trees and use of energy saving stoves
- ***Business orientated*** production through basic farm management and analytical skills; recordkeeping; and savings mobilisation through village savings and loan associations
- ***Marketing*** and ***agro-processing*** as part of the overall commodity value chain

The FFSs under a post-emergency context are implemented by fulltime facilitators employed through local and international NGOs working in the resettlement communities in close collaboration with the respective district local governments, the National Agricultural Research Organization (NARO) and the National Agricultural Advisory Services (NAADS). Through this arrangement over 23 NGOs have been trained and supported by FAO to integrate FFS activities into their day-to-day interventions. As of mid-2009 over 1,600 FFSs had been supported, directly benefiting over 48,000 households in northern and north-eastern Uganda.

For quality assurance and consistency in the methodology, FAO maintains the responsibility of capacity building by identifying resource persons, conducting the training of facilitator courses and supporting subsequent mentoring and technical backstopping to address emerging "location specific" capacity gaps.

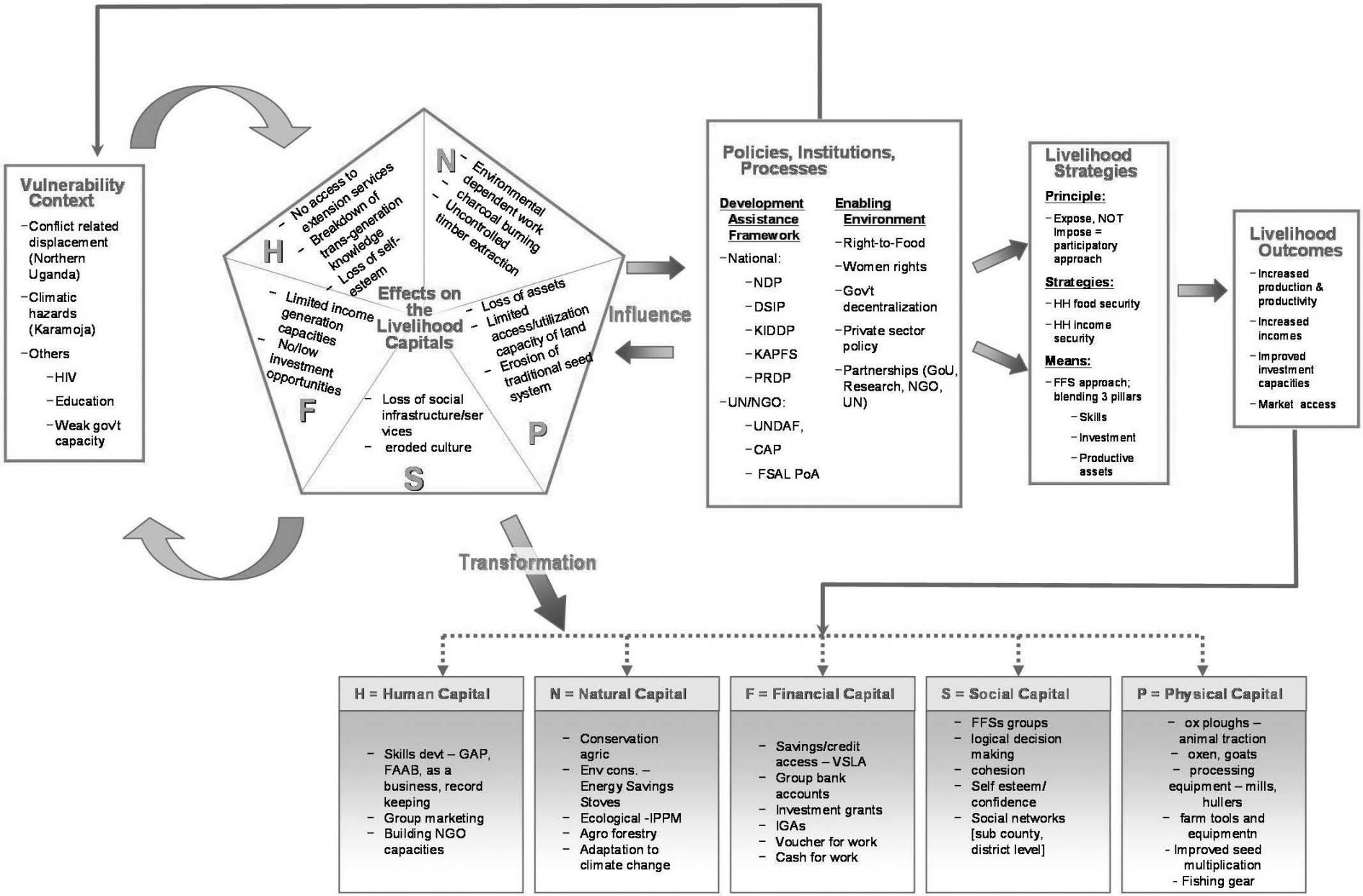
The following table compares Farmer Field Schools in the development and emergency contexts:

FFS Features	Conventional Development Context	Emergency/Recovery Context
Facilitators	• Government extension staff, with farmer facilitators taking over later	• Full time facilitators hired by NGOs operating in the beneficiary community • Facilitators are diploma or degree holders • Due to short implementation periods, there is a need for people who can comprehend the training and be able to pass on the skills to the farmers
Period	• At least 1 year	• 6–8 months of implementation as dictated by funding nature for emergency projects
Training	• 4 months originally (changed to 2 weeks)	• 2 weeks intensive residential training
Season-long Studies	• Various study activities depending on farmers' needs • Opportunity to undertake both crop and livestock for study • At least 2 learning cycles, covering more topics comprehensively	• Focus on short term maturing crops for study – usually vegetables and pulses • 1 cycle of learning • Only most important/strategic topics covered
Complimentary Learning Activities	• FaaB, Savings and Credit, Marketing	• FaaB, Savings and Credit, Marketing
Focus	• Often limited to a specific entry point	• Broad, owing to the diverse needs of the target communities
Financing	• Self- and semi-financed activities partly co-financed by members' contributions	• 100% grant to the groups (due to their state, incomes are very low, income sources limited and business skills lacking)
Costs	• Lower due to the use of farmer facilitators • Farmer facilitator's availability guaranteed since they belong to the respective communities of work • Low administrative costs due to direct implementation	• Higher due to use of professional facilitators who require higher pay • High turnover of facilitators in search of better opportunities • High operational/administrative costs due to use of partners and the existence of sub-offices throughout the region for coordination

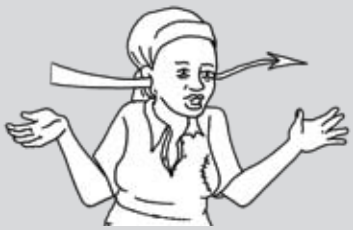
The emergency setting offers little flexibility for farmers to adequately and effectively develop their skills, capacities and potentials for future challenges. Thus, strategic follow-up support to the FFSs is essential to take farmers to the next level of development. Implementing FFSs under emergency calls for prior planning of follow-up activities and longer-term projects to consolidate the previous efforts. This builds the FFSs' institutional capacities and boosts their production potential.

The FFS in the emergency context is more livelihood-orientated in response to the urgent and unique needs of the target community. The scheme below shows the livelihoods perspective of the FFS under the emergency and recovery settings.

A Livelihoods Perspective of the FFS under the Emergency Context



THE FFS GUIDING MODEL: EXPERIENTIAL LEARNING



"When I hear it, I forget!"

"When I see it, I remember"

"When I do it, I own it for life"

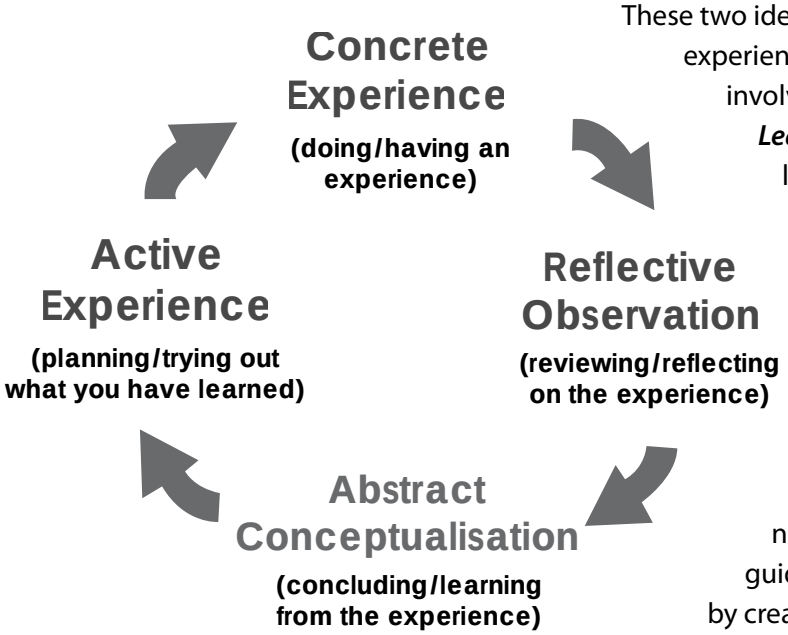
Experiential learning is fundamental to the FFS approach. The basic assumption of experiential learning theory is that learning is always rooted in prior experience. Any attempt to promote new learning must take previous experiences into account.

It is also widely accepted that people learn best by doing. The Chinese have a proverb;

"Tell me, and I forget. Show me, and I remember. Involve me, and I understand."

Modern science supports this ancient wisdom. Studies of the brain and memory show that the average human brain can retain only about 20% of the information it receives through hearing alone. If we can hear AND see the information, brain retention doubles to 40%. If we hear, see AND actively engage with the information in a meaningful way, our ability to remember doubles again to around 80%.

A scientist named Kolb, who is an expert in experiential learning, created a model to illustrate how experiential learning works. The model, called Kolb's Learning Cycle, is used all over the world, from primary classrooms to engineering schools in universities. Kolb's model, shown bottom left, has also influenced the FFS approach. You will see this clearly when you read about the ***Agro-Ecosystem Analysis*** model later in this chapter.



These two ideas – that new learning must be built upon past experiences and that we learn better when we are actively involved in the learning process – along with ***Kolb's Learning Cycle*** form the foundation for the FFS learning approach. Here is how the experiential learning model is translated into the core principles of the FFS approach:

- ***Farmers decide what to study.*** It is the farmers themselves who determine what they will study in a FFS, not the facilitator or extension agency. This ensures that the information is relevant and tailored to the local needs of the farmers. The facilitator's job is to guide the farmers through their learning process by creating hands-on exercises. These exercises give farmers new experiences to help them make better decisions about farming practices.

- ***Learning is field-based.*** An FFS must have a study field (usually about 0.5 – 1 acre) for group study. The study field is necessary so that participants can carry out experiments without personal risk, allowing them to make management decisions that they might not otherwise attempt on their own farms. To enhance regular attendance, study fields should be located at a convenient distance from all the members.

- ***Study is done in mini groups.*** A typical FFS consists of 20-30 participants with common interests. Work takes place in mini groups of 5 - 6 participants to enhance the experiential learning process. All members actively participate in field observations, analysis, discussions and decision making.

- ***The curriculum follows a crop, livestock or enterprise cycle (also called a phenology).*** The learning follows the natural cycles of the subject. It is therefore a season-long learning process, which is systematic and situation specific. Thus, content and study activities follow a chronological cycle, for example, from "seed to seed", "calf to calf" or "egg to egg". At each growth stage, the facilitator guides the farmers to identify critical problems, requirements and appropriate management practices.

- ***The facilitator is a guide, NOT the leader.*** Farmers have a wealth of experience and knowledge that can be reinforced by providing them with a basic understanding of the agricultural and environmental dynamics in their fields. Therefore, facilitators listen carefully and build on local knowledge rather than impose their own ideas and opinions. The role of the facilitator is to guide the discussion, clarify concepts, fill in missing information and provide a synthesis of outcomes.

- ***The farmers are exposed to the underlying basic science.*** The FFS approach is particularly adapted to field learning activities that require specific practical hands-on management skills and conceptual understanding. In all the learning processes, the facilitator endeavours to bring out the underlying basic science. The facilitator should explain the why and how for every action; point out cause and effect relationships; and shed light on basic biological, chemical or physical processes observed in the field observations. Farmers make more effective decisions when they have learned the basic scientific principles and combine them with their own experiences and needs. When farmers have this basic knowledge they are better clients for extension and research systems because they have more specific questions and demands. They also are able to hold these systems accountable for their output and benefits. Finally, they are able to protect themselves from dubious sources.

- ***FFSs build strong farmer teams.*** One of the main objectives of the facilitator is to improve the social capital of the group. During the learning cycle, the FFS includes teambuilding exercises to improve communication, cooperation and leadership skills among the farmers.

WHY FARMER FIELD SCHOOLS

Traditional agricultural extension approaches have tried to solve the economic problems poor farmers face. Their basic approach can be summarised in a phrase: "Give the farmers new technologies and their difficulties will disappear." There are three problems with this approach.

First, many issues important to farmers–soil fertility, crop selection, insect populations and plant diseases–vary from farm to farm and sometimes even from plot to plot. As a result, they need case-by-case analyses before decisions can be taken. There simply is no "one size fits all" approach when it comes to farming. Traditional agricultural extension often ignores this. It is characterised by a "top-down" transfer of knowledge that doesn't reflect farmers' diverse livelihoods or needs. The FFS approach, however, is driven by the farmer. The problems the farmer faces are the problems that the FFS will explore. The solutions that are implemented are decided by the group–not by agricultural "experts".

Second, traditional extension methods make farmers dependent upon external agencies. Often, good agricultural practices are not appreciated by farmers because the demonstration plots are managed by "outsiders". The farmers don't see or understand the underlying agricultural principles at work. The new practices remain a mystery to them. Therefore, when problems arise the farmers are dependent upon the extension service to assist them. The FFS approach recognises that farmers need opportunities to experiment with new technologies, to learn how to evaluate different options systematically and to decide for themselves which are worthwhile. A major goal of FFS is to empower the farmer to think independently.

Third, the traditional extension model is too narrow to serve farmers' needs. A purely economic approach to farming ignores the fact that the rural poor face many social issues that don't seem directly related to farming but which can have negative effects on their livelihood. Health problems can disrupt planting. Illiteracy can lead to improper pesticide application. Land wrangles can lead to sabotaged harvests. The FFS approach aims to create productive citizens ready to make positive contributions in their communities.

The FFS approach is a welcome change from traditional extension methods. It builds self-confidence, particularly for women. It encourages group control. And when the FFS is over, the farmers have solid management and decision-making skills to help them in the future. The FFS gives poor farmers the skills to create cooperative working groups and start their collective businesses.

CORE ACTIVITIES IN THE FFS APPROACH

Now you know the philosophy behind a FFS, but what does a FFS actually do? There are four core activities that take place during the FFS's learning process. They are:

1. Agro-Ecosystem Analysis (AESA)
2. Comparative and/or validation experiments
3. Learning topics
4. Participatory monitoring and evaluation

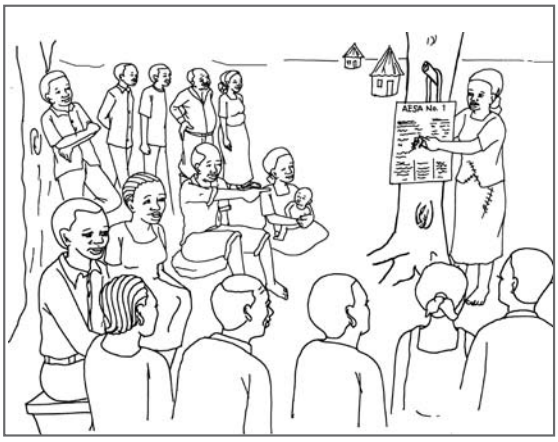
AESA

AESA is the cornerstone of the FFS. It stands for ***Agro-Ecosystem Analysis.*** The FFS participants spend most of their time in the field. Much of that time they will be performing AESA. In performing AESA, the farmers use the field as a classroom where they explore the ecosystem around them. AESA is built upon an experiential model of learning and looks like this (see chapter 7 for a more detailed explanation of the AESA process):

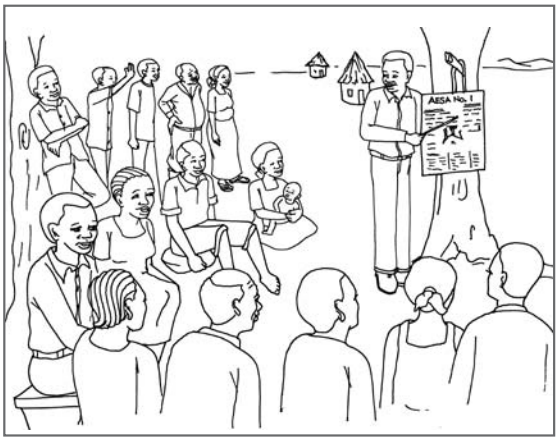
1. Observing

2. Analysing and recording findings

3. Presenting for feedback



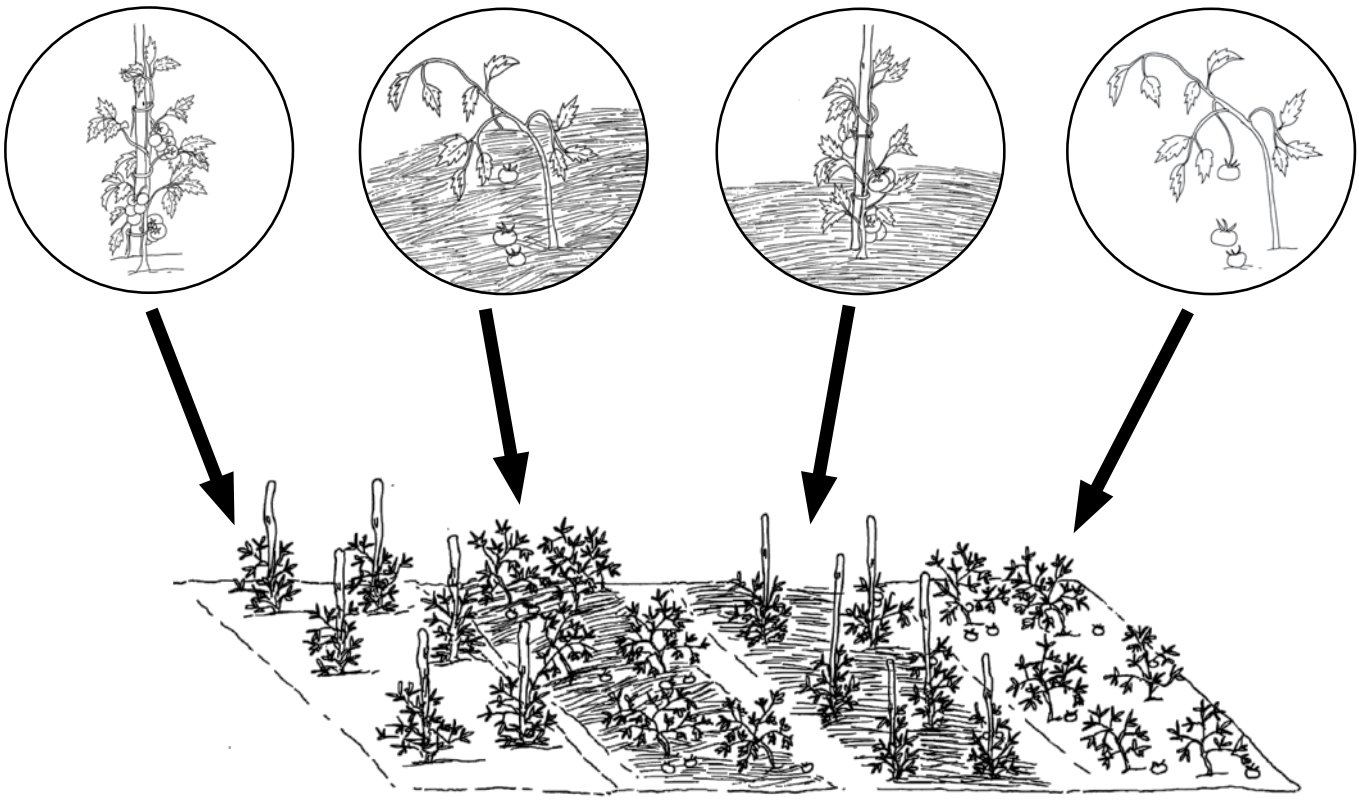
4. Deciding on actions to take



COMPARATIVE AND VALIDATION EXPERIMENTS

Field experimentation uses the scientific method to solve local problems. Farmers carry out simple experiments on small test plots. They develop observation, recording and analytical skills as they investigate the causes and effects of major production problems. They use the results of their experiments and blend them with their knowledge to select the best solutions to their problems. In this way, farmers become local experts on the problems that are important to them.

Experiments also encourage the testing and uptake of new farming technologies or practices. The experiments give farmers a chance to compare a set of potential solutions presented by the facilitator, researchers or other farmers. When they analyse the results farmers are able to decide which solution is best suited to their situation.



Each experiment should include a cost-benefit analysis using the data recorded during AESA exercises. Assessing the economics of each option improves decision-making skills for crop/livestock production activities as farmers often do not know whether they operate at a profit or loss. The cost-benefit analysis will also help farmers identify the most suitable and cost effective crop management options for their problems.

Besides analysing the financial costs and benefits, the comparative experiments should identify other indicators to be observed, recorded and analysed by FFS participants. These indicators may include labour needs, how long it takes a crop to grow or the amount of attention a crop needs in order to grow well.

LEARNING TOPICS

Even though adults learn best through a learning-by-doing approach, where new knowledge is built upon past experience, there is still basic technical information that is needed before hands-on activities can begin. Certain activities are also too risky to do without proper expertise or information. Therefore, the "topic of the day" is used to introduce new information that is technical or requires specialised skill.

Topic of the day: These sessions give farmers technical information such as the example shown above.

The objectives of the "topic of the day" are to:

- provide an opportunity for a facilitator, researcher or farmer specialist to give the farmers the background information they need about a subject before beginning an activity;
- enhance the farmers' technical knowledge and present them with information they need at the time they need it;
- ensure a demand-driven learning process;
- share knowledge among the participants

Thirty minutes to one hour of each FFS session should be reserved to discuss a topic of the day relevant to farmers' needs. The topic of the day is normally related to the focus enterprise but could be any subject of concern to participants, in this case referred to as a "special topic". Issues such as environment, HIV/AIDS, microfinance, gender inequity, malaria control, immunisation, reproductive health and nutrition are some of the special topics that are often addressed at FFSs. If the facilitator lacks the specificexpertise, he should invite an external specialist to lead the discussion. The role of the facilitator is to target a specific topic at the most relevant time for FFS participants.

AESA, comparative experiments, learning topics and PM&E comprise the bulk of the activities that take place on a daily basis at the FFS. There are 3 key elements woven into all four of these activities. They are:

Environmental Sustainability

Gender Considerations

Recordkeeping

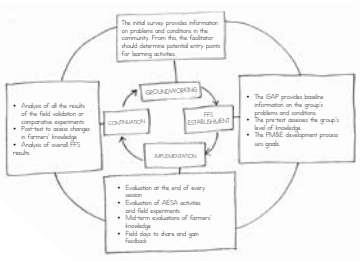
PARTICIPATORY MONITORING AND EVALUATION

To successfully implement the FFS approach, both the participants and facilitator must continuously assess whether they are making positive changes and actually achieving the goals they have set. a participatory monitoring and evaluation (PM&E) methodology has been developed to help FFS practitioners actively observe and analyse FFS situations and performances.

The facilitator and group must monitor and evaluate the following 3 areas:

- the overall FFS's performance
- specific FFS sessions like AESA and "topic of the day"
- the comparative field experiments

See **Chapter 5** for more information on how to monitor and evaluate your group's performance and assess whether it is achieving its objectives. The model to the right.– shown in full in Chapter 5 – will demonstrate the different stages when you will need to use PM&E.



A TYPICAL FARMER FIELD SCHOOL SESSION

Here's what an average session looks like, in chronological order:

1. **Opening (20 - 30 minutes)**
   - Prayers
   - Roll call
   - Brief recap
   - Review of evaluation results from previous session
   - Hand over to host team of the day

2. **AESA (1 hour 30 minutes)**
   - Mini groups carry out field observations and generate data
   - Mini groups analyse data and create AESA sheets
   - Presentation of AESA results and conclusions by the respective mini groups
   - Synthesis of the mini group presentations by the facilitators to help the group make appropriate management decision(s)

3. **Group dynamics (10 – 15 minutes)**
   - Host team or the facilitator leads the group in an energiser/icebreaker

4. **Topic of the day (45 minutes)**
   - Building upon the outcomes of the AESA results, the facilitator introduces the topic of the day and leads a group discussion

5. **Updating of records (30 minutes)**
   - Members submit their passbooks and update their savings and loan commitments
   - All financial and production records are updated
   - Treasurer reports on the status of the records

6. **Planning (10 – 15 minutes)**
   - The facilitator/chairperson leads the group to discuss any issue of concern and plan for the upcoming enterprise management activities and next session.

7. **Closing (10 minutes)**
   - Announcements
   - Update of roll call sheet to capture late comers
   - Closing remarks by chairperson/facilitator
   - Closing prayer

8. **Evaluation exercise (5 minutes)**
   - Host team displays evaluation sheet (mood meter) for participants to fill in as they depart the venue, making assessment of various parameters

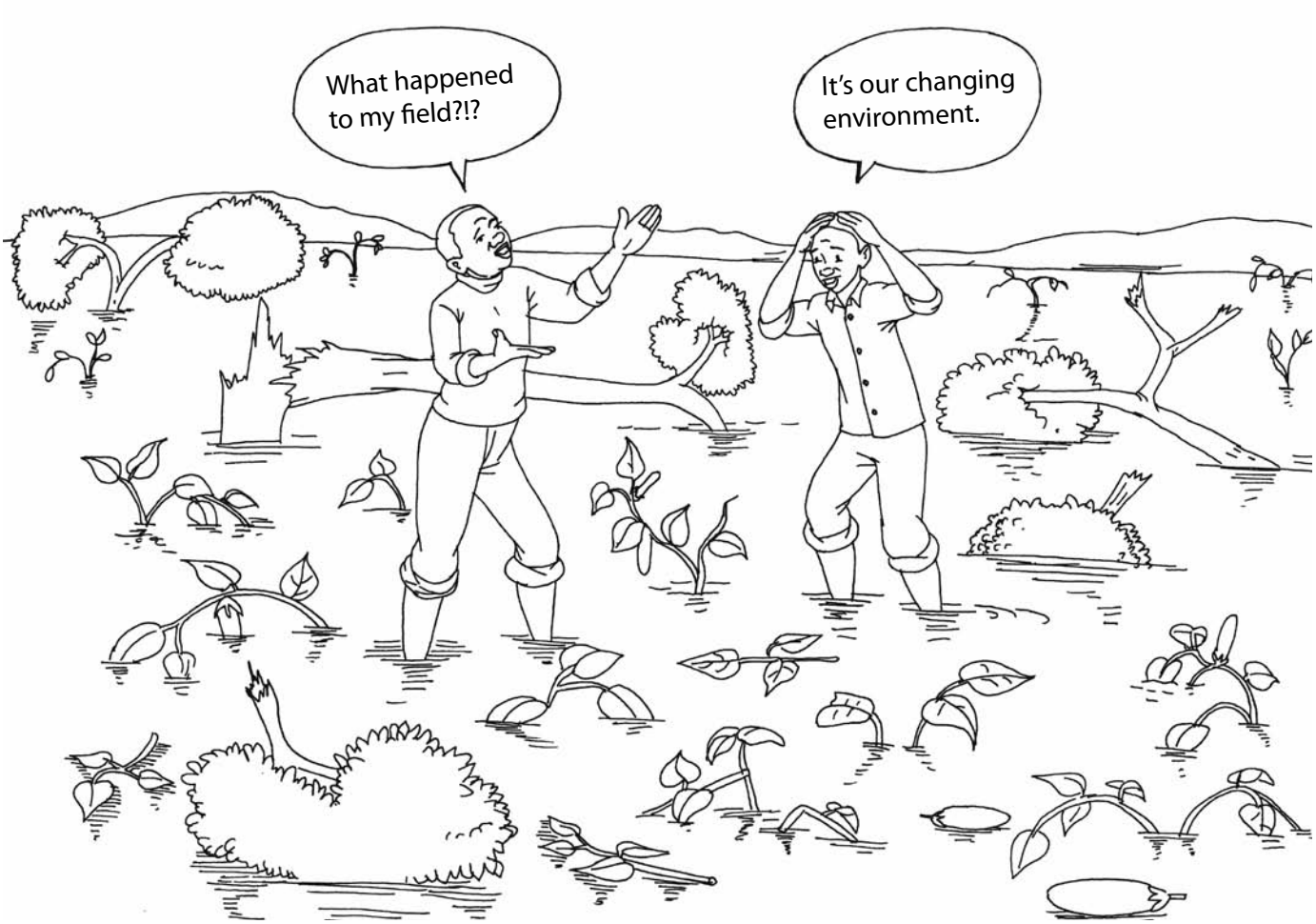
As you can see, the host team's job is to keep the session running smoothly. In addition to the activities mentioned above, the host team is also responsible for: arranging the venue, welcoming and introducing visitors, leading group dynamics exercises and providing refreshments, if available.

KEY ELEMENTS OF A FARMER FIELD SCHOOL

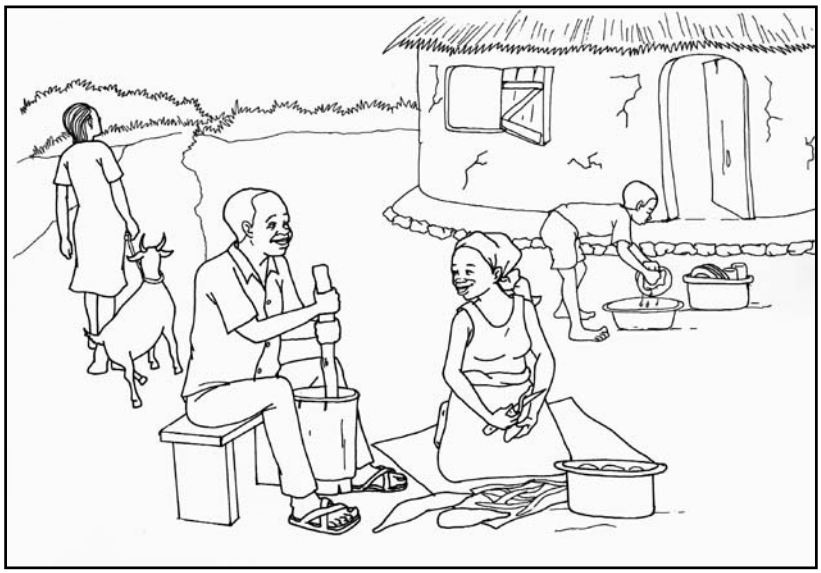
ENVIRONMENTAL SUSTAINABILITY

The FFS approach to the environment is simple: feed the soil that feeds you. In every management decision, the farmer will consider the effects that decision will have on the soil. FFS facilitators discourage causes of environmental degradation and encourage good environmental practices. Efforts are made to encourage practices adaptable to the effects of climate change.

Causes of Environmental Degradation	Good Environmental Practices
• Cutting trees indiscriminately	• Using energy saving stoves that consume less wood
• Burning charcoal or brick	• Educating farmers on alternative methods of charcoal burning
• Monocropping	• Practicing crop rotation and mixed cropping
• Encroaching on wetlands	• Regulating wetland use



GENDER CONSIDERATIONS



Your sex is biological. You are either a male or a female. Gender refers to the roles and relationships assigned to men and women by the culture in which they live. The activities men and women do within their families and communities depend on society's expectations rather than on biological differences. Different cultures assign different gender roles to men and women. Gender roles also change over time as a culture adapts to new realities.

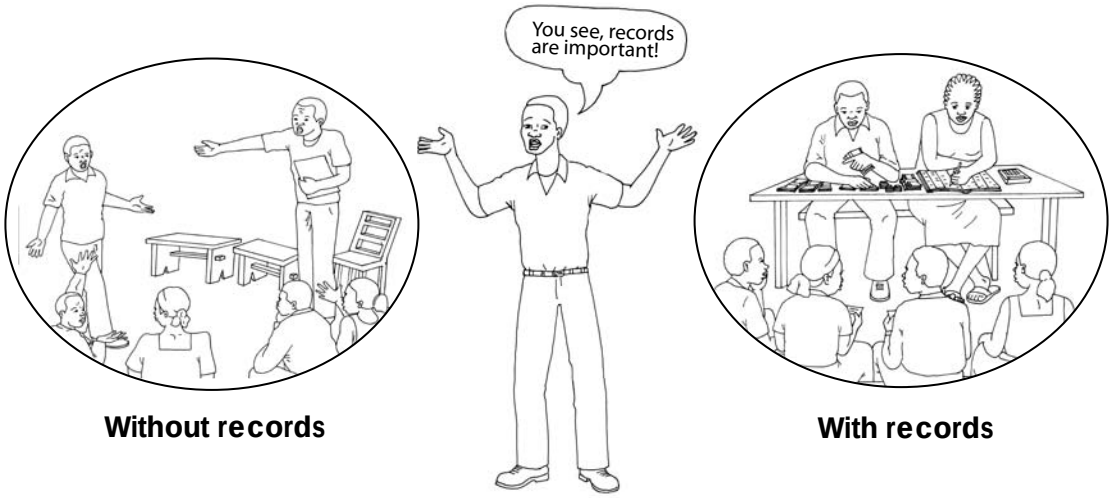
Because men and women have different roles in their communities – with different levels of access, control and ownership of the resources used to pursue those roles – women can sometimes find themselves left out or left behind. It is the aim of the FFS approach that women are fully involved in the process of developing their communities.

RECORDKEEPING

Good recordkeeping is a must for effective farm management. Records are important in three ways:

1. They help FFS members keep track of what has happened.
2. They provide data for periodic reporting, monitoring and evaluation.
3. They ensure proper repayment of loans as well as adequate cash flow.

Most of the records in FFS complement each other and feed into other reports, meaning that you as a facilitator need to be aware of the sequence of each report.



CHAPTER 2:

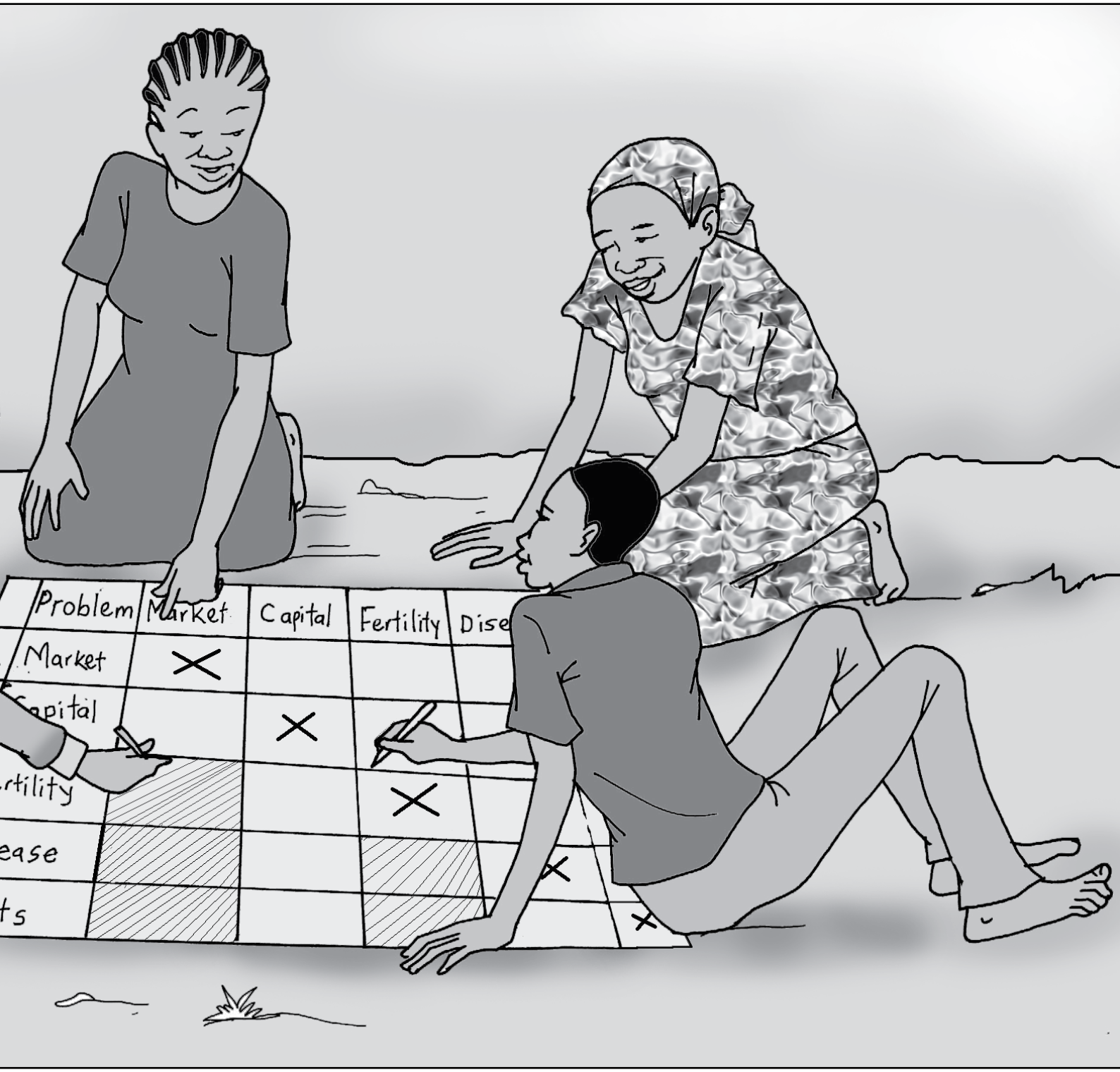
PRA Tools

Participatory Rural Appraisal (PRA) tools are designed to increase the facilitator's and farmers' understanding of local issues and help them to plan for and implement the FFS. Using PRA tools also gives the FFS members a greater feeling of ownership over the learning process.

PRA tools can be used to:

- Determine farmers' needs
- Establish priorities for FFS activities
- Decide on the indicators in a comparative field experiment
- Monitor implementation of the FFS
- Investigate special topics like gender or HIV/AIDS
- Identify conflicting group interests

Chapter Two will provide a brief outline of several PRA tools that have been used successfully in many Ugandan FFSs. These are just some of the PRA tools that have been designed for development workers in a rural setting.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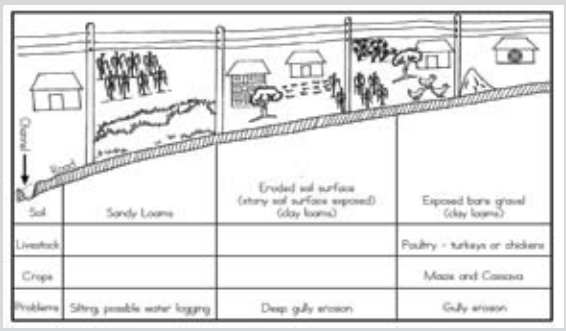
PARTICIPATORY RURAL APPRAISAL TOOLS

Here are the seven PRA tools described in this chapter:

PRA Tools



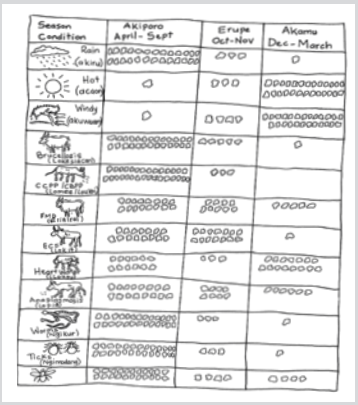
1. Transect Walk

Reproductive activities	Men	Women	Boys	Girls
Child care		x	x	x
Cooking		x		x
House construction	x		x	
Fetching water and firewood		x	x	x
Productive activities	**Men**	**Women**	**Boys**	**Girls**
Land preparation	x		x	
Ploughing	x		x	
Weeding		x		
Harvesting and transporting		x		x
Drying and threshing		x	x	x
Selling produce	x			x
Community activities	**Men**	**Women**	**Boys**	**Girls**
School construction	x			
Well maintenance		x		
Leadership	x			

2. Activity Profile

Resources / Benefits	Access		Control		Ownership	
	Men	Women	Men	Women	Men	Women
Land	X	X	X		x	
Cash/credit	X	X	X		x	
Farm tools	X	X	X	X	x	
Draught power (Oxen)	X		X		x	
Skills training	X	X				

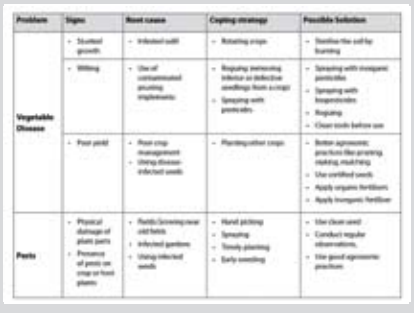
3. Resource Control Profile



4. Seasonal Calendar

	Problem	Markets	Capital	Fertility	Disease	Pests	Score	Rank
1	Markets	X	market	market	disease	pests	2	3rd
2	Capital	X	X	capital	disease	pests	1	4th
3	Fertility	X	X	X	disease	pests	0	5th
4	Disease	X	X	X	X	pests	3	2nd
5	Pests	X	X	X	X	X	4	1st

5. Pair-wise Ranking



6. Problem-Solution Analysis Table

7. Options Assessment Format

TRANSECT WALK

A transect walk is a structured walk through a selected area so that you can observe the area's environmental characteristics and/or people's main activities. It is a participatory tool that should be done with community members who know the area well. Transect walks are carried out when starting a project so that you can assess its feasibility, but they also help the community see its own gaps and feel like stakeholders in the project.

For temporary communities, local knowledge may be incomplete. Use existing FFS groups or networks to help map the area.

Here's how to do it:

Step 1: Take a walk in the community. Pay particular interest to the infrastructure (e.g. roads, buildings, telephone lines or towers.) and the natural environment.

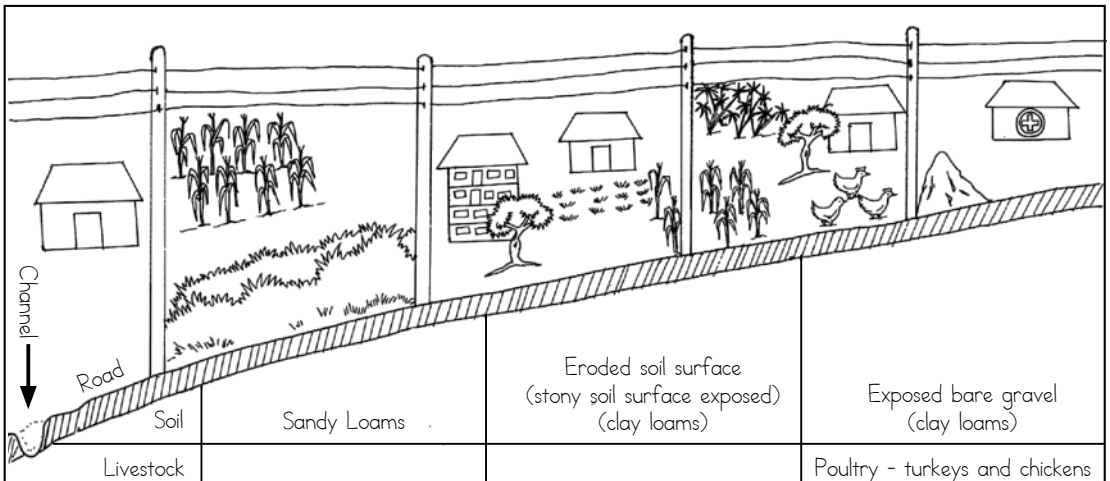
Step 2: Draw a simple map of the area from west-to-east or north-to-south. (See the illustration below.)

Step 3: By making columns, section out the map between types of areas. Where are the fields? The buildings? The trees? The animals?

Step 4: Under the map create 4 rows. Each row should deal with a different thing. The first row is to note the quality of the land. The second is to note where animals graze. The third is to write down the crops that are being grown. The fourth is to write down opportunities for land use or problems with land use.

What the sample transect walk below tells us:

Even though some crops are growing in this area, the slope of the land indicates that it is not ideal for farming. The soil is eroding and some of it could be waterlogged during the rainy season.



Soil	Sandy Loams	Eroded soil surface (stony soil surface exposed) (clay loams)	Exposed bare gravel (clay loams)
Livestock			Poultry - turkeys and chickens
Crops		Maize and cassava	
Problems	Silting, possible water logging	Deep gully erosion	Gully erosion

ACTIVITY PROFILE

An activity profile is used to outline the main reproductive and productive activities undertaken by men and women in their families and community in order to better understand who performs which tasks. This will be helpful in planning and scheduling FFS activities – especially in terms of assigning tasks and responsibilities among FFS members. On the next page there is a simplified activity profile format.

Definition of terms:

- ***Reproductive activities*** are activities that, although they do not earn money, are important for the strength of the home.
- ***Productive activities*** are things the family does in order to earn money. The land is ploughed and weeded so that food can grow. Once the food is grown it can be sold for money or eaten.
- ***Community activities*** are things that group members do to strengthen their communities.

Here's how to do it:

Step 1: Introduce the subject of gender to the participants. What is their understanding of gender roles?

Step 2: Ask the participants to identify the main reproductive, productive and community activities they take part in. Write all of these into the first column.

Step 3: Ask participants to identify who is responsible for which tasks: men, women, boys or girls. Some activities may be shared by more than one group. Do the groups agree on responsibilities? It may be hard for everyone to agree because (as you will see in the next PRA tool) responsibility does not necessarily mean control.

Sample activity profile

Reproductive activities	Men	Women	Boys	Girls
Child care		x	x	x
Cooking		x		x
House construction	x		x	
Fetching water and firewood		x	x	x
Productive activities	**Men**	**Women**	**Boys**	**Girls**
Land preparation	x		x	
Ploughing	x		x	
Weeding		x		
Harvesting and transporting		x		x
Drying and threshing		x	x	x
Selling produce	x			x
Community activities	**Men**	**Women**	**Boys**	**Girls**
School construction	x			
Well maintenance		x		
Leadership	x			

What the sample activity profile tells us:

- Men contribute very little to reproductive activities in the home. What reproductive tasks might men be willing to take on to assist their families in this important area?
- Men and boys are very busy with productive activities at the beginning of the growing season, but do not assist the women and girls during the long growing and harvest seasons. Is this fair? How could a family more evenly distribute the productive work on the farm?
- Men have total control of the income generated from the sale of farm products. Is this fair? Do they handle the money appropriately? What do women think about this? What do boys and girls think about this?
- Children seem to make little or no contribution to the larger community. Why? What, if anything, can be done about this?

The activity profile and resource control profile are both great gender tools-but they are not meant to be done once and forgotten. Because FFS aims for behaviour change in the household, gender roles may shift throughout the course of the FFS. These tools can be re-examined at specific points by the facilitator in the PM&E.

RESOURCE CONTROL PROFILE

This tool helps to identify who in the household has access to, control of and/or ownership of the resources. It also tracks who can take advantage of benefits, such as skills training.

A resource control profile is used in the FFS to indicate the role gender plays in control over resources. This is important because:

- Female members often have no access to crucial resources such as land, making it impossible for them to host FFS enterprises.
- If the FFS enterprise requires capital injection (cash) and female members have no access to cash or credit then they are unlikely to participate.
- The profile will show how benefits from the FFS activities will be shared not only at the FFS level but also at the household level. If women are treated unfairly in the FFS, then it is unlikely to succeed.

This is one of the tools that will help participants discuss key gender role issues in their community. The group can use it as a basis to agree upon practical steps the FFS can take on gender issues-in everything from selecting leaders to sharing the workload to accessing cash.

Definition of terms:

- ***Resources:*** The things we need for production, which include cash, land, draft power, tools, skills, etc.
- ***Access***: Who can use the resource
- ***Control***: Who makes the decisions about the use of the resource
- ***Ownership:*** Who actually owns and can sell or trade the resource

Mr. Mukasa lives in Kampala. He owns a pick-up truck. He's given it to his cousin-brother, Fred, who lives in the village to transport goods on Mr. Mukasa's farm to the market. Fred, his wife and six children, along with his neighbours and friends all have use of the truck, at least on some occasions. In this example, who has access to the resource? Who has control of the resource? Who has ownership of the resource?

Here's how to do it:

Step 1: Start with the chart below. It may be difficult to identify all the group's resources and benefits, but after starting with a few examples, the group will think of more to add. More can always be added as the group discusses and analyses the chart.

Step 2: For each of the resources/benefits listed, have your group determine who has access, control and ownership of the resources. Be sure you clearly understand the meaning of each term and share that meaning with the farmers through examples.

Step 3: After you've filled in the table (which may lead to some heated discussions!) talk about what the information in the table tells the group about gender issues related to access, control and ownership of resources.

Sample resource control profile

Resources / Benefits	Access		Control		Ownership	
	Men	Women	Men	Women	Men	Women
Land	X	X	X		x	
Cash/credit	X	X	X		x	
Farm tools	X	X	X	X	x	
Draught power (Oxen)	X		X		x	
Skills training	X	X				

What the sample resource control profile tells us:

- While both the men and women have access to land and cash, only men have control and ownership of these things.
- The only resource that women in this group have any control over is farm tools.
- Neither the men nor the women feel they have control or ownership of skills training. (We hope their FFS facilitator is listening to this!)

The FFS method aims for gender equity. It will be your job as a facilitator to ensure that men and women in the group have equal control and ownership of the FFS enterprise. This PRA tool can be used to monitor and evaluate the gender equity of your FFS.

In the FFSs, if a woman volunteers to host meetings, then the members will need to explore whether the husband will allow this. The leadership team should discuss with the husband and come up with a formal arrangement of management. In one FFS the group received consent from the husband of one of its members to use his land to establish an orchard with more than 250 improved fruit trees. After a domestic misunderstanding between the wife and husband, however, he chased the FFS's members off of the land. The group lost its investment and not even the local leader's intervention could help!

SEASONAL CALENDAR

A seasonal calendar helps farmers see the changes in their livelihood system over the period of a year. Seasonal calendars are very flexible—they can be used in just about any way that farmers want. A seasonal calendar can show the distribution of household labour, food availability/scarcity, income inflows, and rainfall across the year. It can also show associations between diseases, environmental factors and interactions with animals, vectors and human beings.

One of the best ways to use the seasonal calendar is to determine who is responsible for the different livelihood activities the group does in one year.

Here's how to do it

Step 1: Explain to participants that they are going to look at the different livelihood activities they do over the course of the year. Show participants the blank seasonal calendar and explain that the letters at the top represent the months from January through December. (You can start at any point of time and end at any point. You can also translate the names of the months into the local language.)

Step 2: Have participants brainstorm all the different livelihood activities they do throughout the year and list them vertically down the side of the calendar.

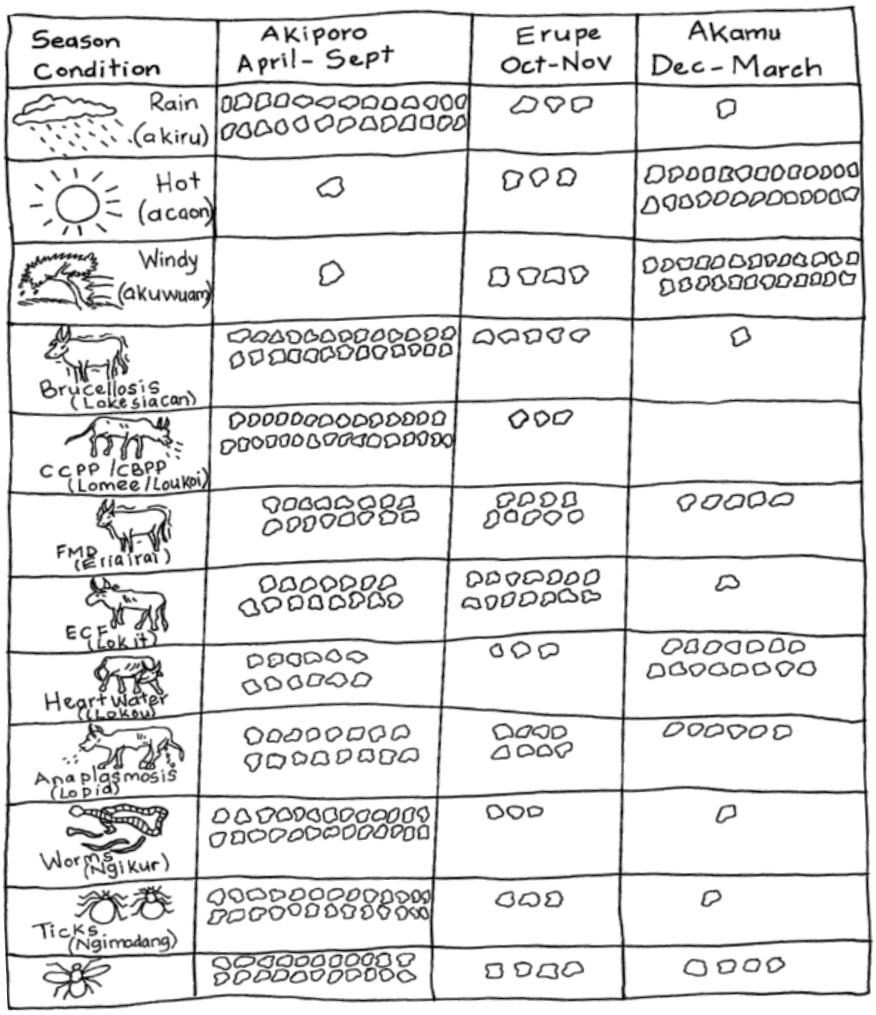
Step 3: After participants have developed a good list of livelihood activities, ask them to focus their attention on the first activity on the list. During what months does work for this activity take place? If "growing maize" is one of the livelihood activities, participants should identify the month(s) when they begin to prepare their fields for planting and continue on to harvest and post-harvest activities.

Step 4: After completing the first livelihood activity, continue until you have completed the whole chart.

Because you will be working with low-literacy groups, instead of writing in each activity, try making simple illustrations the whole group can understand. See the example on the following page.

What the sample seasonal calendar below tells us:

- This group did a very simple calendar, separating the year into growing seasons rather than individual months.
- It used stones to measure the effects of different weather conditions and various afflictions to cattle. The stones represent participants' votes on how strong the particular problem is during that season. Most parasites cause problems in April to September, but become more manageable from October to March.
- The stones are also used to measure the weather. December to March is hot and windy, while April to September is rainy.



Remember, this is just one example of how a seasonal calendar can be put to use. You can explore many other topics with this PRA tool.

Due to climate change, the group may have trouble determining local weather patterns. It is still worthwhile to ask them if they can remember what preceding years' weather was like.

The seasonal calendar can be used to outline all the key activities performed by men and women on a seasonal basis—clearly establishing tasks and workloads of both men and women. In nearly all cases the women's workload far outweighs that of men. In planning FFS activities, serious note should be taken of the times women's workloads can permit them to effectively participate in the FFS activities. Gradually, through the lessons learnt in the FFS approach, the men and women should begin to share tasks more equitably.

PAIR-WISE RANKING

A pair-wise ranking is a PRA tool that helps your group compare many things against one another. The pair-wise ranking is most often used to determine priorities when you have many to choose from.

Here's how to do it:

Step 1: Ask the FFS group to list the five to ten most important problems they face in creating a livelihood from their farms.

Step 2: Make a table like the one shown below. Create a row for each problem. (You probably should have no more than 10 rows!) Remember to leave the top row blank at first because you will use it in the next step.

	Problem					
1	Markets					
2	Capital					
3	Fertility					
4	Disease					
5	Pests					

Step 3: In the same order, list the problems in each column at the top of the table. (The problem may be "decreasing soil fertility" but you can write just "soil" or "fertility.")

	Problem	Markets	Capital	Fertility	Disease	Pests
1	Markets					
2	Capital					
3	Fertility					
4	Disease					
5	Pests					

Step 4: Now find where the name of the same problems intersect on the chart. Make a big cross or X through these boxes in your table. (In the sample below these are indicated with black boxes.) Also make Xs in all the boxes that are below these intersecting boxes. (In the sample these are the gray boxes.) You will not use them in the pair-wise ranking exercise.

	Problem	Markets	Capital	Fertility	Disease	Pests
1	Markets	X				
2	Capital	X	X			
3	Fertility	X	X	X		
4	Disease	X	X	X	X	
5	Pests	X	X	X	X	X

Step 5: Now you can begin the pair-wise ranking with your group. Start by looking at the problem in the first row. In the example below it is "markets". Move your finger to where "markets" falls under a column with a different problem. In the example below it is "capital".

Step 6: Now have the group discuss which is a more difficult or pressing problem for them: access to markets or access to capital. The group may quickly reach consensus. If not, after an appropriate amount of time, ask the group to vote.

Step 7: Write the name of the problem selected as the most important in the box where they intersect.

Step 8: Continue in this way until you have filled in all the available boxes.

Step 9: Count up the number of times each problem is written in a box. The problem with the biggest number is the group's highest priority problem.

Step 10: If any two problems have the same number of votes, refer back to the decision made when the two were discussed together. The one chosen in that instance should be considered the highest priority. However, it may be a good idea for the group to discuss the two problems again and confirm or change its decision.

Sample output of a pair-wise ranking process

	Problem	Markets	Capital	Fertility	Disease	Pests	Score	Rank
1	Markets	X	market	market	disease	pests	2	3rd
2	Capital	X	X	capital	disease	pests	1	4th
3	Fertility	X	X	X	disease	pests	0	5th
4	Disease	X	X	X	X	pests	3	2nd
5	Pests	X	X	X	X	X	4	1st

What the sample pair-wise ranking chart tells us:

- In the example above a group of farmers identified the following problems:
  - access to markets
  - access to capital
  - loss of soil fertility
  - plant diseases
  - insect pests
- This FFS feels that insect pests are the most important challenge it wants to deal with.
- Soil fertility is not such a big problem for these farmers, at least compared to other issues.

PROBLEM-SOLUTION ANALYSIS TABLE

A problem-solution analysis table is designed to take groups step-by-step from a problem to a solution. The table recognises that problem-solving is not a simple two-step process – it includes several important in-between steps.

Here's how to do it:

Step 1: Create a blank table like the one shown below. Make sure you have space for several problems to be analysed.

Step 2: From the results of the pair-wise ranking, have the farmers select the three or four main problems they want to analyse in the first column of the table.

Step 3: Facilitate the FFS group to discuss the signs of each problem. What are they seeing that shows it is a problem?

Step 4: Ask the group members to identify the root cause of each problem. In other words, why do they think these signs have appeared?

Step 5: Next look at the ways that the farmers cope with each problem. Often, these are not the ideal methods for a long-term solution, but they're what the farmers are currently able to do.

Step 6: Finally, begin to look at the different ideas farmers have for a long-term solution to the identified problem. This is part of the planning process for the Group Action Plan, or GAP. (See chapter 6 for more information on the GAP.) The farmers will have already selected their enterprise of study. Using the farmers' experiences of the problems they have been facing and their coping mechanisms, you should guide them through the analysis of their problems, bringing to light bad practices that may have led to their problems.

Recommend good practices, but be careful not to ignore the farmers' ideas. The possible solutions are based on what the farmers think is right (but may not necessarily be right). Guide the farmers to the correct practices. Your role is very important in evaluating possible solutions to ensure that they are practical and make economic sense.

Sample problem-solution analysis table

Problem	Signs	Root cause	Coping strategy	Possible Solution
Vegetable Disease	• Stunted growth	• Infested soilil	• Rotating crops	• Sterilise the soil by burning
	• Wilting	• Use of contaminated pruning implements	• Roguing (removing inferior or defective seedlings from a crop) • Spraying with pesticides	• Spraying with inorganic pesticides • Spraying with biopesticides • Roguing • Clean tools before use
	• Poor yield	• Poor crop management • Using disease-infected seeds	• Planting other crops	• Better agronomic practices like pruning, staking, mulching • Use certified seeds • Apply organic fertilisers • Apply inorganic fertiliser
Pests	• Physical damage of plant parts • Presence of pests on crop or host plants	• Fields Growing near old fields • Infected gardens • Using infected seeds	• Hand picking • Spraying • Timely planting • Early weeding	• Use clean seed • Conduct regular observations, • Use good agronomic practices

What the sample problem-solution analysis table tells us:

The group has identified several possible solutions – like the use of better agronomic practices – that require the facilitator's support.

OPTIONS ASSESSMENT FORMAT

The options assessment format comes directly after a problem-solution analysis because groups will think of several solutions for their problems. The options assessment format allows you to assess which solutions are best for the group by evaluating each solution using five criteria.

While it is important for the group to consider the availability of skills to solve the problem, they should not focus on this too much. After all, they will gain many skills in the coming months through participating in the FFS process.

Below are the five criteria. After each criterion is a simple statement related to that criterion that you will read to participants. They will decide whether they agree or disagree with that statement:

1. **Sustainable** – The solution is easy to apply and sustain over time.
2. **Productive** – The solution will improve productivity.
3. **Time constraints** – The solution does **not** require a lot of time to do.
4. **Equitable** – The solution benefits men **and** women, as well as the general community.
5. **Cost** – The solution is **not** expensive.

Here's how to do it:

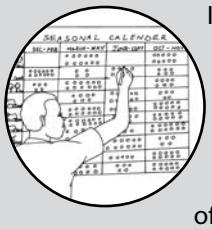
Step 1: Place all the identified solutions in the first column. Again, these usually come directly from the last column of the problem-solution analysis table.

Step 2: Write the statements that reflect each criterion in the boxes of the top row.

Step 3: Read each statement and have the participants decide whether they agree or disagree. On a scale of 1 – 5 (1 is "strongly disagree" and 5 is "strongly agree"), guide the participants to decide upon the significance or weight of each solution.

Step 4: For each solution, calculate the score to see which solution the farmers consider most acceptable.

Step 5: Repeat the exercise for each of the problems analysed in the problem-solution analysis table.



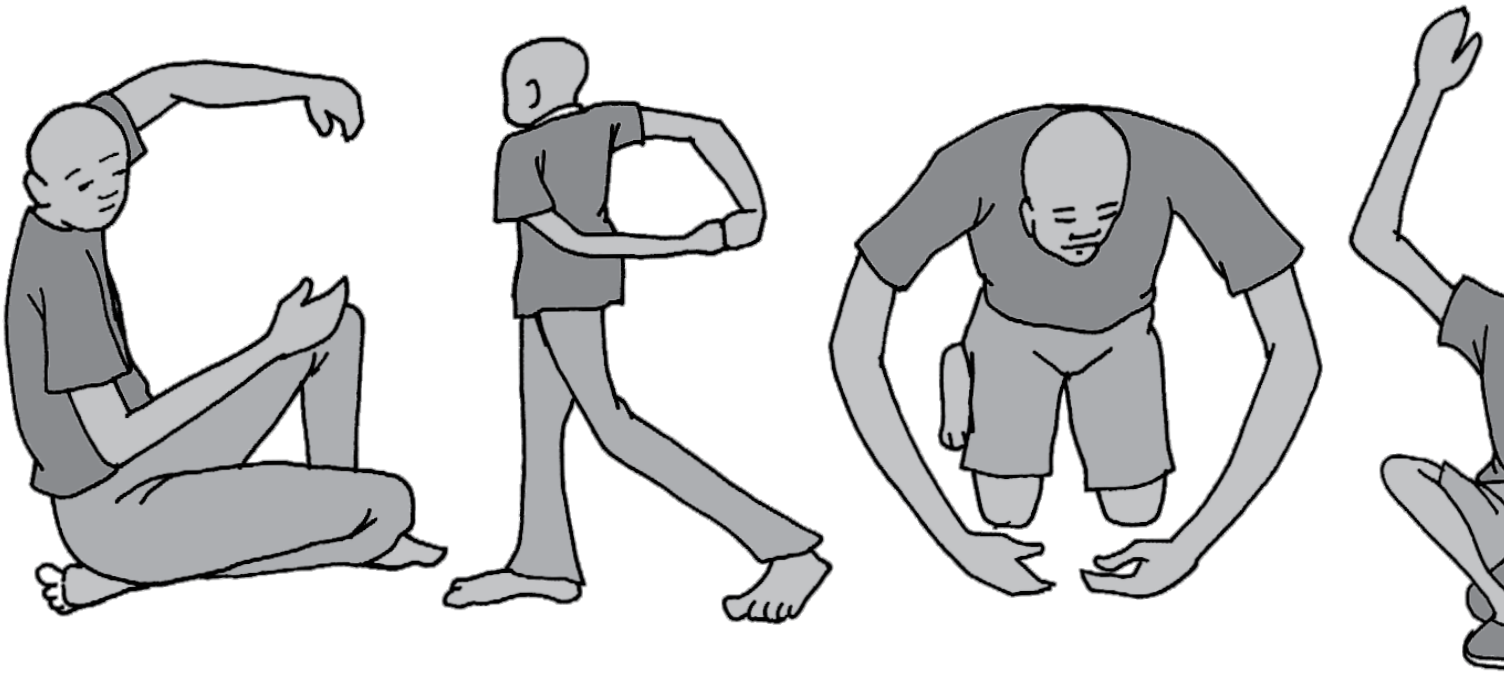
Instead of using a scale of 1-5, you can use a scale of 1-3 with your group. On a 1-3 scale, 1 = disagree, 2 = not sure, 3 = agree. It is simpler, but may lead to more ties in the end. If you use this simplified method, try to get members to state why they agree or disagree.

Sample options assessment format

PROBLEM: VEGETABLE DISEASE						
Solution / **Indicator**	It is easy to sustain over time	It increases productivity	It doesn't require a lot of time	It benefits everyone	It is not expensive	**Total weight**
Solution I Sterilise the soil by burning	4	2	3	4	4	**17**
Solution 2 Spray with inorganic pesticides	2	4	3	3	2	**14**
Solution 3 Spray with biopesticides	1	2	2	2	1	**8**
Solution 4 Roguing	3	1	2	3	3	**12**
Solution 5 Clean tools before use	3	2	3	3	3	**14**
Solution 6 Better agronomic practices like pruning, staking, mulching	2	4	2	3	1	**12**
Solution 7 Use certified seeds	3	3	1	3	4	**14**
Solution 8 Apply organic fertilisers	4	4	3	1	3	**15**
Solution 9 Apply inorganic fertilisers	1	2	1	2	2	**8**

What the sample options assessment format tells us:

- This group has identified sterilising the soil by burning to be the best possible solution.
- Several other possible solutions scored highly. These can be incorporated into season-long learning activities.
- The group correctly thought the use of inorganic fertilisers to be a poor solution.



UNIT 2:

FARMER FIELD SCHOOL ESTABLISHMENT


SACCO

CHAPTER 3: Groundworking

"Groundworking" refers to the basic activities that must be done to prepare for a large project. In FFS, "groundworking" refers to the series of activities the facilitator must do before the group can be formed. The main goals of groundworking are to determine the actual needs of the area where you will be working and to enable the facilitator to easily enter the community and market the FFS approach.

There are three steps in the groundworking stage of the FFS:

1. Researching the area
2. Meeting with community members
3. Registering participants

You will be doing all of these steps in the village where you will work. Let's look at each of these steps in more detail.

RESEARCHING THE AREA

Before you become a facilitator, you will need to research the area in which you will be implementing the FFS. Ideally, you should be working in a community with which you are familiar. If you are from the area, you already have a good idea of the needs of local farmers. However, it is possible that you will be working in a community that is new to you. In either situation, it will be very important to do some research about the area. There are two things you must determine:

IS THERE POTENTIAL FOR A FFS IN THE COMMUNITY?

Often, you will have been sent to the community by an NGO or other institution that has already decided that the area is a good place for a FFS. This means that your job is actually to research the area. *Where can the FFS fit into the community? What are the community's needs?*

One of the best ways to do research is by "mapping the area". You do this to identify key landmarks in the community, such as streams, wetlands, markets, agro-vet supply shops, civic offices, institutions (e.g schools, hospitals, churches), "boda" stages or farming patterns. A map can give you a simple visualisation of complex geographical or economic information.

Some questions you will need to consider as you map the area are:

- *Where is the best land for planting?*
- *Where do farmers get water?*
- *Which land is used for farming?*
- *Where does most activity take place?*
- *Where do people work?*

By answering these questions, you will learn how the community currently functions. The FFS you establish will help the community function better.

At this stage you should already be thinking about the FFS's learning program. From your mapping, you can do a community needs assessment. A few guiding factors to consider are: *Are animals roaming freely in farmers' fields?* If so, the community will need guidance in animal husbandry and the FFS will need to institute bylaws to restrict bad farming practices. *Are any green vegetables being grown?* If not, in addition to horticulture you will need to have a session about basic nutrition and healthy diets. *Are there signs of environmental degradation?* If so, then you will have to integrate sessions on environmental management.

You should use transect walks to know how the community is structured. By doing a transect walk, you can determine opportunities and challenges to land-use in the community. A proper transect walk will help you map where animals graze, where crops are grown and where they share space.

FROM THE FIELD

"The most frustrating moment I have ever had was when my bosses visited one of my groups in its study plot, which had onions doing so well. Reaching the study plot site, I was shocked to see a large group of animals resting on the plot without a single onion plant to be seen. I had nothing to show my bosses and the group had nothing to study from." --FFS facilitator

Are you having trouble collecting information about the area? If the community in which you work is temporary, such as a camp, it will be difficult to find historical information, but you can use the local stakeholders in the area as a source of information. Set up a meeting with a local NGO to talk about the community.

WHO ARE THE STAKEHOLDERS IN THE AREA?

Part of your job as a facilitator will be to know who is operating in the area. Each stakeholder has a role to play in the community and in your group. Possible stakeholders include:

- Local leaders such as the LCI, LCII, LCIII, parish chief or clan leader
- Other implementing partners, associations and programmes
- Religious leaders
- Local government

Which organisations are active there? As it comes time to develop a learning program for your group, you can use specialists from NGOs as guest speakers. It is also important to find out if there are any ongoing government initiatives in the area that could link with the new FFS.

Are there foreseeable disruptions to the learning process? There are probably other activities being run in the area. You don't want your FFS's schedule to conflict with other stakeholders' programmes. Some disruptions might include food distributions by the World Food Program (WFP), market days, village assemblies or communal work. Once you know when such events take place, you can make sure sessions do not conflict with such events.

Are there other FFS groups or networks in the area? If there are FFS groups working on banana bacterial wilt disease or tomato pest and disease management, you should know this. Facilitators should discover the coverage of existing FFS programmes in the community to make sure there will be no overlap in beneficiaries. Your FFS can have control of banana bacterial wilt disease as an entry point also, as long as the beneficiaries of the FFS are different. In addition, it's good to know that there are local experts on certain issues. You can use farmers in other FFSs as guest speakers. Your group members will see that the FFS program can help them become local experts too!

Who are the local leaders? You need to know who the local leaders are because they will introduce you to the community members. As you are mapping the community, ask local people about the leaders in their area. Where are the offices located? Once your research is finished, you will be ready to meet with sub-county leaders. You should introduce yourself and request an appointment. In the meeting briefly explain what an FFS is and why you are establishing an FFS in the community. Ask about the activities and important issues in the community. Make sure the research you have done is accurate. Answer any questions the LC may have and politely ask him to help you schedule a date and site to meet with the community.

MEETING THE COMMUNITY MEMBERS

Although community members may have heard about Farmer Field Schools, they will probably have some misconceptions. People may think that you will be handing out free food. Or they might believe that you will just tell them what to do. Therefore, it is important to meet the community before starting a FFS so that you can clearly explain the FFS principles and dismiss any myths. At this point, you must do some social marketing of the FFS approach. Emphasise the following:

- **Product:** This is the training content of the FFS. Participants will graduate with a good knowledge of improved agricultural practices and the ability to mobilise savings or credit.
- **Place:** The FFS learning occurs in the field-not in a classroom.
- **Price:** The farmers will sacrifice their time in order to attend regular hands-on practical sessions.
- **Process:** The FFS approach is designed to create a strong and productive group.

THE 1ST MEETING: COMMUNITY AWARENESS

The purpose of this first meeting is simple: Introduce and explain the FFS approach to community members. However, to clearly explain that the FFS is built upon experiential learning, you should give them an impression of the FFS experience. Don't just lecture! Make the meeting interactive, just like an actual FFS. You should follow the basic agenda below but-like every agenda in this manual-to make the sessions come alive, supplement them with interactive activities you enjoy.

Meeting Plan

Goals of the Session: For the community to understand what an FFS is

What You Will Need: Pictures to show the group

Time: 1 hour

Step 1: Introduce yourself and provide general information about your organisation.

Step 2: Explain why you are here. *Who sent you? Why are you in this community?*

It is best to have several meetings to meet the community. It is possible to combine the meetings to save valuable time. By doing this, however, the participants will have less time to think about whether an FFS is right for them.

Step 3: Give a short history of Farmer Field Schools. *What are FFSs? Where did they start? How long have they been in Uganda?*

Step 4: Explain the objectives of the FFS approach. Photos and schematic charts can help community members visualise an FFS as it goes through each stage of the process.

Step 5: Answer any questions the community has.

Step 6: Schedule the next meeting, which will be for those interested in participating.

THE 2ND MEETING: LEVELLING EXPECTATIONS

The second meeting is for community members who are interested in participating in the FFS. During the first meeting you introduced the community to the FFS concept. Although people will be excited at the opportunity, you need to meet with them again to "level expectations". The FFS is not about getting rich quick. It's a learning process. There are no guarantees that the initial enterprises will be profitable. People need to know what they are signing up for so that they don't get frustrated or disappointed. In addition, not everyone can join the FFS. There are certain criteria they must meet. You will need to talk specifically about the requirements of membership.

1. Ask each farmer to draw a spider.
2. Collect the drawings and display them.
3. Ask the farmers how many legs the spiders have in the drawings. Some drawings will show 6 legs and some will show 8 legs. Ask why there are different ideas about how many legs a spider has.
4. Bring out a spider and show it to the farmers. Ask them to count how many legs it has.
5. Explain that they were able to determine by themselves how many legs a spider has. There was no need for an expert. Explain that your job will simply be to help farmers discover new things – not to lecture them.

Meeting Plan

Goals of the Session: For individual community members to decide whether joining the FFS is a good decision for them

What You Will Need: Spider

Time: 1 hour

Step 1: Welcome the attendees and briefly remind them that the FFS approach uses an experiential learning model.

Step 2: Ask the participants to introduce themselves. In their introduction they should state why they wish to join a FFS.

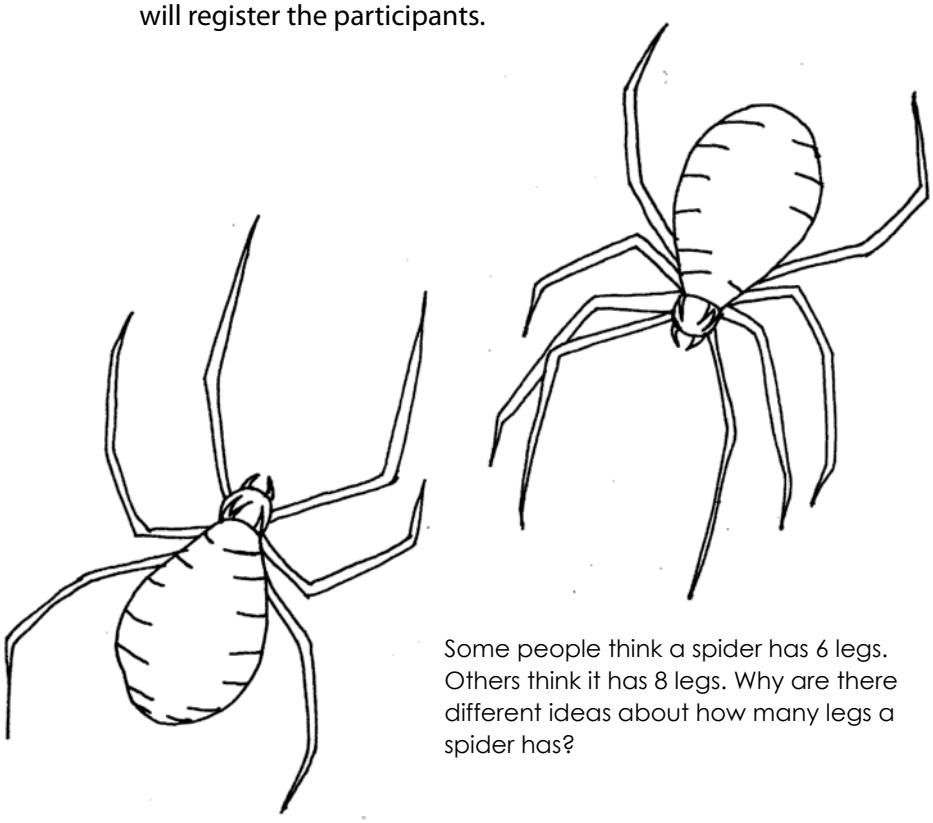
Step 3: After all the introductions, clarify any misperceptions you heard in peoples' introductions. For example, if many people said that they want to join to become rich, explain that there will be membership fees and a joint savings plan.

Step 4: To give the participants an idea of the experiential learning process used in FFSs, you should do an activity. You can either use the activity in the margin or develop your own.

Step 5: Sensitise the participants to FFS selection criteria. The basic criteria are:

- The members must have the willingness and interest to learn.
- The members have the same enterprise interest.
- They make some decisions on their household farms.
- They have roughly the same educational background and socioeconomic level (local chiefs and other influential people may impose their views on the rest of the group).
- They live a convenient distance from one another.
- Each member is willing to attend all FFS sessions.
- Each member should be willing to work in a team and share ideas, even if it brings no material benefit.
- Each member must commit to passing on what he learns to his family members and neighbours.
- Each member must contribute time as well as money or resources to the group as needs arise.
- At least one member must be able to provide a learning site for the group's exclusive use.

Step 6: Schedule the final meeting. Ask participants to consider whether they meet the criteria that were discussed. If they feel they do, ask them to come to the next meeting, at which you will register the participants.



Some people think a spider has 6 legs. Others think it has 8 legs. Why are there different ideas about how many legs a spider has?

Women have more responsibilities than men but less financial resources. At this stage they only have to show that they are willing to attend and contribute resources to the group. During the group formalisation process later on, you will guide the group in drafting a constitution that is fair to women. The sessions will be scheduled when they can attend and the contributions will not have to be money. In the meantime, encourage women to get excited about the process as an empowering experience.

REGISTERING PARTICIPANTS

This session is to brief the interested participants on the requirements to formalise a group. At the end you will register the participants.

Meeting Plan

Goals of the Session: To register interested participants

What You Will Need: Registration forms

Time: 3 hours

Step 1: Review the requirements of joining described in the previous session plan. In addition to the basic requirements you discussed at the last meeting, you will need to explain a few more. These requirements must be met before the FFS can begin its activities. (Refer to the following chapters in this unit for more information on FFS official requirements.)

- The group will have to start a formal savings program. Each member will be expected to contribute to the group savings on a regular basis. The FFS will decide as a group how much money each person should contribute. It will also decide how often each member will have to contribute.
- The group will need to register with the Community Development Office (CDO) for legal recognition, as well as for arbitration purposes.
- The group will need to open a bank account for proper management and accountability of their finances. Stress to the interested participants that profits will be placed in the bank account for strategic group investments rather than divided and distributed in cash to each member.
- The group must write a constitution and bylaws. These documents will guide the members in managing and operating their enterprise(s). Within these documents will be rules about attendance, fees and behaviour that each member must follow.

Step 2: Ask the group to select temporary leadership. It will need a chairperson to keep order during the next several meetings and a secretary to take notes until the constitution is made and elections are held.

Step 3: Ask the members to split themselves into mini groups of 5-6 persons. Three factors should be considered when forming mini groups. First, each group needs some members who can read and write to serve as recorders for the mini group. Second, each group should have women and men. Third, if possible, the mini group members should live near to one another. They will need to be ready to work as a group in all FFS activities. Inform them that mini groups will be host teams for the full group. A host team assists the facilitator, prepares the session's activities, arranges the training site, introduces any visitors to the FFS, checks attendance, keeps time, distributes materials, and records and reports on discussions.

Step 4: Give a registration form to each mini group with the following information to fill out: the name of the mini group, its slogan, the mini group's chairperson and secretary, members' names, general addresses and mobile numbers, if applicable.

Step 5: Ask each mini group to brainstorm some basic expectations for the members' behaviour. The FFS will be going into more detail during the constitution-making process, but in the beginning will need to establish some basic rules to avoid interruptions. Some examples may be that members should not come to meetings intoxicated or that members should come to sessions on time.

Step 6: Each mini group can briefly present its suggestions, which will be placed on the wall.

Step 7: Inform the participants that, although they have registered, they will need to continue participating in order to become full members. They should attend the next meeting, at which you will begin discussing some basic issues the group will need to know.

Brainstorming is when a group of people make a list of ideas or observations together. Everything gets written down. You don't have to worry about deciding which things are most important—that will come later. If you choose not to list certain ideas at this stage, members may feel their contributions are not good and will stop making them. Their ideas come from personal experiences. By writing down each idea, you are encouraging everyone in the group to take part in an experiential learning process.

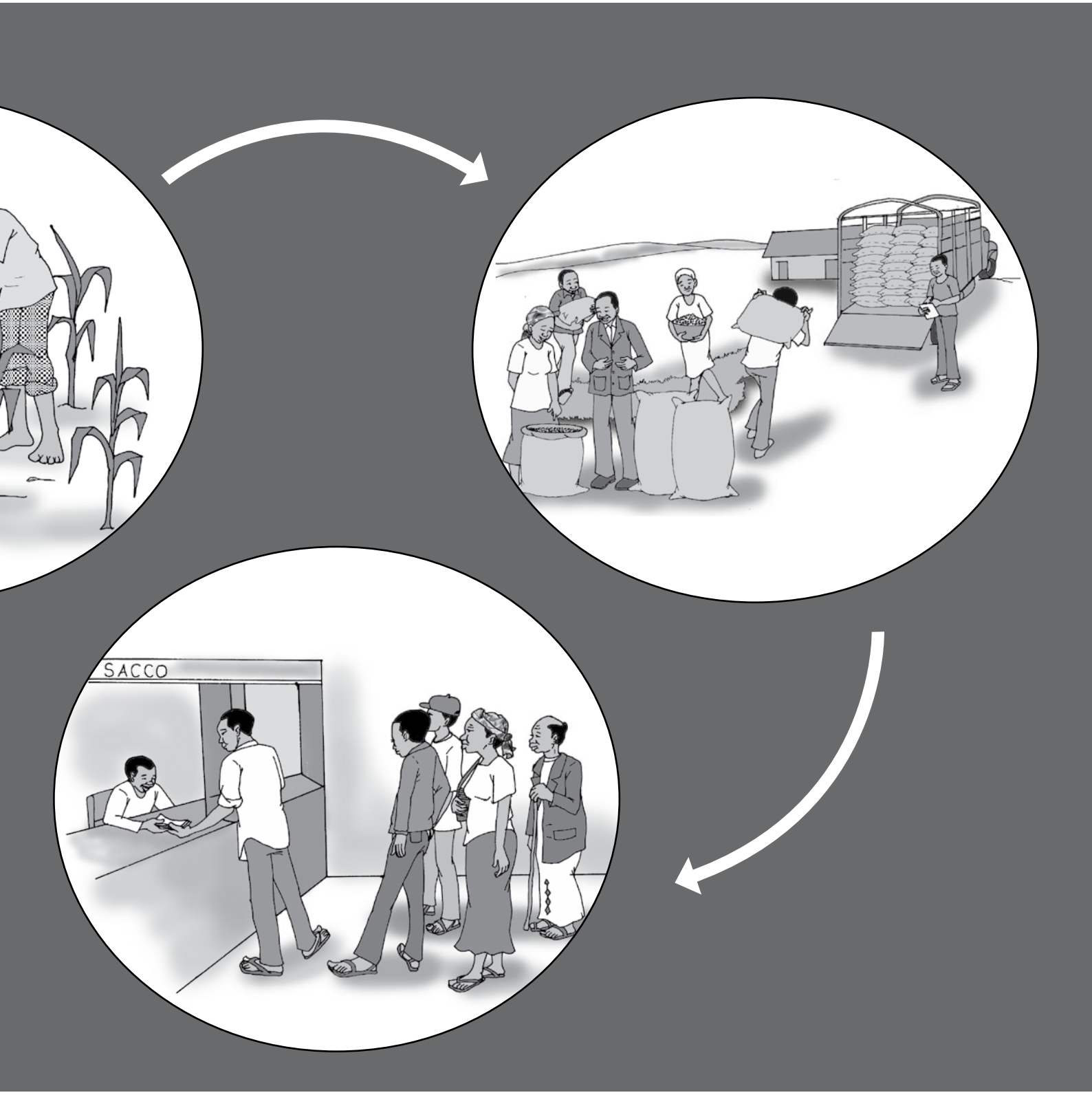
In recovery settings you may not have sufficient time to systematically complete the groundworking before formalising the FFS because of the short donor cycles. In the next phase, your group will need a lot of time to develop the constitution. You can use earlier discussions to form the basis of the constitution. The group's identity, membership, disciplinary actions and meeting schedules can all be decided earlier to save time. When your group drafts its constitution later on, you can simply insert these portions into the final document.

CHAPTER 4:

Empowering the Group

Your group is probably excited to get into the field and begin the learning process. But before it can begin, the members need to know that establishing a FFS is a serious process. Several members of your group may be illiterate, but you will have to guide them in creating records. Most of your group members will never have used a bank, but you will show them the importance of formal savings.

The group will need tools to help members along the way. Records and savings are two tools to empower the group. By establishing records, members can track their own progress and identify strengths and weaknesses without the need for an outside extension worker. Through saving, farmers become less reliant on grants and credit. They can begin funding their own activities and improving their livelihoods.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RECORDKEEPING

Records form a core component of FFS. Recordkeeping needs to be introduced to the participants at the beginning of the process so several basic pieces of data (such as available resources and cash) can be properly documented. Most of the records are used together, with one record needed in order to complete another. Because of this, you need to know in what order records are kept and how often they are updated.

What are records?

A record is written proof that something has happened or will happen. It can also be written evidence of what people have said. FFS session attendance sheets, AESA output notes, meeting minutes and receipts are all examples of records.

Why is recordkeeping important?

Records help members remember what has happened. They help *you* monitor and evaluate the group's progress. And they ensure that the group's resources are properly handled.

How do we keep good records?

The elected FFS leaders will need to keep the records safely in record books – not on loose papers that can get lost easily.

To make sure records are accurate, everyone will need to take responsibility for updating them. Records need to be updated as soon as possible. For example, meeting minutes should be kept *during* the meeting. Attendance should be taken *during* each session and the cashbook should be updated every time money changes hands. Records should be written in a way that is easy to understand so that everyone can help update them. In the FFSs, the records can be kept in the local language as long as the members are comfortable, know what they are recording, and are able to use them afterwards. Records are an integral part of all FFS activities. Therefore, the group must dedicate time in every FFS session to review and update records.

Each of the records here has been simplified for use by local farmers. They were generated with farmers' input regarding what data they wanted to record and how they wanted to record that data.

What types of records should we keep?

These are some of the records that you will need to explain to your group:

1. Comparative Study records: these track the data about the FFSs studies/experiments in a systematic manner. The information collected enable informed conclusions to be made at the end of the study/experiments. The activities described in chapter 6 (GAP) of this unit and chapter 7 of unit 3 of this manual will provide information for these records.

2. Physical records: these track the daily activities of the FFSs and help the members to manage and control their operations. They produce specific information for key FFSs enterprises which may include crops, livestock, fisheries and household food processing. Some of the physical records include inventory and activity sheets, production records, livestock/poultry records and marketing records. (see pg 67-69 for sample physical records)

3. Financial records: these records are used to evaluate the financial performance of the FFSs enterprises. They are used for analyzing the cash flow of the FFSs. They track the main cash transactions of the FFSs entrprise. They include: the income and expenditure, profit and loss statements, balance sheet, sales and purchases records among others.

4. Savings and credit records: these are used to track member's earnings and contributions to the FFSs.

5. Group information record: this is a record of daily attendance and basic baseline data of each member of the field school. It provides a basis for evaluation of the groups in future. It also helps the facilitator to understand his field school.

6. Minutes book: This record allows the group to track decisions for easy follow-through.

Some of the records above may be kept in one book. For example the member information, attendance, savings, credit and cashbook can be kept in one ledger. In the FFSs we call this the FFSs General Record Book. During your ToT course, you were exposed to how these records are kept in one book. You should assist the FFSs to learn to make these records in an organized and accurate manner.

Keep the introduction to records simple. You don't need to go into detail about every record. The member information and attendance, the savings and credit ledger, and the cashbook are the only records that will be established in the Group Formalisation phase. All other records will come later and should be introduced as they are required.

Over the next few weeks your group will be determining its leaders and who will be responsible for maintaining certain records. As new records need to be established, you should present them to the group.

Session Plan

Goals of the Session: For the group to understand why records are important for FFS activities and to become familiar with some basic records.

What You Will Need: Flipcharts, markers, the actual record books (if available)

Time: 2 hours

Step 1: Open the session by explaining three things: 1) what records are; 2) the importance of recordkeeping; and 3) how to keep good records.

Step 2: Explain the different types of records.

Step 3: Introduce the farmers to the most common enterprise records and show how one builds from another.

Step 4: Introduce the farmers to the savings and credit ledger as well as the minutes book.

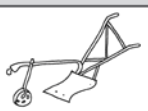
Below are some examples of the most basic records that an FFS is expected to keep. We show you a sample of what each record should look like and tell you when to introduce it and where the information comes from.

To make our examples more realistic, we are showing you sample records from a FFS that is doing a groundnut enterprise. The FFS is raising money to finance its enterprise by selling eggs and raising vegetables on a communal plot.

INVENTORY SHEET

To track physical records, FFSs use an inventory sheet. An inventory is a list of everything the group owns. We call these group assets. On the list should be things such as office equipment, produce, livestock and land. This record is maintained to ensure these assets are not lost or misused. It will also be needed to prepare the balance sheet. The secretary is in charge of keeping an inventory sheet.

There may be a lot of inventory. Divide the list into short-term, medium-term and long-term items. Under short-term items, write in any item you have that is "consumable"-in other words, it is used once and then quickly finished (e.g. stationery). Under medium-term, place "stocks", which is anything your group uses on the farm but will need to be replaced at some point (e.g. livestock, produce, tools). Under long-term, place buildings or property.

Item Description	Purchase Date	Quantity	Value	Condition
Short-term				
Manila paper 	2-Mar-09	Set of 100	5,000	New
Medium-term				
Vegetable Seeds 	30-Mar-09	2 packets	2,000	New
Knapsack sprayer 	10-Jan-09	1	30,000	Used
Wheelbarrow 	7-Feb-09	1	20,000	Used
Long-term				
Ox ploughs 	15-Mar-09	2	Free	New

Slowly, as it purchases new items for experimentation or enterprise, the group can add these items to the inventory and update any changes.

When to Introduce: Take a group inventory when your farmers are doing the budget portion of their Group Action Plan so they can see what items they have to start with.

Where Data Comes From: Initially, the data comes from the group's own observations of what it has. In later stages, the group will need to do a periodic review of inventory, checking what it has compared to entries in the activity record.

ACTIVITY RECORD

An activity record is a comprehensive record of the important activities that happen on the farm, in chronological order, and the cost of each activity. These events should be recorded on the day the activities occur. The activity record has several advantages because it is comprehensive and systematically updated:

- It can be used to identify/trace how much was spent on a particular activity, and how much was earned from it.
- It can be used to derive summaries for the balance sheet.
- It can be used as a production record, if required, by summarising what was produced in a particular period.
- It can be used to derive the income & expenditure and profit & loss statements – although these may be a little complicated for most field school members to do.

Look at the example on the next page. If you planted groundnuts on February 6th, the group should record this, along with the planting costs. When your group sells the groundnuts in May, it should record this also, along with how much money the groundnuts were sold for. This way, your group can plan for the future based upon this season's events. For instance, it will have a general idea about when groundnuts will be ready for sale – and the minimum price it should sell them for.

When to Introduce: As the group begins to develop its enterprise

Where Data Comes From : Most data will be recorded immediately after the activity occurs. Some data may come from the treasurer's records. Any important activity that does not involve money, such as a bull dying, should also be entered directly on the record.

In the activity record you will notice that not every activity has a cost listed. Don't worry about this detail. It is difficult to measure the price of a person's time. However, any time an item is bought or sold the amount must be listed on the activity record because the treasurer will use it to fill in the expenditure report. Therefore, it is important to list an activity when it occurs so that the treasurer can keep accurate records.

The data from here can be summarised in the cashbook. If the FFS is unable to keep a cashbook or any other financial records, it should at least maintain the activity record because it indicates all activities, where they occurred and the cost of each activity.

In this chart the + symbol is used for money the group earns. The – symbol is used for money the group spends. You can use black and red markers with your group – black for money earned and red for money spent.

Activity Record

Date	Activity	Amount (where applicable)
JANUARY		
5/1/08	Ploughed groundnut garden	
18/1/08	Second ploughing	
FEBRUARY		
5/02/08	Purchased 100 birds	-150,000
5/02/08	Purchased groundnuts	-200,000
5/02/08	Purchased fertiliser	-40,000
6/02/08	Planted groundnuts with outside labour	-40,000
15/02/08	Sprayed groundnuts	-10,000
20/02/08	Weeded groundnut garden	
MARCH		
03/03/08	Bull died	
08/03/08	2nd weeding	
12/03/08	Sold 2 baskets of vegetables	+4,000
15/03/08	Sold 10 trays of eggs	+30,000
20/03/08	Sold 15 trays of eggs	+45,000
22/03/08	Sold 12 trays of eggs	+36,000
25/03/08	Sold 18 trays of eggs	+54,000
APRIL		
5/04/08	Sold 6 baskets of vegetables	+12,000
6/04/08	Sold 20 trays of eggs	+60,000
12/04/08	Sold 15 trays of eggs	+45,000
20/04/08	Sold 4 baskets of vegetables	+8,000
25/04/08	Sold 15 trays of eggs	+45,000
MAY		
2/05/08	Sold 7 baskets of vegetables	+14,000
4/05/08	Sold 18 trays of eggs	+54,000
15/05/08	Harvested 30 bags of groundnuts with outside labour	-55,000
18/05/08	Sold 12 trays of eggs	+36,000
22/05/08	Sold 10 trays of eggs	+30,000
30/05/08	Hired stall	-5,000
31/05/08	Sold 30 bags of groundnuts	+600,000

FARM INCOME & EXPENDITURE REPORT

You will need to keep a farm income and expenditure report once the FFS enterprise is underway. If your group has been keeping good records of activities on the farm from the very beginning, the farm income and expenditure report should be easy to maintain. It records two basic things: money spent and money earned.

When to Introduce: At the beginning of the group enterprise

Where Data Comes From: The Activity Record

Income & Expenditure Report

Date	Description	Income		Expenditure	
		Quantity	Value	Quantity	Cost
February					
	Purchase of chickens			100	150,000
	Purchase of ground nuts			50 kgs	200,000
	Fertiliser			1 bag	40,000
	Labour for the month				40,000
	Spraying costs				10,000
March					
	Vegetable sales	2 baskets	4,000		
	Egg sales	55 trays	165,000		
April					
	Vegetable sales	10 baskets	20,000		
	Egg sales	50 trays	150,000		
May					
	Labour costs				55,000
	Stall hire			1 stall	5,000
	Vegetable sales	7 baskets	14,000		
	Egg sales	40 trays	120,000		
	Groundnut sales	30 bags	600,000		

BALANCE SHEET

The balance sheet shows where the funds for the enterprise came from and how those funds were spent. This record is used to show outside stakeholders that any money from a grant has been properly used. It's called a balance sheet because all money collected must equal the money spent.

The balance sheet shown below is unlike conventional balance sheets. It is tailored for use by the FFSs to ensure transparency. Group members can see how their resources are being used by the group leaders. It is the most effective way of checking the use of funds and has proved effective for FFSs.

When to Introduce: End of the enterprise cycle

Where Data Comes From: Cashbook

Balance Sheet

BALANCE SHEET: Groundnut Enterprise			
The money came from: (Source of Funds)		***The money was used for: (Expenses)***	
FAO grant	**200,000**	**Groundnut seeds**	**200,000**
Member contributions	**77,000**	**Fertiliser**	**40,000**
Income from eggs	**285,000**	**Sprayer/ chemicals**	**10,000**
Income from vegetables	**38,000**	**Labour**	**95,000**
		Hired stall	**5,000**
		Cash at hand	**250,000**
Total	**600,000**	**Total**	**600,000**

PROFIT & LOSS ACCOUNTS

The profit and loss accounts are used to determine if the enterprise is profitable at the end of a production cycle. If a group has multiple activities, the profit and loss accounts will separate them to determine which activities were more profitable. A production cycle can end when all the crops have been harvested and sold (3-6 months), after poultry stop laying eggs (1 year) or when dairy cows stop giving milk (1 year). For financial enterprises, the end of the production cycle is when all the stock has been sold.

The profit and loss accounts give the following information:

- The cost to produce each type of product.
- The fixed (or operational) costs needed to produce the product. These will stay about the same every year. The group will be able to use these numbers for budgeting next year.
- How much each type of product earned.
- The output and market price of the product

The difference between total sales and total cost shows whether the FFS made a profit or loss on the product.

When to Introduce: End of the enterprise cycle

Where Data Comes From: The Activity Record

Profit & Loss Account

Cost of Groundnuts Production		**Sales of Groundnuts**	
		Sales of groundnuts	**600,000**
Groundnut seeds	**200,000**		
Fertiliser	**40,000**		
Sprayer/chemicals	**10,000**		
Labour	**95,000**		
Total	350,000		600,000
Gross Profit	-		250,000

SAVINGS & CREDIT LEDGER

For the purposes of the FFS, the secretary and treasurer must keep a savings & credit ledger. This ledger can get complicated because it has various components, including attendance, repayments, deposits and fines. Another important component is a passbook for each member. It records members' personal details and accounts for any loans they have taken or savings they have made. You will need to sit with the secretary and treasurer to go over the key elements that must be included. Refer to the sample of the record you used during the facilitator training. Below are some examples.

When to Introduce: Introduce to the secretary and treasurer after the group decides upon a savings mechanism.

Where Data Comes From: Money received and distributed by treasurer; FFS's bank account.

PART 1: Savings Record

Names	Savings B/F	Week 1			Week 2			Week 3		
		Savings	W/draws	Cum. Sav	Savings deposit	W/draws	Cum. Sav	Savings	W/draws	Cum. Sav
Acen Alice	20,000	2,000		22,000	1,500		23,500	5,000	10,000	18,500
Okiria Paul	25,000	1,000		26,000	1,500		27,500	1,000		28,500
Akol Jane	10,000	10,000		20,000	2,000		22,000	2,500	8,000	16,500
Eriongot Mariam	15,000	1,500		16,500	3,000		19,500	1,500		21,000
Ogwal Musa	20,000	5,000		25,000	1,000		26,000	2,000		28,000
Obama Stella	10,000	1,400		11,400	2,000		13,400	2,000		15,400
TOTALS	100,000	20,900		120,900	11,000		131,900	14,000	18,000	127,900

PART 2: Loan Repayments

Names	Weeks						
	1	2	3	4	5	6	7
Acen Alice	22,000	22,000	15,000	29,000	18,000		
Okiria Paul	27,500	27,500	20,000	18,000	34,000		
Akol Jane	11,000	11,000	11,000	10,000	12,000		
Eriongot Mariam	16,500	16,500	16,500	15,000	18,000		
Ogwal Musa	22,000	22,000	22,000	20,000	24,000		
Obama Stella	11,000	11,000	11,000	11,000	11,000		
TOTALS	110,000	110,000	95,500	103,000	117,000		

PART 3: Fees, Fines and Others

Names	Membership fees	Weeks					Total Payments	Balance
		1	2	3	4	5		
Acen Alice	10,000						0	10,000
Okiria Paul	10,000		1,000				1,000	9,000
Akol Jane	10,000					1,000	1,000	9,000
Eriongot Mariam	10,000	500	1,000				1,500	8,500
Ogwal Musa	10,000			1,000			1,000	9,000
Obama Stella	10,000						0	10,000
TOTALS	60,000	500	2,000	1,000	0	1,000	4,500	55,500

PART 4: Member Passbook

LOAN PRINCIPLE	+	INTEREST (5%)	=	AMOUNT DUE	÷	NUMBER OF INSTALLMENTS	=	INSTALLMENT PAYMENTS OF	MEMBERSHIP FEE	PASS BOOK FEE
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Wk No.	DATE	LOAN PRINCIPLE + INTEREST PAYMENTS			SAVINGS RECORD MINIMUM:…… BALANCE B/F: …….....			
		PAYMENT	BALANCE o/s	SIGNATURE	SAVINGS	WITHDRAWS	BALANCE	SIGNATURE
0	30/03/08		224,000		NIL		25,000	
1	1/04/08	20,000	204,000		2,000		27,000	
2	8/04/08	20,000	184,000		3,000		30,000	
3								
4								

Cashbook

A cashbook is used to record all transactions. Each time cash is spent or earned the transaction is recorded in the cashbook. The shaded part of the cashbook shows a change to a new page of the cashbook. B/F stands for the balances brought forward. This is just the end balance from the previous page.

When to Introduce: This is part of the savings and credit ledger

Where Data Comes From: From money treasurer gives or receives

Cashbook

Mtg No.	Date	Description	Cash			Bank		
			In	Out	Balance	In	Out	Balance
0		Membership fees	150,000		150,000			
		Savings b/f	100,000		250,000			
		Costs for account opening (details in treasurer's book)		70,000	180,000			
		Account opening deposit		150,000	30,000			
	5/2/07	Grant from FAO				1,500,000		1,500,000
		Withdraw from bank	1,400,000		1,430,000		1,400,000	100,000
		Loans to members		1,000,000	430,000			
		Inputs for FFSs enterprise		400,000	30,000			
1	12/02/07	Loan repayment	110,000		140,000			
		Savings deposits	20,900		160,900			
		Fines	500		161,400			
		Bought calculator for group		10,000	151,400			
2	19/02/07	Loan repayments	110,000		261,400			
		Savings Deposits	11,000		272,400			
		Fines	2,000		274,400			
		Treasurer's transport to bank		5,000	269,400			
		Bank deposit		250,000	19,400	250,000		
			In	Out	Balance	In	Out	Balance
		Balance B/F			**19,400**			**100,000**
3	26/02/076	Loan repayments	95,500		114,900			
		Savings	14,000		128,900			
		Savings withdraws		22,000	106,900			
		Treasurer's transport to bank		5,000	101,900			
		Bank deposit		100,000	1,900	100,000		200,000

These records form the basis of the FFS. Do you see how the different records work together to give farmers a clear picture of their work?

THE MINUTE BOOK

This is an important record for all FFSs. Minutes should not be mixed with other records. They should be recorded systematically and in a neat and orderly manner. Minutes should be taken at each FFS meeting and reviewed and approved accordingly.

OTHER RECORDS KEPT AT THE FFS LEVEL

- ***Pre-disbursement records:*** Business plans, work plans, loan applications, loan agreements, promissory notes, budgets, cash flow statements, etc.
- ***Receipts:*** These should include the name of the person paying, the date, the amount, and the signature of the recipient.

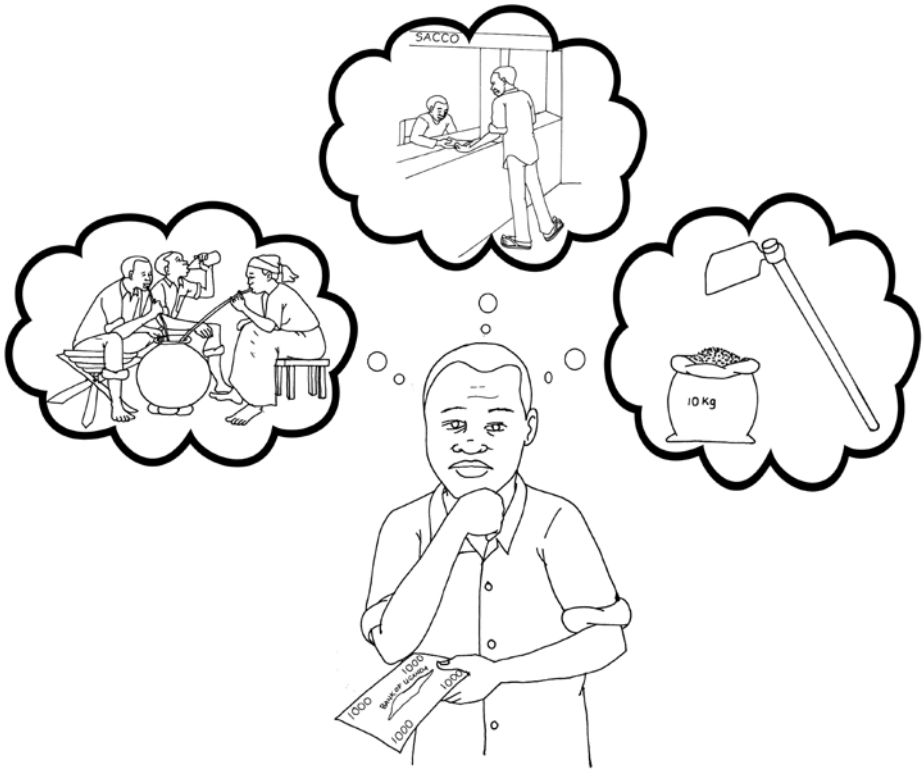
SAVINGS

Savings mobilisation is not easy. It requires discipline by the group and its members. In a recovery setting, it is even more difficult because communities have been impoverished by wars. Peoples' incomes are low and irregular. However, by making small regular contributions, the community can gradually rebuild. In recovery settings, many people feel helpless. It is your job to empower them to take this step.

The group will need money for its enterprise. Individual members will also need money to start individual businesses or pursue entrepreneurial activities. In poor communities, the members will not have easy access to large amounts of money. There are two basic methods of creating finances: through savings or through credit.

What does it mean to save?

Saving means to keep an asset for future use. If saving is done correctly the asset's value will increase over time. This means that you have postponed spending so that you have more to spend in the future.



What does it mean to have credit?

Credit is the ability to receive goods before paying for them with the expectation that you will repay the cost in the future – often with interest. Credit is not free money. It is a loan.

Why should Farmer Field Schools establish savings plans?

Both savings and credit are methods for Farmer Field Schools to get funds for their enterprises. However, savings is a better method for groups to create their own resources. Even if a group seeks credit, it should still save.

"Resource mobilisation", or saving, is an important step to self-reliance and group sustainability. Even small weekly contributions of 1,000 shillings per member can quickly add up to large amounts for the group. Farmers can use this money as capital for starting an enterprise or put it in the bank to earn interest. The group from the example in the previous section used a small amount of money to invest in chickens and vegetable seeds. As the chickens laid eggs and the vegetables grew, the FFS used this money to invest in its groundnut enterprise. We call this the "savings first" approach to developing an enterprise because the group doesn't need to rely on a loan or external aid. If savings are used well, households increase their incomes and financial stability and the group can make future investments.

Both rich and poor people understand the importance of savings. People from poor communities often save by investing in livestock or land. Such things have monetary value while also providing food. Many communities also share resources. This is especially useful in a recovery setting because communities need to quickly rebuild assets to create sustainable livelihoods.

TYPES OF SAVINGS

There are two basic types of savings: formal and informal. Your group members will be somewhat familiar with informal savings. They probably share resources or have invested in land or animals.

Formal Savings

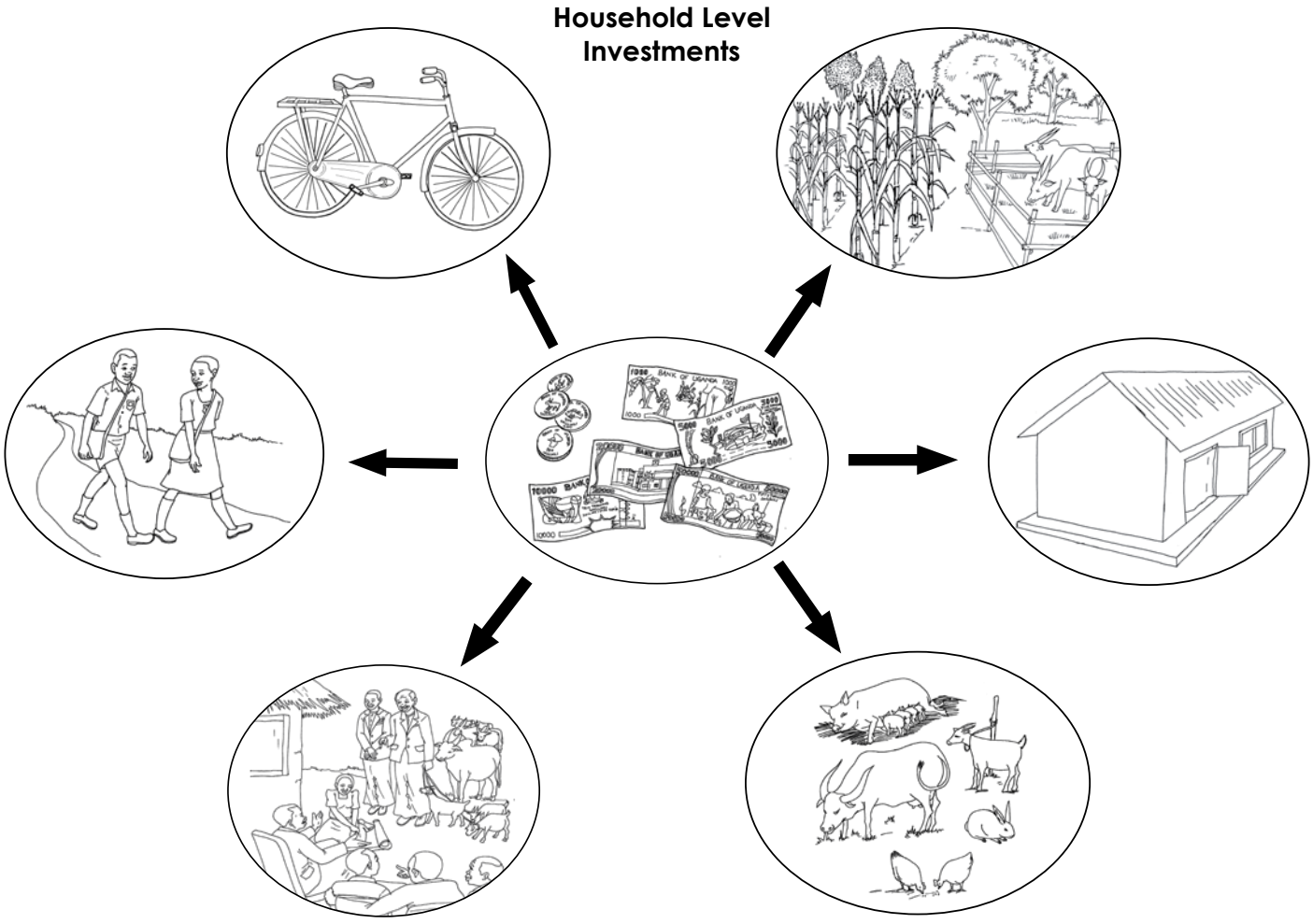
- Commercial banks
- Savings and credit institutions
- Retirement benefit schemes
- Company shares

Informal Savings

People save in many forms. Here are some common methods of saving informally:

- ***Saving in kind:*** This means to invest in items that increase in value over time, such as produce or animals. For example, seeds are very inexpensive, but when the seeds become plants and are harvested their value greatly increases.

- ***Saving cash:*** People can move cash easily and hide it away. Cash can also be exchanged for almost anything immediately, including healthcare or clothing. It can be stored at home or in a bank. However, cash at home can be destroyed, stolen or used more easily than cash in a bank, where it is less accessible and more likely to be saved.
- ***Purchasing valuable items:*** Some people invest in jewelry because it is portable and valuable. However, jewelry can be difficult to sell for cash.
- ***Lending money:*** If individuals lend cash to others, they often receive interest when the money is repaid.
- ***Investing in small businesses:*** After providing a small loan to a small business, the lender will receive interest on the return.
- ***Leaving money with trusted individuals:*** By placing money with a trusted friend, a saver is less likely to access it and spend it on nonessential items.



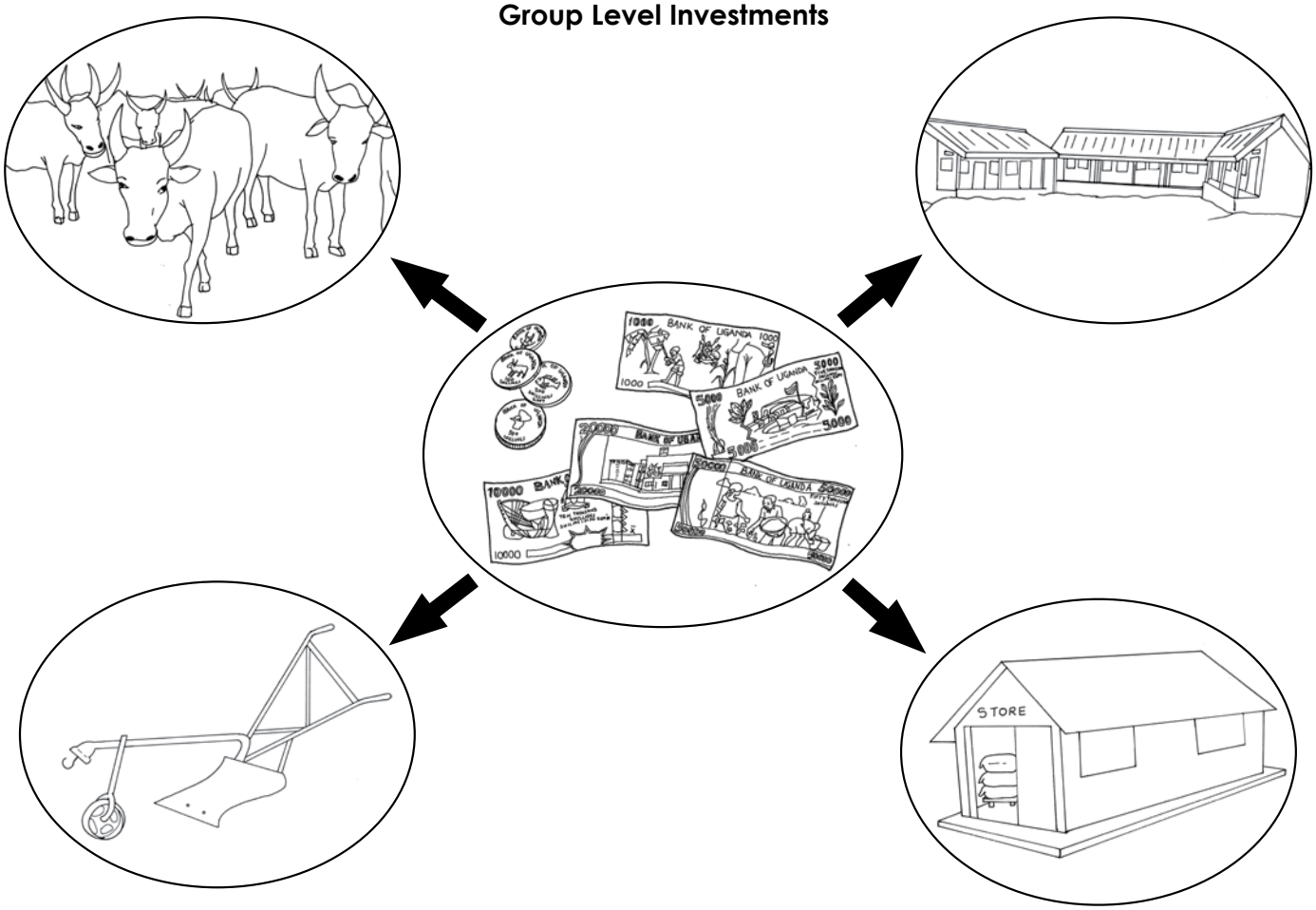
SPECIFIC REASONS FOR SAVING

There is one problem with saving: it is hard to do! After a harvest, you will have a lot of money to spend. It is tempting to spend some of this money on non-essential items, but you must remember that the next harvest is not for a long time. Here are some reasons to save:

- To be ready for unexpected emergencies or illnesses.
- To be ready for periods when income is low.
- To be able to provide for big future events, like weddings or funerals.
- To be able to invest in business opportunities, such as buying farm animals.
- To be able to lend to other group members or fund FFS enterprises.
- Saving increases self-discipline and helps people spend money well because it limits accessibility to resources.
- Savings increase income because money earns interest in a bank.
- A minimum amount of savings is needed to qualify for loans.

You can use the seasonal calendar to demonstrate times of the year when group members' incomes are high and times when incomes are low. If people save money when incomes are high, they will be prepared for when incomes are low.

Group Level Investments



SAVINGS & CREDIT SCHEMES

There are several methods your group can use to save, both formally and informally. Which one it chooses is up to the group. As a facilitator, however, remember that trust is important in savings schemes. If the group feels like certain members are benefiting without contributing, they will be less likely to continue saving.

ROSCAs

Imagine placing a small amount of money in a box every week. But it's not just you – everyone else in the group is also placing the same amount of money into the box. Why would you do this? Because after the money has been collected each week, the "money box" is given to one of the group members. The next week it is given to another member. And so on until everyone, including you, has received the "money box". For example, to give a weekly contribution of 1,000 Ushs, you may struggle a bit, but you will quickly learn to cut out nonessential items. If there are 30 members in the group, however, one week you will walk home with 30,000 Ushs. That's enough to invest in farming tools, seeds or a small enterprise! This is called a Rotational Savings and Credit Association (ROSCA). In this case, the FFS itself is the association.

FROM THE FIELD

"A FFS member said because of the group's weekly savings, every day throughout the week he is engaged in raising the 1000 shillings for the weekly contribution. Before the FFS, the man said he struggled to get money for drinking, but now whatever money he gets he puts in the cash box first. This has brought some stability in his marriage, as all the time he is sober." -Bitek Lakony, FFS facilitator, Pader

Advantages:

- ROSCAs have simple rules and transparent procedures (everyone can see the money go in and come out).
- Minimal recordkeeping is needed.
- There is no need for a lockbox, because the money is immediately given to an individual.

Disadvantages:

- ROSCAs are not flexible. Even if members need money immediately, they have to wait until their turn.
- Members need to have a steady source of income to give regular contributions.
- Unscrupulous members may decide to stop giving money after they receive the box.
- Money does not accumulate in a group fund. A ROSCA is for individual savings.

VS&Ls

Village Savings and Loans (VS&L) build on the traditional (ROSCA) methodology. They provide popular and simple means of savings. They enable poor people to save enough money to buy useful items for the household and make opportunistic business investments. A VS&L group is a self-selected group of people, (usually unregistered). Members pool their money in equal amounts into a fund from which they can borrow. The amount saved is set by the members in a way that the poorest members are able to save. Members meet on a weekly, bi-weekly or monthly basis and have rules that guide their activities. They also operate a welfare fund from which members who need support for specific problems like burial expenses, medical expenses can borrow

Regular savings contributions are made for a specified period of time (cycle) usually 8 to 10 months. During the cycle, members borrow from the money and pay back with interest. This makes the fund to grow. At the end of the cycle, the accumulated funds are distributed back to the members with interest and each person earns according to how much they had in savings. This lump sum distribution provides a large amount of money that members can then use for their needs without restriction. VS&LAs, by design operate in rural areas where banks are few and far. At the end of the cycle, after sharing out the accumulated funds, the group is terminated to avoid risk of large surplus of accumulated funds that may be stolen and need complex records to manage. The group can then begin another cycle of the VS&L if they wish.

Advantages:

- Members use their own savings and not credit from financial institutions which have high costs associated. This reduces exposure to risk incase of failure to pay back.
- The interest earned from loans goes back to the members which enables them to increase the amount of investment capital.
- Participants offer and manage their won finances, which empowers their decision making.
- Transactions are quick, simple and transparent.
- The book-keeping is simple and basic.
- Participants acquire lump sums of capital at a predictable time that can be used for longer term activities.
- Increases women's social capita and accumulation of female-controlled semi-liquid property such as small livestock and household goods.

Disadvantages:

- The amount of money available for loans is small and llimited by the participants' capacity to save.
- The short loan periods (3 months) limit investment in fixed term assets and long term activities.
- Loan funds are not always available at appropriate times.
- The accumulated funds especially during subsequent cycles may be at risk of theft if members do not have the capacity to borrow all of it.
- Members face a risk of losing their money if people default on paying back loans.
- Group cohesion may not be strong because there are no collective/ group activities. The savings and loans services are individual based.

Note: *In the FFSs under the emergency setting, the VS&L is operated alongside the formal savings mechanism because of the low incomes of communities who are just emerging from war and those affected by other disasters like persistent drought. It compliments the formal savings scheme to enable the members of the FFSs accumulate their resources faster, and have cheaper access to cash for investment in order to meet daily needs. However, after the VS&L funds have accumulated, the FFSs members should bank any excess savings into the FFSs bank account. After the first cycle of operating VS&Ls the FFSs members will have increased individual savings and their group fund; they should continue with their formal savings scheme, and may operate a revolving fund if they wish, since they will have a level of experience and accumulated some level of capital from the VS&L operations.*

ASCAs

There is a variation of the ROSCA your group can use. It's called an Accumulating Savings and Credit Association (ASCA). Again, the FFS is the association. ASCAs are more complicated but have certain advantages over ROSCAs. Here's how they work:

Similar to ROSCAs, every member contributes the same amount of money on a weekly basis. However, instead of immediately giving that money to members, the group lets the money accumulate until it reaches a large amount. When this happens, individuals can borrow the money when they need it, either with interest or without (that's up to the group to decide). If interest is earned, it can be used to meet the group's operating costs, be paid back to the savers or reinvested in the group fund.

Advantages:

- Larger amounts of savings can be generated over time.
- More flexible than ROSCAs because members can access funds at any time.
- All the interest earned comes back to the group instead of a money lender.

Disadvantages:

- ASCAs require more management and recordkeeping.
- The money has to be kept in a safe place, perhaps a bank.
- If borrowers cannot pay back their loans, the fund will be damaged.

Cooperatives

Savings and credit cooperatives are similar to ASCAs but allow the FFS to join a larger group, usually with more than 50 members. These groups are formal, unlike ROSCAs or ASCAs, so they offer many savings and credit services. Individuals deposit savings and take out loans directly from the cooperative's officials. Savings earn interest, while loans must be repaid with interest. To become a member of the cooperative, one must purchase a share of the group. Cooperative societies are not recommended for new groups. They are for experienced FFSs that are able to manage the substantial amounts of money needed to operate a cooperative society.

Advantages*:*

- Cooperatives have a larger source of funds available because there are more members contributing.
- They have a permanent and reliable source of funds through shared capital.
- They have individualised options for saving.
- Interest is earned on the money put in the cooperative.

Disadvantages:

- Cooperatives require secure storage of funds.
- They use very complex records and accounting systems.
- Funds need to be closely monitored so that they are not misused.

SAVINGS MOBILISATION

Members must be given an opportunity to manage their own resources. Empower them with the necessary recordkeeping skills to manage personal and group finances. This should include some rules and/or guidelines for expenditures (i.e. a personal budget).

It is your job as a facilitator to sensitise the FFS on the importance of savings. To do this you will need to hold a session specifically about savings and credit. The group will not need to decide on credit options at this point. It will do that as it develops its enterprise. The group should start saving immediately, however.

Before you have the session, keep in mind the 5 key success factors in mobilising your group to save:

A Common Purpose

The primary purpose of any group is to help its members improve their lives. An FFS with a clear objective is more likely to succeed. The group should mobilise savings for productive activities, such as new seeds, fertiliser or tools. If the group's objective is vague, members won't be committed to saving.

A Common Bond

Members with similar backgrounds and incomes work better together because they have similar needs. Emphasise savings in small groups so that savings decisions can be made faster.

Common Rules

Saving is hard. Group members should agree on rules so that members are positively pressured to continue saving.

FROM THE FIELD

"Upon the introduction of savings in one FFS, the farmers didn't quickly take it up, citing mistrust in their secretary. When I introduced the idea of a passbook, however, they welcomed it and started steadily saving. They confessed that they had feared the secretary would easily make away with their savings." –Ebara Denis, FFS facilitator, Soroti

A Common Identity

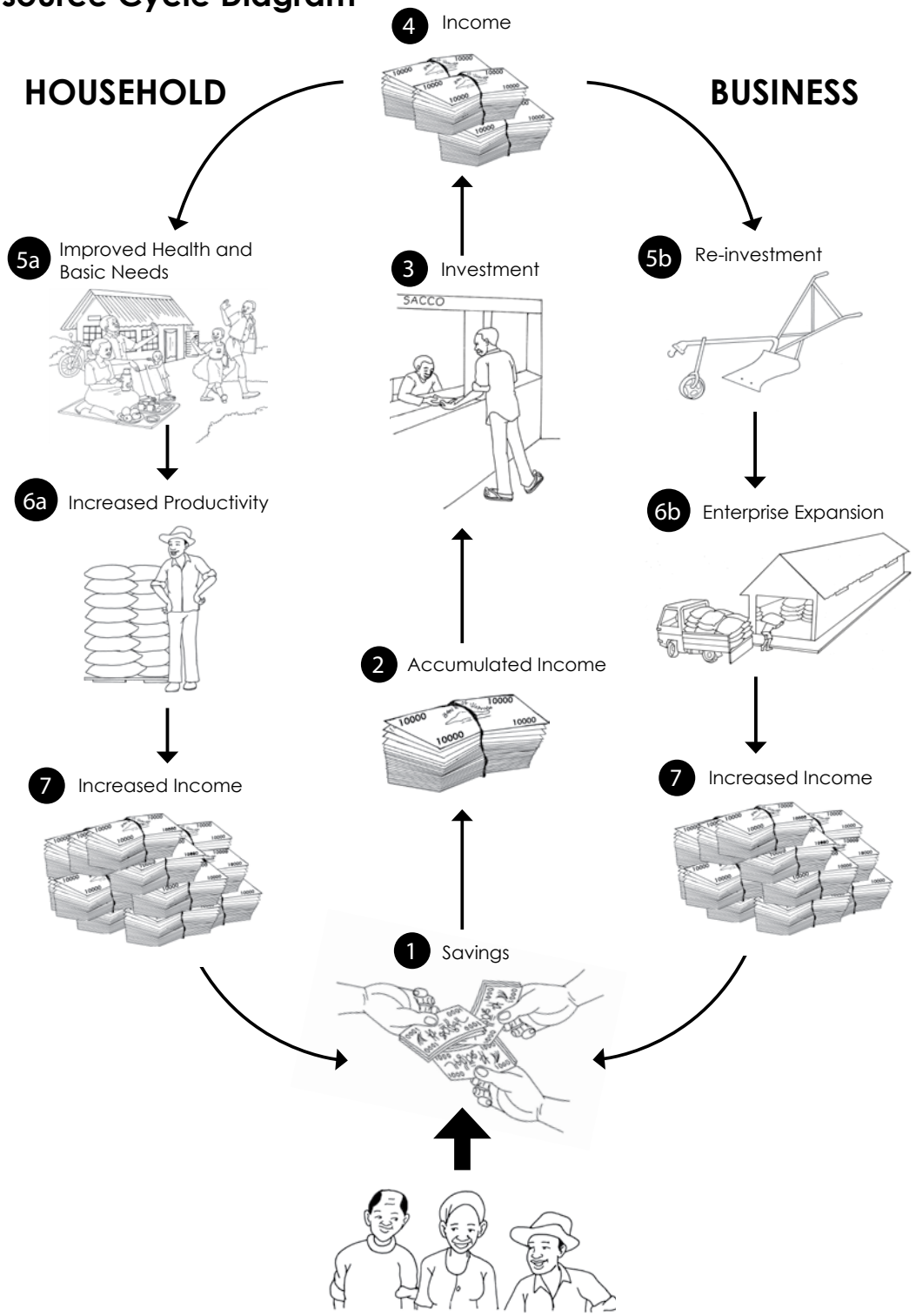
This helps the group build team spirit, which enables the members to work together. A group name, slogan and/or anthem should be used to encourage commitment to the group's cause.

Common Records

The records discussed in the last section are important because they are transparent. If farmers don't trust the system, they won't use it. Create records that everyone can use to ensure that the system is being run properly.

With the 5 key success factors firmly in your mind, create a session for your FFS that introduces the concept of savings to the members.

Savings Resource Cycle Diagram



1. FFS members contribute a small, regular amount of savings.

2. Over time this money accumulates and becomes large enough to make an investment.

3. A good investment should increase income over time. For instance, placing money in a bank allows it to earn interest.

4. The group members should reinvest their extra income into 2 areas: their households and their businesses.

5a. By investing in basic needs such as food, clothing, shelter and healthcare, members' health and wellbeing will improve.

5b. By investing in their business, the enterprise will expand.

6a. Their overall productivity will increase, so they'll be able to earn more.

6b. As the enterprise offers more services, it will earn more money.

7. These extra earnings should be saved so that the cycle can begin again.

Session Plan

Goal of the Session: For the group members to decide upon a plan for savings

What You Will Need: Flipcharts, markers

Time: 2 hours

Step 1: Using your knowledge of savings and credit, briefly explain why they are useful for the group.

Step 2: Show the group the Savings Resource Cycle diagram. The group should fill it out with your facilitation.

Step 3: Present the different types of savings that people use. Show the group the different savings schemes – ROSCAs, ASCAs , VS&L and cooperatives.

Step 4: Brainstorm the advantages and disadvantages of these schemes. Use the background information provided in this manual to guide the group if it has difficulty weighing the pros and cons of each option.

Step 5: Begin setting savings goals. *What does the group want to reach in the short-term (6 months)? The long-term (1 year)?* Help the group calculate the weekly amount each member must set aside to reach these goals.

Step 6: Repeat step 5 in the mini groups.

Step 7: Repeat steps 5 & 6 on an individual level.

Step 8: Return to the savings schemes. Now that members have discussed their goals, which scheme would they like to institute?


ELECTION:
Chairperson:
Secretary
Treasurer

CHAPTER 5:

Group Formalisation

You have registered FFS participants and given them some background in recordkeeping and "resource mobilisation". Now it is your job to develop them into a team with shared goals and a common set of rules for running their group. This is a formal process involving recordkeeping, paperwork and leadership. The Farmer Field School is not a club with loose rules. Its members must be involved in every step of its development in order to function after the facilitator leaves.

"Group formalisation" refers to the activities the group must do in order to become legally recognised. This will probably be the most difficult part of the FFS. Many of the activities will not take place in the field and topics like "budgeting" or "constitutions" may be new to the group.

MAKING THE CONSTITUTION

The constitution and bylaws are the guiding documents for the group. The constitution lists the core principles of the group. The bylaws are rules about how the group will achieve those principles. The constitution has general ideas and the bylaws have more details.

Although the group will need a lot of time to develop these documents, many of the components will already have been discussed in detail. For example, by the end of the session on savings and credit, your group should know its preferred method of saving. In the constitution-making process, the group can simply insert what it has already decided into the constitution.

The constitution evolves as the group grows and becomes sustainable. Thus, there is room for amendment. The FFS members formulate the constitution—not outsiders. It should be written in simple language understood by all members. In fact, the best method is to assist the FFS members to write the constitution in their local language. Each member should have access to the constitution for reference.

Session Plan

Goal of the Session: To develop a constitution and bylaws that will guide the operation of the FFS and continue the process of group formalisation

What You Will Need: Flipcharts, markers, minutes from any previous sessions

Time: 2-3 hours

Step 1: To avoid keeping the group for a long time, review the components of the constitution and bylaws (see the guidelines below on each component). Explain why having a constitution and bylaws is an important part of the group formalisation process.

Step 2: Take the members through each of the components. Have them suggest and agree on what will work best for the group. Be sure you are recording all the information shared. The temporary group secretary keeps minutes while you or an assistant writes down important points on flipchart paper.

Step 3: Once you have covered all components, select a smaller group to meet with you and finalise the document later in the week.

Step 4: Remind members that since bylaws have now been decided about membership fees and savings, they should start planning on how to meet these two group requirements. Also inform members that the group will elect its management committee during the next meeting so participation is important.

Here are some of the basic components of the constitution and bylaws with a brief description of each:

1. Group Identity

This is the simplest portion to complete for both the constitution and bylaw documents. The group's objective does not need to be specific. It is based on the broader problem the respective group wishes to address. This component is the same for both documents.

Constitution	Bylaws
• Group name • Address • Slogan • Objective/Purpose	• Group name • Address • Slogan • Objective/Purpose

2. Membership

After several meetings, your group should already understand its membership criteria and obligations. The constitution may state that members must live close to the learning site. It could also say that elected officials are not eligible for membership. "Obligations of membership" refers to how members must contribute to the group. For the bylaws, add more specific information about membership fees and how often they should be paid. Writing these things down will be helpful if new members wish to join the FFS.

Constitution	Bylaws
• Principles behind membership (common interests, location, gender issues, etc.) • Obligations of membership	• What are the rules for becoming a member? • When are membership fees paid? • How much are they?

3. Leadership

Most groups will need a chairperson, secretary and treasurer. They may also need a FFS network representative, assistant bookkeeper or sergeant-at-arms ("askari"). The group can divide duties however it wants as long as all responsibilities are assigned. What is each officer's responsibility? Groups will also decide to create committees to organise certain events or examine topics. For the bylaws, the group should add details about the officers' roles. It should also decide the penalties for leaders breaking the rules.

Constitution	Bylaws
• Criteria for selection of leaders • Duties of leaders (general) • List of standing committees • Terms of office	• What are the roles and responsibilities of each leadership position? • How long do they serve? • What are the penalties if they break rules?

4. Disciplinary Actions

The group must have mechanisms for disciplining its members. This may sound unnecessary, but one group member can destroy the group's good work. The bylaws need to be specific.

Constitution	Bylaws
• Reasons for requiring disciplinary action	• Who has the powers to discipline? • How does this individual or group decide to discipline? • What specific actions require disciplinary action? • What measures should be used to discipline members?

5. Meeting Schedules

It is your job as a facilitator to ensure that meeting days and times are scheduled for when everyone in the group can attend, including the women in the group. You may have to use gender-related PRA tools to demonstrate times of the day during which women have the most responsibilities.

Constitution	Bylaws
• Reasons behind the meeting schedule that has been established	• What day(s) of the week does the group meet? • What time of day does the FFS meet? • Where does the group meet? How is this determined? • Is there disciplinary action for those who don't attend?

FROM THE FIELD

"We had one member of our FFS who never came to the sessions. He showed up one day when no one was around. He saw that one of our fields was well-weeded, while the other plot was full of weeds. Not realising that this was our study plot and that we were doing an experiment on the effects of weeding on productivity, he said, 'Oh, they must have left this plot for me to work on.' The next day the group was horrified to discover that the study plot was weed free! Our experiment was ruined."
–FFS facilitator

6. Finances

As a facilitator, you will know if a grant is available to finance the group's activities. In the Group Action Plan phase, the group will go into more detail on its budget, but for now the group should know roughly how much of its finances are coming from grants and how much are coming from membership fees.

You have already discussed financial recordkeeping with the group so it should have some ideas of the records it needs to keep. The secretary and treasurer's responsibilities should be outlined in part 3 of the bylaws. In this section of the bylaws, the group must explain exactly how the financial records and the money will be kept. The treasurer and secretary are ultimately responsible for keeping financial records and controlling the money, but they need help. The group should decide on a mechanism that ensures transparency for the entire group.

Constitution	Bylaws
• Principles behind the sources of funding the group will accept • Principles behind the financial systems put in place (i.e. transparency, accountability)	• Who is responsible for keeping the financial records? • How are the duties shared? • Who oversees the financial management? • Who does the banking and how often? • How will the group ensure transparency and accountability? • What are the sanctions if money is misused?

7. Savings

You have already introduced the concept of savings. The group must now formalise the savings mechanism it has chosen by writing it into the constitution. For the bylaws, the group must also decide on how much each person will contribute and when. In addition, decide the minimum amount that should be available in the bank at all times.

Constitution	Bylaws
• Principles behind (or reasons for) the group's savings plan	• What are the minimum amounts to be kept in the bank? • How often and how much do members contribute to the savings? • What are the sanctions for non-compliance?

8. Recordkeeping

You have already discussed the common records the group will need to keep. In the bylaws the group must clearly describe who will be responsible for each record and when records must be kept. Also, the group must decide where records will be kept so that members have full access to them.

Constitution	Bylaws
• Describe the reason the group keeps records	• What are the records that will be kept by the group? • Who is responsible for keeping each record? • How often is each record updated? What is the procedure for updating? • How can members access the records? • Who provides oversight?

9. Loans

The group should be clear about the purpose of loans. If the group decides that the FFS will loan money to its members, the bylaws must be very specific about who is eligible for these loans and how they will be repaid. If the group decides to take a loan from a financial institution, the purpose of the loan and who is liable for repayment of the loan should be clearly stated.

Constitution	Bylaws
• Under what situations will the group seek outside loans? • What is the group's position on loans to individual members of the group?	**Regarding loans from financial institutions:** • Who is liable for repayment? • Who is a signatory on the loan? • How does the group decide to seek a loan from an outside financial institution?
	Regarding loans to members of the FFS: • What are the terms of the loan (interest rate, repayment schedule, eligibility, penalties for non-payment, guarantors)?

10. Work Plans

All the planned activities in the FFS Group Action Plan should be implemented systematically. However, the GAP is very general. Thus, specific work plans need to be developed for each category of foreseen activity. These are reviewed regularly to ensure that implementation is on schedule.

Constitution	Bylaws
• What are the different activities for which work plans have to be developed? • Who develops and prepares each work plan? • How often should the work plans be reviewed?	• Does not appear here

11. Benefit Sharing

The constitution should provide a general statement about how the group and community will benefit from the FFS's project. The bylaws need to make clear how any monetary benefits or other assets the group acquires will be shared.

Constitution	Bylaws
• General statement about how the group and community will benefit from the FFS • Principles of benefit sharing	• How will money the group acquires be shared among the members? • What about other non-monetary assets?

12. Collective Activities

As the learning programme takes place, the FFS also carries out various activities to generate income or connect with the community. For instance, all the enterprise management operations, including planting, weeding, pruning, mulching, harvesting and marketing, can not be combined with the learning session on the same day. The FFS has to agree on:

- a schedule
- the roles of the individual members
- the host of the activities
- the composition of mini groups
- any other categories important to the FFS.

Constitution	Bylaws
• Schedule for the collective activities • Planning for the activities • Members' obligations	• What disciplinary measure is taken for nonparticipation? • Are there an exceptions to these obligations?

13. Dissolution of the Group

This is not common but may happen in situations where the FFS members fail to build a cohesive group. Alternatively, after completing the learning cycle the group may feel that it has reached its primary goal and opt to dissolve.

Constitution	Bylaws
• State under what circumstances you would dissolve the group. *If funds were managed improperly? If group members had conflicting priorities? If the group achieved its goal?*	• Not relevant in bylaws

Once the group has drafted the constitution, the secretary should review the group's decisions. Then, the Constitution Committee – or whoever the group has decided should be responsible – will work with the facilitator to finalise and present the documents at the next meeting.

ESTABLISHING LEADERSHIP AND RESPONSIBILITIES

Now that the constitution has been made, the group needs to follow up on the activities it said it would do. One of the most important processes is electing the leadership of the FFS and establishing committees. Once this is done each member will know his specific duties. Some members will be in charge of initiating the savings scheme. Others will have to open a bank account or register with the CDO. Lastly, the records must be created so that members can begin putting information into them.

Session Plan

Goals of the Session: To ensure that the constitution and bylaws are properly enacted

What You Will Need: Flipcharts, markers, pamphlets for local banks

Records to Introduce: Cashbook, Savings and Credit Ledger, Minutes Book

Time: 2 hours

Step 1: The group charged with preparing and finalising the constitution should present the final document to the group for consideration. Make sure that the leadership roles are especially clear because the group will be electing leaders in the next step.

Step 2: In the constitution, the group listed the leadership and committees it will need. It also noted how the group would decide upon leaders and committee memberships. Now, it must use these guidelines to select its leaders. In general the desired qualities are:

- Chairperson: a dynamic, respected leader in the community
- Secretary: a person who can read and write with basic maths knowledge in order to assist with records
- Treasurer: a person who can read and write with basic maths knowledge; the group should trust the treasurer because she will be in charge of the group's money

Step 3: Hold a swearing-in ceremony with a community leader. This will instil pride in the new leaders.

Step 4: Review the processes that must be initiated now that leaders have been selected. This includes the member savings. Has everyone contributed savings this week? Another process stated in the bylaws is the opening of a bank account. This comes after the registration process because the group will need its official registration certificate, a copy of the constitution, a letter of introduction from the local leadership (preferably the sub-county chief) and 3 signatories. However, the group needs to begin thinking about this because there are several banking options. As a facilitator you will need to obtain details from local banks about their requirements for new accounts. Explain to the group about these banking requirements, including the minimum deposit, transaction charges and minimum balance. Compute the cost of opening a bank account, including registration, transportation and passport photos. Decide as a group where this money will come from.

Step 5: After the group leaves, hold a meeting with the newly-elected leaders. At this meeting you will need to introduce the secretary to the minutes book so that he can take notes in future meetings. The treasurer will need to begin the savings & credit ledger. You should also make sure the leaders know what they need to do to register with the CDO and open a bank account because they will start these processes before the next session.

The FFS should consider several things before choosing a bank:

- Is it authorised by the Central Bank to receive public funds?
- What is the minimum balance needed in the account?
- What types of bank charges are there?
- How far away is the bank?
- What interest rate does the bank offer for money in an account?

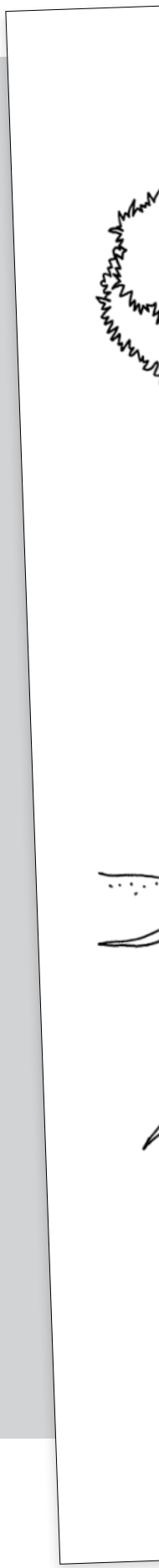
CHAPTER 6:

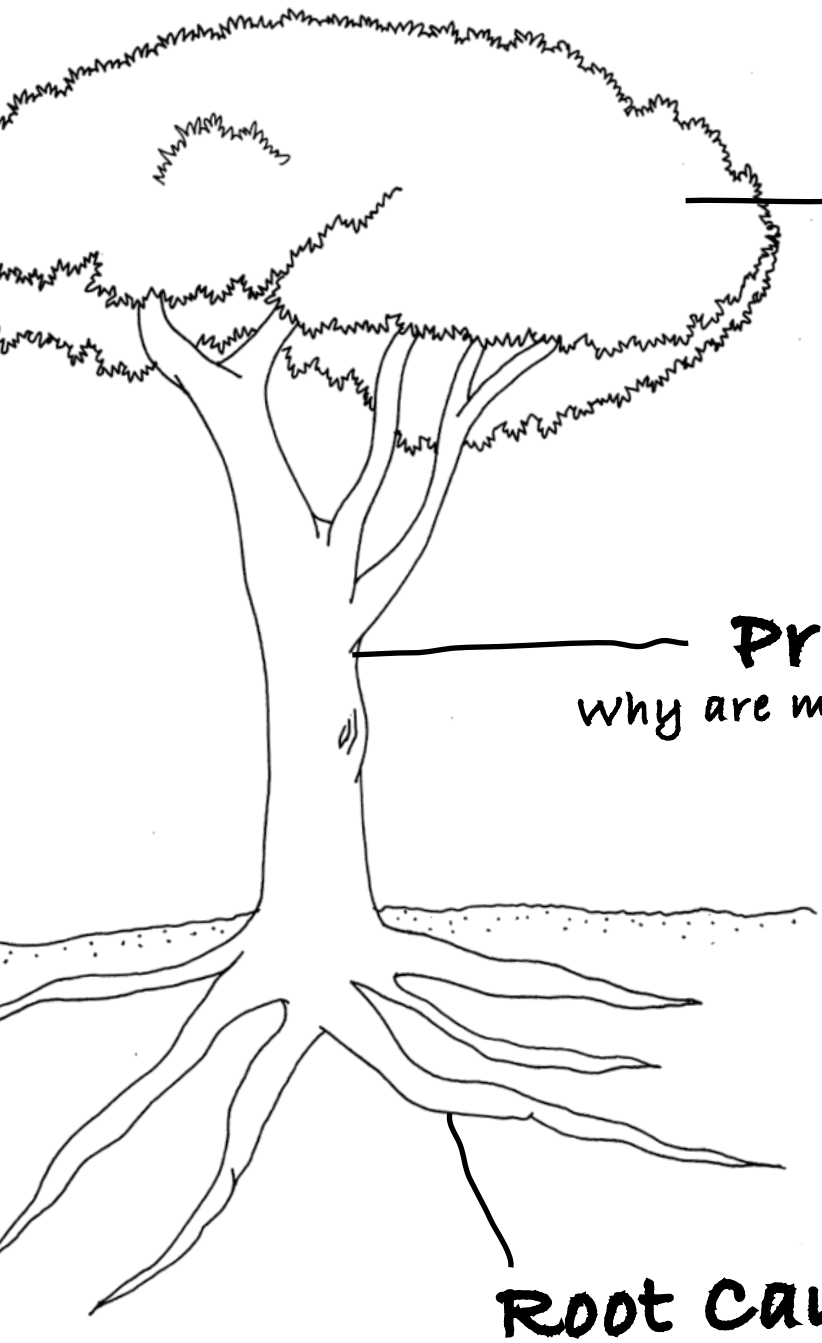
Group Action Plan

You have introduced the group to the basic concepts of recordkeeping. They have learned about savings and developed a constitution and bylaws. You have helped the FFS create a strong foundation for its activities.

Now it is time for the group to decide what to build on top of that foundation. *What will the FFS's activities be?* As a facilitator, you must guide the group through the planning process. The major objective of this stage is to develop a Group Action Plan (GAP). A Group Action Plan addresses the specific problems the community members have encountered in their daily farming activities. Their goal is to solve these problems through the FFS. The GAP also incorporates other issues that affect farmers' livelihoods.

This is the point in the FFS when the group sets goals. As the group develops the GAP, you will need to think carefully about how it will monitor and evaluate its progress in meeting the goals it has set. Thus, this chapter has two sections. The first discusses how to help the group develop the GAP. The second discusses how to monitor and evaluate its progress.





Effects:

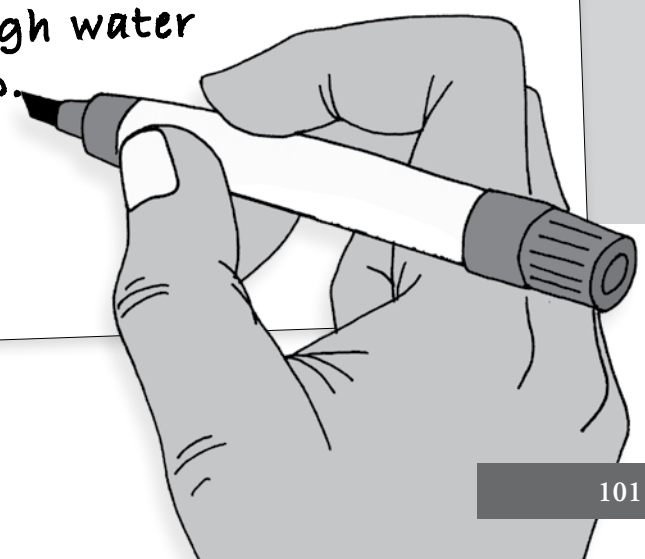
I have nothing to sell.
My children have a bad diet.

Problems:

Why are my tomatoes dying?

Root Causes:

The seeds are bad.
There is not enough water for the crop.



GROUP DEVELOPMENT OF THE GAP

The GAP needs to:

- ***Set a clear goal*** of what the FFS will achieve.
- ***Explain how*** the FFS will achieve this goal.
- ***Be supported by*** the entire group, which should feel a sense of ownership of the project.
- I***dentify the learning activities*** that the FFS will do.
- ***Be transparent*** so that others can see that the process works.
- ***Train farmers*** in how to better organise and manage themselves.

The GAP has 5 stages represented by 5 sessions. It will take at least two weeks to complete the GAP.

Any FFS established in an emergency context will have a shorter timeframe to finish its learning programme. These FFSs must select crops that mature quickly to ensure that the learning covers a complete lifecycle. Vegetables have been an excellent study choice due to their diverse pest and disease management problems, quick maturity and nutritional value!

STAGE 1: CHOOSING THE STUDY ENTERPRISE

The learning activities need to be based on a problem the group wants to solve. The facilitator will need to help members identify common problems they all face in farming. When guiding the group discussion, remember the following:

- The study enterprise should have an important role in the community farming system. In most cases the study enterprise is a crop that the farmers currently grow. Occasionally, it is a crop that is being introduced to the area.

- The group should use the study enterprise to address a problem it has observed. The group should be familiar with the problem, but unsure of how to solve it.

- The problem the study enterprise will address should be complex. It should deal with multiple issues. If the problem can be easily solved the FFS will learn very little. If it is complex, you will be able to explore so much more!

Remembering these guidelines will ensure that everyone in the group can gain something positive from solving the problem. Now that you know the goal of this stage, it's time to lead the group in an activity.

Goal of the Activity: For the group to determine the problem(s) it wants to solve

What You Will Need: Flipcharts, markers

PRA Tools to Use: Seasonal Calendar, Options Assessment Format

Time: 2 hours

Step 1: Before gathering the group, use the flipchart to draw a blank seasonal calendar.

Step 2: Do the seasonal calendar activity as outlined in Chapter 2.

Step 3: Have the group discuss how livelihood activities change throughout the year. Here are some questions to ask:

- Are there periods when activities are more frequent and periods when activities are less frequent?
- How does this impact on the group's quality of life?
- What livelihood activities are happening during the timeframe of the FFS?

Step 4: Now that participants have an overall picture of their livelihood activities over the course of a year, ask them to identify the significant problems they face in completing each of these livelihood activities. List these problems on a flipchart.

Step 5: Focus the discussion on the crops that the group has identified as livelihood activities in their community. As they look at each crop on the list, ask them to think about issues like:

- Is raising this crop a valuable economic activity? In other words, does it make enough money to be worth planting and harvesting it?
- Is it culturally acceptable? For instance, illegal drugs are not acceptable.
- Is it suitable in the area? Will the crop grow there?
- Are there any problems this crop can bring? Perhaps pests get into it easily or it takes a long time to grow.
- Are there temporary solutions to these problems that the farmers know about?
- Are these solutions environmentally sustainable?
- Does the community need/want this crop?
- Is this crop grown during the period in which the FFS will be active?

Step 6: The crop that poses the most problems but which can be valuable in terms of income, food security or nutrition represents the study enterprise the group should pursue. (As a facilitator who has done proper groundworking, the chosen crop should be obvious to you.)

You can use the options assessment format to get these answers. Just modify the chart so that the bullet points in step 5 are listed in the columns and the listed crops being discussed are identified in the rows.

Step 7: Now, review the activities related to growing this crop as listed on the seasonal calendar. Are there other enterprises that can be pursued in conjunction with this one?

STAGE 2: ANALYSING THE PROBLEMS

After identifying the study enterprise in Stage 1, the group needs to identify the most urgent problems shared by its members related to this study enterprise. In this session you will use the pair-wise ranking PRA tool to help participants prioritise the problems they face related to the study enterprise.

Goal of the Activity: For the group members to develop an understanding of problems they share related to the study enterprise

What You Will Need: Flipcharts, markers

PRA Tools to Use: Pair-wise Ranking

Time: 2 hours

Step 1: Remind the group of the study enterprise it decided on during the last meeting.

Step 2: Ask the group members to brainstorm. Write their answers down on the flipchart. If particular members have never grown this crop, ask them why they didn't. ***What problems did they anticipate?***

Step 3: Read through the list with the group. Analyse each point and ask members to discuss why it is a problem. As you do this, write down the group members' observations.

Step 4: Now that the problems have been discussed in detail, the group members should rank each one to determine which ones are the biggest problems. Follow the directions in Chapter 2 on pair-wise rankings.

Step 5: After you complete the pair-wise ranking, review the list in order from highest priority to lowest priority. Let the participants decide how many problems on the list the FFS can try to solve.

Step 6: Make sure that there is a consensus that the group has selected the most important problems. If there's not, let the group continue discussing. Not everyone has to agree on every point, but everyone should agree on most things.

Don't just tell the group what happened at the last meeting. Show them what happened by using meeting minutes and the flipcharts you filled out. This is why recordkeeping is so useful: it helps the group remember what it decided.

An alternative method to brain-storming as one large group is breaking the FFS into mini-groups. This will prepare them for the field exercises later in the FFS process. You will have to decide how this group works best. People may participate more in smaller groups because they are more likely to have common experiences.

STAGE 3: IDENTIFYING POTENTIAL SOLUTIONS

In this session, it's time to find potential solutions to the problems the group has raised. Every person will have their own ideas. Make sure to give everyone enough time to share.

Goals of the Activity: For the group to identify potential methods to solve the major problems it has identified AND to plan specific activities to test these methods AND to be excited about testing these methods

What You Will Need: Flipcharts, markers

PRA Tools to Use: Problem/Solution Analysis Table, Options Assessment Format

Time: 2 hours

Step 1: Show the group the problems they brainstormed in Stage 2 and review the results of the pair-wise ranking activity.

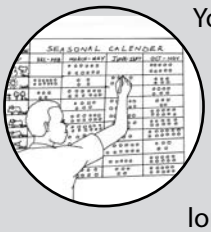
Step 2: Introduce the problem-solution analysis table you have prepared (see Chapter 2). Do an example problem with the group, writing answers into each column one by one.

Step 3: List the 3 or 4 biggest problems identified in Stage 2 in the first column ("Problem") of the problem-solution analysis table.

Step 4: Working with the members of the FFS, fill in the table from left to right. Take one problem at a time with the whole group or assign one problem to each mini group and have them work together and share their results with the entire group.

Step 5: Now that you have several potential solutions, your group needs to decide which ones to test in its study plots. There are several things to consider. The options assessment format is a good way to do this (see Chapter 2).

Step 6: After completing the options assessment format you should have a good idea of which problems you will be testing in your study plots. Review this information with the participants and explain that in the next session they will be developing the learning programme for the FFS.



Your group may not be aware of all the potential long-term solutions. As a facilitator, if you discover a group is unaware of simple solutions, you will need to incorporate them into the learning curriculum. They can decide later to test out these solutions and see if they work in their location.

STAGE 4: DEVELOPING THE LEARNING PROGRAMME

Now that the group members have identified the problems they want to explore as part of the study enterprise and have decided on the solutions to these problems that they want to test in their study plots, you need to help the farmers turn this into a learning programme that will unfold over the coming months.

The options discussed in the previous session will form the basis of the learning programme, but there are other considerations. This session will help you discover what issues are most important to your group. Later, you will need to combine your group's inputs with your own knowledge.

The learning programme should:

- Lead toward a better community understanding of the environment
- Be relevant to local conditions
- Allow farmers to discover solutions on their own
- Enable farmers to make their own decisions
- Be a partnership between the facilitator and the farmers
- Encourage collaboration among different community organisations
- Use what is available to the farmers

Goals of the Activity: For the group to develop a learning programme

What You Will Need: Flipcharts, markers, Crop Phenology Profile, Season-long Learning Calendar

PRA Tools to Use: Options Assessment Format, Pair-wise Ranking

Time: 3 hours

Step 1: Review the outcomes of the previous sessions with the group.

Step 2: Discuss broader community problems with the group that have an impact on group members' livelihoods. The FFS learning programme will be most successful if it can also address non-farming problems. For example, are there sick relatives who need access to a doctor? These problems can affect farming, so they need to be discussed. Remember back to the community needs assessment you performed in the Groundworking stage. Are there any other topics you're missing?

Step 3: Prioritise the issues mentioned. The FFS study period is only for a short time. If useful, you can use the pair-wise ranking tool here.

Step 4: The next step is to integrate these topics with the main study enterprise in order to create a holistic learning plan. Every topic should link to the study enterprise in some way. Explore the linkages with the group.

Tomato crop phenology profile

Parameter ↓ / Crop growth stage →	Seedling 	Vegetative 	Flowering 	Fruiting 	Maturity 
Weeks after planting					
Appearance					
Susceptibility to pests?					
Susceptibility to disease?					
Nutrients needed?					
Effect of weeds?					
Water needed?					
Critical management needed at each stage?					
AESA parameters critical at the respective growth stage					
Relevant topics					

Step 5: After a short break, show a crop life cycle profile (or phenology) to the group. This profile helps the farmers observe the study enterprise from when they first plant the seeds to when they harvest the crop. On the profile, they will track problems and needs. The facilitator should use the profile to ensure that all the essential management steps are covered throughout the life cycle. The facilitator should integrate the outcomes from steps 1 to 4 onto the profile. Right now, the profile will help you develop appropriate topics for the learning programme.

Step 6: Building upon the output of step 5, make a season-long learning calendar. The calendar is generated from the crop life cycle profile. It also includes other livelihood topics that the group may prioritise. It should include session topics which are linked with the crop growth stages. For each topic the key concept and main objectives need to be highlighted. The calendar can be as simple as this:

Season-long learning calendar

Session	Weeks after planting	Crop Growth Stage	Topic	Objective(s)	Key concepts	Required materials
1	0					
2	-					
3	-					
4	1					
...	...					
30	27					

Farmers often lose their livelihood assets as a result of the factors leading to the emergency. Under such circumstances, they may not be in a position to make any contributions toward the learning process. Or, whatever they do collect, may not be sufficient. It is necessary for the organisation to provide flexible grants and essential inputs to ensure that even very vulnerable farmers can have an opportunity to benefit from the learning process.

STAGE 5: BUDGETING

You have already reviewed basic financial records with the group in the Group Formalisation phase. The group also elected a treasurer to handle financial documents. Now, it needs to create the simplest financial record of all: a budget. This is not a budget for the FFS business enterprise. It is for the cost of the FFS to run its experiments and overall learning programme through a season. During the beginning phases of the FFS the group should receive a grant, but it will still need to collect member fees to meet the costs of its activities. After the FFS becomes fully independent it will use savings and a revolving credit fund to continue its work.

Goals of the Activity: For the group to develop an operating budget

What You Will Need: Flipcharts, markers

PRA Tools to Use: Seasonal Calendar

Records to Introduce: Inventory Sheet

Time: 2 hours

There will be 8 different elements you will need to budget for:

1. **Field inputs:** These include fertilisers or seeds for farming projects.
2. **General tools:** These include hoes and wheelbarrows. Some members already have these items and are willing to let the FFS use them. This can be part of their material contribution to the group.
3. **Stationery:** The learning process will require some pens, paper, crayons, masking tape, markers, flipcharts and other basic materials.
4. **Comparative field experiments:** The experiments cost money. ***How much will the group need to do a proper experiment?***
5. **Field days:** The FFS needs to be a good community member. ***How much will it cost to host the community at the site for at least one day?***
6. **Exchange visits:** The group should set aside money to visit other FFSs for a day.
7. **Facilitation:** You and the group need to agree upon how many guest speakers you will have throughout the FFS process. Use the learning programme to guide you. ***What is a reasonable amount for the guests' transportation and lunch?*** Facilitation should not cost more than 50% of the total grant.
8. **Graduation ceremony from the FFS:** The group will need money for invitations, certificates, transport, food and drink and anything else it deems necessary.

For the first three items, introduce the inventory sheet to determine what the group already has available for FFS use. This will make budgeting easier, because the group will know what they don't need to buy.

Add the amounts together to calculate the total amount the group needs for its activities. The group has already discussed its savings goals. Now it must discuss a reasonable amount for member contributions to the FFS. It can use ASCA interest to finance activities. The group will need to secure a grant or loan for any amount that is left over.

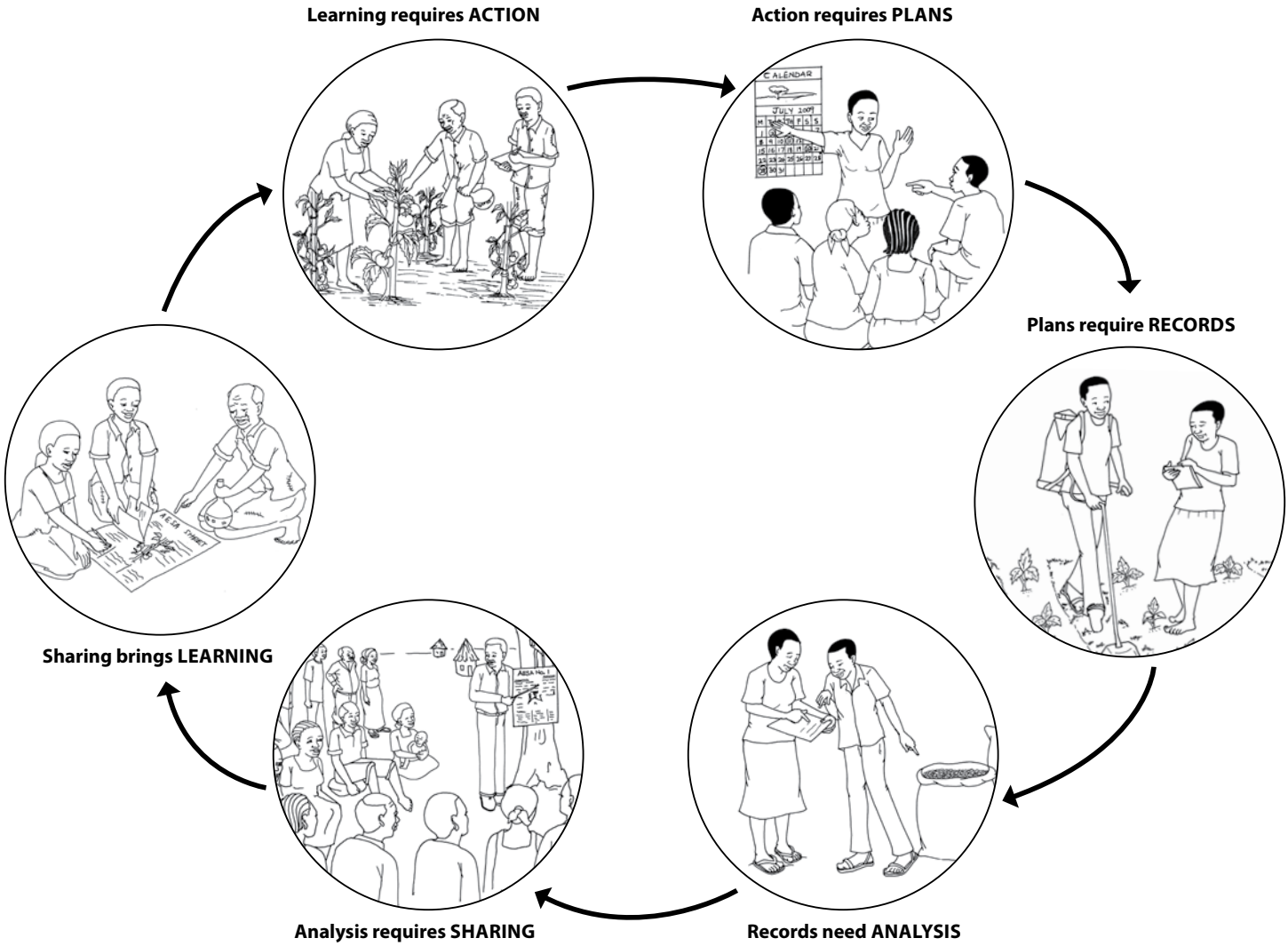
Congratulations! With the completion of this session your GAP is finished and the group formalisation process completed! You are ready for school to begin. But wait a minute. Before you proceed, do you know how you will be assessing your progress? That is the focus of the next section of this chapter.

MONITORING AND EVALUATING THE GAP

You have helped your group make a GAP in order to create a learning programme that addresses all its needs. It is up to you, however, to finalise the learning programme. To do this, learning goals and project benchmarks must be added. The GAP, then, must be linked to a participatory monitoring and evaluation (PM&E) programme.

The Group Action Plan is a participatory planning process in which the group develops its learning programme. But how can you make sure that the group is properly following the programme and learning from the sessions? You will need to monitor and evaluate the group to make sure it is making positive changes.

Like the GAP, the monitoring and evaluation process should be participatory. PM&E shows the group how much it has improved, building its confidence along the way. In a Farmer Field School, the PM&E should be used to monitor and evaluate the FFS's performance. You will need to help the group build monitoring and evaluation into all aspects of the FFS.



CREATING A PM&E PLAN

As a facilitator you will be reporting your group's performance to supervisors, colleagues, donors and community leaders. What will you tell them? You need data to be able to show the group's progress. This manual cannot tell you what specifically to monitor because that depends on the group's objectives. However, the following material will provide you with the guidance you need to develop a PM&E action plan that will assess whether the group is achieving its goals. These sections will also provide you with the tools to demonstrate results to the group and to any outsiders.

There are six questions you should ask yourself:

Why are we doing PM&E?

PM&E has many uses. It can be used to control, educate, provide feedback or facilitate change. In the FFS, however, PM&E is mainly used to enhance the learning process by identifying paths for further development.

What do I need to evaluate?

Every FFS has specific objectives built into its learning programme because the problems in every community are unique. However, there are some basic goals that each FFS aims to achieve. Here are some example parameters to evaluate (you can add more parameters or modify these to fit your FFS):

- Changes in farmers' skills or knowledge
- Evidence that farmers are adopting appropriate technologies to fit their problems
- Increased productivity
- Increased income
- Changes in social status
- Increased nutrition levels
- Evidence that the FFS message is being spread throughout the community

These parameters need benchmarks to measure the amount of change. These benchmarks are called "indicators". Indicators are areas that can be measured and should be used to track progress in specific areas, measure achievements or determine the group's level of satisfaction. Stakeholders will be interested to know whether the group is succeeding or failing in certain indicators. See below for help with developing indicators:

Goals	Desired Parameter	Indicators	Sources of Information
To improve production of groundnuts	Members of the FFS have acquired knowledge and skills in groundnut production	The number of farmers practicing skills and knowledge acquired in groundnuts production	• Attendance lists • Training reports • Pre- and post-tests • Production records

The first column shows the group's study enterprise. This FFS wants to improve production of groundnuts. The second column shows what needs to be measured: members' knowledge. The third column shows that the group wants to know how many members acquired the knowledge. The fourth column shows what the group will use to assess this.

Who should be involved in the evaluation?

The monitoring and evaluation process is participatory. That means that the FFS participants are the key actors in developing and implementing the plan. Your job as a facilitator is to guide the process. Therefore, as the FFS develops its GAP, it should decide how it wants to track each objective.

Ideally, you will also involve people from outside the group. These can be government officials, donors, other farmers or anyone else interested in the FFS process that can provide feedback on the group's activities. This allows stakeholders to be directly involved and encourages the FFS to continue working toward its goals.

When should the evaluations take place?

You have already started the evaluation process! During the groundworking phase, you were taking a picture of the community before FFS. Now, the process continues. PM&E should be built into every session until the end of the FFS project. It should also be built into other activities, such as:

- **Work Plans:** Ensure that timelines and responsibilities are clear. You should include benchmarks that will guide you to check progress.

- **Field Visits:** Outside stakeholders will have valuable insight for your group. You should create a report for visitors to fill out. These visitor reports can point to any potential problems or success areas.

- **Stakeholder Meetings:** Use the meetings to get feedback on your activities and suggestions for improvement.

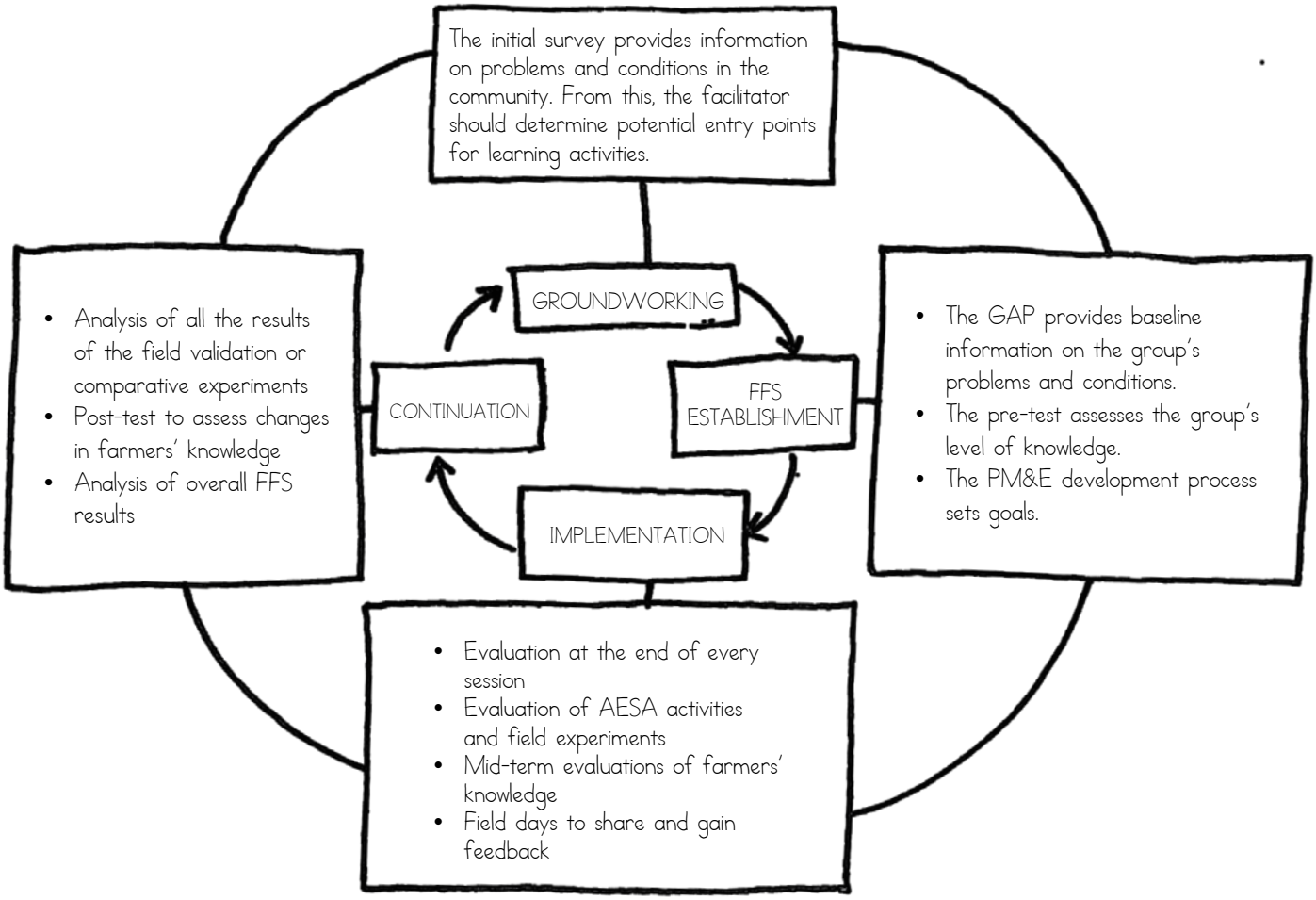
With what kind of resources should I do the evaluation?

The PM&E activities are incorporated in the FFS learning programme, so they will be paid from the grant funds. The initial survey, the continuous evaluations and processing of final results should come to about 2% of the FFS's overall budget.

How should I use PM&E tools?

You can use many of the methods from the Group Action Plan stage for PM&E. These can include: maps, interviews, group discussions, transect walks, records or AESA. The next section provides you with specific tools that can introduce the group to PM&E.

PM&E Model



TOOLS FOR MONITORING THE LEARNING PROCESS

There are several helpful tools to use with your group to evaluate the members' performances.

Pre-test and post-test

One tool is a test that members take at the beginning and the end of the FFS. The pre-test, taken at the beginning of the FFS, records how much the group already knows about the study enterprise and identifies knowledge gaps. The post-test, taken at the end of the FFS, shows how much the group has learned from the FFS process.

Activity Plan

Goal of the Activity: To record participants' knowledge about the study enterprise in a non-threatening environment

What You Will Need: Individual test sheets, specimens for identification and pens for every member

Time: 2 hours

Step 1: Develop a pre- and post-test for the participants. There should be at least 10 questions. Each question should have 3-4 answer options for participants to choose from.

Step 2: Distribute the test and pencils to every group member. Explain to the participants how to answer the questions. Below is a sample pre- and post-test for a FFS that had cows as their study enterprise:

BALLOT BOX QUESTION – ANSWER SHEET

Name of FFS:_____

District: _____ Sub-county: _____

☐ Pre–test ☐ Post–test

Tick or punch the number corresponding to the right answer (A, B or C)

No.	Question	ANSWER A	ANSWER B	ANSWER C
1.	Why do we prune tomatoes ?	To make the plant beautiful	Better quality fruits	Source of mulch
2	Dumping off in the nursery bed is caused by	Too much wind	Over population	Excessive moisture
3.	What is a Natural Enemy?	Disasters like floods	Insects that feed on pest	Any dangerous person
4.	Which of the following can you use to control aphids in your cabbage field?	Mixture of hot pepper, neem extract and soap	Fungicide	Fertiliser
5.	If your tomatoes show stunted growth and loss of normal green colour of the younger leaves, what would you do?	Add ash to the plants	Spray with a pesticide	Add compost manure
6.	Why is the use of fresh farm yard manure that has not yet decomposed not a good practice?	Decomposition process consumes oxygen and produces harmful gases to the plant roots	It might be too smelly and bring flies to the garden	It is very expensive
7.	Which of the following soils would be most suitable for growing vegetables?	Red-brown and orange coloured soil	Dull yellow and blue mottles	Dark coloured soil
8.	What might cause abortion of tomato fruits?	Bad variety	Too much wind	Response to water stress, disease or heavy pest infestation
9.	Which of the following practice is associated with the nursery beds?	Staking	Hardening off	Pruning
10.	What cause bottom end rots?	Lack of calcium	Too much water	Pests

Step 3: Read the questions and options to the participants. Ask them to place a tick (√) beside the answer they think is correct.

Step 4: When the test is completed, collect the answer sheets. Make sure the participants have written their names on the answer sheet before you collect them.

Step 5: Discuss the questions and answers with the participants. Ask the members why they chose the answers they did. While the answer sheets will give you a baseline of the participants' knowledge, a discussion with the group will give you information on how to develop the learning programme to check the group's strengths and weaknesses.

Visual aids are extremely helpful because many participants will not know the names of familiar objects. Hold them up while asking the question, making sure everyone can see them properly.

TEST SCORE SHEET

No Participant	Name of Participant	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	% correct
1	Okot		x	x		x			x	x	x	40%
2	Elogu											100%
3	Tabu	x		x	x	x		x	x	x	x	20%
4	Eceru	x					x					80%
5	Opolot			x		x				x	x	60%
6	Odella									x	x	80%
7	Odeng				x			x		x	x	60%
8	Abwola			x	x	x	x		x	x		40%
9	Oketta			x	x	x	x	x	x	x	x	20%
10	Odoch		x			x					x	70%
11	Anyeko		x	x		x				x	x	50%
12	Ojara				x			x	x	x		60%
13	Nyero		x								x	80%
14	Oroma		x							x		90%
15	Onen				x		x		x		x	60%
16	Apio		x	x			x			x	x	50%
17	Oleja	x	x		x	x			x	x	x	30%
18	Okoth			x	x	x	x		x	x	x	30%
19	Kasumba		x	x	x	x	x	x	x	x	x	10%
20	Atim	x					x					80%
TOTAL		80%	60%	55%	55%	50%	60%	75%	55%	30%	30%	55%

Step 6: Calculate the members' results and record them. An example score sheet is shown below:

These results show that most participants could answer questions 1 and 7 correctly. The group as a whole had particular trouble with questions 9 and 10. Those two questions were about vaccinations and milk clotting, so you will need to build sessions on vaccinations and milk clotting into the learning programme.

At the end of the FFS you should give the farmers the same test a second time. Compare their results to show what the farmers have learned.

Mood meter

A good facilitator will always be anxious to get feedback from the participants on their impression about the day's session. Constant feedback helps the facilitator to make improvements that will enhance the learning process. The mood meter is one of the simplest and most popular tools used in the FFS.

Activity Plan

Goal of the Activity: To record participants' impression of the day's session

What You Will Need: A blank format of the mood meter on a flipchart and markers

Time: You will need 30 minutes to introduce the wheel; after that you will need 10 minutes at the end of every session to complete the mood meter

Step 1: Brainstorm with the farmers to identify some of the parameters that may affect the learning process. List all the submissions and ask the group to prioritise at least six. Fill the parameters into the mood meter format. Explore the farmers' interpretations of the three moods being represented in the mood meter *(i.e. Happy, Not Sure and Unhappy)*

PARAMETER / MOOD			
Topic of the day			
Attendance			
Group participation			
Time management			
Facilitation			
AESA/experiments			
Energisers/Icebreakers			

Step 2: At the end of the session, participants mark their mood against each of the parameters using a marker.

Step 3: Count the marks in each of the boxes.

Step 4: Try to establish reasons for any of the parameters that have negative outcomes. *Which items seemed to annoy the participants? What improvements could be made next time?*

Evaluation Wheel

Another tool you can use is the Evaluation Wheel. It is used to track whether the FFS is achieving its aims. The Evaluation Wheel should be updated every FFS session so that the group can visualise its progress. The members will also see areas in which they are not improving and take steps to improve in these areas.

Activity Plan

Goal of the Activity: To record participants' satisfaction with the FFS process on a weekly basis

What You Will Need: A blank copy of the wheel on a flipchart, any past wheels you have used, markers

Time: You will need 30 minutes to introduce the wheel; after that you will need 15 minutes every session to complete the wheel

Step 1: Prepare and display the wheel on a flipchart. Explain that each spoke in the wheel represents an indicator of FFS improvement. The group should decide on the indicators, but some basic types of indicators include attendance at sessions, overall satisfaction with the FFS and happiness with the topics of the day. See the example below for what a wheel looks like after it has been filled out.

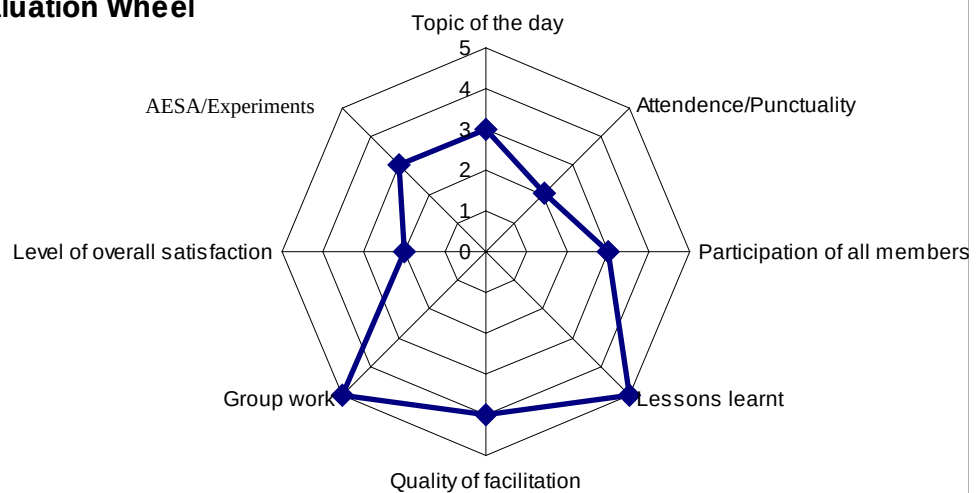
Step 2: Ask the group to rank each indicator with a score from 1 to 5.
(1 = Very bad; 2 = bad; 3 = Fair; 4 = Good; 5 = Very good)

Step 3: Each rank should be plotted on the wheel. Then connect the dots. The closer the dots are to the centre, the more improvements need to be made, according to the group.

Step 4: If there are any scores below 3, the group should discuss what solutions could help the score go up.

Step 5: The evaluation wheel should be done at the end of every session. Show the group the last evaluation wheel to see if progress has been made.

Evaluation Wheel



UNIT 3:

FARMER FIELD SCHOOL LEARNING ACTIVITIES

CHAPTER 7:

FFS Key Guiding Concepts

This chapter deals with the two types of activities in the FFS system.

The first type of activities relates to the underlying principles of good farm management. This is the core of the FFS system because it gives participants the tools they need to become better farmers through their own observations and experiments in the field. Topics include:

- Integrated Production and Pest Management
- Ecosystems
- Agro-Ecosystem Analysis (AESA)
- Season-long Learning Activities

The second type of activities empowers farmers to make better decisions about all aspects of their lives. These are called "special topics". The Farmer Field School process is about much more than just farming. It is a holistic approach to adult learning, giving farmers the means to analyse and make better decisions about how to lead their lives.


AESA SHEET

INTEGRATED PRODUCTION AND PEST MANAGEMENT

In an attempt to meet increasing food demand, it is important that farmers use sustainable production practices that preserve or improve the production resource base for future generations. Integrated Production and Pest Management (IPPM) is an ecosystem-based management concept entailing improved farming practices that respect the environment while also enhancing the overall goal of making a profit. This distinguishes it from mere IPM (Integrated Pest Management), which lacks a strong focus on good business practices for poor farmers. IPPM places a strong emphasis on growing/raising a healthy crop/animal with the least disruption to the environment. Many people think that successful farming enterprises must ignore environmental sustainability. The opposite is true. Soils need to be replenished. If they are not, their productivity will decline after just a few seasons. IPPM is a holistic approach that combines a number of practices throughout the production cycle. Some of these practices include:

- Loosening the soil structure
- Using clean seed/planting material
- Timely planting
- Mixed cropping
- Proper spacing
- Mulching
- Using organic matter/manure
- Rotating crops
- Using cover crops
- Resting the garden

As a facilitator, you should build each of these skills into the learning programme.

More broadly, there are 4 basic principles of IPPM:

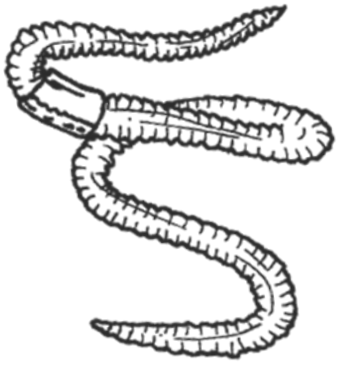
1. Growing a healthy crop
2. Observing the field and its environment regularly
3. Preserving natural enemies
4. Empowering the farmer to make good management decisions.

HEALTHY SEED + HEALTHY SOIL = HEALTHY CROP

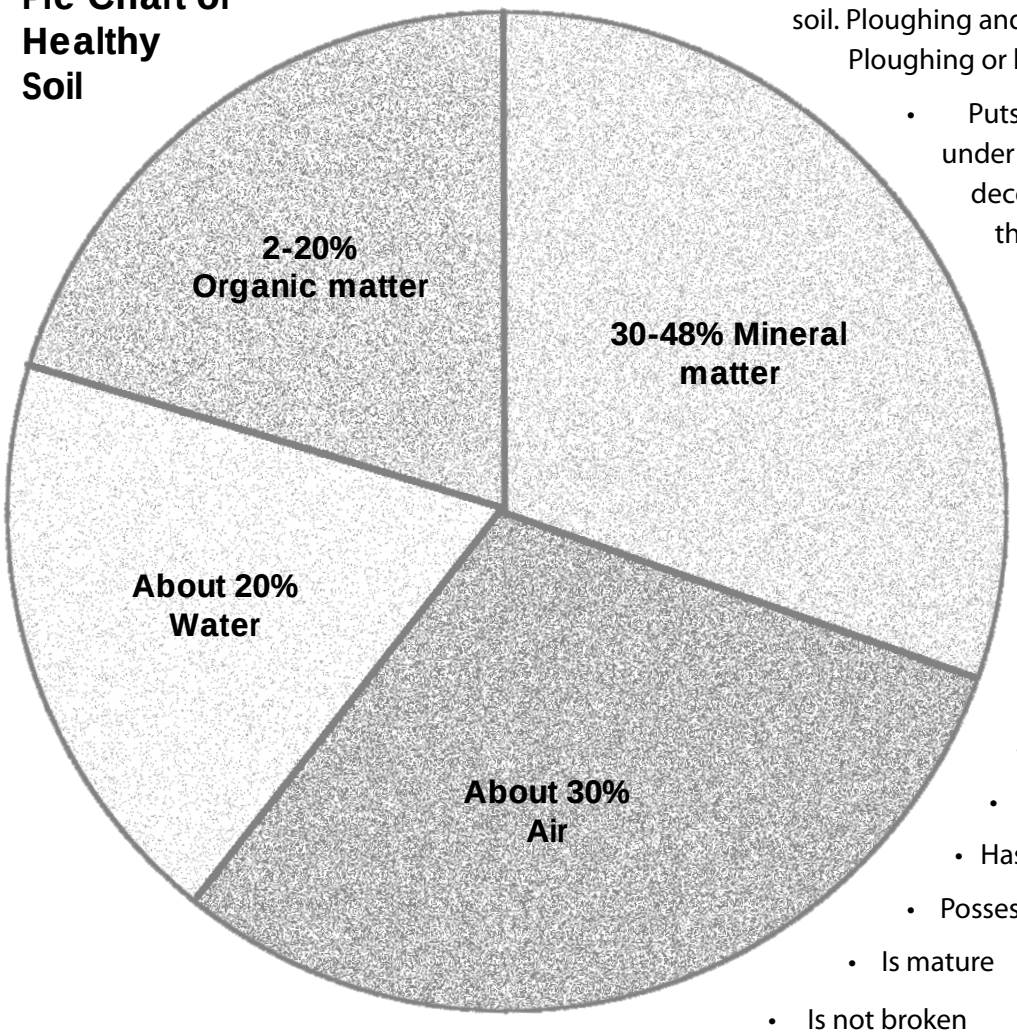
A healthy crop can resist diseases. It is more able to compensate for damage caused by diseases and insects so that plant injury does not always lead to yield losses. The main requirements for healthy crops are a healthy soil and a healthy seed. Thus, it is very important to pick a good farm site and select a good seed. Farmers must prepare seedbeds in a timely manner and weed them regularly once weeds appear.

Soil is a place where plants live and feed. A healthy soil should be fertile and is characterised by the following:

- Good rooting conditions – deep enough to hold the plants
- Has a loose texture
- Has many nutrients and a lot of organic matter
- Holds water for long periods
- Has good drainage – enough air for roots to breath
- Is home to many living organisms



Pie Chart of Healthy Soil



There are certain practices that help maintain healthy soil. Ploughing and hoeing are two such practices. Ploughing or hoeing:

- Puts plant residues and fertilisers under the soil, where they will decompose and give nutrients for the plant to feed on
- Loosens the soil, enabling oxygen to penetrate it so that bacteria can develop and decompose the organic matter
- Loosens compacted parts of the soil so that seeds can easily germinate

A healthy seed is a seed that:

- Has no holes
- Has the coat and shell
- Is not wrinkled
- Has not been exposed to heat
- Possesses a normal shape
- Is mature
- Is not broken

Maintaining Healthy Soil is Key

Macro-nutrients	Micro-nutrients
Nitrogen	Iron
Carbon	Manganese
Phosphorus	Chlorine
Potassium	Zinc
Sulphur	Molybdenum
Calcium	Boron
Magnesium	Cobalt
Oxygen	Copper
Hydrogen	Silicon

Soil consists of many elements.

Soils contain a variety of chemical elements needed for plant growth. These chemicals are called nutrients. There are two types of nutrients. Macro-nutrients are required in relatively large amounts. Micro-nutrients are needed in relatively small amounts.

(30-48%) ***Mineral matter:*** Made up of large granules of sand, medium-sized granules of loam and small granules of clay

(About 30%) ***Air***

(About 20%) ***Water***: Contains soluble nutrients

(2-20%) ***Organic matter or humus:*** Plant and animal materials at different stages of decomposition. A soil rich in humus has dark brown colour and loose structure. Total decomposition of organic matter results in water, gases and nutrients (absorbed by plants). Dead organisms will be decomposed over time to become humus. Humus is organic matter with a simple chemical structure that will be further decomposed to become nutrients, water and gas.

Living organisms: Such as animals (earthworms, insects) plants, fungi and bacteria. Fungi and bacteria help decompose organic matter in the soil.

The ability of the soil to supply enough nutrients for plant growth is called soil fertility, while plant nutrition refers to how plants take up nutrients and use them in their growth. Deficiency of any nutrient, regardless of the amount needed, will reduce the growth and yield potential of a plant.

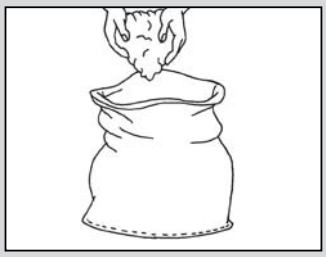
Sources of nutrients

Organic matter contains all the nutrients listed above and improves the conditions of the soil. Inorganic fertilisers, however, usually contain only one or two nutrients. For example, "Urea" contains only nitrogen and "TSP" contains phosphorus. The more nutrients, the healthier the soil. Therefore, using manure and compost is highly recommended to maintain a sustainable and healthy ecosystem.

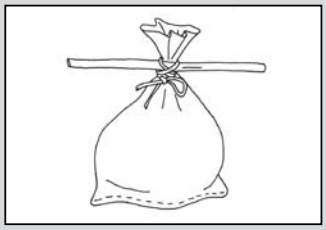
Organic matter

Organic matter increases the ability of the soil to hold nutrients in an available state over a longer period as the nutrients are gradually released. It also increases the biological activity of the soil by increasing infiltration of air and water and providing food for micro-organisms that make nutrients. The micro-organisms decompose plant and animal residues to release the nutrients. Soil organic matter is the single most important indicator of soil health and productivity. If sufficient organic matter is supplied regularly to the soil, usually no chemical fertilisers need to be applied, which minimises production costs.

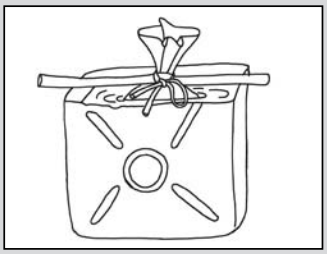
HOW TO MAKE LIQUID MANURE

1. 

Fill bag with manure.

2. 

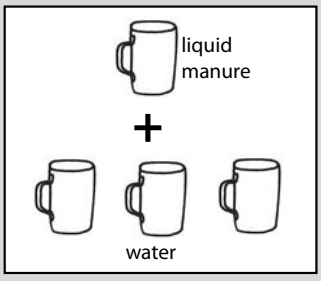
Tie the bag to a stick.

3. 

Put the bag in water.

4. 

Lift bag of manure daily.

5. 

Mix 1 part liquid manure with 3 parts water.

Here are more detail about each type of organic matter:

- **Farmyard manure:** These are the droppings of any kind of livestock, often mixed with leftovers of feed. The manure should decompose before it is applied to the crop's soil because:
  - Fresh manure may contain diseases, cysts/maggots or eggs of organisms that cause disease;
  - Uncomposted manures are bulky and difficult to apply;
  - As the fresh manure decomposes too much heat is generated, which may damage the plants;
  - Manure that is still decomposing will compete with the plant roots for oxygen; and
  - The decomposition process produces a gas called methane that is harmful to plant roots.

- **Liquid Manure:** Liquid manure is derived from droppings of livestock fermented over a period of 1-2 weeks. Animal waste (dung/urine) is collected and placed in a gunny bag which is then tied to a support before being lowered and submerged into a container like a drum with water. (For every basin of dung, use about three basins of water so that the gunny bag is fully submerged.) The support should be lifted twice a day to enable the material to dissolve and flow out into the container. Manure should be diluted before it is used. The correct ratio is 1 part of liquid manure to 3 parts of water.

- **Compost:** This is decomposed plant material. It can come from the kitchen, garden waste or even residue from the crop harvest. *(See page 132.)*

- **Living mulch:** These are leguminous intercrops such as desmodium which remain low on the ground, cover a wide area and can be grown over several seasons. Intercrops should not compete with the main crop and preferably can fix nitrogen from the air. This is a phenomenon in which leguminous plants or crops convert nitrogen into a more soluble state for the plants to absorb. The intercrop should be trimmed regularly. The cut parts are left as mulch on the soil surface or incorporated into the soil to become green manure.

- **Green manure:** These are usually leguminous crops – like soya beans, French beans or cow peas – and leguminous plants – such as sunhemp, mucuna, lablab and calliandra – planted during the fallow period and then ploughed into the soil at least 3–4 weeks before planting. They grow very fast and decompose quickly when ploughed into the soil. Like in the case of farm manure, it is recommended that farmers leave ample time prior to planting the main crop in order to ensure that the decomposition process is complete.

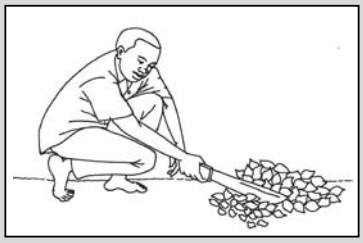
- **Plant tea:** This is derived from green manure leaves that are harvested, crushed or chopped and put in a container up to three quarters then filled with water. They are left to ferment for 2 weeks. Again, manure should be diluted with a ratio of 1 part manure to 3 parts water.

FROM THE FIELD

"One farmer used wild cow peas both to act as green manure and to feed his animals. The FFS process helped him use cow peas for more than just his own consumption."

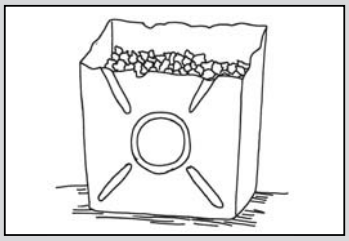
HOW TO MAKE PLANT TEA

1.



Chop up green leaves.

2.

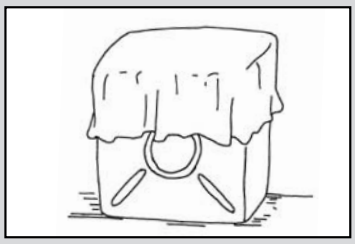


Fill container 3/4 with choppings.

3.

Fill container with water.

4.



Cover and leave for 2 weeks.

5.

Mix 1 part plant tea with 3 parts water.

Session Plan

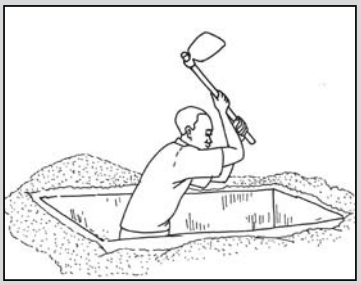
Goals of the Session: For the group to learn how to make compost in their plots

What You Will Need: Dry material like sorghum and millet straws, bean haulms, nappier grass, soybean and groundnut haulms

- Green materials like weeds, hedge trimmings and food peelings
- Animal wastes like cow dung, poultry litter and goat and sheep droppings
- Top-soil or old compost
- Wood ash
- Water
- A long stick

Time: 2 hours

STEP 1



Dig a pit that is 1.3 m deep and 1 m wide.

Step 1: Prepare a pit 1.3m deep and 1m wide. It can be any length depending on the amount of materials available.

Step 2: Start by putting chopped dry materials at the bottom.

Step 3: Follow this with a thin layer of animal wastes and topsoil or compost.

Step 4: Add a layer of green materials.

Step 5: Add a layer of ash.

Step 6: Sprinkle water.

Step 7: Repeat the process until the pit is full.

Step 8: Cover the pile with topsoil or dry grass/straw for insulation to keep the temperatures within the heap.

STEPS 7-8

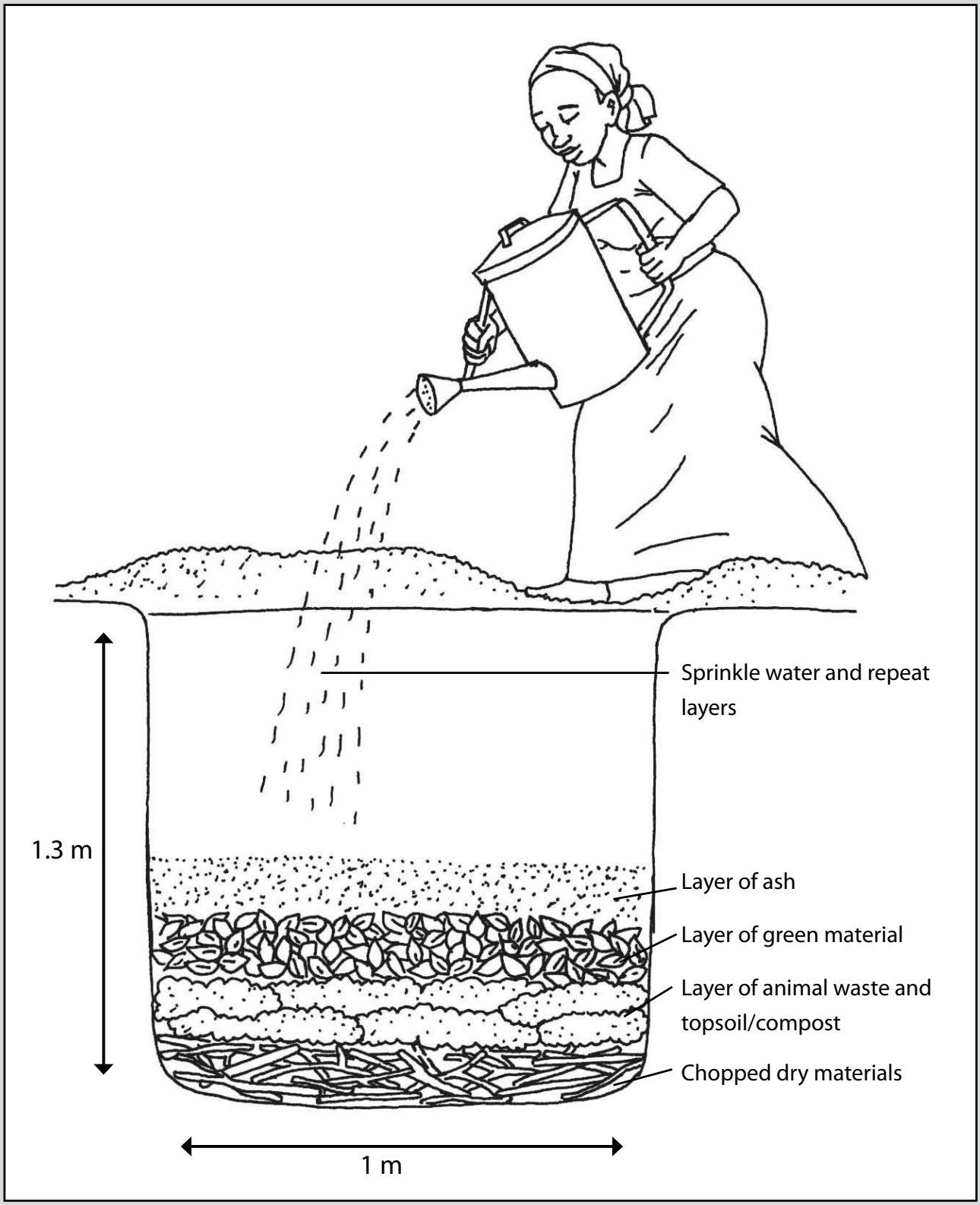
Fill the pit as shown and cover with top soil or dry grass.

Here are some tips to help your group successfully utilise compost:

- Dig the compost pit in a shaded area to avoid loss of nutrients in the form of ammonia gas.
- Use equal proportions of dry and wet materials.
- Dry materials (straw, sawdust and maize stalk) contain little water and decompose slowly but are essential in providing the necessary aeration in the pile.
- For quicker decomposition, chop woody materials to small pieces.

How to Prepare Compost

STEPS 2-6



- Green materials contain more nitrogen, which is food (energy) for the micro-organisms that break down the organic material.
- Do not compact the pile because this will dry out all the air and water required by the micro-organisms.
- To stimulate the decomposition process you can sprinkle finished compost.
- Turn the pile once every three weeks to increase the amount of air in the centre of the pile, speed up the decay process and ensure uniform decomposition. The pile is ready after 3 turnings.
- Temperatures in the heap should be monitored over the period. Farmers can use a dry stick long enough to run across the compost heap from the bottom to top at a slanted angle. The stick should be pulled out occasionally and felt to gauge the temperature change. Inspection should commence after 2-3 days.
- If after 48 hours of setting up the heap, there is no temperature change, then either the pile is too small to build up the temperature, it is too dry or it needs more nitrogen (green material).
- If there is a foul smell in the pile, that is an indication of poor aeration and the pile requires less water.
- Ready compost has no smell and looks like soil.

To ensure full participation of the women in the group, the group should agree on an appropriate time that is convenient to most of the participants.

REGULAR OBSERVATION OF THE CROP AND ITS ENVIRONMENT

The FFS can only make proper management decisions if it is regularly observing the crop and its environment. Problems can develop quickly. By observing the field, the farmers will know its exact conditions and be able to plan for upcoming problems.

Weekly observations are usually regular enough for the group to anticipate problems. However, under unfavourable weather conditions like drought, pest populations may develop more rapidly than other organism populations. Thus, the pests' natural enemies won't be able to control pests like they usually do. The group should consider a mid-week check of the field in these circumstances. After each observation the group will need to decide when to have its next observation. It may also need to take some crop management actions to ensure good crop growth. These decisions should be based upon current conditions in the field.

When Should Observations Be Made?

In all cases we strongly advise that these observations be done in the morning before 9.00 a.m. It is easier to catch and study insects in the morning. Later in the day they become more active and alert. Also, as the sun rises, the crops wither temporarily. The group could mistake this withering for disease and make the wrong decision. Before 9 a.m the group will be able to observe the field in a natural state.

What Observations Should Be Made?

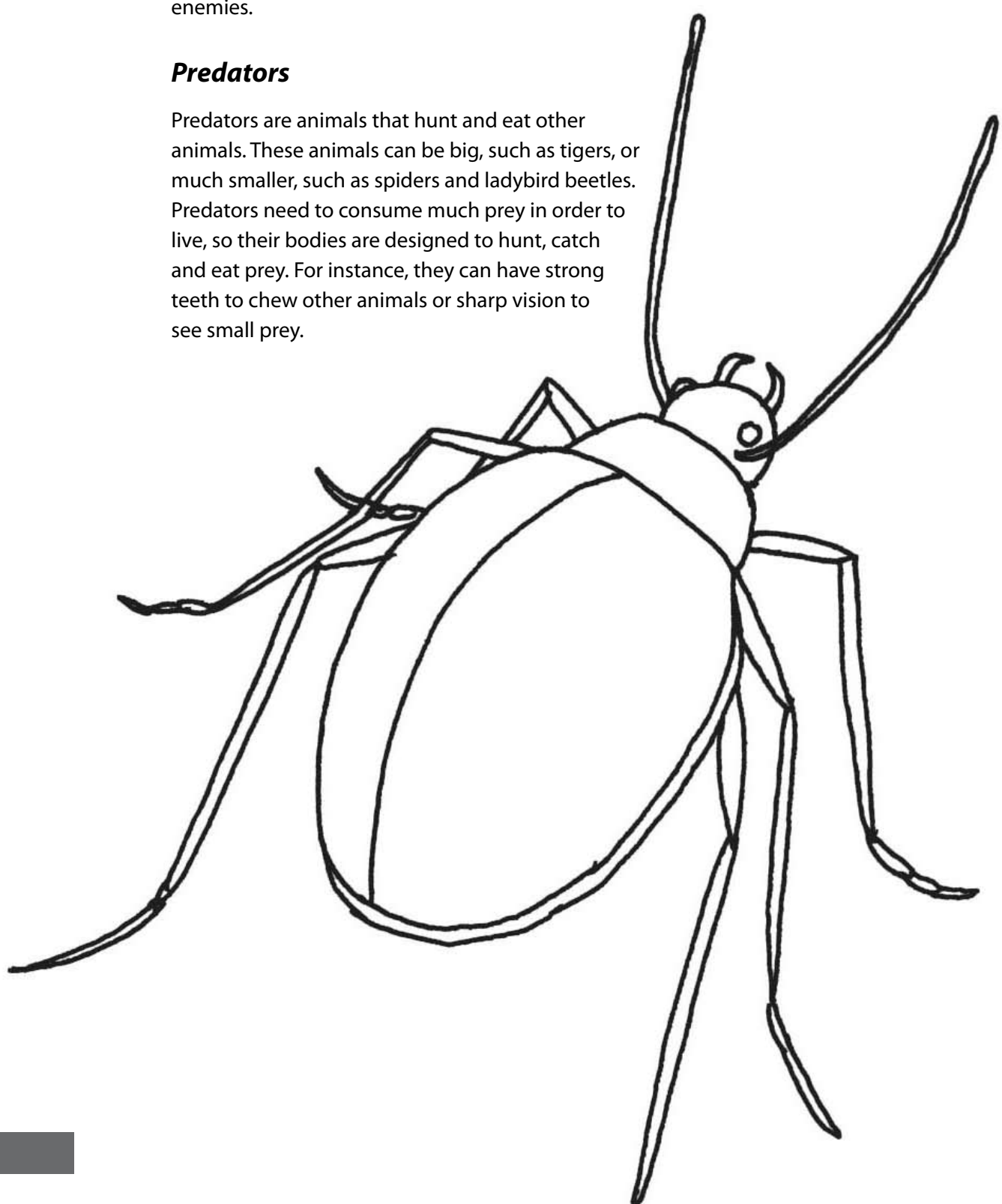
- Condition of the soil: *Is the soil loose? Is it moist? Are there any signs of erosion?*
- Health of the crops: *What's the colour? Are there any signs of nutrient deficiencies? Are there any disease symptoms?*
- Development of the crops: *How fast are the crops growing? Are they at proper heights for their growth stage? What size are the plants? What are the sizes of the different parts?*
- Presence of pests: *How many pests are on the plants? What type are they? Are there any natural enemies to these pests in the field?*
- Growth stage of the crop
- Uniformity of the crop establishment
- Weather conditions
- Surrounding environment: *Are there weeds in the field? (Such conditions can lead to other problems in the field.) What is the condition along the edge of the field? Are there animals or weeds that may harm the crop? Are there plants that provide food and shelter for natural enemies?*
- Neighbouring fields: *Is there any crop damage that would indicate pests or diseases are nearby?*

PRESERVATION OF NATURAL ENEMIES

Farmers don't necessarily need pesticides to protect their crops. Through a proper study of the local ecosystem, the FFS can learn about natural enemies to pests. Natural enemies are living organisms that kill, injure or give diseases to these pests. By preserving natural enemies, the farmers can promote an environmentally sustainable farming method. Learning to recognise and manage natural enemies is one major focus of IPPM training so that they are not destroyed by unnecessary applications of herbicides, insecticides and fungicides but are allowed to work for the farmer's benefit. There are 3 types of natural enemies.

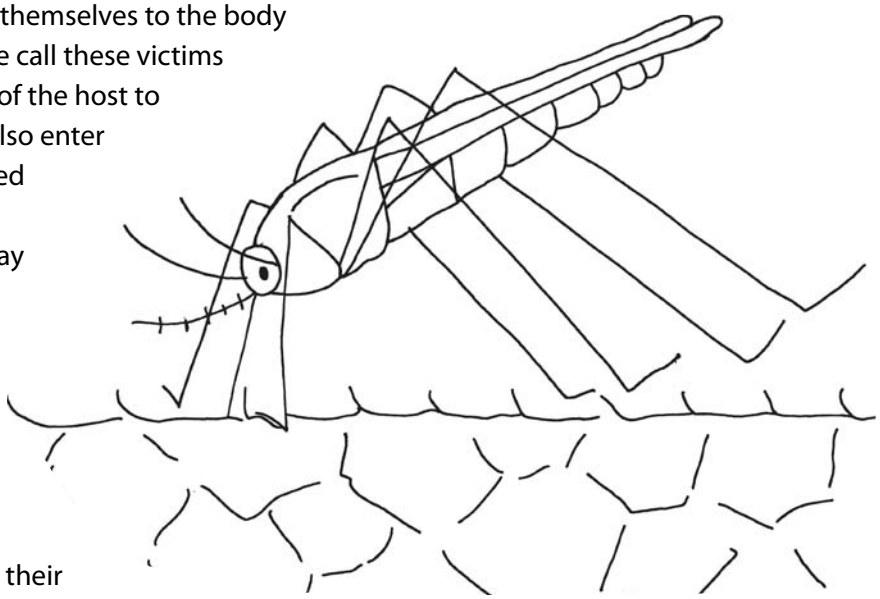
Predators

Predators are animals that hunt and eat other animals. These animals can be big, such as tigers, or much smaller, such as spiders and ladybird beetles. Predators need to consume much prey in order to live, so their bodies are designed to hunt, catch and eat prey. For instance, they can have strong teeth to chew other animals or sharp vision to see small prey.



Parasites

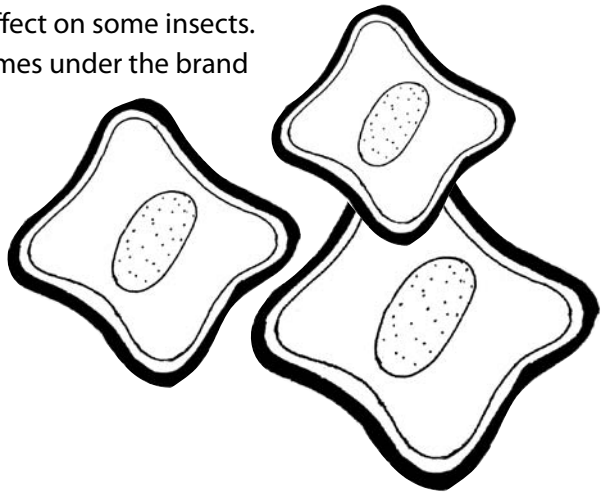
Parasites are living organisms that attach themselves to the body of their victims to obtain nourishment. We call these victims "hosts". Parasites can feed on the outside of the host to obtain blood, like mosquitoes. They can also enter the body of their victim to steal its digested food, like some worms. Farmers will need to learn about the insect parasites that may be natural enemies of plant pests. The winged adult parasites search for a host and then lay eggs in or on the host's body. The parasite may also lay its eggs in the eggs or larval stages of the host. The developing larvae of the parasite live in or on the eggs or body of the host. Because parasites take nourishment from their hosts, they weaken the hosts, which eventually die.



Pathogens

Pathogens are micro-organisms (such as viruses, bacteria or fungi) that enter the body of a host to live. The pathogen begins to multiply, causing disease in the host and eventually killing it. Some pathogens require more than one host to complete their lifecycles, moving from one victim to the next (like the influenza virus). When an insect is attacked by pathogens, its colour usually changes and its body swells so that it moves slower than usual. It will probably stop eating and become covered in a powdery substance.

An example of a pathogen that may help farmers is a soil-dwelling bacterium called *Bacillus thuringiensis* (Bt), which has a toxic and deadly effect on some insects. It is produced and used as a biological pesticide, sometimes under the brand name "Dipel". It kills several kinds of pests including cutworms and bollworms but, unfortunately, has a negative effect on many other natural enemies, such as ladybird beetles and spiders.



EMPOWERING THE FARMER TO MAKE LOGICAL MANAGEMENT DECISIONS

Adult farmers learn best through hands-on experiences because they can relate the subject matter to everyday activities. These experiences form the basis of informed decision making. As a facilitator, help them analyse their observations so that they can make sound field-based management decisions and increase their own efficiency.

IPPM is a major portion of any crop-based FFS. You will need to devote at least one session to exploring its main concepts with your group. (In subsequent sessions you should highlight its link to the respective topics.)

Session Plan

Goals of the Session: For the group to understand the 4 principles of IPPM and relate them to appropriate agronomic practices

What You Will Need: Flipcharts, markers

Time: 2 hours

Step 1: Explain IPPM to the group. *Why is it important to the farmer?*

Step 2: In mini groups, have participants discuss how to raise and maintain a healthy crop. *What aspects of the field would a good farmer try to observe in the garden? What makes a crop healthy? What makes a crop unhealthy?*

Step 3: The mini groups should make presentations.

Step 4: Introduce the 4 main principles of IPPM.

Step 5: Brainstorm how the IPPM principles relate to the FFS's anticipated activities.

ECOSYSTEMS

An ecosystem is a natural system of interactions between living and nonliving things in a particular environment. These interactions are dynamic, meaning that nutrients and energy move throughout the system. For example, as animals die and decompose, their bodies provide nutrients for other living things and the soil. Their energy is transferred to the soil, which transfers it to plants.

It is important for the FFS to study the various interactions within the local ecosystem where it works. Different interactions affect the environment differently. Some interactions are good for farmers because they lead to increases in productivity. Other interactions lead to losses in productivity. If farmers understand these interactions, they can maximise positive effects and minimise negative ones through proper farm management.

Within an ecosystem there are:

LIVING ELEMENTS	NONLIVING ELEMENTS
• Plants • Insects • Micro-organisms	• Weather elements (temperature, relative humidity, wind, sunshine, rain)

The ecosystem is also affected by weather. Sun and rain help plants grow, but wind or temperature shifts can damage plants and alter organisms' life cycles.

ECOLOGICAL RELATIONSHIPS

Each element in the ecosystem has special characteristics which influence the distribution and population of living organisms. For instance, only plants have the ability to convert solar energy into forms that can be consumed by other living things through photosynthesis. Yet the same plants will require water and nutrients to complete the process. On the other hand, micro-organisms facilitate the decomposition process, which is important for the release of nutrients back into the soil. All these relationships are strongly linked. Thus, any disturbance affects the balance of the whole ecosystem.

Ecosystems are complex. There are several levels of interaction. A typical ecosystem has roughly 4 distinct levels of organisms.

1st level organisms

These are plants, which produce organic materials. This means that they are "primary producers". Weeds are one type of plant that produces organic material, but weeds compete with other plants for water, light, nutrients and space. Therefore, even though a weed is a producer, it's not very helpful to farmers like other plants that humans can eat.

2nd level organisms

These are animals and other organisms that feed on plants. They are often called "primary consumers". Some 2nd level organisms include insects, rats, virus or fungi. These organisms can damage farmers' plants. If there are very few primary consumers, they can't cause too much damage. However, as their populations grow, they can cause much more damage and become "pests".

3rd level organisms

These feed on the 2nd level organisms. They include the parasites and predators we discussed in the previous section. They are also called "farmers' friends" or "natural enemies" because they attack organisms that could become pests. IPPM techniques preserve these organisms to keep populations of 2nd level organisms low.

4th level organisms

These are decomposers because they feed on dead parts of the ecosystem. They include bacteria, fungi, and insects that feed on dead plants and other organisms. Decomposers recycle the nutrients from these dead organisms back into the soil. They are essential to the ecosystem because they keep it in balance. Without them, dead plants would pile up and the soil would not replenish itself with new nutrients.

BIODIVERSITY

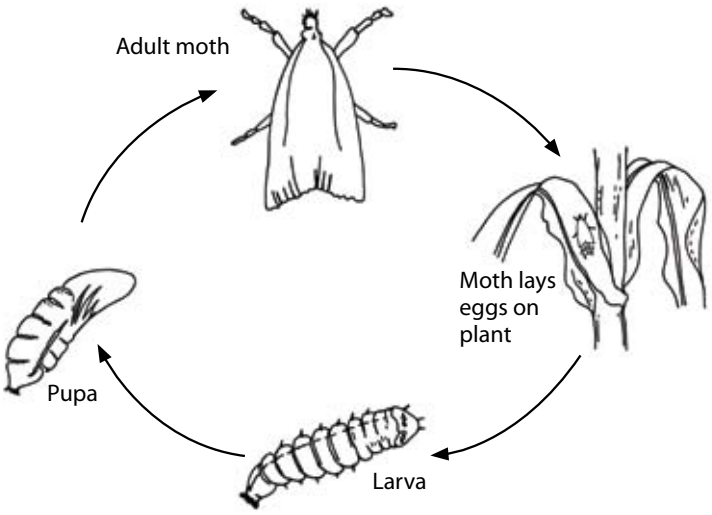
A healthy ecosystem has a high degree of diversity. There should be many species as well as genetic diversity among that species. In practice, it means that we can see various kinds of plants and animals. Some beneficial animals include earthworms, which help increase soil fertility, as well as spiders, beetles, frogs and lizards that help suppress pest populations. If we do not find many of these beneficial organisms in an agro-ecosystem, there is a problem that is probably being caused by one of the following reasons:

- The pesticides being used are killing beneficial organisms.
- There is not enough food for the natural enemies. Most natural enemies at the larval stage eat other insects such as caterpillars and leafhoppers, whereas the adults may live on honey or pollen produced by wild plants in the environment. The adults need adequate food to be able to produce eggs for the next generation. A variety of plants are needed to maintain the populations of these natural enemies. The more diverse the vegetation in an agro-ecosystem, the more diverse the natural enemy populations will be. Thus, pest populations will be controlled naturally.
- The soil texture does not support the life of earthworms and insects. Unfavourable conditions for the soil inhabitants are often caused by low organic matter content or flooding of a field. The soil becomes hard and/or short of oxygen. The disappearance of the soil organisms will cause further deterioration of the soil.

Life Cycles

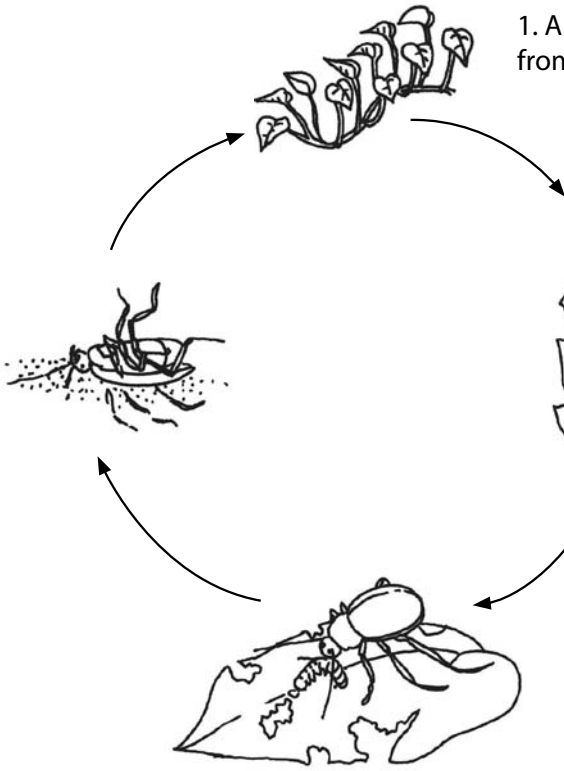
Life cycles are the series of developmental changes an organism goes through. Most primary consumers go through complete metamorphoses. It is important to know about life cycles because organisms have different activities during different stages of life. For example, the maize stalk borer starts as an egg, grows into a larva, then a pupa and finally becomes an adult. The eggs are laid by adult moths on maize plants. After nine days, the eggs then hatch into larvae which feed on young leaves for two to three days before they crawl up the plant into the funnel. They enter inside the maize stems and start tunneling. When larvae are fully grown, they pupate and remain inside the maize stem for about two weeks. Adults emerge from pupae and come out of the stem. They mate and lay eggs on maize plants again and continue damaging the crop. By understanding the most destructive stages of the pest life cycles, farmers are able to position control measures appropriately.

A Life Cycle of Chilo Partellus Stemborer



Food Chain

A food chain shows how each living thing gets its food. Some animals eat plants and some animals eat other animals. It shows the interaction between plants, pests and farmers' friends and how energy flows from one level of the ecosystem to another as organisms feed on each other.



1. A crop gets its nutrients from the soil

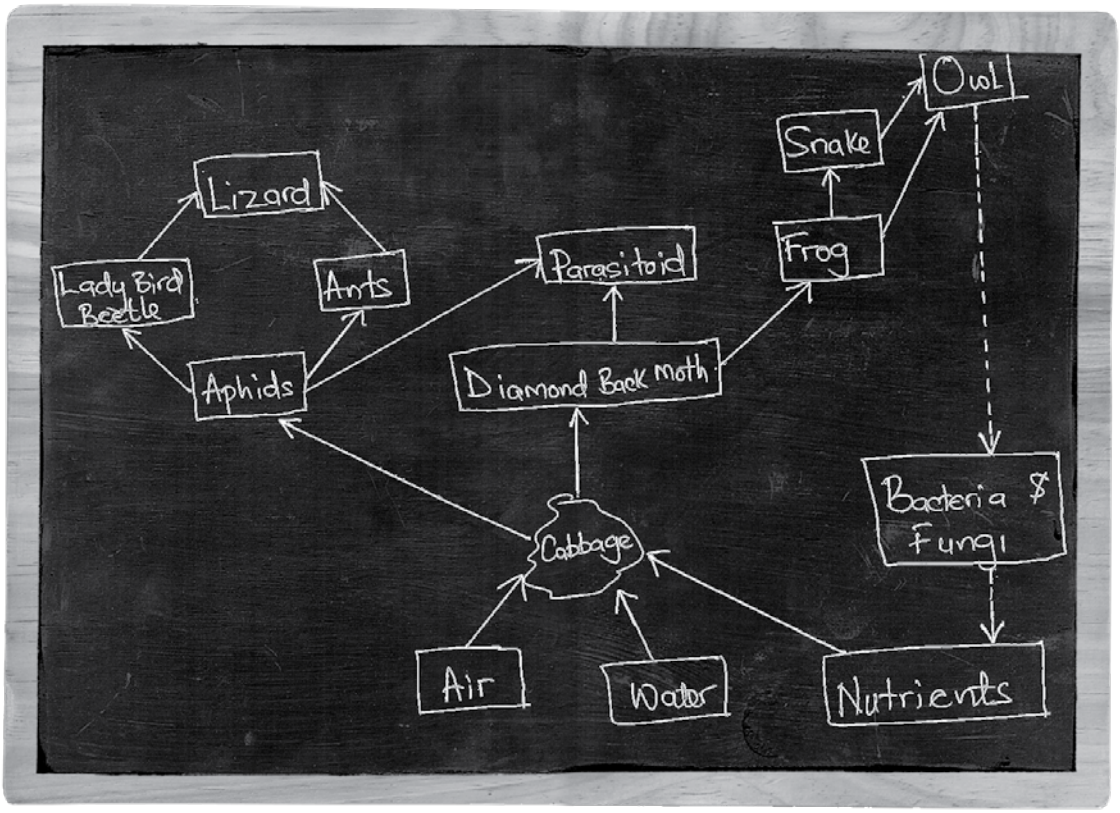
2. Larva feeds on the crop

3. The beetle is a natural enemy to the larva and eats it for food

4. When the beetle dies, it decomposes. Its nutrients go back into the soil.

Food Web

A food web is the interaction of food chains. Most organisms are part of more than one food chain and eat more than one kind of food in order to meet their food and energy requirements.



Food web: The arrows show the flow of energy across the various food chains forming the food web. The dotted line show the recycling of the energy back to the soil.

Session Plan

Goals of the Session: For the group to be able to explain the relationship between the living and nonliving things in the environment and to appreciate the importance of a balanced ecosystem

What You Will Need: Notebook, pen/pencil, container

Time: 2 hours

Step 1: Ask each mini group to go to the field and identify and list all the living and nonliving things that they see in a given area, say in a 1 meter by 1 meter area. They should collect samples of insects and plants. (Please see later in this chapter for information on how to construct an "Insect Zoo" and "Insect Box" that will house these insects.) They should discuss how they think each one is connected to the others.

Step 2: Each group should make a sketch showing all the things they observed, drawing lines to show how things are connected and illustrating how they affect each other.

Step 3: You should visit all of the mini groups. *What are the ecological relationships between the organisms they have found?* Help them to make the connections between the living and nonliving things.

Step 4: Let each mini group present and explain its drawing to the other groups. The other groups should listen and provide feedback. Perhaps the mini group missed something. As a facilitator, you have the technical knowledge to make sure that the mini groups are observing all the elements they should. You can also determine if their recommended decisions are good ones.

Step 5: Synthesise all the information the mini groups have gathered. Now, using information from the discussions, introduce the concept of an agro-ecosystem. Explain the importance of studying an agro-ecosystem and maintaining its stability.

AGRO-ECOSYSTEM

An ecosystem is like a community. There are living organisms like plants and insects. There are also nonliving things like rain and dirt. All of the living and nonliving things interact with each other. An agro-ecosystem is an ecosystem on a farm setting. Farms are used to grow crops or raise animals, so an agro-ecosystem deserves special attention.

The environment determines the health of a crop or animal. The environment includes the weather, soils and pests around the farm. Farmers should at all times conserve the natural enemies present in the environment to keep the population of primary consumers low. Otherwise, these primary consumers will become pests. This is a good way to manage an agro-ecosystem. It is much better than using an "input-intensive" approach.

In an input-intensive approach, farmers purposely use inputs like pesticides to kill off pests or harmful herbicides to suppress weed growth. These inputs greatly influence interactions in the ecosystem. Pesticides kill many large pests—but also those pests' enemies. Thus, overuse of pesticides has led to the reappearance of many minor pests without any natural enemies to kill them. Similarly, the continuous use of ammonium-based fertilisers in agro-ecosystems has led to new weed species.

Pesticides and fertilisers eliminate major problems, but they also create new ones. The ecosystem becomes unbalanced and production becomes unsustainable. IPPM is a better approach for creating a healthy, balanced agro-ecosystem. Farmers can learn how to maximise productivity without destroying the ecosystem.

AGRO-ECOSYSTEM ANALYSIS

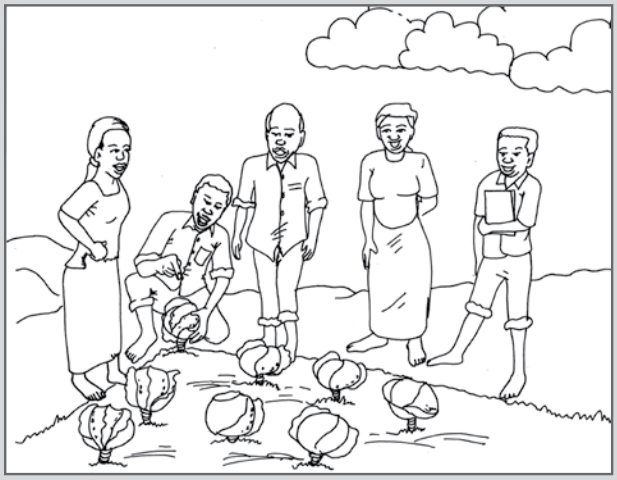
Agro-Ecosystem Analysis (AESA) is one of the key elements that distinguishes the FFS from other extension approaches. It is a core activity aimed at enhancing farmers' observational, analytical and decision-making skills. AESA is the process of determining through regular observations what interactions are taking place between a crop/livestock and other living and nonliving factors coexisting in a given field. It is the main decision making tool used in the FFS. The farmer must study the agro-ecosystem on a regular basis to make timely and appropriate management decisions. By studying an agro-ecosystem farmers can:

- Observe all the elements in their field's ecosystem
- Become aware of the positive and negative relationships between all living and nonliving things
- Appreciate the importance of a balanced system
- Understand that a change in any interaction influences the entire agro-ecosystem
- Use their knowledge to make good decisions about farm management

AESA is a 4-step process, involving field observations, analysis, presentations and synthesis of ideas.

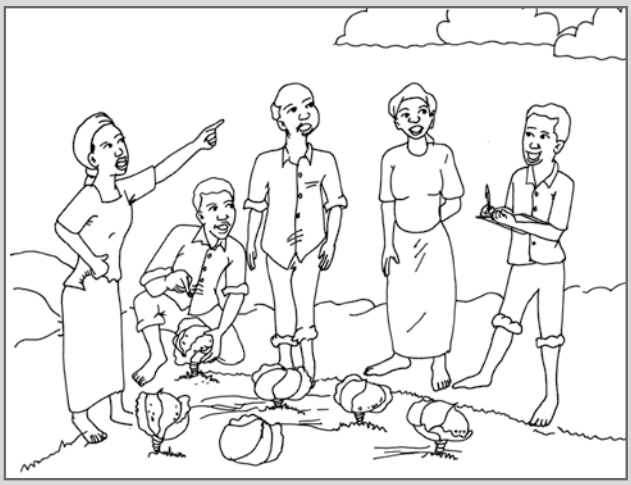
The AESA process

1. Observing



"We need to spray aphids off of the cabbage."

2. Analysing and recording findings

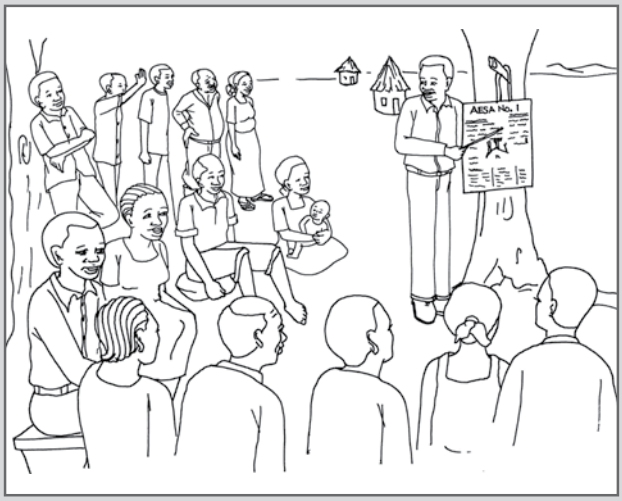


"The rain will do that for us!"

3. Presenting for feedback

"We decided not to spray the cabbages because the rain was coming."

4. Synthesising the information



"Good decision. But did you know that at this stage the cabbages can't be harmed by aphids at all?"

1. Ask for a volunteer to leave the FFS learning site for 10 minutes.
2. Now, ask the group to describe the clothes and appearance of the volunteer in as much detail as possible. *How tall is she? What hairstyle does she have? What colours are her clothes? What shoes was she wearing?*
3. Ask another volunteer to draw the absent person. The FFS members should tell him what to draw.
4. Have the volunteer return. Ask her if she can recognise herself in the drawing.
5. Ask the group to discuss the drawing. *What are the similarities between the drawing and the person? What are the differences? What did the group forget?*
6. Discuss the conclusions of the exercise. Are people good observers? *How can we train ourselves to be better observers so we don't miss things? Why should we be good observers in the field?*

Observation

Observations are the starting point for AESA. The participants already make observations every day. It is your job as a facilitator to guide the participants to make important observations about their farms. You will need to do a session with your group in the field so that they can learn how to be good observers. If they learn how to be good observers, they will be better able to act on their observations.

Session Plan

Goals of the Session: For the group to understand the importance of regular observation in making good farm management decisions

What You Will Need: Flipcharts, markers, polyethylene bags

Record to Introduce: AESA Data Collection Sheet

PRA Tool to Use: Transect Walk

Time: 3 hours

Step 1: Define AESA and briefly explain its 4 parts. Inform the group that it is the main decision-making tool for FFSs and that it involves regular field observations. The first of those observations will be during this session.

Step 2: Use an exercise to illustrate the importance of making good observations. You can use the exercise to the left.

Step 3: Explain that observation forms the basis for good management of the FFS's enterprise. Making proper observations is the first step in making good decisions.

Step 4: It's time to take the group out into the field so that the mini groups can do observations. Explain the two field observation processes – spot and general observation.

Spot observations are a chance to closely observe individual plants. Each mini group should identify a separate plot and randomly select a representative sample at least 10 stations per half an acre following a diagonal *(from corner to corner crossing through the centre of the field)* or zigzag pattern. This should be away from guard rows at the edges of the field and other abnormal spots such as anthills and under trees. These areas may distort the outcome of the observations because they are not representative of the entire field. Depending on the crop or livestock, highlight the key parameters they should be observing per station:

- Insect populations: *What is the number of pests and natural enemies? Are there any pollinators active?*
- Crop Health: *How vigorous are the crops? Are there any signs that they don't have enough nutrients? Are there any disease symptoms? If so, what disease is probably leading to the symptoms observed?*
- Physical Damage: *Is there any pest or disease damage on the plants? If so, which part(s) and how many are damaged? What are the possible causes? Are there any fruits that have dropped off?*
- Crop Growth: *What stage of crop growth are the plants in? What do the stems, leaves and other features look like? Are there any maturity indicators?*

Step 5: Before the group gets down closer to the plants to examine what is really happening, explain the data collection sheet and demonstrate the process following these steps:

- First, without touching the plant, count the type and number of flying insects around the plant.
- Second, check the leaves for insects that feed on the leaves. There are three types of insects that do this: insects that suck on leaves (e.g. aphids and thrips), insects that eat leaves (e.g. caterpillars), and insects that mine the leaves (e.g. larvae of the leafminer fly). Make sure to observe underneath the leaves for any hiding insects.
- Third, look specifically for any signs of disease or nutrient deficiency.

As the mini group observes each plant, one person should be taking records while the rest of the group examines the plant.

Before choosing a sample area to conduct AESA, the mini-group should make sure it avoids abnormal spots. For example, areas with anthills or kraals nearby are usually much more fertile than the rest of the patch. Similarly, the mini-group should not choose guard rows for direct observation because these crops act as buffers against diseases and passing animals.

In the FFS, most of the learning takes place during the field observations. The role of the facilitator is to innovatively take advantage of every emerging opportunity to guide the participants into some form of critical analysis. To achieve this educational goal, one important method of training is to ask questions that allow the participants to develop their own analysis and understanding. For instance, during the observations, a mini-group may come across an unfamiliar disease symptom or nutritional disorder. A common question is *"What is this?"*

If you reply directly with an answer, you lose the opportunity for experiential learning. Lead the participant to the answer by asking questions. There are many ways to answer the question "What is this?" For most of us, the natural response is to give the name of the object, often in a foreign language (English or Latin). For instance, the question is often answered by saying, *"That is Rhizoctonia solani, or bottom rot", or, "This is Xanthomonas campestris or* black rot".

The result of this answer is that an educational process has been stopped.

Continued on the next page

Step 6: The group should also observe general conditions in the field. These conditions include the weather, the presence of weeds, the condition of the soil, crop vigour, disease symptoms and whether crops are developing at the same pace.

Step 7: Both the information gathered from the spot observations and from the general observation should be recorded. Some things only needed to be recorded once but other factors should be updated every time the group observes the field. For instance, when an animal is pregnant, the group should track and record the status of the pregnancy. However, when the baby is born, this information only needs to be recorded once. Below is a data collection sheet that was developed for observing a rice crop. Each mini group should have a book for data collection. The group draws the table before going to the field, but its parameters may change as the crop grows.

AESA Data Collection Sheet for Rice

Group: _____

Date: _____ **Time:** _____

Weather condition: _____

Days after planting: _____ **Crop growth stage:** _____

Parameters	**Stations**										**Total**
(a) Pests	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	
(b) Natural enemies											
(c) Crop development											**Average**
Average plant height											
Average # of tillers											
Average # of leaves											
Average # of panicles											
Average panicle length											
Average # of grains per panicle											
Average # of full grains/panicle											
Average # of empty grains/panicle											

d) General observations

- Soil moisture
- Weed status
- General crop appearance (uniformity, vigour and colour)
- Any disease symptoms
- Any nutritional deficiency disorders
- Weather condition

The parameters for "pests", "natural enemies" and "crop development" are all spot observations. Each mini group should report back the results of these observations as well as its general observations about its plot.

During the field observation farmers collect samples of insects and plants with unfamiliar conditions. The insects are observed in an insect zoo and later preserved in an insect box. The farmers will be guided into making the insect zoo and insect box after they have completed the four AESA stages.

Step 8: Close the session. In the next session you will take your group through the next three steps of AESA.

Analysis, Presentation and Synthesis

Observations are useless without analysis. Merely observing the height of a plant doesn't tell farmers much. They need to know whether the plant is as tall as it should be and what the plant's height means for the crop's overall health. Once they make an analysis, they will need to present their ideas to the group, which will make a management decision based on all the presentations.

Session Plan

Goals of the Session: For the FFS members to learn how to analyse their observations and make decisions

What You Will Need: Flipcharts, markers, data sheets of the previous field observation

Time: 2 hours

Step 1: Remind the farmers of the observations they made in the last session.

Step 2: Introduce the analysis stage. The group has already done a mini-analysis in the session on biodiversity. The goal now is to get the group to expand upon its observations. Explain the following:

- After every field observation, each mini group returns to the meeting site to summarise the data collected and draw the agro-ecosystem.
- Each member of the mini group will be involved with the activity. They will have discussions about the data the mini group collected.
- Each mini group did a spot observation of several stations. The group should take the data from all the stations and calculate the total population of each type of insect and the averages for the respective crop development parameters.

Continued from page 146

A better way to answer the question is to ask more questions, such as, *"Is the whole plant affected? Have you seen this before? Is it a common condition in your fields at home?"*

In case of insects, you might ask the participant, *"Where did you find it? What was it doing? Were there many of them?"* The idea here is to promote learning by discovery and to lead the person toward *her own analysis.*

- Using the knowledge it has begun to gain from the learning activities, the group should develop ideas on what immediate management actions to take.
- On a well-labelled flip chart, each mini group draws the outcome. This is the AESA sheet and generally has the following features:
  - General information about the field: These are parameters that may not regularly change over the growth cycle and are usually recorded just once. General information may include species, variety, treatment of the study, date of planting/transplanting, spacing, plot size, previous crop on plot, etc.
  - Agronomic/Husbandry data: These are parameters that change over time like the growth stage, average number of fruits, crop height or average number of damaged fruits. It can also include management activities the group undertakes such as the dates for pruning, weeding, fertiliser application, top dress, spraying, etc.
  - Diagram of the plant/livestock: The primary study element should be drawn as it appears at that growth stage.
  - Insects: The population of pests and natural enemies.
  - Weather condition: This can be represented on the AESA sheet by pictures of clouds, rain drops, sun or tree branches being blown by wind for storms.
  - Observations and possible causes: These mainly include qualitative aspects like soil moisture, weed status, crop vigour, field condition (weather), nutrient deficiency and disease symptoms, conditions of the fruits, any physiological disorders, and damage by stray animals, etc.
  - Management decisions

Step 3: Each mini group will present the findings on their AESA sheet to the entire FFS. This is the presentation part of the AESA cycle.

Step 4: After each presentation the FFS members should seek clarifications or make alternative suggestions to the decisions being made by the mini group. It is time for the facilitator to use his technical knowledge to "synthesise" the contributions of each mini group. S/he must guide the discussion toward the most appropriate crop management decision by assisting the participants in relating the various concepts applicable at this crop growth stage to the observations they have made. The group as a whole will make a final management decision.

AESA DATA SHEET NO. 6 ON GOATS – 5TH MARCH 2009

WEATHER  TIME: 7:30AM

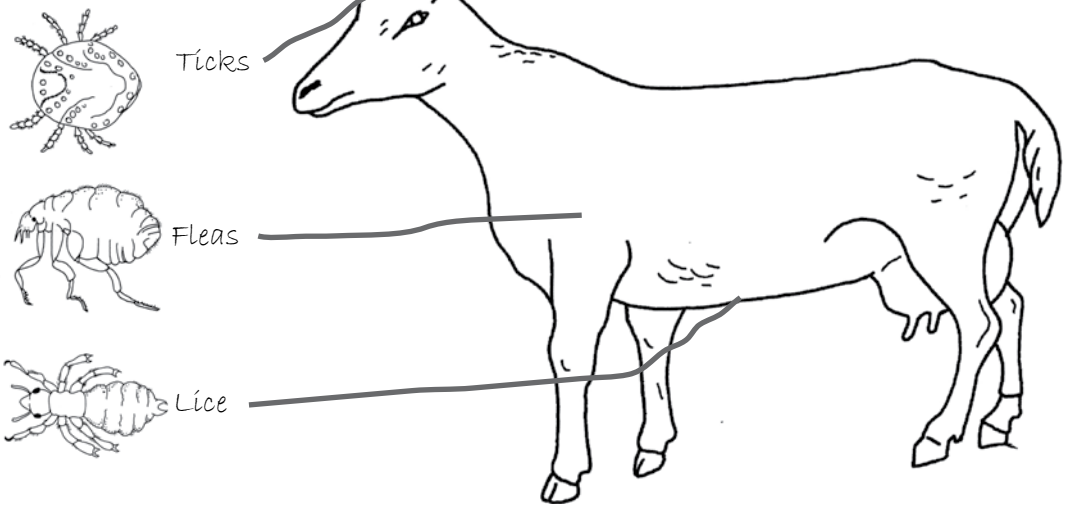
GENERAL INFORMATION

	I	II	III	IV
Breed	Local	Local	Local	Local
Colour	White	Black	Black	White
Sex	F	F	M	F
Date of Birth	3/08	5/07	6/08	3/07

LIVESTOCK DATA

Age	1 yr	1 yr, 10m	9 m	2 yr
Weight	40 kg	38 kg	40 kg	39 kg
Height	60 cm	50 cm	60 cm	55 cm

Parasites



Natural Enemies

None

OBSERVATION

- Flea infestation
- Rough coat
- Bright eyes
- Tick and lice infestation

MANAGEMENT DECISION

- Apply solution to coats to control parasites
- Continuous observation of the animals for early detection of new attacks

Insect Zoo

An **Insect Zoo** is a see-through container for keeping insects. The FFS can use these to make observations about the relationships between potential pests and their natural enemies. The activities and behaviours of insects and natural enemies can only be seen in live specimens. It must be transparent so that farmers can observe the interactions. For example, predator ladybird beetles may be eating aphids. The farmers can also put pests and plants in the zoo to see how pests destroy the plants.

The group should also pay close attention to how the relationships change as the organisms go through new parts of their life cycle. The Insect Zoo allows the FFS to see life cycles clearly. If the group places eggs or cocoons in the container, they can see how long the life cycle takes and what type of organism emerges.

An **Insect Box** allows the group to hold insects that it wants to put inside the Insect Zoo.

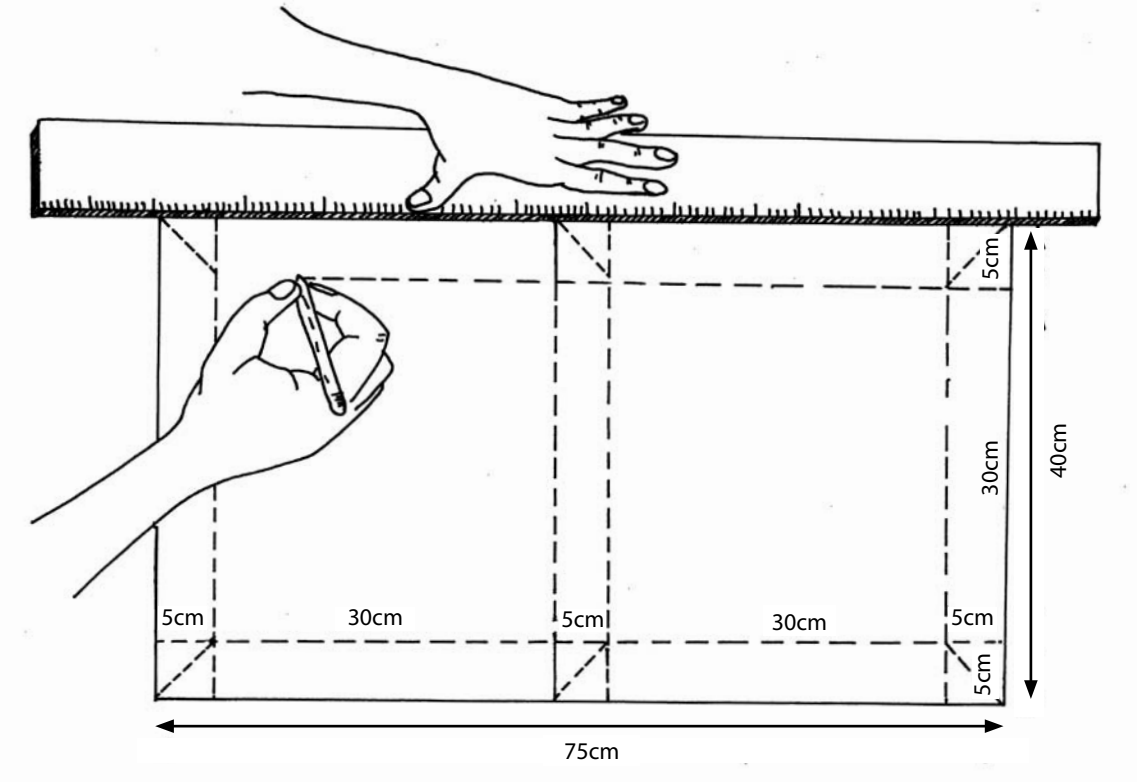
Session Plan

Goals of the Session: For the group to make an insect box

What You Will Need: Manila sheet, markers, masking tape, ruler, glue, cardboard boxes, flipcharts, pens, exercise books, scissors

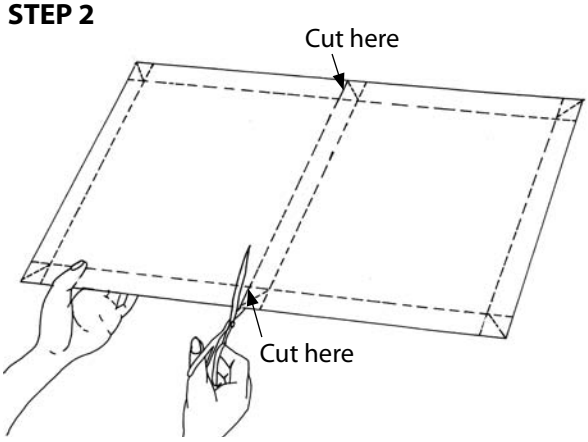
Time: 1 hour

STEP 1



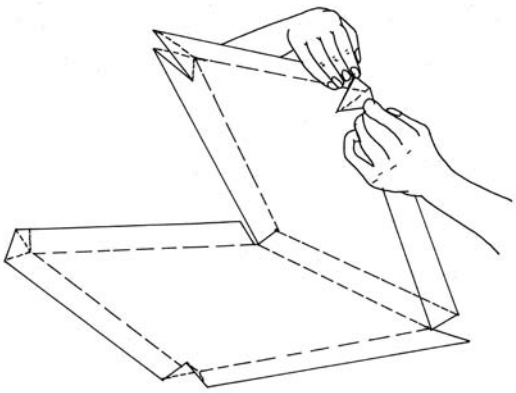
Cut a piece of manila that is 75cm x 40cm. Across the long side, use a ruler to mark the 5cm point, the 35cm point, the 40cm point and the 70cm point. On the short side, use a ruler to mark the 5cm point and the 35 cm point.

STEP 2



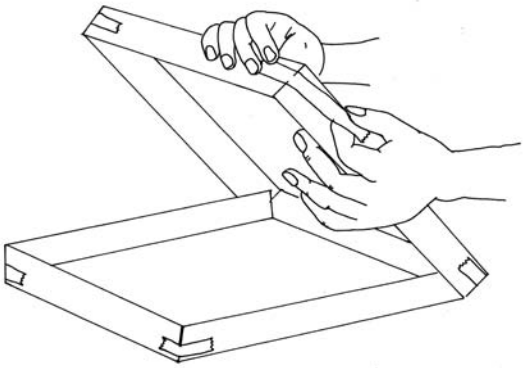
Draw the lines that are shown below and cut along the solid lines.

STEP 3



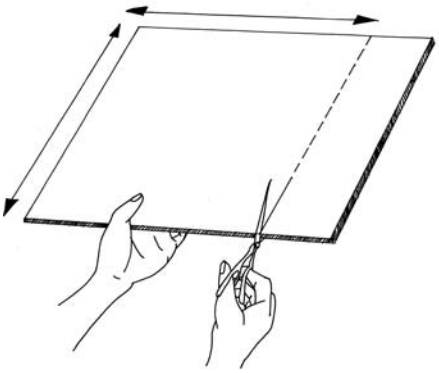
Fold along the dotted lines.

STEP 4



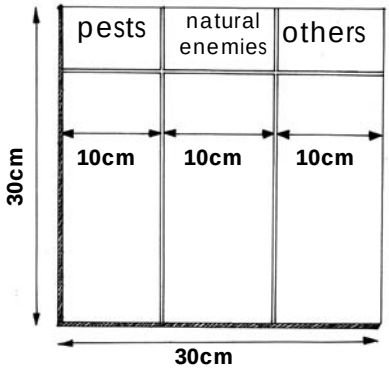
Use masking tape to hold the box in place.

STEP 5



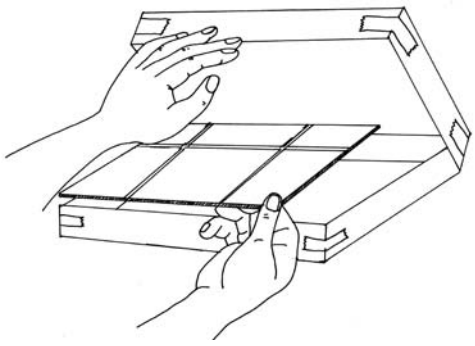
Cut a 30cm x 30cm piece of cardboard.

STEP 6



Use markers to label three sections called "Pest", "Natural Enemies" and "Others". Each section should be about 10cm long. Place this sheet at the bottom of the box you created in steps 1-4.

STEP 7



Close the box and label it based upon the study enterprise it is used for.

SEASON-LONG LEARNING ACTIVITIES

In a recovery context there is not enough time for the study activities to follow "egg to egg". For this reason, most FFSs in a recovery context have crop-based study enterprises.

The learning curriculum in FFS follows the lifecycle of the primary study enterprise. For crops the group will follow its crop from seed to seed. It is important for the facilitator to go through each stage of the life cycle. For poultry, this is egg to egg; for goats, kid to kid; and for businesses, shilling to shilling. This usually is season-long and in some instances may be up to two farming seasons. The season-long duration of the learning process is to ensure that all development stages of the study enterprise are studied and all management decisions are seen through to their economic ends. It provides ample time for the farmers to experiment and validate different aspects of the enterprise development. By the end of the training, the farmers become proficient in handling the enterprise they have studied.

The reasons for adopting a season-long learning approach are:

- Only some of the management problems may occur throughout the growth cycle, but variations in insect population dynamics and disease epidemics are often specific to certain stages.
- Depending on the development stage, each crop exhibits different responses to stress factors like nutrient deficiencies, moisture and physical damage. Phenomena like plant compensation, excessive vegetative growth or fruit abortions can only be appreciated by farmers after thorough observation.
- The outcomes of management decisions made during one crop stage are observable only at another later crop stage, and most often at harvest in terms of yield, quality or profitability.

SPECIAL TOPICS

Whereas the technical content of the season-long curriculum is developed around a selected entry point which forms the basis for the core learning activities, FFSs discuss broader aspects that may not be related to the study enterprise but have bearing on the participants' livelihoods. Some of the special topics are identified during the Groundworking stage and you will incorporate them into the curriculum during the Group Action Plan development stage. A few topics often emerge in the course of the learning cycle. The special topics are usually slotted in whenever there are no critical core topics related to the crop growth stage. Special topics will vary from community to community, but some of the common important inclusions have been:

- HIV/AIDS
- Gender-based violence

- Basic principles of nutrition
- Reproductive and family health care
- Malaria control
- The importance of immunisation
- Basic principles of environmental management, including use of energy saving stoves and water and soil conservation
- Basic financial management skills

In addition to providing a break for farmers from the routine subject matter, special topics show the members that the FFS is responsive to their needs by providing a forum in which they can discuss problems within their own local context and seek local solutions with minimal external influence. This phenomenon has been a fundamental factor in maintaining continuous attendance and developing farmers' confidence to determine their destinies.

CHAPTER 8

Farming as a Business

INTRODUCTION

Most of the FFS participants will be subsistence farmers. Whatever they grow, they eat. While subsistence farming helps farmers meet their basic food needs, it's a dangerous lifestyle. If the crop fails, the farmers have no safety net. They will need to get help from outside sources. The FFS approach emphasises the value of moving from subsistence farming to commercial farming. If the participants make good management decisions, they can feed themselves and create their own safety net. The next time a crop fails, the farmers will remain financially secure because they will have learned how to select the right enterprises, diversify their activities, save money and maximise profits.

The starting point of the FFS process is a small plot of land that farmers can use to experiment and practice farming techniques. The goal, however, is for the FFS to use this practice and the knowledge it has gained from the learning programme to develop a sustainable commercial activity. The FFS method treats farming as a business. You will need to lead your group in a session so that it becomes comfortable with the concept of Farming as a Business (FAAB). This manual will explore these concepts in more detail later.

The goal of Farming as a Business is profit maximisation. There are three major factors that contribute to profit maximisation:

1. Minimum costs
2. Maximum yield
3. Higher prices

Minimum Costs

In order to increase profit, a farmer must first reduce production and marketing costs. Often costs can be reduced without sacrificing crop health or environmental sustainability.

High-cost option:	Low-cost alternative:
Fertiliser	Green manure
Hire labour to weed	FFS members weed
Individual input purchase	Bulk buying

Maximum Yield

The farmers will develop good agricultural practices from their study plots. They must use these practices to maximise yield. The farmers will attain higher yields if they:

- Plant in a timely manner
- Use improved inputs
- Properly manage soil and water use
- Keep the fields free of weeds
- Control pests and disease
- Harvest promptly

Higher Prices

Farmers can add value to their products by adding features. Even though the farmers want to cut costs they should be willing to spend on product improvements that will bring higher prices. For example, packaging the product costs money but adds value because consumers will pay more for a clean, easy-to-handle product. Simple agro-processing like rice hurling or maize grinding almost doubles the price at which farmers can sell their product. Alternatively, if the FFS groups are organised under a network, they can decide to horde their produce during the slump period until after harvest-when the prices rise.

The Right Combination

The goal is to balance the 3 elements to achieve profit maximisation. Of course, it is easy to lower costs-a farmer could simply not buy anything! However, this is not a very good business practice because farmers cannot earn profit if they do not invest in their business. Farmers can add value to most products, but they can only charge high prices if consumers are willing to pay for such improvements.

Session Plan

Goals of the Session: For the group to understand the value of moving from subsistence farming to commercial farming

What You Will Need: Flipcharts, markers

Time: 90 minutes

Step 1: Begin with farmers' thoughts about the farming system in their community. You should lead them to talk about general observations about farmers in rural Uganda, which include:

- They usually have small plots
- Crops and animals share the same small plot
- They have difficulty controlling diseases on the plot
- They lack modern farming skills, making production sunsustainable
- There is little economic importance attached to farming
- They do not attach any cost to the factors of production

Rural farming: Farmers in Uganda often work with very basic tools on small plots.

Step 2: Discuss their understandings of farming and business. *Do they see them as separate ideas? Do they know anyone who has a commercial farming business?* Ask them to contrast farming and business. *Do most rural Ugandans approach farming like a business? What are the common businesses in their community? Is farming one of them?*

Step 3: Present the objectives of FAAB:

- For farmers to appreciate that farming is a form of business
- For farmers to gain the business management skills necessary for a successful FFS business enterprise
- For farmers to be able to adapt what they have learned from the FFS process to a successful enterprise

Step 4: Define and discuss the methods of FAAB. Explain the three keys for maximising profit: low costs, maximum yield and high selling prices. *What ideas does the group have about how to keep costs low, maximise yield and attain high prices?*

FFS COMMERCIAL ENTERPRISE SELECTION

This section will take you through the stages of developing and maintaining a commercial enterprise. First, the group will select its enterprise. Second, it will analyse the profitability and risk associated with the enterprise it has selected. Next, it will create a budget for the enterprise. Last, it will begin planning the business with the goal of profit maximisation.

ENTERPRISE SELECTION

When the FFS made the Group Action Plan, it chose a study enterprise. The members may have decided to study maize, rice, fishing, dairy farming or any number of things. Once the study fields have been established and the learning programme is in progress, you will need to move the FFS toward developing a commercial enterprise to enable them to apply the skills and information fron the learning.

An enterprise is any activity a person or group does to generate income. In a FFS, the goal of an enterprise is to maximise profits. These profits should be reinvested into the enterprise to increase the size of the business or to increase savings. As the size of the business increases, profits should increase as well.

An entrepreneur is a person who takes risks to try to earn money. An entrepreneur establishes enterprises. He takes a lot of risks because he must invest much money before the enterprise can even begin production.

There are several factors that can lessen the risk for an entrepreneur and increase the chance of success for his enterprise:

- ***A reliable market:*** Is there a shortage of a certain product in the community but a strong demand for it? For example, if only one person in the area sells onions and he frequently runs out, there is room for an onion enterprise in the community.
- ***Profitability:*** Can the product fetch high prices?
- ***Capital requirements:*** Is starting the enterprise too expensive? If start-up costs are high, a group can run out of money midway through implementation. Such an enterprise would have to be part of a longer-term plan.
- ***Availability of resources:*** Does the group have the resources it needs to properly run the enterprise? If not, are these resources easy to attain?
- ***Location:*** Does the crop grow well in the area?
- ***Risks:*** What are the risks involved? Is the group comfortable with taking these risks?

- ***Sustainability:*** Is there long-term potential for the product?
- ***Duration:*** How long will the enterprise run before it accrues returns?
- ***Productivity:*** Because most FFSs will be starting with a small plot, they should choose enterprises that use the space effectively. Some crops produce more than others.
- ***Availability of space:*** Is there room to properly undertake the enterprise?
- ***Matches skill level of group:*** The group members should choose an enterprise that uses the skills they have learned in the FFS.

Session Plan

Goals of the Session: For the group to select a profitable commercial enterprise for its FFS

What You Will Need: Flipcharts, markers

PRA Tools to Use: Options Assessment Format, Pairwise Ranking

Time: 2 hours

Step 1: Recap the discussion from the previous session introducing FAAB. Make sure the group understands the FAAB message.

Step 2: Explore the farmers' understandings of enterprise and entrepreneurship. *Do they know what these concepts mean? Do they know any entrepreneurs in the community? What are some examples of enterprises in the community? Are these successful? If so, why? Do they lower costs, add value or both? What enterprises failed?*

Step 3: Discuss the factors for success in an enterprise.

Step 4: Break into mini groups. Ask each group to discuss:

- Whether the FFS should establish a group enterprise
- The types of enterprises the FFS can undertake
- The challenges to starting a group enterprise

Step 5: Each mini group should present a proposal for a group enterprise. It should also briefly describe the challenges to establishing this specific enterprise.

If the group is having trouble, you can use an options assessment format and/or pair-wise ranking to agree on the 5 best business ideas.

Step 6: Begin the enterprise selection process, using the proposals from the mini groups as options. Place each proposal into categories so they can easily compare them:

- Livestock – can be categorised into small or large ruminants (e.g cows vs goats, pigs, sheep, poultry)
- Crops – farmers may choose between or a combination of cereals, pulses, vegetables, tubers.
- Annual or perennial
- You must also develop the criteria for selecting the enterprise. The success factors listed above are some criteria the group can use but they may think of more. For example, members might ask how long the crops take to mature. Talk about each potential enterprise and whether it can meet the success factors. Try to narrow the list down to 5 potential business ideas for the group to analyse in more detail.

Step 7: From this smaller list of business ideas, have the group get more in-depth into the criteria it should use to select its enterprise. Help the farmers decide which criteria are the most important. You can do this by "weighting" the criteria. Every criterion gets a numerical value. The most important criterion gets the highest number (e.g. 10) and the least important gets the lowest number. Here is an example of a weighted list of criteria and the group's reasons for the order

Weight	Criterion	Reason
10	Profitability	The ultimate goal of the FFS is to earn maximum profits, to this gets the highest weight.
9	Market availability	Availability affects profitability.
8	Start-up costs	The group does not have a lot of capital, so it requires an enterprise with low start-up costs.
7	Duration to maturity	The money made in the enterprise needs to be used to pay back the group's ASCA as soon as possible.
6	Risks	The group is comfortable with risk-taking after the learning program. Thus, this is weighted lower than most criteria.
5	Skills	The group has developed skills it can use in each of the 5 categories. Thus, skills get the lowest weight.

The criteria in the table is just an example and the criteria can change depending on the enterprise (except for profit maximisation and market availability which should always come first.) For example, in vegetables like tomatoes and cabbages that are highly affected by weather, the risk will weigh more than duration to maturity.

Step 8: Ask the farmers to vote on each of the criteria. The Weighted Table on the next page shows how the voting process might look given the criteria above. This particular group has focused on 5 potential enterprises: soya, maize, groundnuts, cassava and rice.

Weighted Table

1. Based on the local experience, have the group reflect on the status of each enterprise in its village independent of the other 4 enterprises. Ask participants to vote by a show of hands. Count the number of participants who agree with the following statements:

   - Growing (enterprise A) in our village is profitable.
   - There is market for (enterprise A) in our village.
   - The start-up costs for establishing a (enterprise A) business is low.
   - (Enterprise A) takes a short time to mature
   - There are low risks associated with a (enterprise A) business.
   - We can attain the skills to grow and handle (enterprise A).

Enterprise	**Profit** W= 10	**Market** W = 9	**Start-up costs** W= 8	**Duration** W = 7	**Risks** W = 6	**Skills** W = 5	**Total score**	**Rank**
Soya	7= 70	13= 117	8= 64	18=126	18=108	13=65	550	3
Maize	18=180	23=207	9=72	4=28	7= 42	18=90	619	2
Groundnuts	6=60	13=117	15=120	20=140	27=162	6=30	629	1
Cassava	17=170	18=162	9 = 72	1 =7	15=90	7=35	536	4
Rice	13=130	19=171	1=8	7=49	8=48	16=80	486	5

2. Tally the votes against the respective boxes as shown in the table below
3. Multiply the tallies for each criterion by the weight
4. Add the scores for all the criteria for each enterprise to get the total score
5. Rank the enterprises by total scores. The highest score ranks #1.

Step 9: The outcome of the weighted ranking was based on the group's local knowledge and experience with the enterprises being compared. To ensure that the enterprise it has selected is technically viable and potentially profitable, the group needs to do further analysis. In the next session the group will do a profitability analysis of the top three potential enterprises. In this case, the group will look at groundnuts, maize and soya.

PROFITABILITY ANALYSIS

The group has already narrowed its potential enterprises down to three. During the next two sessions it will determine the enterprise it will undertake. The group will explore which of its final three enterprises is the most profitable. A profitability analysis has two parts. The first part is a gross margin analysis. The second is a risk analysis.

Gross Margin Analysis

Profit refers to the amount of money a person makes from a business. Profit equals total revenue minus total costs. A businessperson wants to earn more money from sales than the amount she invested in the business. Here's an example: a farmer spends 40,000 shillings on transport, seeds and fertilisers to grow a tomato crop. After the tomatoes have grown she sells all of them to a shop for 100,000 shillings. How much profit has she made?

	TOTAL SALES	100,000 Ushs of tomato sales
–	TOTAL COST	40,000 Ushs for transport, seeds and fertiliser
=	**PROFIT**	**60,000 Ushs**

60,000 Ushs of profit goes directly to the farmer. She can use it for food or clothing, invest it back into her business or save it. She decides how to use it.

A gross margin analysis will help the group estimate the profit. It matches the estimated costs of the enterprise, such as production and marketing, against the estimated revenue from the enterprise.

Session Plan

Goals of the Session: For the group to carry out a profitability analysis of the 3 enterprise candidates

What You Will Need: Flipcharts, markers

Record to Introduce: Gross Margin Analysis

Time: 90 minutes

Step 1: The secretary should review what was discussed and decided at the last session.

Step 2: Discuss terms that will be used in the gross margin analysis.

- ***Gross margin:*** *The estimated profits.*
- ***Total costs:*** *The amount you spend on producing the product.*

- ***Total revenue:*** *The total amount that you earn from selling all your products .*
- ***Yield/Output:*** *The amount of a product you produce.*
- ***Price:*** *The amount for which you sell each product item.*

Step 3: Ask the FFS to start with one of the 3 enterprises it listed in the previous session. Have the FFS break into mini groups. Ask them to:

- List all the activities the group would need to implement from the start to the end of the enterprise.
- List all the inputs it would need to run 1 acre of the enterprise. These inputs could include land, labour, tools, seeds, equipment and advertisements.
- Estimate the cost of each input, using personal experience as a guide.
- Calculate the total costs of the inputs.
- Ask members to estimate the total output of the enterprise, using their own experiences with the crop as a guide.
- Establish the projected market price per unit of the product (this information should come from market surveys or farmers' experiences).
- Calculate the expected returns by multiplying the output by the market price per unit.
- Subtract projected total costs from expected returns to calculate the gross margin.

Step 4: Each mini group should present its findings. Each one will have slightly different results. *What inputs were left out?* Ask the group to agree on the costs listed until it has a gross margin analysis that every group agrees on.

Step 5: Repeat for each potential enterprise.

Below is a gross margin analysis for soya beans (it also includes the risk analysis, which your group will learn more about next session). This gross margin analysis shows the expected cost of the inputs the FFS needs to undertake a soya enterprise. It's important to note that these are variable costs only (see section "Budgeting for Enterprise"). These are the costs it will need to pay every season. Start-up costs will be identified later in the process. Based on the assumption that unit prices and costs will stay about the same as the previous season, the FFS estimates that if it spends 250,000 Ushs on inputs, it can make 1 million Ushs of revenue. If that is true, it will make 750,000 Ushs in profit.

It may be helpful to do an example together with the group. Choose a common crop and take the group through each of the steps.

Soya Assumptions:	**YIELD**	**MARKET PRICE**	**RETURNS**
	500 kg	**2000 Ushs/Kg**	**1m Ush**

First, determine the total costs of production:

Soya estimated production cost

Input	Description	Quantity	Unit Cost	Total Cost
Labour	Bush clearing	1 acre	30,000	30,000
	1st ploughing	1 acre	40,000	40,000
	2nd ploughing	1 acre	30,000	30,000
	Planting	3 man days	2,000	6,000
	1st weeding	15 man days	2,000	30,000
	2nd weeding	15 man days	2,000	30,000
	Harvesting	4 man days	2,000	8,000
Seeds	Nam 1	5 kg	5,000	25,000
Tools	Planting string	1 roll	5,000	5,000
	Hoes	3	6,000	18,000
Bags	Packaging	3 bags	1,000	3,000
	Tarpaulin	1	30,000	25,000
TOTAL VARIABLE COSTS				**250,000**

Next, carry out a profitability analysis:

Gross margin for soya

Gross Margin Analysis	Risk Analysis
Expected Yield = 500 kg	10% Yield Decrease 500 kg – (10% of 500) = 450 kg
Selling Price per kg = 2000 Ushs	10% Price Decrease 2000 Ushs – (10% of 2000) = 1800 Ushs
Expected Revenue (500 kg x 2000 Ushs) = 1,000,000 Ushs	
Total Production Cost [ETC] = 250,000	10% Production Cost Increase 250,000 Ushs + (10% of 250,000) = 275,000 Ushs
Revenue – Total Production Cost = 750,000 profit	**NEW GROSS MARGIN** If there is a 10% decrease in yield: (450kg x 2000 Ushs) – 250,000 Ushs = **650,000 Ushs profit** If there is a 10% decrease in price: (500kg x 1800 Ushs) – 250,000 Ushs = **650,000 Ushs profit** If there is a 10% increase in productions costs: (500kig x 2000 Ushs) – 275,000 Ushs = **725,000 Ushs profit** If there is a 10% decrease in revenue and a 10% increase in production costs: 900,000 Ushs – 275,000 Ushs = **625,000 Ushs profit**

Below are two more gross margin analyses for maize and groundnuts. Can you tell which of the three enterprises is most profitable?

Maize Assumptions:	**YIELD**	**MARKET PRICE**	**RETURNS**
	800 kg	**700 Ushs/Kg**	**560, 000 Ushs**

Maize estimated production costs

Input	Description	Quantity	Unit Cost	Total Cost
Seed	Longe 5	2 sachets	8,500	17,000
Labour	Bush clearing	8 man days	2,000	16,000
	1st ploughing	1 acre	40,000	40,000
	2nd ploughing	1 acre	30,000	30,000
	Planting	4 man days	2,000	8,000
	1st weeding	10 man days	2,000	20,000
	2nd weeding	10 man days	2,000	20,000
	Harvesting	10 man days	2,000	20,000
Transport	Hire	5 man days	2,000	10,000
	Drying	5 man days	2,000	10,000
	Threshing	5 man days	2,000	10,000
Packaging	Packing bags	8	800	6,400
TOTAL VARIABLE COSTS				**207,400**

Maize profitability analysis

Gross Margin Analysis	Risk Analysis
Expected Yield = 800 kg	10% Yield decrease = 800 kg – (10% of 800 kg) = 720 kg
Selling Price per kg = 700 Ushs	10% Price decrease = 700 Ushs – (10% of 700 Ushs) = 630 Ushs
Expected Revenue = (800 kg x 700 Ushs) = 560,000	
Total Production Cost (ETC) = 207,400 Ushs	10% Production cost increase = 207,400 Ushs + (10% of 207,400) = 228,140 Ushs
Revenue – Total Production Cost = 352,600 Ushs profit	**NEW GROSS MARGIN** If there is a 10% decrease in yield: (720kg x 700 Ushs) – 207,400 Ushs = **296,600 Ushs profit** If there is a 10% decrease in price: (800kg x 630 Ushs) – 207,400 Ushs = **296,600 Ushs profit** If there is a 10% increase in productions costs: (800kig x 700 Ushs) – 228,140 Ushs = **331,860 Ushs profit** If there is a 10% decrease in revenue and a 10% increase in production costs: 504,000 Ushs – 228,140 Ushs = **275,860 Ushs profit**

Groundnut Assumptions:	**YIELD**	**MARKET PRICE**	**RETURNS**
	375 kg	**2500 Ushs/Kg**	**937,500 Ushs**

Groundnut estimated production costs

Input	Description	Quantity	Unit Cost	Total Cost
Land preparation	1st Ploughing	1acre	30,000	30,000
	2nd Ploughing	1acre	20,000	20,000
Seed	Sere nut 4	1 bag	45,000	45,000
Labour	Planting	10 man days	--	--
	1st weeding	10 man days	--	--
	2nd weeding	5 man days	--	--
	Harvesting	15 man days	--	--
Fertiliser	S.S.P.	125 kg	1,000	125,000
Spraying	Dimethoate	1 liter	12,000	12,000
Packaging	Bags	25 large (15 kg) bags	1,000	25,000
Transport	Vehicle hire	25 large (15 kg) bags	3,000	75,000
Market	Dues	25 large (15 kg) bags	1,000	25,000
TOTAL VARIABLE COSTS				**357,000**

Groundnut profitability analysis

Gross Margin Analysis	Risk Analysis
Expected Yield = 375 kg	10% Yield decrease = 375 kg – (10% of 375 kg) = 337.5 kg
Selling Price per Kg = 2500 Ushs	10% Price decrease = 2,500 – (10% of 2,500) = 2,250 Ushs
Expected Revenue (375 kg x 2500 Ushs) = 937,500 Ushs	
Total Production Cost [ETC] = 357,000	10% Production cost increase 357,000 Ushs + (10% of 357,000) = 392,700 Ushs
Revenue – Total Production Cost = 580,000	**NEW GROSS MARGIN** If there is a 10% decrease in yield: (337.5 kg x 2,500 Ushs) – 357,000 = **486,750 Ushs** If there is a 10% decrease in price: (375 kg x 2,250 Ushs) – 357,000 = **486,750 Ushs** If there is a 10% increase in production costs: (375 kg x 2,500 Ushs) – 392,700 = **544,800 Ushs** If there is a 10% decrease in revenue and a 10% increase in production costs: 843,750 Ushs – 392,700 Ushs = **451,050 Ushs profit**

Risk Analysis

Farmers face various risks. For example, a crop's market price could suddenly drop. If this happens, the farmer could lose a lot of money. Or weather conditions could change, ruining a crop.

Risk analysis is aimed at determining how negative changes to the following factors affect overall profitability:

- Cost of production (increase)
- Outputs/yields (decrease)
- Market prices (drop)

A change to any of these factors can greatly alter the overall profitability of the enterprise. Sometime this is to the farmer's advantage. If disease wipes out others farmers' onion crops, market prices for onions will go up because there are not as many. If the FFS is able to prevent disease from destroying its onion crop, it will be able to sell its onions for much higher prices than it had planned.

Often, however, changes are to the disadvantage of farmers. That is why the FFS must consider the risks associated with each enterprise.

Rain-fed agricultural enterprises are open to much risk. Drought, water-logging, and the presence of pests of diseases are all risks associated with such enterprises.

Session Plan

Goals of the Session: For the group to carry out a risk analysis of the 3 enterprises

What You Will Need: Flipcharts, markers, Gross Margin Analysis from last session

Time: 90 minutes

Step 1: The risk analysis builds on the work the group did in the last session. The secretary should review what was discussed and decided.

Step 2: Brainstorm the risks in farming. *What problems have the farmers encountered before?* Explain that a risk analysis will help determine the effects of changes to costs of production, output or prices.

Step 3: Display the gross margin analyses from the last session. The group will use this for the risk analysis.

Step 4: Compute how projected gross margins change with a 5% or 10% change in yield, price and production costs.

The risk analysis is difficult. It requires basic algebra skills to do correctly. Even with maths skills, the process can take some time. To make it easier for the participants, do an example with small numbers so that they can understand the concept. If the group trusts the treasurer, all the calculations can be done beforehand. She can present her findings to the entire group. Regardless, you should introduce all the members to the concept behind risk analysis and how it is calculated – even if they don't perform the calculations with you.

Step 5: Some enterprises have very low gross margins even under ideal circumstances. For example, maize has higher production costs than beans but takes in less revenue. Therefore, a small decrease in revenue or increase in production cost can make maize completely unprofitable. Calculate the percentage at which each enterprise becomes unprofitable. If it is less than 10% the enterprise should be considered risky. Anything less than 5% is very risky.

If you compare the 3 crops, what do you notice? The graph below helps you compare. You can see that soya beans are less risky than maize to produce. This is because they have a high return per unit cost (column I). This means that even if the cost of producing soya beans increases 10% and prices or yields decrease 10%, soya beans earn 1.95 Ushs for every 1 Ushs farmers invest.

Soya vs. maize vs. groundnuts comparison

CROP	Gross Margin Analysis			Risk Analysis						
	Expected Total Revenue	Total Production Costs	Original Gross Margins	New TC after 10% increase	New price after 10% decrease	New yield after 10% decrease	New expected revenue	New gross margin	Return per unit Cost [new GM ÷ new TC]	SCORE
	A	**B**	**C = (A-B)**	**D**	**E**	**F**	**G = (E x F)**	**H = (G – D)**	**I = (G÷C)**	
Soya Beans	1,000,000	250,000	750,000	275,000	1800 Ushs	450 kg	810,000 Ushs	535,000 Ushs	1.95	**1**
Maize	560,000	207,400	352,600	228,140	630 Ushs	720 kg	453,600 Ushs	225,460 Ushs	0.99	**2**
G.nuts	937,500	357,000	580,500	392,700	2250 Ushs	337.5 kg	759,375 Ushs	366,675 Ushs	0.93	**3**

In the enterprise selection process, the group ranked groundnuts, maize and soya as its top 3 choices. But, as you can see, its third choice, soya, had the highest new gross margin (column H) according to the group's profitability analysis. Meanwhile, groundnuts and maize had much smaller gross margins.

It is important that you as a facilitator guide the group in drawing appropriate conclusions from the profitability analyses. High gross margins are important, but so are low production costs. A crop with a low cost of production is one in which every shilling invested produces the highest return. In the example above, soya beans earn almost two shillings for every shilling invested, but groundnuts and maize earn less than one shilling for every shilling invested.

In making a final decision, all factors must be considered. These factors include:

- Household food security and nutrition
- Weather patterns
- Changes in market patterns
- Gender limitations

For example, although maize had a low gross margin in this example, many farmers rely on it to provide a high level of food security.

PLANNING THE FFS ENTERPRISE

The FFS has selected its business enterprise based on a detailed criterion. It has a good idea of how profitable the business is. The FFSs members now need to prepare for its implementation. The FFSs needs to organize all the resources (human and material), that will be required to run their enterprise (business). This is for the FFSs to ensure that their time and limited resources are optimally utilized and costs are minimized as much as possible. This process is called Business Planning and must be done before implementation of the enterprise starts.

The Business Planning process involves;

- Organization of resources, which involves the following 5 key steps:
  - Determining the scale of production
  - Budgeting which involves computing the start up costs including operational and fixed costs
  - Drawing rules and regulations
  - Assigning roles and responsibilities and
  - Drawing the workplan
- Implementation, which involves drawing the business plan and management.

BUDGETING FOR THE FFS COMMERCIAL ENTERPRISE

The FFS has selected its business enterprise based on a detailed criteria. It has a good idea of how profitable the business is. But to ensure that the enterprise meets the group's expectations, it will need to budget its resources, plan well and manage the business properly.

To ensure that the enterprise meets the group's expectations, it will need to budget its resources, plan well and manage the business properly.

Budgeting is the process of deciding where your resources will come from, where they will go and how they will be utilised. The FFSs will need to develop a budget in order to evaluate whether they have enough capital to implement the selected enterprise. The FFSs will also need to project the cash flow after budgeting, to further enable them ascertain whether they will be in a position to undertake the implementation at every stage, or if they will need to find alternative funding sources.

A typical FFS budget has 5 components: fixed costs, variable costs, a financial plan, projected returns and projected cash flow.

Fixed Costs

This is a cost that stays the same whether production goes up or down. See the example below. This FFS needed materials to build and house birds. These are fixed costs because they do not recur.

Budget for Fixed Costs

Item (inputs)	Detailed description	Quantity	Unit cost	Total cost
Poultry house	Poles	20	1,500	30,000
	Thatch (grass)	40 bundles	1,500	60,000
	Wire mesh	2 rolls	15,000	30,000
	Shutters	1	15,000	15,000
	Labour	15 man days	1,000	15,000
				150,000
Feeders	1 FD/10 birds	20	5,000	100,000
Water troughs	1 W/10 birds	20	3,000	60,000
Lamps	Kerosene lamps	3	10,000	30,000
Litter	Rice, maize, coffee husks	2 tippers	15,000	30,000
				220,000
Subtotal Fixed Cost				**370,000**

Variable Costs

Variable costs are also known as operational costs. These costs go up the more that is produced. For example, to produce more eggs a farmer needs more chickens. Each additional chicken costs more money. All the items should be added to determine the estimated operational costs for the enterprise. The operational costs plus the fixed costs equal the total projected cost for the first cycle of the enterprise.

Budget for Variable Costs

Item (inputs)	Detailed description	Quantity	Unit cost	Total cost
Chicks	3 batches of day old chicks (breed)	660	1,000	660,000
Transport	Vehicle hire	3	30,000	90,000
Feeds	Chick mash/Duck mash (7 kg/bird to maturity)	4,620 kg	500	2,310,000
Paraffin	5 litres/week*18weeks	90 litres	1,800	162,000
Treatment	Vials of vaccine	6	20,000	120,000
Marketing	Transport hire, Market dues		N/A N/A	
Sub-total Operational Costs				3,342,000
Total Cost = Fixed Costs + Variable/Operation Costs Therefore Total Cost = (A + B) = 370,000 + 3,342,000 = 3,712,000				

Financial Plan

This budget component shows how the FFS will get the money to implement the project. Look at the example below. This group has identified five sources of funding. Most of the funding will come from an FAO grant, but the group will also use FFS savings, member contributions, small loans and charitable contributions to implement its project. The total contributions are equal to 1.48 million Ushs, but the total projected cost is 3.71 million Ushs. This means the FFS expected source of capital to begin its enterprise is less than the total budget. However, we shall see later how the FFSs can handle this situation.

Source of funding	Amount
1. Members' contributions	150,000
2. FFS savings	**250,000**
3. FAO grant	900,000
4. Other sources	
- Loan (MFI, NGO)	150,000
- Gifts from local politician	30,000
Total contributions	1,480,000
Total projected costs	3,712,000
Deficit	2,232,000

Projected Returns

The group should use the profitability analysis to determine the projected return of the enterprise. See the example below. This group's projected return is 3 million Ushs.

Projected Returns

Product	Yield/output	Market price	Total return
Broilers (3 batches)	600 birds	5,000	3,000,000
			3,000,000

Projected Cash Flow

A cash flow statement is an estimate of what the group's financial standing will be at any time. It ensures that there is enough cash to pay for future expenses. It helps the FFS make decisions about how to manage its money. On the other hand, it can enable the group to decide whether to go ahead and implement the enterprise or not, depending on how the costs will be spread over the implementation period. At times of the year when the group's cash is invested in outside activities, the FFS can decide to request member contributions, borrow from a bank, take out a loan or borrow from a microfinance institution.

Projected Cash Flow

Expenses/ Income	Period (2009)									
	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan
A. Expenses (outflows)										
1. Poultry house	-150,000									
2. Feeders	-100,000									
3. Water troughs	-60,000									
4. Lamps	-30,000									
5. Litter	-30,000									
6. Chicks		-220,000			-220,000			-220,000		
7. Hire transport		-30,000			-30,000			-30,000		
8. Feed		-270,000	-250,000	-250,000	-270,000	-250,000	-250,000	-270,000	-250,000	-250,000
9. Paraffin		-20,000	-20,000	-14,000	-20,000	-20,000	-14,000	-20,000	-20,000	-14,000
10. Treatment		-20,000	-20,000		-20,000	-20,000		-20,000	-20,000	
12. Refund of members contribution										-50,000
13. Loan repayment: Principle Interest (20%)										-150,000 -30,000
TOTAL OUTFLOW	-370,000	-560,000	-290,000	-264,000	-560,000	-290,000	-264,000	-560,000	-290,000	-494,000
B. Income (inflows) Member's contribution FFS revolving fund FFS savings Other sources: • Gifts • Revolving Loan from FFS network Broiler sales	150,000 900,000 250,000 30,000			1,000,000			1,000,000		150,000	1,000,000
TOTAL INFLOWS	1,330,000			1,000,000			1,000,000			1,000,000
NET INFLOW	960,000	-560,000	-290,000	736,000	-560,000	-290,000	736,000	-560,000	-140,000	506,000

Conclusion

From the budget and projected cash flow you can see that there was an overall deficit of 2,232,000 Ushs. But the financial plan shows that the FFS can still implement the enterprise, because not all the funds will be required at the beginning. The FFS also does not need to borrow a loan at the beginning. The costs are spread over the implementation period. You can also see that:

- The available funds in April are sufficient to cover the costs in that month. There is enough net inflow to cover the negative net inflows for both May and June.

- In July, the enterprise finally starts to sell broilers. With this income, it is now able to take the money it has earned to invest more in the enterprise's operations. Therefore, the FFS does not have to borrow additional money. The FFS will be able to refinance its operations again in October and January from the sales.

- In December, the FFS may borrow a limited amount of funds (150,000) to pay for the additional cost of operations in that month. The loan will be repaid the next month when it sells the broilers. Therefore, the FFS will not have much interest to pay on the loan.

Session Plan

Goals of the Session: For the group to prepare a budget for its enterprise

What You Will Need: Flipcharts, markers, calculators, Work Plan

Records to Introduce: Budget, Cash Flow Statement

Time: 2 hours

Step 1: The secretary should review the decisions made at the last session. Explain that the next step of planning an enterprise is preparing a budget.

Step 2: Brainstorm the importance of budgeting for FFS businesses.

Step 3: Guide the members through the process of developing a budget for their enterprise. Take them through each of the five budget components.

Step 4: Review the work plan with the group. Is the group ready to implement it?

ENTERPRISE MANAGEMENT

After drawing the budget and making the cashflow projection, the FFSs will be in a position to decide whether

- To start implementation if the cash projection is manageable
- To wait until they have raised enough resources or select an alternative enterprise
- The scale of production is appropriate or there is a need to scale down or up

Once the FFSs decides to start the implementation of the enterprise, the next step is to draw a business plan to organise the required resources for the management and implementation.

Making a Business Plan

Creating a profitable business requires thorough planning. A business plan is a tool for guiding an enterprise. The group must make a business plan that utilises its members' time well and keeps costs low. Business planning includes the following activities:

- Writing a brief description of the business product: *What will the business produce? To whom will the business sell the product? What makes this business unique?*
- Writing a detailed description of the products or services the business will offer
- Providing a detailed description of the market (customer base): *Who are the potential customers? How many potential customers are there? In how large an area do these customers live? How much of the product will customers want? When is there the most demand for the product? How much will customers pay? Are there any competitors selling similar products? What do the competitors charge?*
- Providing the scale of production and how much capital is required to start the business and what inputs are needed: *How much of each input does the group need?*
- Assigning roles and responsibilities to members in managing the enterprise
- Keeping good records
- Marketing the product

Session Plan

Goals of the Session: For the group to prepare a business plan and a work plan

What You Will Need: Flipcharts, markers, Inventory Sheet, Gross Margin Analysis

Records to Introduce: Business Plan, Work Plan

PRA Tools to Use: Seasonal Calendar

Time: 2-3 hours

Step 1: The secretary should review the minutes of the previous session. Make sure he explains which enterprise the group chose and why.

Step 2: Explain how the enterprise selection process relates to business planning. A good business plan identifies what resources the group needs, when the group needs each resource, and from where the group will get each resource.

Step 3: Ask participants to brainstorm why the FFS should have a business plan. Build on their responses to explain why a business plan is good for the FFS:

- A business plan identifies resources.
- It gives the group a direction because it divides the business goal into individual activities.
- It states the results the group hopes to achieve.
- It determines how much investment is needed to start the business.

Step 4: Discuss the key obstacles the group faces in planning the business. *Does it not know the cost of certain resources? Is it uncertain about the time frame of the enterprise?*

Step 5: Use a blank business plan to describe each of the components on the sheet. Look below for an example of a simplified business plan.

Step 6: Begin filling out the business plan. Ask the group to summarise its objectives. This should be simple: the goal of every FFS enterprise is profit maximisation. The group just needs to identify what enterprise will help it earn profits.

The specific objectives of every group are also the same. To maximise profits the group will need to maximise yield, minimise costs and sell at a high price. *Exactly how will the group maximise yield? What will it do to minimise costs? What strategy does it have to demand high prices?* Write all of this on the business plan.

Step 7: Based on the budget estimates drawn and cash flow projection, decide and agree on the scale of production and estimated start-up and operating costs for the enterprise. Place the scale of production, estimated start-up costs and sources of funding on the business plan.

Step 8: Assign roles and responsibilities to members. This includes agreeing on the rules that every member must follow such as members' financial contributions towards financing the enterprise. Make sure the group indicates what the penalties are if members break the rules. Write out these roles on the business plan.

Step 9: Begin writing out a simple work plan. The members should use the cash flow together with the budget and their own knowledge of the enterprise to determine specific activities that they will need to do and when. The group can use a seasonal calendar if appropriate to determine when each step must take place.

BUSINESS PLAN

NAME OF FFS: Aukot Farmer Field School

VILLAGE: Aukot **SUBCOUNTY:** Gweri **DISTRICT:** Soroti

Group Enterprise: *Commercial Production of Beans*

Overall Objective: *To maximize the group's income through commercial production of beans*

Specific Objectives

- *To maximize yield through use of improved bean varieties*
- *To minimize costs through use of group labour*
- *To get premium prices by selling high quality beans during off-season*

Estimated Start-up Costs: Ushs. 250,000

Sources of Funding

- Members' contributions, Ushs. 150,000
- Group Fund, Ushs. 100,000

Scale of Enterprise

Start with 2 acres during 1st rains of 2006 and expand to 4 acres in the 2nd rains.

Members' Roles and Responsibilities

4 working committees under the leadership of a coordinator

- Purchases committee (3 members)
- Production committee (4 members)
- Finance committee (Treasurer and 3 members)
- Marketing committee (3 members)

Rules and Regulations

- All members to pay contribution of Ushs. 10,000 each
- All members to work on group garden at least once a week
- A fine of Ushs. 1,500 for absenting from group work
- All members to carry out monthly monitoring visits

Activity	When	Where	Responsible person	Resources	Expected output
Ploughing	Feb 2010	Group plot	Production coordinator	Oxen, plough	Ploughed field
Seed purchases	Feb 2010	UNFFE stores	Purchases coordinator	Cash, seed	Seed purchased
Planting	March 2010	Group plot	All members	Group labour	Crop planted
Weeding	May 2010	Group plot	All members	Group labour	Crop weeded
Harvesting	June 2010	Group plot	All members	Group labour	Crop harvested
Drying & threshing	June 2010	C/man's home	All members	Hired labour	Clean crop
Sorting & bagging	July 2010	C/man's home	Marketing coordinator	Hired labour	High quality beans
Marketing	Sept 2010	Soroti town	Marketing coordinator	Transport	High income

Implementing the Business Plan

Now that the FFS has made a plan, it's time to use it. In this session, the group will organise start-up operations. There will need to be a lot of coordination at this stage because some activities may take place at the same time. The key operations areas to consider at this stage are:

- Securing funds for the business: This will depend on the financial plan laid down. *Will this be done through members' contributions, FFS savings, loans or some other method?* It is recommended that most of the financing for the enterprise come from the FFS's own fund, but members may wish for your guidance in writing grant proposals.

- Securing enough land or an appropriate site for the business: Lack of land is often the biggest obstacle to FFSs starting enterprises. The FFS may hire land or purchase its own where it is deemed cost effective and it has the resources. Relying on members to provide the land can become a problem because it causes a power imbalance in the group. However, where it happens, there should be clear agreement on how the member will be compensated.

- Finding locations where the business can operate: These locations can be either owned or hired by the FFS.

- Getting supplies/inputs that are needed to start the business: The sooner equipment and supplies are purchased, the sooner the FFS can begin its enterprise.

- Preparing to sell its product: The group should identify in what exact shops or stalls it wants to sell its product. It should also consider how to advertise its product. People will not buy the product if they do not know about it. Advertising is often the most neglected aspect of enterprise development. Therefore, it needs to be addressed at the planning stage.

Management is about using all the FFS resources in the best possible way. These resources can be material, financial or human. There are three key business objectives that contribute to increased profitability. Your group will need to properly manage each of these business objectives.

Minimising Costs

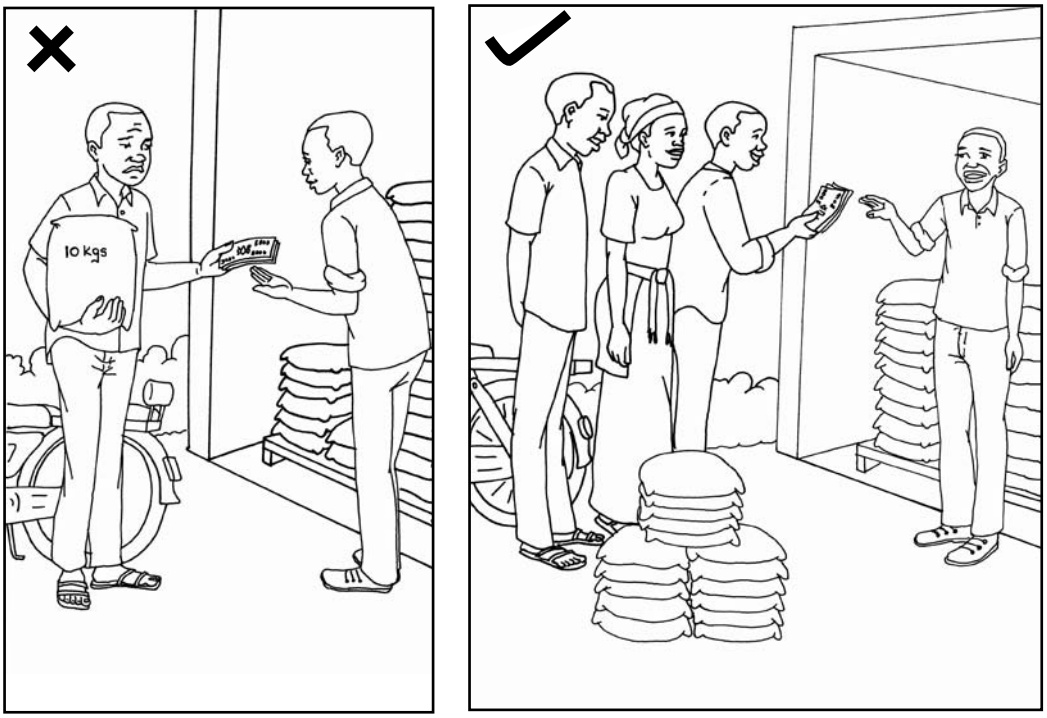
The less the group spends, the more it can make. The group can cut spending without reducing product quality by:

- **Selecting an appropriate scale for the enterprise:** Based on projected cash flow, the group now has the information it needs to definitively decide on the scale of the enterprise. If the enterprise is too large, the group may have to spend a lot of money on transport. If the enterprise is too small in scope, however, the FFS will not be spending efficiently because the output will be too small to enable it to recover all its costs. The group should determine a scale that is affordable, achievable and with a sizeable gross margin.

- **Using locally available materials:** Locally available materials cost much less to transport.

- **Purchasing from dependable sources:** It is important to build trust between the FFS and suppliers. A supplier who is not dependable may supply the wrong inputs, which will cost the FFSs more resources to acquire the desired inputs. In addition, as the FFS enterprise proves to be a good customer, it may ask for discounts from suppliers.

- **Purchasing in bulk through FFS networks:** Suppliers give discounts to organisations that buy in bulk. If your group coordinates its orders with other FFSs in the area, it can save quite a bit of money.



Purchasing in bulk: FFSs can coordinate purchases within their network to save money.

Undertaking its own work: The more work activities the members do themselves, the less they have to pay for outside labour.

Adopting collective marketing: If there are more FFS groups engaged in the same enterprise, they may source the market, bargain jointly and pool costs. For instance, they can use the same supplier to procure supplies in bulk, thus taking advantage of economies of scale.

Maximising Output

The more the group produces, the more it can sell. The goal of the FFS learning programme is to develop local farmers into experts. A very large part of the learning programme will be studying and experimenting on which farming methods increase output. The FFS enterprise can maximise output by:

- **Using improved varieties and breeds**
- **Using labour-saving technologies**
- **Using best practices:** spacing, weed control, pest and disease control, timely harvesting and post-harvest management
- **Operating on a timely, regular basis**

Fetching Best Market Prices

The last step of the profit maximisation goal is ensuring that the group is being paid a good price for its products. It can do this by:

- **Operating on a timely, regular basis:** Good management is critical to the enterprise's success at every stage.
- **Producing in the off-season:** Customers will pay more for goods produced in the off-season because they are harder to find.
- **Contracting farming**
- **Improving the quality of the product by:**
  - ***Adding value:*** Consumers will pay more for a product if it is well-packaged.
  - ***Storing and selling later:*** FFSs can wait until the market price is high to sell its products.
  - ***Using collective marketing for bargaining power to negotiate higher prices***

Session Plan

Goals of the Session: For the farmers to understand how to manage business enterprises effectively

What You Will Need: Flipcharts, markers, Business Plan, Work Plan

Time: 1 hour

Step 1: The secretary should read the minutes of the previous session.

Step 2: Introduce the concept of enterprise management.

Step 3: Brainstorm on the importance of FFS enterprise management.

Step 4: Review the business objectives: minimising costs, maximising yields and getting the best market prices.

Step 5: Brainstorm on how each of these three objectives can be achieved. Use the examples listed above to help the group think of more ideas.

Step 6: Review the management functions listed in the work plan. *How can the group link the ideas it has brainstormed to these management functions? Does anything need to be altered in the work plan to meet the group's objectives?*

Step 7: Using the work plan, determine who is in charge of each of the 5 areas of operations listed at the beginning of this section. Ensure that there are no gaps and that everyone understands their responsibilities.

CREDIT

To help finance budget shortfalls, the FFS can use credit. Credit is a helpful tool, but can be dangerous if farmers do not have the right information. Your group will need to understand credit and how to use it.

Recall from Chapter 4 that credit is the ability to receive goods before paying for them with the expectation that you will repay the cost in the future—often with interest. Although your group is encouraged to save and raise funds, seeking credit is another method of securing money for the group enterprise. Now that the group has developed a budget and work plan, it better understands how much credit it might need. After completing the Cash Flow Chart it should also know when it will need extra cash.

Loans

Loans are often used to get money to pay for social obligations, such as school fees, medical expenses or funeral costs. Remember that if individuals save, they will not have to take out loans. Loans look attractive because you do not have to sacrifice and have discipline to get a loan, like you do with savings. However, the loan terms are not always good. Often, interest is high. For example, if interest on a 50,000 Ushs loan is 20% per month, you will owe 10,000 Ushs in interest after just one month. You've lost 10,000 Ushs! Loan terms can be even more unfavourable when they are not paid on time. Therefore, you as a facilitator will need to ensure your FFS is getting good loan terms. In addition, the group must understand that borrowing money is a serious responsibility. Two things to keep in mind are:

- Loans are not free money: They must be repaid, often with interest.
- Loans must be repaid on time: If the group fails to repay on time, it will not only have trouble accessing credit in the future, but will pay a higher cost in terms of interest for the delayed amounts.

Credit for FFS Activities

Farmer Field Schools should borrow for productive purposes—not for consumption. In other words, they should use loans to develop or expand their enterprise. Take a look again at the group's budget. How much are the expenditures for inputs? A loan can help meet this shortfall.

Credit is just one way for members to acquire assets and solve some of their problems. Credit is not necessarily in cash form. If the FFS needs to increase its assets in order to sustain its activities or to enhance its enterprise, the most appropriate form of credit is "in kind". This could take the following forms:

- **Livestock:** The members can crossbreed goats or cows in order to improve the quality of their animals. This can also enable a larger number of members to keep animals. Animals provide the benefits of milk, hides, manure and meat. The farming system will also become integrated from seeking livestock as credit.

- **Improved seeds for planting:** Either the group or individual members can borrow seeds. They would repay the loan with new seed after the harvest.
- **Irrigation infrastructure:** The group could use this to produce year round. It would have constant income flow for group activities and for members.

Before a FFS goes in for the in-kind type of credit, the group members must understand how to use credit for this purpose. They also need to clearly understand their obligations and receive training on how to manage these assets.

When does the FFS need credit?

Credit should only be used in the following circumstances:

- When the FFS has a solid business opportunity but lacks the funds to invest
- When the FFS has a temporary cash flow shortage (which the group can anticipate with a thorough budget)
- When there is a need to expand its business (as long as there is a solid business plan to repay the loan)

It is important for the FFS to access credit only when there is a plan for its use and payback. The FFS should not use credit if it has other debts. It is not advisable for the FFS to get a loan in order to pay another loan.

Before making a decision on accessing external sources of credit, it is important to carry out a study of the costs of credit offered by the different financial institutions. Each institution's rates will be different. The group should pay attention to:

- Interest rates charged
- Fees required (e.g. processing fees, insurance fees and loan protection fees)
- Bank charges
- Length of the loan
- The reputation of the lending institution

Credit in Cash (also paid in cash)	
Advantages	**Disadvantages**
Flexibility in deciding how to use the credit	Possibility of fraudulent use by group leaders
Increase in group fund through interest	High interest rate may lead to capital loss
	Higher chances of default if business fails
	Bookkeeping requires literacy
	Difficult to manage
Credit in Kind (also paid in kind)	
Advantages	**Disadvantages**
Easily managed by group members	Members may resist making payments in kind
Changes in interest /inflation will not affect capital	Livestock or poultry deaths may result in serious setback for repayment
Default minimised	
Simple bookkeeping	
Little possibility of fraud	

Most formal financial institutions do not lend to farmers because farming businesses are unpredictable. For example, changes in weather patterns can significantly harm a crop, leaving the farmer with nothing to sell. The institutions prefer dealing with businessmen who offer their security.

Sources of Credit

There are several sources of credit available to farmers. Each source has advantages and disadvantages. (See Chapter 4 for additional savings and credit options.)

- **Moneylenders:** These lenders are often called "loan sharks". They charge extremely high interest rates and are usually unregulated. This means they make their own rules. FFSs are strongly discouraged from using money lenders. There are many better options.

- **Banks and other financial institutions:** These organisations have good reputations and won't cheat the group. They also offer longer repayment periods. However, the rural poor can have difficulty accessing loans from the bank. If they do, transaction costs may be high and the group must give some type of collateral to receive the loan. Lastly, the process of taking out a loan takes a long time, so the group will need to plan ahead.

- **Microfinance institutions (MFIs):** MFIs offer small loans to the rural poor. The group usually does not need to give collateral. However, if the group fails to pay, its assets will be confiscated. Also, loan repayment periods are often shorter than at banks. Some MFIs demand that people taking out loans receive training before they can access the loan.

- **Relatives and friends:** Relatives and friends probably won't charge interest, but the loans they provide won't have formal rules. You may have to pay back the money sooner than you thought if your relative needs it suddenly.

- **The FFS Network:** One of the most important functions of a network is making low interest loans available to its members.

Each bank or MFI is different. For example, fees vary widely from institution to institution. As a facilitator, you will need to help your group discover the best option for it.

Requirements

Get the FFS organised so that it will possess the following basic requirements needed to access credit:

- An elected management committee
- A constitution and/or bylaws that govern the FFS

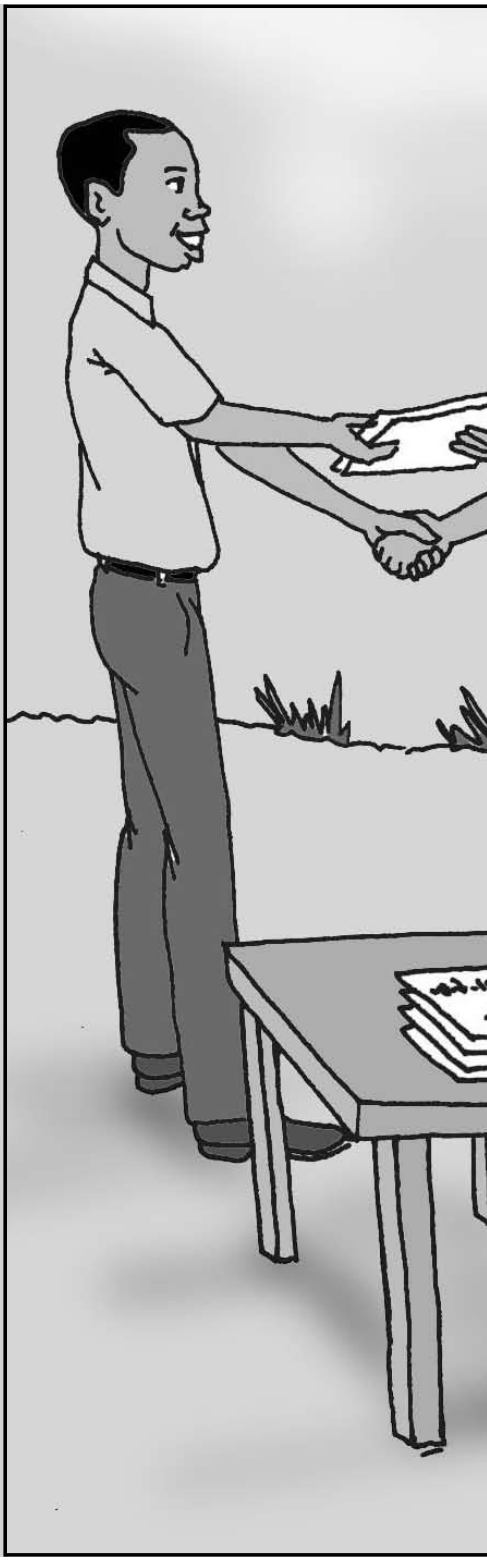
- Records to show that the group is well-managed. These can include meeting minutes, financial transaction records and activity reports
- Work plans, business plans or cash flow statements
- Legal registration with the CDO

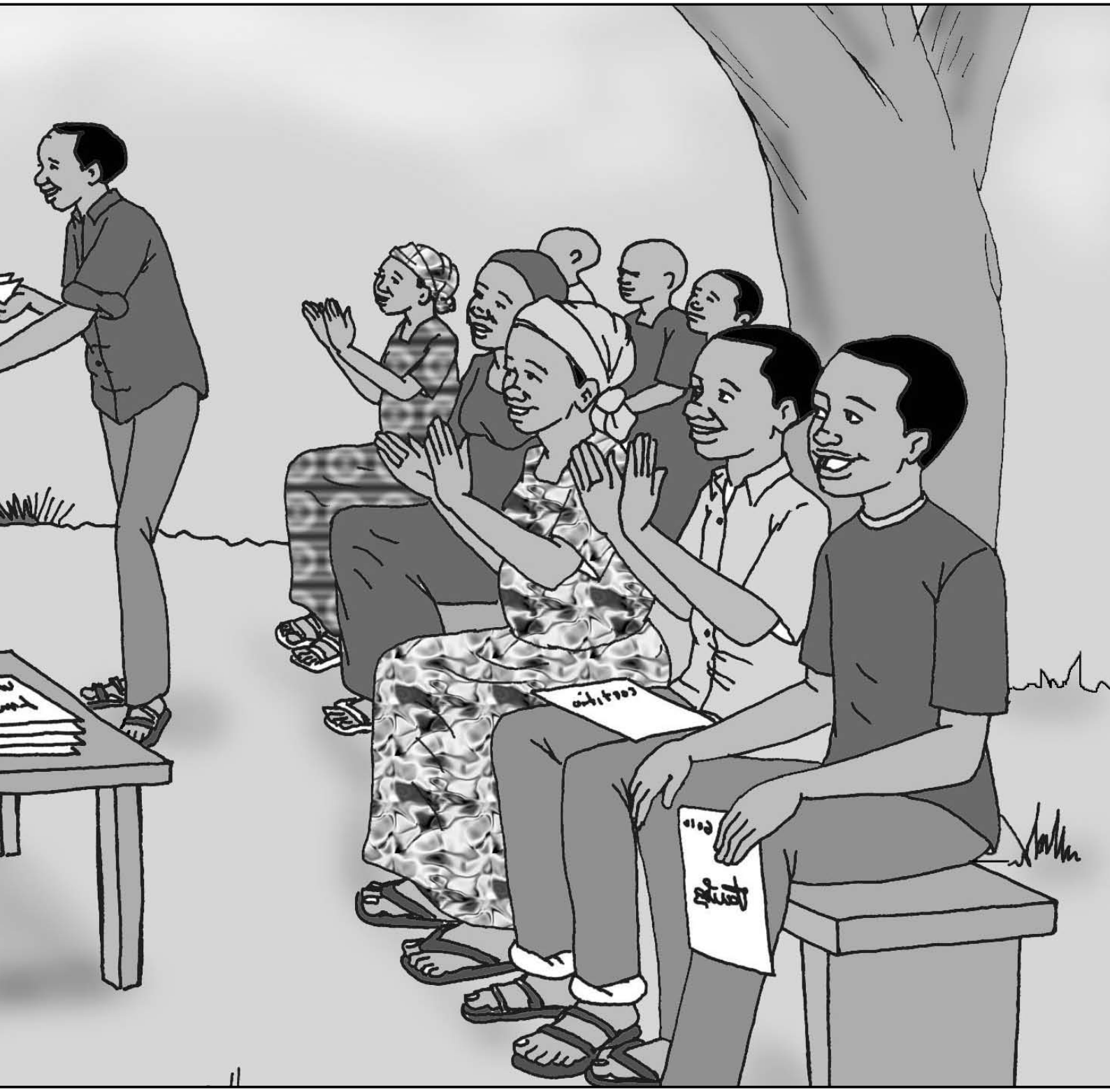
The FFS should get an introduction letter and a recommendation from a recognised institution or network. Attach the above documents to this letter. Possessing all of the above is evidence to a lender of an organised FFS that can responsibly handle credit.

Loans: Groups should seek loans from trusted sources, not from loans sharks.

CHAPTER 9:
Integration and Continuation

The graduation ceremony marks the end of the official learning programme, but the FFS does not have to end with graduation. The Farmer Field School method is a sustainable process that doesn't have a definite end. Farmers should implement what they have learned. They should also seek new avenues for learning. However, it will be difficult for the group to spread its newly-gained knowledge in a recovery setting.





DIVERSIFYING LIVELIHOOD OPPORTUNITIES

While implementing FFSs under emergency, there will be need for prior planning for strategies to bridge between relief, rehabilitation and development; and to consolidate the efforts and resources invested in the short period in order to further build the FFSs institutional capacities and boost their production potentials. The emergency setting offers little flexibility for farmers to adequately and effectively develop their skills, capacities and potentials to tackle emerging future challenges. Thus, strategic follow-up support to the FFSs is essential to take farmers to the next level of development in order to create economically vibrant and viable farmer groups and institutions. The support at this level should be strategic and farmer-demand-driven geared towards:

1. **Boosting the capacities and marginal financial returns to productivity amongst the communities:**

    - By offering tailored capacity building based on communities' needs and as may be deemed necessary such as training in post harvest handling, agro-processing, disaster risk management, value chain analysis among others.
    - Through long term investments in commercially viable enterprises such as setting up tree nurseries and woodlots, piggeries, poultry production, setting up small scale agro-processing industries, seed multiplication activities.
    - By boosting the financial resource of both the FFS groups and the networks by strengthening savings mechanisms to provide ready and cheap source of funds for individual/group investment.

2. **The long term recovery of the communities:**

    - Through investment in productive infrastructure for example rehabilitation of markets/market structures, opening/rehabilitation of market access roads, setting up irrigation infrastructure, rehabilitation of fish ponds, construction of storage facilities/marketing centres to facilitate the marketing of the produce.

3. **Linking the FFSs groups and networks to strategic national and regional institutions to take advantage of emerging opportunities by:**

    - Building stronger partnerships with national, district and local government initiatives like the National Agricultural Advisory Services (NAADS) and the Prosperity for All (PFA) programmes, and the district local governments
    - Promoting collaboration with the public and private sector institutions; for example quality seed suppliers, commodity traders, specialized institutions like the NARO, relevant departments of district local governments and other organisations at the implementation and experience-sharing levels.

GRADUATION

Holding a graduation ceremony is one way to motivate farmers to take part in the learning programme. The supporting agency awards participants with certificates to recognise their efforts and celebrate their achievements. There are two typical requirements for graduating:

1. **A passing score in a field skills test:** Pre- and post-tests boost participants' confidence. They can see how much improvement they have made. For many farmers, the FFS is the first opportunity that they have had for receiving official recognition of their farming skills, a point of great pride for many families.

2. **A good record of attendance at FFS sessions:** A good attendance record is often above 75%. Because FFS is a hands-on process, attendance is crucial to gaining farming knowledge.

Help the group organise a graduation at the end of the learning cycle. The group should have an official ceremony. It can also demonstrate some of the activities it completed during the FFS process. The group should invite community members, government officials and neighbouring communities to the graduation. Other community members may become interested in the FFS process. This will help to spread the FFS method.

FOLLOW-UP ACTIVITIES

After the graduation ceremony, the FFS normally continues. In many cases, the FFS group wants more training. This training can either be in the same enterprise activity or in a different enterprise. With your help the group can evaluate its strengths and weaknesses. Then, together you can develop an action plan based on what it has learned and what knowledge or skills it lacks. The FFS should take the following steps:

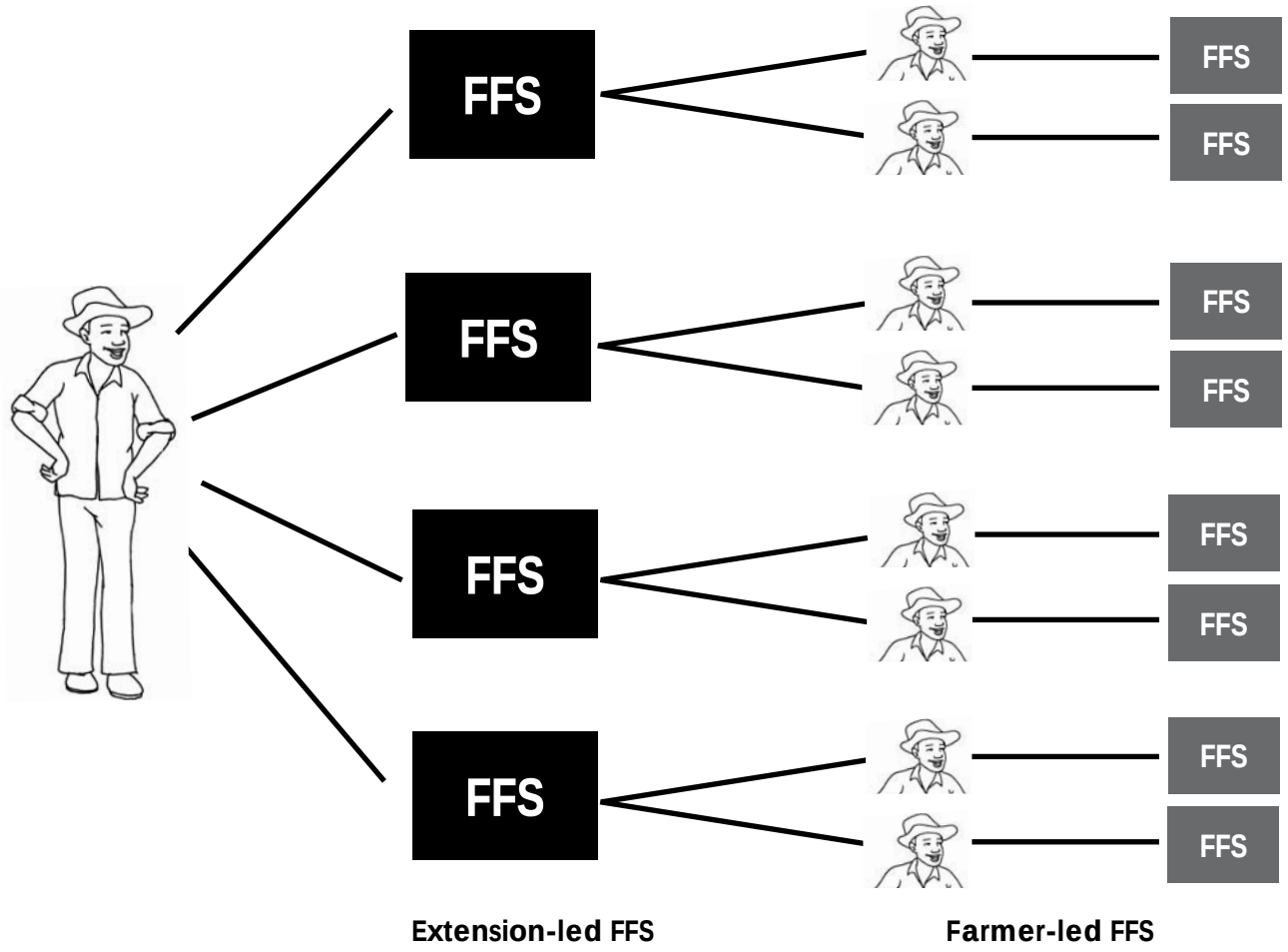
- Plan new sessions with different topics (or more in-depth learning of the specific topics).
- Implement commercial plots or enterprises: Donors usually do not give grants to FFSs to perform follow-up activities. These grants are given to the poorest farmers in the community. Therefore, existing FFSs should develop commercial plots to finance their activities. Groups that raise their own capital have been extremely successful. *Does your group know that alternative sources of funding are available? Where can it get a loan? Does the private sector support Farmer Field Schools?*
- Link with researchers, extension workers and other FFSs.

A FARMER-LED FFS

Every participant in the FFS is a potential trainer and therefore as a facilitator you should be "working your way out of a job" throughout the entire FFS process. Although at the beginning the group will depend on you for many things, by the end it should be independent. The group will not know everything it wants to know about farming, but it will know how to find out. After several sessions the facilitator should identify keen farmers who have the potential to become community facilitators. Facilitators must always mentor them during this process. Occasionally, there may be resources to support some farmer-led FFS activities. In such cases, the farmer facilitators undergo a tailored refresher course to equip them with the necessary facilitation skills and key tools. It is advisable that the farmers facilitate in pairs so as to reinforce each other's skills. Arrangements are usually made to ensure that a senior facilitator backstops at most 8 pairs of farmer facilitators for at least a complete season to ensure that they become solid facilitators.

You and the participating farmers need to identify a few farmers willing to become facilitators. You must assess whether these farmers have the potential to be trained further. The farmers selected will start by assisting you so they can learn the basics. When the farmers are ready, they can conduct a FFS on their own. Hopefully, you can train multiple lead farmers, helping to spread the FFS method. This is one way to scale up the FFS programme and disseminate the lessons the FFS has learned throughout the community.

Extension-led FFS



Extension-led FFS: Each facilitator runs 4 FFSs and mentors 1-2 farmer facilitators from each group.

ESTABLISHMENT OF FFS NETWORKS

A FFS network is an informal federation of a number of FFSs with a common interest which are based within well-defined geographical boundaries such as sub-counties or districts. As the number of FFSs in a community grows and they broaden in their level of operation, new issues and challenges emerge that can not be solved effectively by the individual groups, necessitating higher-level farmer organisations. Similarly, as the number of FFSs increases in a given location, there are more opportunities for them to take advantage and enjoy economies of scale. By forming a network, FFSs can better share information, improve access to resources and markets, participate in community projects and articulate their interests to local leadership (advocacy and lobbying).

The sub-county FFS network structure will be drawn from the FFSs in that respective sub county and will be composed of a committee comprising a chairperson, treasurer and secretary. Depending on the needs of the network, various working committees can be established, some of which may include finance and planning, savings and loans, marketing information services, assets management or a works committee.

The FFS networks form business units which provide a sustainable exit. They engage in a range of collective commercial activities including market linkage and information brokering. They also facilitate fundraising and help to coordinate marketing activities. Being part of a FFS network has several advantages:

- **It supports economic activities:** FFSs in a network have more capital to use. Individual groups or members can take out loans. Also, the network can pool groups' resources to start an enterprise that is too big for just one group to undertake.

- **Groups can coordinate learning activities:** Each FFS serves a different group of people with different problems. As groups pursue new learning activities, they can use local experts from other FFSs who studied those topics as part of their learning programme.

CREATING LINKAGES

There are several ongoing government initiatives and groups to which the FFS should consider linking. First, the FFS has a duty to spread the knowledge it has gained to the rest of the community.

Second, it should seek support directly from outside sources. The trained facilitator will no longer be available to link the FFS with stakeholders. Instead, the FFS must seek out opportunities on its own. It should contact microfinance institutions for funding support. The National Agricultural Advisory Services can provide programmatic support. In addition, it should work with extension and research organisations to ensure that it is informed of new farming innovations. The members may get an idea to develop a new enterprise.

MANAGEMENT OF ASSETS

The FFS will acquire a number of assets during the learning process. Some of the capital assets, like grinding mills, are shared with other FFSs in the same locality. Prior to completion of the learning cycle, the facilitators should ensure that each FFS and FFS network has a plan for management and sustainability of any inputs and assets accumulated. The facilitators should help the groups to put in place the necessary records. This includes reviewing the constitution to develop clauses on how the proceeds will be shared so that vulnerable members of the group like women and the elderly are safeguarded.

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