

Unit 3 Moving beyond coping-Building capacity for food resources



Introduction

The real life experiences of households are not always portrayed and interpreted properly by research. As good as research is we are always finding misrepresentations of what really happens. We need to interrogate these myths. If we really engage with people in all livelihood categories one would actually find that they are not solely living from their own household food production. The article below portrays a more realistic representation of household and their livelihoods on the African continent.

Myth Busting !

"Several myths have abounded about rural African livelihoods for many years. One of these common myths is that most rural African families grow the majority of the food that they eat on their farms. The HEA has consistently busted this myth from Swaziland to Ethiopia or Sudan by exposing the fact that typically poor families grow only a small proportion - between 20-35 per cent of the food they eat annually. In fact most rural Africans purchase at least 50 per cent of the food they eat from traders, local shops and relatives and they spend much of their time doing casual labour for other local families or receiving money from relatives working elsewhere." (Alex Rees, Livelihoods Capacity Building Adviser, Save the Children).

If this is true, why then are programmes and training on household gardens that important? It is agreed that nutritious produce produced is a very important output from agriculture and household gardens. However, the question is how can value be added to food production activities to support the diversification of the livelihoods of households? The goal of food production activities is not only about more food to eat, but also as a low-input way to create more income and payment for other livelihood activities and growing the resources accessible from the livelihood asset base for household food security of in communities and a healthy society.

This unit has the following sections:

- 3.1 Asset based approach to developing entrepreneurship
- 3.2 Barriers preventing change in the food path to achieve household food security
- 3.3 Allocating assets with money value for household food security
- 3.4 Adding value to food to increase the "money" value of food stores
- 3.5 Exploring ways of improving food processing practices



Specific outcomes and learning outcomes

The information in this table is like a good road map for your learning journey. It gives you a clear idea of what you are expected to know and do at the end of Unit 3. The specific outcome engages households in the analysis of the household asset profiles and allocation of resources in different livelihood systems for food security.

Learning outcomes	Assessment activities	Actual time spent
Workbook activities		
Use the asset based in household food security	3.2 Mapping Individual Skills using the Hand, Heart, Head	
Identify barriers and possible messages to improve the food path and promote food security	3.5 Mapping the barriers in a household that prevent food to flow through the pathway using the channels of Lewin.	
Allocating assets with money value from livelihoods for food security	3.6 The inflow and outflow of the household leaky bucket	
Adding value to food to increase the "money" value of stores	3.10 Mapping food security through social networking.	
explore ways to improve household food practices	3.11 Exploring the role and process of food technology adaptation 3.11 Farmers pro-active goal setting: Logical analysis of yellow maize	
	Portfolio Activity 6.3 Use the case study to map a food resource strategies for a households (2 hours)	
	Assignment 1 You can find information on this assignment in Tutorial Letter 101 (2 hours)	



Key Concepts

Entrepreneurship Empowerment Self actualization Adversity Barriers Forces	Monetary value Spending Budget Assets based approach
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The module uses an assets based approach to look at food resource management and the different strategies that can be used by households to manage food resources so as to increase household food security. Self-help groups and planning can be used in kick-starting the processes needed to improve household food security above subsistence level using entrepreneurial practices.

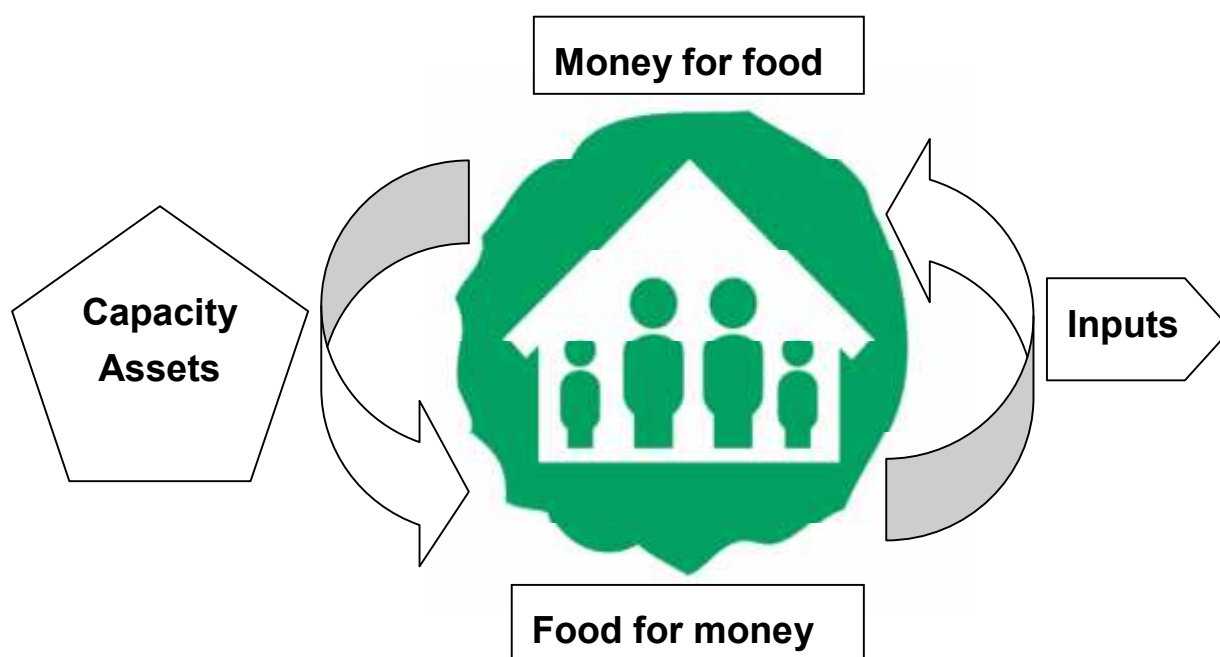


Figure 3.1

Map of this module on household food resource management



3.1 Asset based approach to developing entrepreneurship

3.1.1 Who is an entrepreneur?

Any definition of an entrepreneur will emphasise four basic aspects regardless in which work situation. We can then assume this also applies to the household entrepreneur who is creating something new that is of value. The creation has to have value to the entrepreneur and to the client or buyer. Being an entrepreneur means:

- being involved in creative process creating something of value
- spending time and effort on the process to make a good product
- being prepared to take financial, psychological and social risks
- being rewarded by being independent and filled with satisfaction

We can say that the description for entrepreneurship is the process of creating something new with value by devoting time and effort and assuming the accompanying financial, psychological, and social risks and in the end receiving the resulting rewards of monetary and personal satisfaction.

What causes a person to take the decision to start an income generation activity or micro-enterprise? The experience of doing something on one's own can be filled with enthusiasm, frustration, anxiety and hard work. The failure rate is also high due to poor sales, intense competition in the market, lack of capital to produce, and a lack of organisational or managerial ability (Hisrich, Peters & Dean, 2005)

Entrepreneurship is a state of mind that identifies rewarding opportunities, takes action to pursue these, is willing to take calculated risks, and is capable of managing uncertainty or a problematic situation.

Entrepreneurs tend to start ventures that built on specific skills they have already developed and knowledge they have already acquired in a certain occupation or industry, for example, auto repair. But all entrepreneurs tend to share other more general skills such as communication, team-building, and creative-thinking skills. Try the assessment exercise below to find out how well you've developed the skills that successful entrepreneurs tend to use to start and grow their ventures.

Don't feel too bad if you don't score well in every category. Check the column that best describes your entrepreneurial skill level.



Activity 3.1 Assess your entrepreneurial skills level



Complete this activity on your own in your study guide

What to do

Mark your skills level with a tick in the column where you think your skills level fit.

Assess your entrepreneurial skills level

Skill	Not developed	Beginner	Quite Capable	Very Capable
Creative thinking <i>(I find new ways to solve problems)</i>				
Planning and research <i>(I know and where to find information and how to use it)</i>				
Decision making <i>(I study my option, then decide)</i>				
Organization <i>(I set priorities and organize to achieve them)</i>				
Communication (Oral) <i>(I speak and present myself clearly and effectively)</i>				
Communication (Writing) <i>(I produce accurate, clear, error-free writing)</i>				
Team building <i>(I know how to assemble, motivate, and empower an effective team)</i>				
Marketing (Selling) <i>(I know how to sell and can describe what selling involves)</i>				
Financial management <i>(I know how to manage cash flow and how to read the bottom line)</i>				
Record keeping <i>(I can identify and use business forms; file and record financial transactions)</i>				
Goal setting <i>(I set and work toward short, medium, and long-term goals)</i>				
Business management <i>(I can manage people effectively, delegate responsibility, and answer for the bottom line)</i>				

Comment on activity 3.1



The blocks you have tick will give you the level on which you think your skills are. Sometimes one over estimate and other times underestimate one's own skills. Those skills you feel need attention you can discuss with your peers how to develop them in a manner that needs practice and or perhaps training.

To be an entrepreneur does not mean you are going to start a business and make lots of money like a business entrepreneur working with big companies. To be an entrepreneur in a household or community depends on your goals and the assets you can use to achieve what you want to achieve. The achievement may be anything that will work for your household and make things happen.

An example: An entrepreneur is a person that turns a problem into a solution by trying new ideas. An example is that of Mr Sithole who has a garden at home so that he can sell vegetables. However, he struggles to get his seeds to germinate and transplanted easily, also he does not have money to buy special seedling containers. His wife is running a shebeen (tavern) from home. The empty *Mahewu* cartons from the shebeen (see Figure 3.1) are becoming a big waste problem and create a bad smell on the property. Suddenly one morning he realised that the cartons are "left for him by the customers" to use as containers for his home nursery. The smelly carton problem is now a solution to another problem (lack of seedling containers), and so becomes a creative activity.



Figure 3.2 Being creative and changing a problem of waste into a solution: using Mahewu cartons, milk cartons and old tyres to grow seedlings (Photos FM Ferreira)

Give your own example of a problem that IS a solution.

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3.1.2 Why entrepreneurship for household food security?

The United Nations Hunger Taskforce is focussing its attention on the following three priority goals for the near future:

- Increasing the agricultural productivity of food-insecure farmers
- Improving nutrition for the chronically hungry and vulnerable
- Increasing rural incomes and making markets work for the poor

It is estimated that on a global basis approximately 50% of the hungry are located in farm households, 25% are the rural landless, 20% are urban, and 10% are directly dependent on natural resources such as forests, fisheries and pastoral areas.

The prevalence of hunger is very high among smallholder farmers and other rural people who have no choice but to rely on a poor or degraded natural resource base, inadequate access to knowledge, technology and capital, and poor access to production inputs and markets for their goods. There is a lack of functioning markets—both physical infrastructure and market institutions—for the poorest and most food-insecure. This leads to hunger of both food producers and non-food producers and hinders employment opportunities for the landless.

Many African farmers in food-insecure regions are currently not part of the market economy, and those who are face major constraints when bringing additional production to rural markets. To improve agricultural market infrastructure, one has to grasp the African agricultural economy and the following interventions that have been identified:

- Develop storage facilities
- Develop or improve feeder roads
- Develop and technically support farmer marketing associations
- Develop and technically support input dealers
- Develop internet- or mobile phone-based market information systems
- Extend micro finance services to agriculture
- Promote value-added processing facilities at the local level
- Develop entrepreneurial capacities

The recommended interventions are “top-down” in character. Which ones will allow for being organised from the “bottom-up”, thus stimulating and supporting local initiatives whilst developing people's creativity? We will later refer to factors that impact on decisions to fully participate in these interventions. Can a facilitator develop the entrepreneurial skills and capacities of a person? No, the person himself must have the desire to become an entrepreneur. He or she should show signs of the four most important criteria defining an



entrepreneur and have the strength to manage the resulting impacts of change before facilitator support can make valuable contributions.

Do farmers want to sell on the open market? Small holder women farmers find this a very challenging and costly arrangement. For example who should offer farmers a pre-arranged contract for their produce, thus ensuring products are marketed for an income? Or should they be part of the process of identifying and arranging the contract in order to grow as confident citizens and farmers?

Most of the time these community initiatives may be outside the reach of poor households that want to sell surplus products. What now? Can they use their own initiative to find other options more suitable for their socio-cultural situation, assets and resources available? Unfortunately the success of most strategies for household food security depends on addressing a few objectives simultaneously to improve household food security. The figure below shows four hunger hotspots that are important and need to be addressed by households. In your role as facilitator together with the households you need to address the hunger hotspots for household food security. They need to be addressed simultaneously as they function together in household food security.

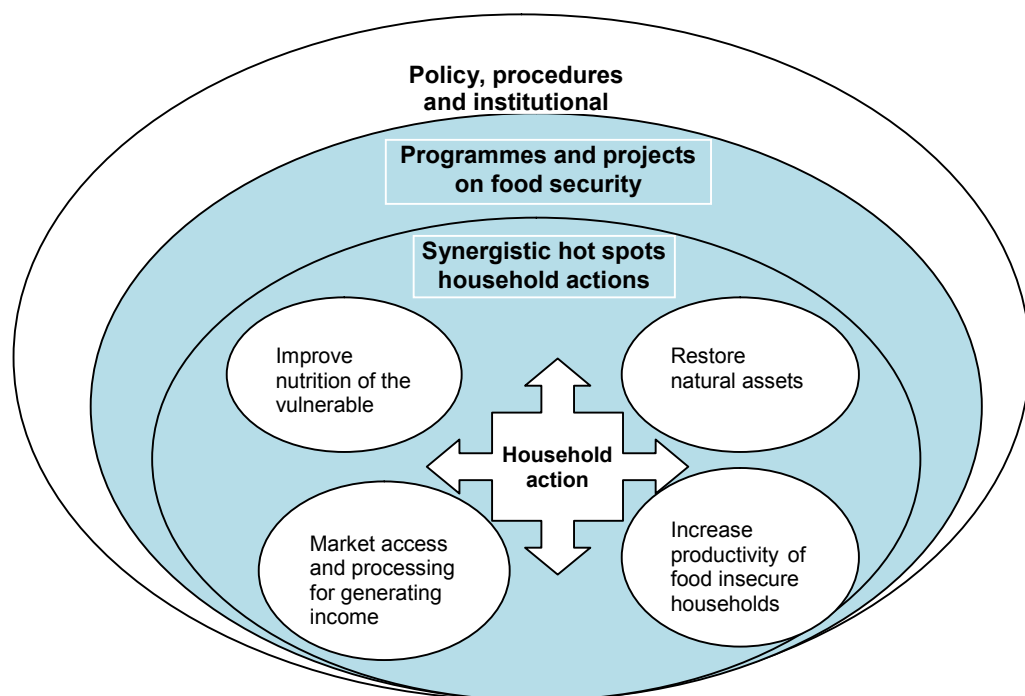


Figure 3.3 Synergistic investments in the four "hunger hotspots" (Adapted from Eenhoorn, H, 2007)



The model above represents the four hunger hotspots that are dealt with in four of the household food security programme modules that you will have covered on completion of this programme:

- Improve nutrition of the vulnerable - **Food behaviour and nutrition**,
- Restore natural assets - **Sustainable natural resources use**,
- Increase productivity of food insecure households – **Optimising household food production**
- Market access and processing for generating income - **Food resource management**.

There the two extreme approaches on a continuum which can be used as points of departure for community development:

- **Top down: *Us the leaders - for them the households in communities.***
The one extreme is: What are their needs and *what can we do for the poor and the hungry?* We refer to this activity level as the macro-level or exo- level.
- **Bottom-up: *Us the households in communities - for ourselves.***
The other extreme is: *What can we do for ourselves?* This involves taking our own initiative to come out of poverty and be more food secure. We refer to this activity level as the micro level.

Between these two extremes there can be a mixture of the two approaches according to the assets required. The starting point for any interaction or intervention is always the people have to know that they need to make the first move and need to take action. In the end most households and communities need a mixture of both approaches.

3.1.3 What is empowerment?

Empowerment is a process by which people develop themselves. Empowered people are people that are self-actualised enabling them to function in different areas of their economic, social or political lives as persons in control of their choices. People always strive to improve themselves and be in control of their lives. If they do not, they are usually unhappy, always feeling that other people owe them and they are not in control or accept the decisions they make.

A common thread runs through the concepts of entrepreneurship, empowerment and household food security. Women's empowerment can lead to a change in women's lives by allowing them opportunities to be entrepreneurs for their households and communities and in so doing change the reality of the women and their families lives. What then is women's empowerment? Women's empowerment has five components:



- women's esteem or self-worth;
- their right to have and to determine choices;
- their right to have access to opportunities and resources;
- their right to have the power to control their own lives, both within and outside the home;
- their ability to influence the direction of social change to create a more just social and economic order, nationally and internationally.

Empowerment in general means the process by which individuals, groups and or communities become able to take control of their circumstances and achieve their own goals. They are able to work towards helping themselves and others to maximise the quality of their lives.

The first thoughts most people have is, "I lack income", "I lack resources", "I need inputs" to make or sell things for money? Perhaps we should rather ask what assets do we as household or community have that can through action work for us to make more money. Therefore, we first need to look at what we have available or access to as assets: Natural, physical, financial, social and human. How full is my glass? How much must outsiders bring to fill up my glass?

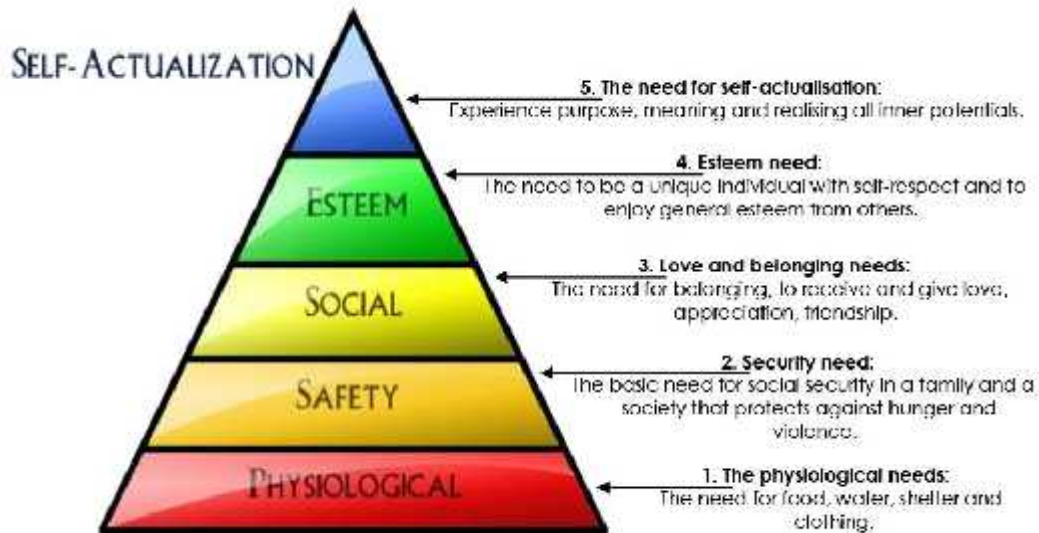
Household food security, livelihoods and assets are about people and what people do and how they take action. Although we think that money is always the solution, the solution to lack of money is using and developing human assets and capital. A number of studies have indicated that entrepreneurship improves with training and education. Human assets are important for seeing opportunities, making decisions, transforming other assets and balancing inputs and outputs as well as having the confidence to do so.

3.1.4 What is self-actualization?

Self-actualisation is a term coined by Maslow to describe the ongoing process of how people develop their potential and capacity. All people want to be somebody and want to be appreciated, loved and treated as a person in their own right.

Many people know about Maslow and interpret it at the highest level where you can be rich or own an expensive car. Maslow meant it to be the highest level people can aim for, but people have to grow to and improve themselves to be empowered individuals. People who are poor can also reach this level and be content with their circumstances. How many of us have met people in poor circumstances that are strong people, leaders and filled with direction in life ?





Figures 3.4 The personal needs for growth of a person to be confident and in control - Maslow Hierarchy

Self-actualizers feel they:

- can have **purpose in life**,
- **can feel excited about good moments** in their life,
- are **willing taking risks**
- always appreciate good **things** and nature,
- take **interest in others** with whom they live,
- **enjoy close relationships** and **enjoy being alone**
- can **think critically**, creatively and willing to consider ideas
- can **accept their own flaws** as well as the flaws in others,
- can **accept that life is not perfect** and
- can calmly **accept that life is full of uncertainty** and frustration
- are self-directed and can **choose direction in their own life**,
- are **independent and resourceful**.

Do you know or have you met such people living with a low-income or from meager resources? Describe one such a person you admire and how they view life?

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The activity below helps people to recognize the variety of strengths each person has and to strengthen the confidence of participants in their own skills and capacities. It also seeks to encourage individuals to see potential connections between individual skills and the work of local associations, institutions and businesses. It provides an opportunity for people with “hidden” skills and talents to be recognized whilst identifying such capacities for purposes of community building.

This exercise is done by brainstorming and grouping skills in three categories – head (intellectual), hand (physical) and heart (emotional). Everyone possesses skills and qualities in each of these areas. By identifying each individual’s particular strengths, he or she will be able to see how one person’s skills complement other peoples’ skills. There are many people who do not even realize all the skills they possess! By understanding their strengths people may feel more confident contributing to development projects in their village.

Activity 3.2 Mapping Individual Skills using the Hand, Heart, Head -



Complete this activity in groups in your workbook

Aim: To help people recognize the variety of strengths each person has

Time: 30 min

You will need: 3 Flip chart sheets and some koki pens or crayons

What to do:

1. Ask a person or people in your group to think about what they do well. It might be their work or something else they are known for within their community.
2. Explain that these skills and capacities can fall into different categories, including intellectual (head), physical (hand), and emotional (heart). Give examples of each type:

Head: analysis, organization, writing


Hand: cooking, farming, dancing

Heart: compassion, humor, teamwork


3. Ask people to brainstorm about their own skills and capacities in these areas. Have people share their lists and continue to build them. People who know one another can add to each other’s lists.
4. List the skills on separate charts for each category. See the example on the following page. You have a summary of the group’s skills. One can also develop as a team an interview schedule covering the themes below and any other important ones.




Hands, head and heart



- Carpentry
- Farming
- Cooking
- Mechanics
- Sewing
- Weaving
- Animal husbandry
- House construction



- Compassion
- Care of elderly
- Sense of humour
- Conflict resolution
- Willingness to collaborate
- Cooperative spirit



- Analysis
- Accounting
- Organization
- Management
- Literacy
- Management
- Problem solving



Activity 3. 3 What is your human capacity as a person?



Complete this activity on your own or in groups in your study guide

Aim: To analyse my human capacity to be a person in control of the things I do

Time: 20 min

What to do

Complete the questions on your human capacity below:

1. What good (positive) qualities do people say you have? (Some say it is gifts that they have been born with and can't necessarily be taught).

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- 1 Who are the people in your life that you give to? (This could be social, economical, physical or spiritual goods) How did you give it to them, or why?

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2. When was the last time you shared something with someone else? What was it?

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3. What do you enjoy doing? (The talent, gift or skill for doing things)

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4. If you could start a business to generate income what would it be?

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5. What would you like to do that people would like to pay you to do?

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6. Have you ever made or done anything using skills (or Hands)?

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8. Have you ever thought about your dreams, goals or hopes that you want to achieve and, if yes, what are these?

9. If it was possible to do anything, what would that be?

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If you have a dream and ideas about how you want to improve or change the way you live with regards to your food security, livelihood and nutritional well-being, it is possible to take action towards change. Understanding human capacity development allows us to incorporate human aspects such as households' perceptions about how much food is considered to be enough. It also takes into consideration the decisions that households



make and why they make them, what assets they have access to, and what it is that makes them feel food secure.

How do you handle vulnerability and risk to food security and livelihood? How do you handle situations when your household or children are vulnerable and at risk? Does life feel as if it is in chaos and there is no way out? Adversity means hardship of any kind. People who are poor, hungry and food insecure experience also hardship.

Activity 3.4 How well do you handle the adversity of food insecurity and stress?



Complete this activity on your own or in groups in your study guide

What to do

Read the following story on adversity and persevering so as to change.

Do you act as if you are a Carrot, an Egg or a Coffee Bean?

A young woman went to her mother and told her about her life and how things were so hard for her. She did not know how she was going to make it and wanted to give up. She was tired of fighting and struggling. It seemed that as one problem was solved a new one arose.

Her mother took her to the kitchen. She filled three pots with water. In the first, she placed carrots, in the second she placed eggs and the last she placed ground coffee beans. She let them sit on a stove and boil without saying a word. In about twenty minutes she turned off the stove. She took the carrots out of the water and placed them in a bowl. She then pulled the eggs out and placed them in another bowl. Then she ladled the coffee out and placed it in a bowl too. Turning to her daughter, she asked, "Tell me what do you see?"

"Carrots, eggs, and coffee," her daughter replied.

The mother brought her closer and asked her to touch and feel the carrots. She did and noted that they were now soft. She then asked her to take an egg and break it. After pulling off the shell, she observed the hard-boiled egg. Finally, she asked her to sip the coffee. The daughter smiled, as she tasted the coffee's rich aroma. The daughter then asked. "What's the point, mother?"

Her mother explained that each of these objects had faced the same adversity i.e. exposure to boiling water but each had reacted differently. The carrot went in strong, hard and unrelenting. However after being subjected to the boiling water, it became soft and



became weak. The egg had been fragile with its thin outer shell protecting its liquid interior. But, after sitting in the boiling water, the inside of the egg became hardened. However, the ground coffee beans were unique, because after they were in the boiling water they had changed the water.

"Which are you?" she asked her daughter. "When adversity knocks on your door, how do you respond? Are you a carrot, an egg, or a coffee bean?"

Ask yourself... Which am I?

- Am I the carrot that seems strong, but with pain and adversity, do I wilt and become soft and lose my strength?
- Am I the egg that starts with a malleable (soft) heart, but changes with the heat? After a death, a breakup, a financial hardship or some other trial, have I become hardened and stiff inside? Does my shell (outside) look the same, but on the inside am I bitter and tough with a stiff spirit and a hardened heart?

Or am I like the coffee bean? The bean actually changes the hot water, the very circumstance that brings the pain. When the water gets hot, it releases the fragrance and flavour of the coffee. If you are like the coffee bean, then when things are at their worst, you get better and change the situation around you. When the hours are the darkest and trials are their greatest do you elevate to another level?

Reflection:

1 When things are difficult do you act as if you are a CARROT, an EGG, or a COFFEE BEAN?

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2 What would you like to be in future? A CARROT, an EGG, or a COFFEE BEAN and how will this benefit you?

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Adversity can bring out the best in those people who choose to take action and change the situation they are in. Taking action is healing because it helps you to take back your power in the most positive way. In making plans and carrying them out, you take control. Since you need to be organized to get things done, the activity you're focussing on helps to bring back structure and order. When you have a vision you want to make real, you have a purpose. When you see it become real you feel accomplished and your self-confidence is restored.



3.2. Barriers preventing change in the food path to achieve household food security

Communities are different and households and individuals are different. The age-old institution of a family unit or households has always been the unit for the learning of life-skills. With the changes in society the household has lost most of its indigenous or traditional capacity to cope with the many household food and livelihood responsibilities, with their associated risks and vulnerability. However, learning also takes place where there is interaction between people, awareness creation and motivation. In real life people have always been cautious to take action and are often held back by perceptions of which could be the best decision or action.

Why do people struggle to make changes in their usual ways of doing things and learn new behaviours? Each decision we want to take has different options and sometimes there are factors forcing us to make certain decisions that become barriers on the road to being food secure.

Food channels with gates and forces becoming barriers

During the Second World War there was little food available to send to soldiers, as well as for the women and children that remained behind in their countries. Kurt Lewin did research to find out people's food behaviours could be changed for the eating of food that were different from what they were used to. He discovered that in a household there is a gatekeeper or gatekeepers that control how and what food comes into the household based on decision they make. He discovered that people acquire food through two main channels i.e. through buying and gardening or growing of food. These channels resemble the food path we referred to previously.

Food reaches the household through “channels” such as grocery store, the garden, and the refrigerator. The selection of the channels and the food that passes through them is under control of the gatekeeper. The channels of acquiring food, (through production or buying) require many decisions about the harvesting, processing, storing, preparing and serving of food to household members (see Figure 3.3). Each stage in a channel also can act like a little “gate’ or barrier that certain forces will open and others will keep closed.

The causes and effects of food security and malnutrition can become barriers that impacting on decisions made with regards to food channels. We have looked at this in Module 1. Positive decisions that allow food to flow will ensure that such decisions are not hindered thus ensuring that there is enough, acceptable and nutritious food available to be shared. These channels can also accommodate the good traditional ways of doing things.



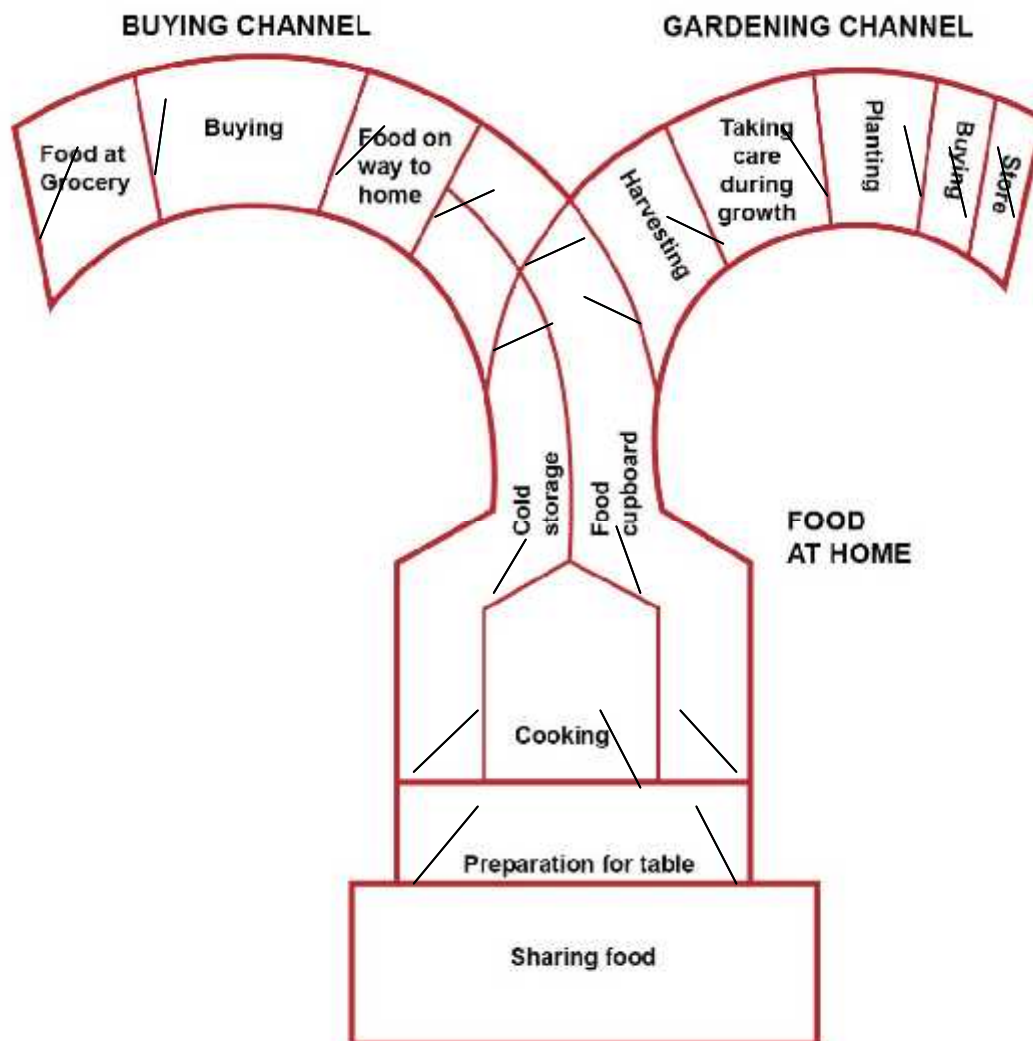


Figure 3.5 Channels with gates resembling the food decisions that will allow or not allow food to flow to reach the household

The 'gatekeepers' are controlling and taking decisions on food and food related resources. The 'gatekeepers' are usually those managing food resources and with the knowledge, skill and cultural or indigenous knowledge about food. Therefore, food security strategies aimed at the household gate keeper or gate keepers should develop the household's capacity to take care of themselves and others, make choices on acquiring, allocating and utilizing adequate nutritious food and to take responsible decisions about assets and resources. Such strategies aim to systematically reduce the household's dependency on outside help of all kinds. This reduces their vulnerability, and helps them to avoid further food crises and malnutrition.

In order to understand why people make certain decisions we need to understand certain things. Traditionally in most of Africa people have certain economic socio-cultural forces influencing the decisions they make. For example, agricultural products such as cattle and grain stores play an important role in terms of their value and can be used to generate



savings, or provide for gifts and bartering as items of exchange. Some of these socio-cultural forces remain strong in rural and peri-urban areas and therefore make agriculture as a livelihood more relevant for survival. These forces may differ and do differ from those in a cash system where one works with money in different ways to cover expenditures and to save.

We can look at different stages of the food path/channel where there can be economic, socio-cultural and political barriers. As a household food security facilitator you need to become familiar with the community and understand why there are certain forces that create barriers against taking action. Why is it that people do not want to take up new or different ways of doing things in order to be more food secure? Some barriers to taking action will be material and tangible while other barriers maybe human and intangible. Some barriers may be a stronger force than other barriers.

Stages in the food path where barriers may occur

The main stages of the food path where barriers can occur to prevent flow of food are:

- production
- storage and processing
- distribution and marketing
- household storage or pantry
- buying food
- preparation
- sharing and eating
- using food in the body

Some of these barriers occur at different stages of the food path. Many of these barriers we have addressed and some you can already find solutions for. Reflect on the barriers and forces that could influence household food decisions and prevent them from changing to be more food secure. If we use an asset-based approach we refer to the term barriers to the better use of assets.

Asset barriers in the food path of the two channels

Barriers to production

The barriers to production could be:

- shortage of land
- soil is not fertile
- shortage of water
- crop and livestock diseases
- shortage or labour
- shortage of inputs
- lack of incentives and low prices
- disasters



Opportunities to encourage production could be to:

- *Help with resources and training*
- *Encourage sustainable and environment friendly production*
- *Help to improve incentives, pricing and marketing*

What perceptions, ideas or beliefs could be barriers for a household in this regard?

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Barriers to storage and preservation

- Producers sell food due to subsistence nature of farming for cash
- Pests or moulds destroy the food
- Lack of knowledge on storage and processing practices
- Lack of storage space or processing equipment

Opportunities to encourage storage and processing could be by

- *Improving harvesting, handling and storage practices and food stores*
- *Improving traditional processing practices*
- *Introducing simple methods for food processing*
- *Promoting better packaging, transport and storing facilities*
- *Encouraging transport, marketing and distribution opportunities*
- *Encouraging larger scale processing plants*

What perceptions, ideas or beliefs could be barriers for a household in this regard?

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Barriers to income, cash and buying food

- Lack of money
- Not budgeting enough money for food
- Household priorities are on livelihood items and not for food
- Men decide how income will be spend and have different priorities
- Women cannot feed family on remittance
- Women earn low wages and or less money than men in the workplace
- Buying " poor" value foods

Opportunities to encourage people to buy enough good food by"

- *Helping to start income generation projects*
- *Encouraging families to grow cash crops with good returns for labour*
- *Encouraging local planners to increase employment opportunities and specifically equipped small scale food processing enterprises*
- *Encouraging to target households*



- *Locally controlling food prices*
- *Assisting with initiating progress with food- for -work, cash-for-work or feeding programmes*

What perceptions, ideas or beliefs could be barriers for a household in this regard?

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Barriers to food preparation include:

- Shortage or space
- Shortage of fuel
- Shortage of time and labour
- Shortage of equipment
- Lack of information
- Shortage of water

Opportunities to encourage women to prepare food better include:

- *Helping families to prepare enough and safe food*
- *Sharing caring activities between household members, men and women*
- *Supporting caring activities of households by community services*
- *Teaching families to prepare food to preserve nutrients*
- *Teaching families to use hygienic and safe practices in preparing food*
- *Encouraging the use of clean or purifying household water*
- *Encouraging community to maintain water resources*
- *Encouraging water schemes if sufficient water is not available*

What perceptions, ideas or beliefs could be barriers for a household in this regard?

.....

.....

.....

Identifying the different barriers can assist in developing appropriate culturally sensitive messages and behaviour change supporting activities (e.g. scheduled home visits, or creating support groups) for taking action. The barrier analysis can be done by using individual interviews or focus groups with doers and non-doers of an activity. In this way one can find out more about the indigenous ways that work well or need just a little adjustment in a resource poor environment and then link the findings to messages one communicate in different ways, e.g. code cards, radio, posters.



Determinants for behaviour change

- Perceived susceptibility
- Perceived severity
- Perceived action efficacy
- Perceived social acceptability
- Perceived self-efficacy
- Cues for action
- Perception of divine will
- Positive attributes of the action
- Negative attributes of the action

Different questions can be formulated on the above determinants to do a barrier analysis to find out what the barriers are and what perceptions and forces lie behind them. The processes needed to change perceptions for real change are not unfamiliar. But involve a process that takes time. Barrier analysis can be used to identify the messages, then strategies and supporting activities can be developed to keep the focus on the end goal of the in intervention without missing the best opportunities for change. It also helps to understand which indigenous practices are good practices and these should be encouraged for rapid acceptance. This analysis also helps in understanding what is keeping households from making a particular change.

Developing messages from barrier analysis to support behaviour change

Four factors important in behaviour change and using messaging:

- If a person knows what he or she should do, it does NOT mean that he or she will do it.
- If a person wants to do a behavior, it does NOT mean that he or she will do it
- However, sometimes the problem is too much rather than too little fear of the disease or problem.
- Many of the actions that people engage in that improve their health are NOT necessarily done for health reasons. (Food for the Hungry)

Activity 3.5 Mapping the barriers in a household that prevent food to flow through the food pathway



Complete this activity in groups in your workbook

Aim: Map the barriers using Lewins channel diagram on how food flow and can be prevented by "gates" not to reach the hearth or table for sharing.

Time: Allow 1 hour

What to do:

See your workbook for instructions and guidelines for developing messages.



The behaviour change processes and activities

Different processes and activities can be promoted at each stage of change. This explains why we use certain strategies and methods in interventions to change behaviour. See the full sheet at the back of the document.

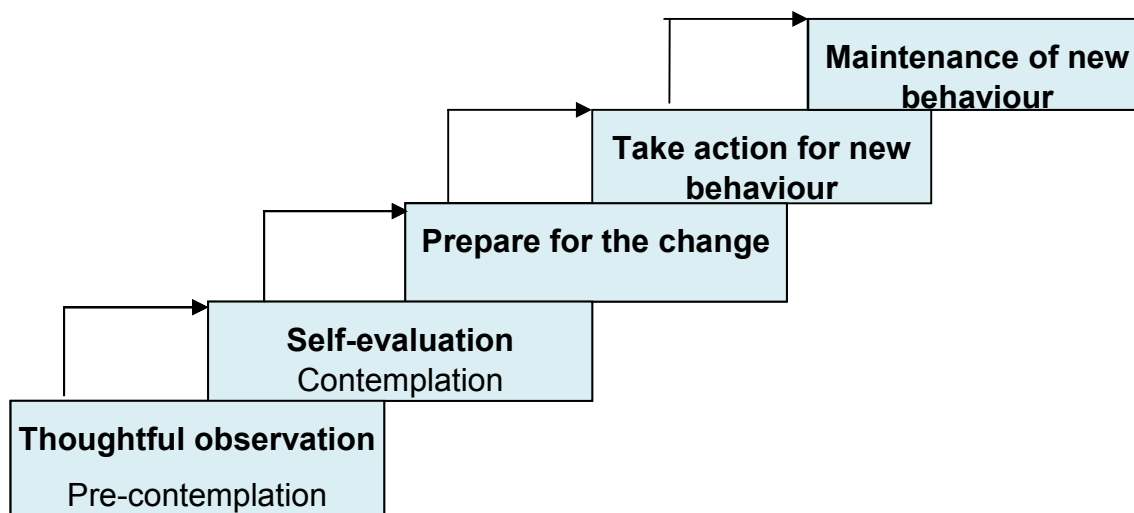


Figure 3.6

The process of behaviour change starts with awareness creation, making observations and working through barriers of one self and those of others. It is followed by evaluating oneself in order to clarify one's values (including cultural ones) and measuring these up against expectations. Next follows a commitment to make a change. The change will not happen unless action is taken through building new relationships and learning of new skills. Lastly in order to maintain the change in behaviour there is a need for sustained support from outside and internal social group rewards.

Why small group formation is important

Many of us in development have found that even when the material resources are there for a project there remain human barriers which are difficult to address in order for a project to move forward. Therefore the first two to three stages of an intervention are very important. Human barriers are often the strongest forces that prevent change and the impact on the sustainability of change and growth. These experiences often relate to the willingness to make a home garden throughout the year and willingness to process and store food when it is in excess for when households are vulnerable and at risk i.e. when foods are out of season, or income and food are scarce.

Kurt Lewin has also indicated that change can be achieved using the discussion-decision-making method. This method can only be used in small groups with similar goals and uses group interactions or dynamics to gather information, to consider options and to make plans for action. The small groups provide a comfortable environment that enables people



to reflect on their assets and food needs. They learn with each other and work together to improve on or make new decisions in their own, local and cultural context. People in these groups can build on their indigenous knowledge giving positive results and extend their knowledge by learning more improved or new practices.

3.3 Allocating assets and with money value for household food security

How can households and communities view their own development? Households could take the initiative and participate to promote themselves in the development process or work together in development processes to improve household food security. We use an asset-based approach and don't focus on the needs expressed as such. Have you heard about the question: Is the glass half full or half empty? Some households in a community will portray their glass as being half empty and will tend to rely on outside help and identify their needs and "lacks" in an assessment.



Figure 3.4 Half full glass (Wikipedia)

Other households in a community will portray the glass as being half full and will confidently and creatively start using their own resources to improve their livelihood.

The Asset Based Community Development (ABCD) approach argues that all people in all households are gifted, resourceful and capable, even the households who are disadvantaged, poor and food insecure. If people turn their "needs map" into an "asset map" they can be resourced to become more efficient producers, processors and consumers in the food system and development (Kretzmann and McKnight).

As you can see in the following Figure 3.5 a diagram of a leaky bucket represents a community/village consisting of households, government departments and local businesses. Grants, wages, salaries, agriculture produce sales, loans and Project Funds are referred to as INFLOWS – **money coming into the village**. The size of the arrows represents the amount of money flowing into the village from each source. Agriculture produce sales and wages generate the most income with loans generating the least. There are holes in the bottom of the bucket showing **how money is leaving the village**. This money is spent on medical, daily commodities, fodder, luxuries, festivals and celebrations, farm equipment and transportation costs. Such costs are identified as **leaks**. The village is losing a lot of money to daily commodities and festivals and celebrations.



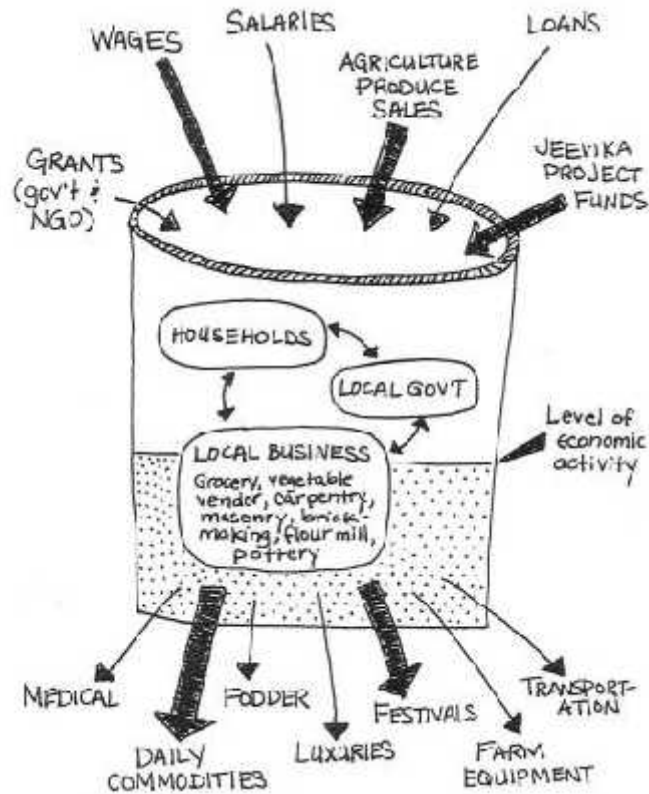


Figure 3.7 The leaky bucket as an example of a community analysis
 (Adapted from Siegel and Alwang, 1999)

There are also three main types of actors within the village. These are the households, local government and local businesses. The arrows connecting each of these indicate how money flows (or **circulates**) between these economic actors. Using the leaky bucket as a tool can help people visualize the local economy and imagine ways to 1) increase money **inflows**, 2) decrease money **leaks** and, 3) increase economic **circulation or flow** of money within the village.

While creating their own Leaky Bucket diagram, the participants may notice certain opportunities for economic development. For example, in this case, they may decide to start a small scale retail operation that sells daily commodities so that they can buy them locally (for example, a local market). This would keep money in the village that is currently spent elsewhere. There are also opportunities to increase inflows, such as adding value to the products they produce. If, for example, the villagers are currently selling whole grains like wheat, they may be able to add value to the product by milling it and selling it as flour. If they can make more money selling flour than selling whole grains, they have added value and will bring more money into the village or community.

The community leaky bucket concept is important, but more important is what is happening inside the households. Development in the community starts in the homesteads



and with household members. Use the same activity to draw a household leaky bucket to find out what the resource inflow is from the households and the outflow of resources into the community or outside the community?

Activity 3.6 The inflow and outflow of the household leaky bucket



Complete this activity on your own in your workbook

Aim: To visualise the intra-household economy and identify the inflow and outflow of household resources using the concept of the leaky bucket

Time: 30 minutes

What to do

1. Identify the resources that **flow into the bucket** and those resources that **flow out** of the bottom of the bucket. Use the information identified to complete the diagram below.
2. Those inflows and outflows which are large amounts of resources should be represented by thicker lines. This will show the major resources flowing in and those flowing out.
3. What is the difference between a household and a community leaky bucket? Explain.

In Unit1 we looked at the flow of food and income resources in the household through its food stores (food resources, household assets and goods for transporting, storing, processing, preparing and sharing food). What is flowing into your household and what is flowing out of the household as a unit?

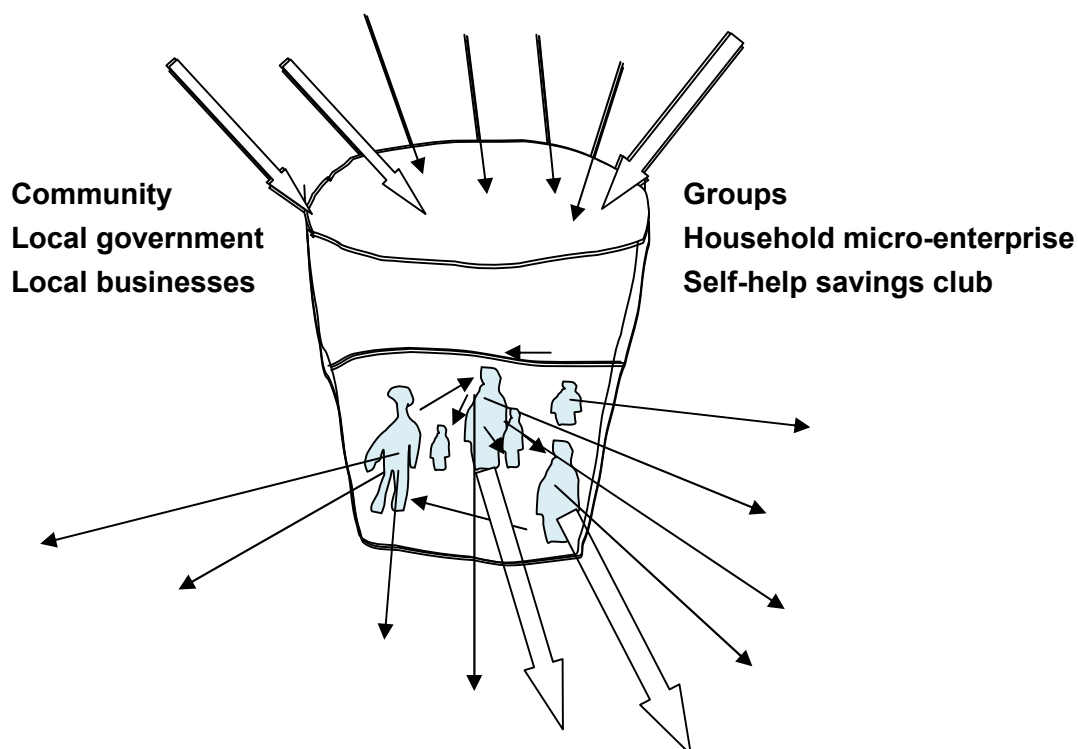


Figure 3.8 Analysis of a households money flows using the leaky bucket concept



Past definitions of a household viewed a household as a unit pooling all resources that are allocated in agreement for all household members. Household resource management models show that households will pool some resources and others will be used separately by each member. Some are exchanged or hidden by members. Another group of households will share the tasks and those tasks must be funded by the household member who can take decisions with or without consultation depending on ownerships and rights.

When the outflow is more than the inflow of resources, the household is in danger of falling into a deprivation cycle of poverty. Such households realise they can't manage and the usable pool of resources gets smaller and smaller every month. Households then start using coping strategies such as cutting back on the largest portion of costs which is usually food and taking loans. The kind of loans taken will be discussed in the next section. When these strategies don't work then households are often forced to sell off their assets.

Activity 3.7 Discover your financial behaviours?



Complete this activity on your own or in groups in your study guide

What to do

Listed below are 15 statements about financial behaviour. For each statement, decide whether or not it describes you and rate it accordingly.

1= Never, 2= Rarely, 3= Sometimes, 4=Usually, 5= Always

- 1 I keep track of my expenses on a regular basis.
- 2 I put money aside for future purchases or emergencies
- 3 I prepare a budget every month
- 4 I make goals for spending my money, and I discuss them with my household
- 5 I comparison shop or buy or buy things on sale
- 6 I earn more money than I spend (I am not in debt)
- 7 I feel secure in my current financial situation
- 8 I feel confident about my financial future
- 9 I pay only the minimum amount due on my monthly bills or debt
- 10 I pay my bills late
- 11 I receive past due notices or calls from collection agencies or neighbours
- 12 I charge basic expenses on my credit card or take out loans for them



- 13 I pay more than one-third of my monthly income on debt, like credit card
- 14 I worry that I will be turned down for credit because of my credit history
- 15 I don't pay off one bill sometimes, so that I can pay another

(Adapted from Jacobs, 2002)

Separating needs from wants

We often say that we “need” to have something when, in reality, we only “want” it. For example, you don't need a new winter coat just because your current coat is out of style; you want a new coat. But, if you don't own a winter coat and it's snowing outside, you need a winter coat.

Use this checklist to figure out if the items listed are a need or a want. Then, add your own example of a need and a want. Remember that when you are spending money, your needs should come first.

Need	Want
<input type="checkbox"/> New coat	<input type="checkbox"/>
<input type="checkbox"/> Larger house / apartment	<input type="checkbox"/>
<input type="checkbox"/> Water	<input type="checkbox"/>
<input type="checkbox"/> Telephone	<input type="checkbox"/>
<input type="checkbox"/> Garbage bags	<input type="checkbox"/>
<input type="checkbox"/> Dining table	<input type="checkbox"/>
<input type="checkbox"/> Milk	<input type="checkbox"/>
<input type="checkbox"/> Shoes	<input type="checkbox"/>
<input type="checkbox"/> Bed	<input type="checkbox"/>
<input type="checkbox"/> Call waiting	<input type="checkbox"/>
<input type="checkbox"/> Car	<input type="checkbox"/>
<input type="checkbox"/> Cable TV	<input type="checkbox"/>
<input type="checkbox"/> Paper towels	<input type="checkbox"/>
<input type="checkbox"/> Disposable diapers	<input type="checkbox"/>
<input type="checkbox"/> Lottery tickets	<input type="checkbox"/>
<input type="checkbox"/> _____	<input type="checkbox"/>
<input type="checkbox"/> _____	<input type="checkbox"/>

You want to eat a meat portion of the most expensive meat once day, while actually what your body needs is a piece of meat 1 cm thick equivalent to the size of your palm. The first one is a want and the second a need. If we sort our wants and needs we can save a lot of money to be used for nutritious foods or resources to produce or process food.



How much money is coming in?

We should take stock of where our income comes from. Being part of an agricultural subsistence system will be more difficult as all goods do not have a cash value. Where is the money coming from?

- pay cheque
- farm income - products sold
- Social security and transfers
- retirement
- pension
- rent
- insurance
- help from relatives
- unemployment or child support

Make a list of where you get or where the household get its money. In order to get a bigger picture break this down and list this as weekly, twice month, monthly or once a year. Make your complete list before taking anything out. Money taken out would be taxes, insurance, union or other dues, social security, retirement, savings. List money earned by all members of the family. Be sure to list money earned by children as well. Please note that some household members may hide some income or keep it separate from the pooled income as previously indicated. All this represent money and resource inflow.

How much money is coming in?				
Where from	Weekly	Twice a month	Monthly	Yearly
Total				

Spending calendar

We should learn to keep record of our spending and try to balance the money and resources coming with that going out. This is the outflow. You can add what is suitable for your situation in the table below.



Type of spending	Sun.	Mon.	Tues.	Weds.	Thurs.	Fri.	Sat.
Savings (pay yourself first)							
Rent or mortgage							
Heating fuel and electricity							
Water							
Telephone / Cell airtime							
Other household expenses (Pay TV. etc.)							
Groceries							
Snacks/meals eaten out							
Transportation (bus, taxi fare or car payment, gas and repairs)							
Auto insurance premiums							
Life or disability insurance premiums							
Doctor and dentist bills							
Child care costs							
Taxes							
Livestock costs							
Union dues							
Clothing/uniforms							
Loans / bartering / gift savings							
Credit cards Store cards							
Personal (toiletries, allowances, etc.)							
Miscellaneous (classes, birthday and Christmas gifts, vacation)							
Religious/charitable contributions / help to neighbours or needy							
Entertainment (movies, activities, etc.)							
Weekly Total Expenses							

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You can also keep track of your daily expenses and make a spending plan for every month to provide for the different monthly expenses for each item. It is good advice to keep a booklet for writing in your income and expenses if you really want to manage your income.



In a semi-literate society this may not be possible. But many people have found easy ways of monitoring their income and expenses, e.g. using two tins. One for putting income in. The other tin can be used to track expenses by using different coloured stones to represent the expenses. Older children in school may help in paying the bills and help with the paperwork. This makes it a family affair and the household cooperates more on planning their spending and setting goals.

Plugging the spending leaks

One of the best ways to cut expenses is to stop money from “leaking” out of your pocket. Take a look at the worksheet below. Just buying a cool drink from a vending machine at R 5.00 each day for 20 working days per month adds up to R 1 200 a year.

Where is money leaking out of your pocket? The worksheet below lists some of the things that ‘leak’ money out of our pockets. Complete this worksheet to find out what your situation is in this regard. Just write down the amount that you usually spend on each item and then calculate how much you end up spending per year as a result. This will help you to find and plug those leaks.

Item	Cost of Item	Cost per Month	Cost per Year
Soda from vending machine (example)	R5.00	R120.00	
Video rental			
Long-distance telephone calls			
Snacks/convenience store purchases			
Eating out			
Magazines			
Drinks with friends			
CDs			
Cigarettes			
Gifts			
Dry cleaning			
Lottery tickets			
Premium cable TV channels			
Barber/hair stylist			

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If you have money left at the end of the month then you and your household / family should be proud of yourselves. You can then start putting money aside for wants or savings to start a project for an additional income.

If you overspend as many do then the whole household must look at the plan and consider changes where money has been overspent or wasted. Also creative solutions can be found to lower costs.

Activity 3.8 Manage your money for what you want



Complete this activity on your own or in groups in your study guide

What to do

Do you manage your money so that you get your important needs and wants from it?

Check the answers below that best fit you.

	Yes	Sometimes	No
1. I pay the rent or bond payment and utility bills when they are due.			
2. I plan ahead for big expenses such as insurance premiums, buying another car, etc.			
3. I have a plan for how take-home pay will be spent.			
4. I save 10% of my take-home income.			
5. I use credit only for expensive purchases such as cars and appliances.			
6. I keep sales slips, cheque stubs, deposit slips etc., as records of payment and to use when figuring income tax.			
7. I get the annual percentage rates of interest from different lenders, such as credit unions, banks, and small loan companies, before deciding where to borrow money.			
8. I compare prices at two or more stores before deciding to buy expensive clothes, furnishings, etc.			
9. I have insurance to cover debts I owe, funeral and burial costs, and injury I might cause others.			
10. I spend no more than 15% of my take-home money on instalment payments (not mortgage bond payments).			

See answers at end of Unit.



Do You Want to Manage Your Money Better?

1. Set goals

It's important that you decide what is important to you—now, 5 years from now, and later. Set realistic goals that you are willing to work toward.

2. Understand the difference between *needs* and *wants*

It's important that we first spend for needs. This means that money for the rent or mortgage bond and utilities is a must. Other needs are food and clothing. Transportation is often a need in order to earn an income. Medical needs are important, too. People never get all the things they want, but unless they pay for needs first they will usually have serious money problems.

3. Know what you have to spend

You can only spend what you take home. If more than one person in a family or household earns money, then you need to know the total amount of take-home pay. This is all you have available for needs, wants, and savings.

4. Know what goes out

The only way you'll know where your money goes is to keep track of how it's being spent. It's easy if you start with a calendar and write in the large payments such as insurance.

- Divide yearly expenses by 12 and quarterly expenses by 4 to get the average amount you need to set aside monthly.
- List all payments and contributions you make once a month.
- Estimate the cost of clothing, furnishings, etc. that you bought and paid for last year. Divide by 12 to get a monthly estimate.
- Keep track of what you actually spend for food, recreation, and other items for a week. Multiply this by 4 to get a monthly "guesstimate."

5. Use a Spending Plan

A spending plan can help you get the things you need and want most.

6. Pay Yourself First

Ten percent of your take-home pay adds up to a sizeable amount if it is put into savings and investments. Saving for emergencies such as accident, illness, or unemployment is a real need. Some experts recommend you need to save 3 to 6 months' take-home income for this. Setting aside money each payday can help you make periodic payments.

7. Use Credit to Your Advantage

The smaller your income is, the smaller the amount of debt you can afford. Ten to 15% of



take-home pay going for instalment debt (other than a home mortgage) is about all the average income family can afford. Wise credit use means that you shop for the lowest cost you can find, and that you make as large a down payment as possible and that you pay back as soon as possible.

8. Keep Financial Records

Records can help you manage your money. They tell you where your money goes and can help you decide what changes you'd like to make in your spending.

3.3.3 Possible activities to take action locally

We often find ourselves in the position that households we work with are not really part of the employment sector and are dependent on social safety nets and their social networks in an African context. This system and its rules and barriers are difficult to grasp if one comes from a western income earning employment sector.

What are the financial goals of homestead farm systems and poor people?

We have learned that poor households have a low level of assets. It is important to know how such households manage these assets and also learn about the household financial goals of poor people and the kind of loans or micro-financing such people seek.

Poor households in African countries have their own way of surviving in subsistence contexts with low or no incomes. African households and kin groups use their own economics system that is different from the western money orientated system. The traditional system involves using cattle, small stock and granaries as saving mechanisms. Their use of festivals and celebrations for exchanging goodwill and sharing resources make it difficult to identify the real barriers for not participating or not taking action with regards to opportunities for change.

The many ways in which "loans" or "gift savings" are dealt with to keep reciprocal (shared) resource flow within a community also differs from what would happen in a western system and do not always function within the formal financial environment. The core issue for poor households or farm households is to have access to money rapidly, on time and in a flexible fashion so as not to lose respect within the family or broader community. Once one understand the barriers of such a system then it becomes easier to identify the real barriers to change and assist households to find strategies that are compatible to the behaviour change and the local norms of the household, network and community which form part of their livelihood. Figure 3.7 shows the different types of microfinance that poor people may have access to. These range from various insurance plans to long term loans.



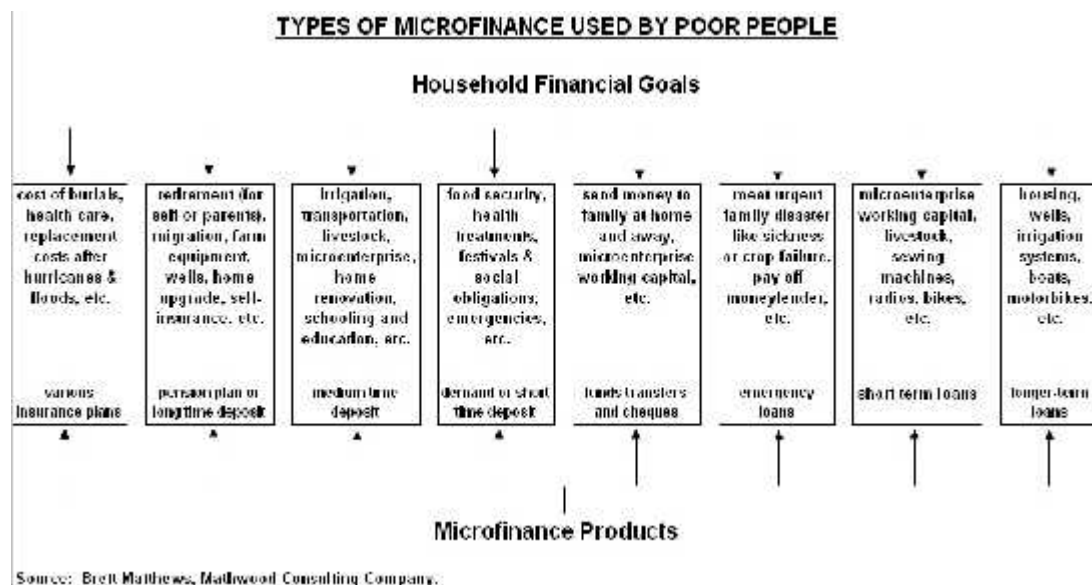


Figure 3.9 Household financial goals and microfinance products

One of the best practices to date is the self-initiated self-help savings group to overcome the micro-financial barriers which households experience in a changing environment from an agricultural to a cash economy.

Self-help savings groups

In India the economic empowerment of rural women self-help groups have been well-developed (Padala, 2011). A number of studies were done on the effects of self-help groups on economic empowerment. The results of the studies found that these groups are also developing social and human capacity.

Women represent 50% of the world's population and receive 10% of the world's income and own even less than 1% of the world's property. They suffer many disadvantages as compared to men in terms of literacy rates, labour participation rates and earnings. The major strategies of women empowerment include social empowerment, economic empowerment, political empowerment and gender justice along with demographical justice (rural and urban).

For rural women economic empowerment the concept of self-help groups based on group approach to rural development is indeed a benefit to the rural poor women who decide to undertake viable economic activities on their own. The self-help groups are voluntary associations of people that know each other and the group is formed to attain some common goals. Members of such groups can be made up of neighbours, relatives or religious groups.



Poverty is often the reason why the women join in such groups in an effort to become involved in income generating activity. Sometimes the main reason for becoming a group member is to get eligibility for upcoming government schemes and to qualify for a bank loan. Research indicates that the majority of the members are illiterate and their savings performance, group loan, and bank loan repayment performance are satisfactory. By running a business activity the women members earn an income and thereby supplementing their family income. Women from these groups find themselves in the role as wife taking on the majority of the business decisions. However, the role of joint decisions involving both husband and wife in business cannot be ruled out. The contribution of the members of self-help groups to income generation enhances their empowerment as women. Self-help groups play an important role in rural women economic empowerment.

Traditionally, women entrepreneurs have faced many obstacles in marketing their products and owning property. The paper states that increased participation of women in the labour force is essential for improving the position of women in society. Rural women have access to basic indigenous knowledge, skills, potential and resources needed to establish and manage enterprises. They should be provided with:

- Encouragement to start and run microenterprises;
- Knowledge regarding loan accessibility, funding agency requirements and government safety net and welfare programs;
- Motivation and support from family;
- Technical training from the government and other organizations;
- Support to form and strengthen self-help-groups.

Self-help groups are increasingly recognized as a valuable tool for the development of rural women. Such groups and other networks of rural women can impart technical knowledge and thus motivate other rural women to engage in micro-entrepreneurship. This helps in strengthening their capacities, and adding to the family income and overall national productivity.

Cooperatives

The establishment of cooperatives is not an unfamiliar concept in agricultural and non-agricultural development. The Department of Agriculture has many such initiatives. The advantage of such interventions is that they occur in a controlled business environment that requires a higher level of literacy and skills than the needed for running self-help savings groups and other group saving interventions as discussed earlier.



Lenda Lera's story

Lenda Lera, a 35-year-old father of six, is preparing his land. He plans to leave for Arba Minch (in Ethiopia) after he finishes sowing maize and sweet potato. Lenda hopes to find work there as a daily labourer on one of the state farms that grow cotton. While his wife and children look after the fields, he will earn some money to buy food until the next harvest.

Household Economy Approach (HEA) assessments show that Lenda, and people in similar situations in his area, face acute food shortages if the sweet potato crop fails, or if the maize harvest is delayed. Lenda is susceptible to rises in food prices, and will struggle if there is not enough work on farms in neighbouring areas, or if wages are low. He would benefit from a sales cooperative through which he could sell his produce in larger markets outside his area. Improved seeds and fertiliser would also result in better harvests, helping him to be more self-sufficient, and allowing him to spend less on staple foods.

Adapted from: The Disaster Prevention and Preparedness Agency, Federal Democratic Republic of Ethiopia.

A cooperative is a business organization owned and operated by a group of individuals for their mutual benefit. A cooperative is defined by the International Cooperative Alliance's Statement on the Cooperative Identity as "an autonomous (independent) association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through jointly owned and democratically controlled enterprise". (Wikipedia)

1. Do you or a household member have any experience of being a member of a cooperative? What kind of cooperative?

.....
.....
.....

2. What were the advantages of being a member of a cooperative?

.....
.....
.....

3. What were the disadvantages of being a member of a cooperative?

.....
.....
.....

4. What were the barriers experienced by or within the cooperative?

.....
.....
.....



5. How can yours or their experience as a member of a cooperative be improved?

.....
.....
.....
.....

3.4 Adding value to food to increase the "money" value of food stores

In general, when there is an excess of foods, preserving and extending the shelf life of quality foods will provide nutritious out-of-season or extended season options in meals for the average household. Maximising the availability of such food with minimal cost in terms of essential livelihood activities is just good management practice and a part of effectively managing the resources available to the household. However, as already mentioned the value for stored food in terms of money is at times of more value but often there are barriers to processing activities needed to add such value. Usually food from a granary would not be given to a household in need of food but rather they would be assisted from other resources so as not to decrease the value of the food store.

For us as development facilitators, we need to remember that the community itself has a definite set of nutritional assets available to it in the form of indigenous knowledge, labour, edible plants and animals and our capacity for learning. It is on these assets that we focus our attention. When looking again at food security, we realize that crops chosen for processing and preserving must be acceptable to the food culture of the group. They must be familiar to a community and must already or easily become part of their normal diet. Processing methods chosen to be used should be appropriate in that they should be suitable for the shelf life required and should utilise household resources in a sustainable manner.

3.3.1 What is value-adding?

This refers to the value that is added to any product or service as the result of a particular process. It relates to the estimated value that is added to a product or material at each stage of its manufacture or distribution.

Value-adding is important when building up food stores for when food is not easily accessible. Value-adding is done at each stage of food processing from harvesting, pre-storage, storage, distribution, and processing, packaging and controlled shelf-life. Refer to unit 2 for information about these different processes. This field is so broad and cannot be dealt with in detail in this module. Most household value-adding activities are done to preserve extra food (bought or grown) that cannot be consumed immediately.



3.3.2 What is micro-enterprise or small enterprise?

A rural enterprise could involve a broad range of activities, from small informal sector activities run by a single owner to medium-size legally-titled enterprises, and also include activities run by individuals, families, groups and cooperatives. The size of an enterprise in South Africa is measured by the number of people employed and the capital (finances) invested.

Table 3.1 Scales of commercial processing (FAO)

Scale	Employee numbers
Household scale (home)	No employees, little or no capital investment
Micro Scale (Cottage)	Less than 5 employees
Small scale	5-16 employees
Medium scale	15-50 employees
Large scale	More than 50 employees

3.3.3 Improving livelihood with food processing

Many governments and international development agencies promote food processing as a means of alleviating poverty in rural areas. There are many advantages in choosing food processing over other income-generating activities.

Women usually play the major role in food production food processing in low-income households in Africa. Women also play a major role in post-harvest activities that include marketing, processing, (in homes and factory plants), street vending, purchasing and preparation in the home.

The increasing mechanisation of food processing is now excluding women from the activities through which they would earn income. This has had the effect of leaving women



out of the growing of their own enterprise and sometimes making them only a labourer in their own initiatives. Therefore a clear definition of roles is important and they need to be negotiated by empowered women for the start-up of more formal value adding enterprises. Why is food processing a possibly viable enterprise for women?

- *Food processing is accessible.* Everyone is familiar with the food that they grow and eat and, compared with some other types of business. This means there are fewer aspects to learn when getting started. Small-scale food processing is also particularly suitable for women, who may be the specific intended beneficiaries of development programmes.
- *Processed foods can generate profits.* Where there is sufficient demand, there is the opportunity to generate good profits by adding value to carefully selected raw materials.
- *Raw materials are usually readily available.* For example, crops or animals that are appropriate are usually part of the community already (and sometimes in surplus).
- *Affordable level of investment.* Of the many different types of processing technologies, most are suitable for small-scale operation with an affordable level of investment by rural people.
- *Domestic utensils can be used in many processes when starting up.* When production expands, many types of processing equipment can be manufactured locally by metal workshops or carpenters, thus creating further employment.
- *Most types of processing have few negative environmental effects.*

When considering food processing as a food security initiative in any community or household it is important to identify what the overall purpose of the intervention would be:

- Is it to generate income?
- Is it to improve the health and nutritional status of household members?
- Is it to achieve both aims?
- Most importantly, does it arise from the goals and visions of the people themselves?
- Does the dream link with the resources accessible by the household?
- Once these decisions have been made (is it for income or nutrition or both), the types of support and resources needed to make the intervention successful can be identified.

If a specific nutrient is deficient in the eating patterns of a region, community or household, identifying the specific nutrients will have to be done by a regional nutrition survey or blood tests of a sample of the population. The foods that are chosen for growing, processing



and preserving then would target foods needed all the year round to meet the vegetable, fruit and legume gaps to cover for diet deficiencies.

3.3.4 Possible activities for taking action in local community.

The general stages in processing are illustrated below. In planning each step the following things need to be should be considered: availbaility of products, the market for such a product, the skills needed, equipment, utensils and packaging material.

One first needs to know the amount of food in excess that is available to process. Usually from 50% to 70% of the harvest is estimated to be lost due to lack of suitable storage facilities and no transport to have the food processed for future use. The household food security facilitator will assist with the process needed to create awareness and analyse the community situation. As soon as this process has been concluded people can be encourage to form groups for selected activities or projects. Households or members of different households can be encouraged to work together in small groups.

More competence can be learned if people communicate or experiment in small groups and learn from each other how to make the best decisions to improve their livelihood and food security behaviour. In this way new decisions or better decisions can be made that integrate their own values. The decisions are then their decisions and taken by themselves. Those participating in decisions then become the informed 'gatekeepers' for the food available, accessible and to be utilised in a sustainable way by the household.

Using the channel model described earlier, the relevant content for the groups value adding activities can be worked out after barrier analysis and defining the messages and skills required. To achieve many of these changes the households will need to be motivated and mobilized, and community support or other support service from the local environment organized.

Have a look at the figure 3.8 below is a food processing framework that outlines the general stages for food processing on different levels. Any of these may be done by households depending on the equipment and skills available. Food can be processed in three ways. Primary processing involves simple processes such as grinding mealies or wheat into flour. Secondary processing could involve the canning of cooked mealies or the incorporation and packaging of wheat into a breakfast cereal such as muesli. The final step in the food processing framework is referred to as tertiary processing. At this stage the food has been added value to several times before it can now be consumed for example the cooking of mealie meal to make porridge. One needs to be aware of the impact of a processing enterprise in your home. There are a number of problems that can be overcome with planning. One also doesn't need very large and expensive equipment.



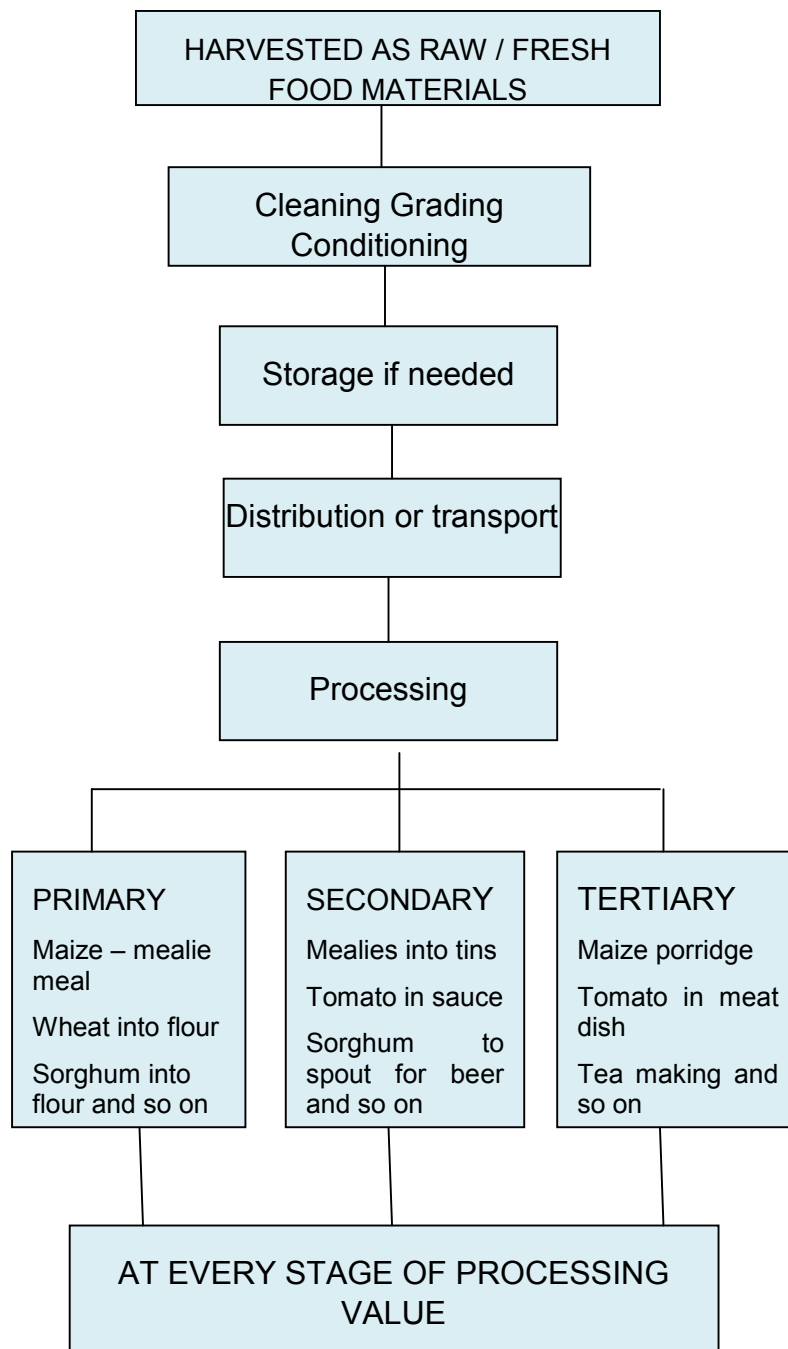


Figure 3.10 The general stages of value-adding in food processing:

The above general stages in processing indicates that the processes are in a linear format in general and that the processing depends on the stage of processing. Any of these processes or stages could happen in the kitchen of the household or farm homestead, or a small group or community plant.

Any food processed or prepared, eg, meals, soup from kitchens, food parcels will also qualify as value-adding but are not empowering and known for creating dependency rather than entrepreneurial capacity (See Module 1).



Using our hearth or kitchen for value-adding and income generation

When food resources are channelled into an income generating project the availability and accessibility of food for household consumption may change. The time and labour available to manage household food resources may change. This could impact negatively on household food security. How these activities become part of livelihood sustainability and how food security is maintained within the changes are the challenges that we face in households and in communities. It is very important therefore that we understand the integration of managing nutritious food with our individual and collective needs as household and the need to generate income.

In general, when there is an excess of foods, preserving and extending shelf life of quality foods will provide nutritious food out of season and extend seasonal options for including such food in meals for the average household. Maximising availability with minimal cost in terms of essential livelihood activities is a good management practice and a part of effectively managing the resources available to the household to improve food security and nutrition.

Table 3.2 Factors influencing choice when processing for food security/improved nutrition (Fellows 2004 p.18)

Choices	Factors that influence decisions
What foods to process?	Nature and extent of nutritional deficiencies or causes of food insecurity, types of locally available foods.
What type of process to use?	The local acceptability of the processed food and required storage life, types of equipment required, availability of resources to establish production and maintain/repair of equipment, protection required by food from storage structures or packaging and local availability of suitable materials.
How to make sufficient amounts of processed food with the required quality?	Extent of knowledge and skills to process the food safely in sufficient quantities and make products of acceptable quality; amount of training and technical assistance required.
Who owns, manages and operates the facilities?	Degree of cohesion and cooperation between families in the community, and willingness to invest time and resources in community ventures or individual household production.

An example of a start-up food processing opportunity, starting small, using tomatoes which can add nutrients to the diet in the kitchen is described in the case study below:



Tomato sauce

When Mrs. Mtolo was a teenager, she learned how to make Tomato Sauce from her grandmother in the Eastern Cape. She now lives in Pietermaritzburg. Every Monday on her way home from work, she stops to purchase vegetables that she needs from street vendors near the bus ranks. In talking to the women, she discovered that a very big problem for them is that they purchase fruits and vegetables early on Friday mornings to sell over the weekend. But if they have not been able to sell their tomatoes by Thursday afternoon, no one wants to buy the old fruit when they see the plump fresh tomatoes. They lose money because unsold items spoil. Mrs Mtolo negotiated with the stall holders to sell her their left over tomatoes at cost. She bargained that she could make the sauce and then they could purchase it back from her to re-sell if people would buy it. Every Friday night now, Mrs Mtolo purchases her vegetables that she needs for the weekend and also purchases approximately 3 kilograms of ripe tomatoes at cost. She makes tomato sauce which she sells to her neighbours and to a vendor who cooks and sells boerewors rolls from a trolley in the industrial part of town.

Activity 3.9 Costing a recipe for tomato sauce



Complete this activity on your own or in groups in your study

Aim: Learning how to set an appropriate price for selling a product.

Time: 1 hour

What you must do:

- Read the recipe for making tomato sauce
- Work out how much it costs Mrs Mtolo to make the tomato sauce (See example at the end of Unit).
- See examples of picture recipes for illiterate people in annexure D.

Tomato sauce

Amount of ingredients needed

1.5 kg (approximately 30 ripe tomatoes)

2.5 litres

3 Tablespoons=45g

1 ½ cups = 200g

6 cups = 2kg

2 tablespoons = 30g

1 Tablespoon

2 Tablespoons = 12g

1 Tablespoon =5g



Method:

Mix all ingredients together in a large pan and cook gently (simmer) for 3 hours. Mash or sieve if preferred, boil again till it reaches the required consistency. Bottle while still hot. Even clean plastic bottles may be used. (adjust chilli, and pepper to suit taste)

Answer the following questions:

1. Is this the first time that you have made a jam, a syrup or a chutney?
2. How did your friends or family like the way it tasted?
3. Evaluate the process. Was it hard, did you enjoy it, would you try again?
4. Did you and others enjoy eating this food product?
5. What was the most difficult part of the exercise?
6. What would make you want to do this again?
7. When you are finished with the exercises and answered the workbook questions describe your experience in your reflection journal.

A group of agricultural home economists developed illustrated visual recipes for illiterate people to follow the ingredients, measurements and method. These can be seen in Annexure D.

Primary and secondary processing

Usually once they start to process food, the volume produced sometimes becomes too much for the household to consume and can be sold. A number of decisions need to be made with regards to successfully processing such foods for sale (See Table 3.6).

Table 3.3 Factors that influence choices when processing foods for sale (Fellows, 2004)

Choices	Factors that influence decisions
What foods to process?	Types, amounts, cost and quality of locally grown foods, suitability of varieties for processing, estimated size of the current and future demand for the product.
What type of process to use?	Extent of knowledge and skills to operate a process, resources to establish production and maintain/repair equipment, local availability, sources and costs of equipment, ingredients, packaging and distribution vehicles, requirements of the process for energy and clean water supplies, any waste disposal or air/water pollution issues.



What facilities are needed and where should they be located?	Availability of a suitable production site near to raw material supply with access road and essential services (power, water, fuel, etc.); and production capacity required.
Who owns, manages and operates the facilities?	Degree of cohesion and cooperation between families in the community, willingness to invest time and resources in community ventures or individual family based production.
What scale of production to choose?	Size of demand for products and share of market (from market investigation), knowledge and skills to plan production and produce sufficient quantities of food, numbers of trained production and administration staff and skills required, availability and cost of processing equipment with the required throughput, and amount of technical assistance required.
How to make food with the required quality?	Extent of knowledge and skills to process the food safely to produce the quality required by customers; number of staff trained in quality assurance and, amount of training and technical assistance required.
What marketing and selling techniques to use?	Types of consumers, choice of advertising and promotion methods, distribution methods and sales outlets to be used, the main competitors and their marketing and selling techniques.
How much finance is needed?	Total investment costs, sources of finance, production costs, expected income, cash flow and profitability.

Let us now have a look at an example where social networking is used to try and maximize benefits and gains from food resources.

Social networking

A **social network** is a social structure made up of individuals (or organizations), which are tied (connected) by one or more specific types of interdependency, such as friendship, kinship, common interest, financial exchange, or relationships of beliefs, knowledge or prestige. Such networks can be used to help diversify livelihood options and reduce vulnerability to food insecurity.



Activity 3.10

Mapping food security through social networking.



Complete this activity on your own or in groups in your workbook

Aim: To explore creative options for reducing vulnerability to food insecurity.

Time: 30 min

What to do

In this exercise, I want you to look at how the farmers of Luseyse were able to utilize social strategies for diversifying their livelihood options and reducing vulnerability to food insecurity. Even though these families were not food secure themselves they used social networking to increase their food security.

The following case study is of a farmer's household in East Africa

Case Study 5: Sempebwa Basajansolo

Sempebwa and his wife Esther have a son and two daughters: Nakyejjwe (5), Nakiyimba (4) and Sebowa (4months). The family lives in the village of Luseyse, Nabigasa Sub-County. Sempebwa said: "We have always had problems with agriculture in this area. The soil quality is not ideal and there has always been a problem securing good seed. We had no animals and therefore no source of manure. This is why when Concern Worldwide consulted us about our needs we told them we wanted animals. Concern Worldwide provided the poorest families with cows, goats and pigs. When one animal produces offspring it is given to another family. That way the community manages to provide for itself.

My family has benefited so much from receiving this one cow. The cow is now two years old. My land was very poor and in the past I was unable to afford fertilizer which is very expensive. As a result my crops suffered and I was unable to provide my family with enough food. Since I received the cow, I have been able to spread cow manure in my fields and my yields have increased as a result. I have 3 acres of land and plant mostly maize.

I also have a small vegetable garden. Presently the cow can provide enough manure to cover one acre as well as my vegetable garden. However when the cow matures it will hopefully be able to provide fertilizer for 2 acres. Concern Worldwide also gave us 2kg of hybrid maize seed which produces better quality maize. With the improved seed and the manure I produced a far better maize yield in the last harvest. The cow is also providing us with milk. It produces 10 litres per week at the moment but when it matures fully it will produce 15 litres per week. The milk produced is shared amongst five families in the area with each family getting 2 litres per week. Previously none of these families had milk as it was too expensive. Our standard of living has improved, our health has improved.



- What food security strategies are being employed in this case study?
- What key resources have helped these families move towards food security?
- How have these resources been used?
- Have any products been processed?
- What measurements does Sempebwa use to indicate an improvement in food security?
- In the space below, do you think that you could draw a diagram of the concepts and relationships behind how this community has improved its food security?
- Hint: What are the important concepts/actions/inputs/outputs in this example?
- What are the relationships between them?

3.5 Exploring ways of improving food processing practices

Activity 3.11 Exploring the role and process of food technology adaptation



Complete this activity on your own or in groups in your workbook

Aim: Explore the role of technology adaptation in a successful development interaction between researchers and indigenous practice.

Time: 1 hour

What you must do:

Read the article in the Box below:

Adding value through the use of appropriate technology

Easing the work of making palm oil: Women solve a pressing problem

Author: Barbara Böni

Abstract

Most African women process food with traditional methods which demand much labour and bring low returns. Many technologies have been developed to ease their workload and improve processing efficiency, but few have been adopted in rural areas. The technology seems appropriate to those who designed them - mostly men - but not to the women meant to use them (ECA 1989). Moreover, they often do not address women's most urgent problems (Stamp 1990). Barbara Böni tells how women in Côte d'Ivoire helped to identify and adapt new technology to meet their needs.

Article



In the Toura village of Dozéré in the rainforest zone of Côte d'Ivoire, ways of improving food processing were studied. The aim was to define criteria for successful development of food processing technology for rural areas. Over four years, the project involved socio-economic analysis of village activities, problem identification, developing an improved technology, testing and evaluating it in the village, extending it and evaluating its adoption.

Learning by taking part

To get to know village women's problems and their views about possible improvements, a participatory approach was taken. This involved staying in a village, observing and taking part in village activities, listening to villagers and asking questions. Special attention was given to women's workload and earning possibilities and to food processing. Having a technical training, I found it very interesting to apply sociological methods like participant observation (Casley & Kumar 1988) and informal interviews (Rhoades 1982). This helped me understand local problems and how they are interlinked. During this process, cultural aspects were important. The traditional structures of authority and decision-making had to be respected. Although I focused on young wives as the main food processors, it proved vital to consult with and involve also the men and older women.

Local food technology

*Both women and men in the village helped make an inventory of all types of food processing practised there. I observed and then participated at least twice in each process and noted all problems mentioned by the women. In a group, these points were discussed and we listed priorities for improvement. The main problem defined by the women was the hard and tiring work of extracting oil from fruit of the oil palm (*Elaeis guineensis*). The men cut the fruit from the wild palms in their fields. The women cook it in oil drums. Usually, a group of young men pound it with pestles in a big mortar. The women then mix the mass of fruit pulp and kernels with water. The kernels settle to the bottom. The fibres are washed and squeezed out twice to remove the oil. The resulting mixture of oil and water is boiled for about two hours. After cooling, the palm oil is skimmed off. The women said the squeezing by hand was especially strenuous (tiring). Palm oil plays an important role in human nutrition in Côte d'Ivoire, particularly in rural areas in the west, where it is often the only source of fat. Most oil made in this way is consumed directly by the producers. The remainder - perhaps 7500 tons per year - is sold through informal channels.*

Criteria for improvement

An improved technology for palm-oil processing had to meet socio-economic and cultural criteria. The villagers had to be able to afford the investment needed. The technology had to bring higher cash gains and reduce workload. The women had to be in a position to control the technology and gains. As for technical criteria, the new technology had to be simple enough for the women to cope with, preferably similar to the traditional one. The equipment had to be strong and reliable, and local maintenance had to be possible. Its



size had to suit the annual amount of raw material processed. The end product and production efficiency had to be equal to or better than with the old technology.

Women's views

These criteria were discussed with the women interested in improved oil extraction. It was most important to them that the work be eased, without changing the taste of the oil. Reacting to young men's remarks that, with a "machine" (with motor), they could also make oil, the women stressed that they wanted to continue doing it themselves. Each woman could invest or repay only FCFA 1500 (about US\$ 5.60) a month. The women wanted to invest no more than they could repay within a year. The first step was to see if anyone in the village or region knew of another way of extracting oil. This was not the case. But, 600 km away, in plantations near Abidjan, there were oil presses which had been used in colonial times. The next step was to seek information from research institutes and literature on small-scale palm oil extraction. The screw press (without a motor) designed by the Royal Tropical Institute (KIT) in Amsterdam met the criteria best.

Women test and adapt

A first sample of this press was built by local manufacturers near Abidjan and initially tested by a few women living nearby. They found that the basic frame was too large and the sides of the oil receptacle were too low. These were changed. The modified press was then brought to the village, where the women agreed to test it for a year. They expressed many ideas to improve it. The perforated cylindrical cage was replaced by a lighter one. Handles were added to make it easier to carry. Two cooking and reheating drums were added to the existing two, so that more women could work at the same time. The women decided how to organise the use of the press. Together with the men, they chose a new processing site.

The women's leader was responsible for the press, while three young women assisted those wanting to use it for the first time. For this service, they were given a small part of the produced oil or were helped later in their fields. With the new press, about 11% more oil could be extracted from the palm fruits. Use of water and fuel wood could be reduced by 63% and 28%, respectively. The oil was of better quality: water content was lowered by 29% and content of acids and peroxide by 57% and 59%, respectively. This means the oil can be stored longer without losing quality. The women said the work with the press was not as strenuous as the traditional method.

Confidence grows

In 1990, 19% of the village women extracted part of their palm oil with the new press. This grew to 79% in 1991 and to 94% in 1992, when 34% of all palm oil extracted in the village came from the new press. At first, the women used the press to process only small amounts of their palm fruit. They feared that the resulting oil would not keep as long as traditional oil (up to 10 months). In 1993, for the first time, two women dared to process all



their fruit with the press, having experienced that the oil keeps well. Already in 1991, at a meeting with all 62 women in the village, I asked if they wanted to keep the press. The majority decided to buy it. To raise the FCFA 100,000 needed, I suggested that each woman using the press pay into a central fund or give part of the extracted oil, to be sold later in common. They preferred to collect the money in two rounds 4 months apart from all women, like they do for other collective activities (water-pump repair, house construction for teachers, village medical box).

More villages interested

The last stage of the project was studying the spread of the technology in the region. A reliable local manufacturer (a technical school in the region) was found that would produce the press on order. Women's leaders, project workers, extensionists, technical school directors and many others were invited for a demonstration day. Some women from the testing village showed and explained the process and answered questions. The word began to spread. The manufacturer could sell two presses in the first year and eight in the second. It looks as though a basis has been laid for wider application of this improved food processing technology.

Merit of the approach

This success is certainly due to the approach taken: developing and testing the technology together with the end users. The research started by defining only the field of action: food technology. The specific problems to solve and the type of technology needed were defined by the women. The key step in this development process was diagnosing the existing situation together with the villagers, who set their own priorities for improvement.

Barbara Böni, Institute of Food Technology, ETH Zentrum, CH-8092 Zurich, Switzerland

Present address: Van 't Hoffstraat 13-1 NL-6706 KE Wageningen Netherlands.

Note:

Additional technical information about the palm oil press can be obtained from FW Korthals-Altes, TOOL, Sarphatistraat 650, NL-1018 AV Amsterdam, Netherlands



Answer the following questions in the spaces provided in your workbook.

1. What was the problem identified for improving food processing in Dozéré village?
2. With whom did the researchers choose to work with to determine a solution for the problem? What was the reason why these persons were selected?
3. Describe what the researchers did and what the women did to find a solution using a 'participatory' process.
4. Compare the traditional method for producing the palm oil and the new improved method. In doing so consider the following:
 - What criteria (principles) were used to determine an improved methodology?
 - From the story, identify the adaptations that the women made to improve their traditional practices.
 - What were the benefits of the improved methodology?
 - What affect did the processing have on the quality of the oil?
 - What effect did the new method have on the quality of life for the women responsible for extracting the oil?
5. How did this project impact livelihood strategies through the adaptation of a foreign technology (the screw press designed by the Royal Tropical Institute, Holland) and create sustainable local links between production and consumption?

Pro-active planning for any household's entrepreneurial or enterprise activity

We can formalize this thought process of "proactive planning" in what we call a logical framework. This is a tool which helps us communicate the logic of planning for managing. It can help us to plan, monitor and to analyse strategies to use in a project of any size.

The following activity is another example of using planning:

Activity 3.11 Farmers pro-active goal setting: Logical analysis of yellow maize



Do this activity on your own or in groups in your workbook

Aim: To explore the logic of and communicate the farmers' proactive goal setting as a livelihood strategy.

Time: 1 hr



What you must do

Read the following case study and answer the questions that follow.

Logical analysis of 'yellow maize' case study

A group of female farmers faced with the challenges of increasing uncertainty about the length the rainy season for their rain fed crops recently decided that it was in their best interest to add (diversify) a new cultivar of maize (3 month yellow maize) to the white maize they already grow. White maize has a high yield, is the preferred maize for meals, but takes longer to mature and is more at risk to the unpredictable nature of climactic change. They have heard that although under irrigation the yield is higher, 'rain fed yellow maize is tastier'.

The rainy season is about to begin and although they don't know how long it will last this year, previous patterns usually show that for the first 2 months, the rain will be fairly regular. Also, because they knew that this was what they wanted – they were able to communicate this to their extension officer in sufficient time for seed to be located, purchased and delivered before the growing season began.

This is an example of management: it involved identifying opportunity, planning, and action to achieve the desired goal. When the seed is delivered, step one of the goal will be complete. When the seeds are planted and growing, step 2 will have been achieved. When the ears are matured and picked for eating, the purpose of ensuring a supply of maize (mealies) will be achieved.

Answer the following questions:

1. Step one of the management process – Identifying an opportunity.
 - What was the **weakness** in the situation which influenced the choice?
 - What **stress** prompted the women to change their farming strategy?
 - What **knowledge** did the women have?
 - What **resources** did the community have at its disposal to use this knowledge?
 - What did the community not have?
 - What **opportunity** did the women identify as their potential goal?
2. Step two: identify the goal (note you must always be able to measure a goal)
 - In one sentence state the farmers' goal.
3. Step three of the management process – identifying steps (strategies) to achieve the goal
 - What smaller goals (sub-goals) needed to be reached before the goal could be achieved?
 - What activities were done to achieve these steps?
 - What inputs and tools were needed?

Think back to what you have already learned about nutrition. What other advantages were there in adding yellow maize to the household consumption patterns?



Now that you have thought through the answers, you can use a table like the one below to show the linear logic of the process that the women followed to plan for success:

Table 3.6 A logical framework for diversifying to yellow maize

Narrative (the story)	Activities that need to be done
Goal: The women grow yellow maize in addition to white maize.	
Purpose: The women have provided sufficient mealies for their families	
<p>Sub Goals:</p> <p>1. The seed is delivered</p> <p>2. The seed is planted before the rains come</p> <p>3. Regular weeding of fields</p>	<p>1.1 Extension officer contacted to source and deliver seed one month before rainy season expected</p> <p>1.2 Women collect money needed to purchase seed and pay for ploughing.</p> <p>2.1 Sequence of field preparation & planting identified</p> <p>2.2 Tractor driver contacted</p> <p>2.3 Fields ploughed and furrows formed</p> <p>2.4 Seed and aged 'kraal manure' scattered</p> <p>3.1 Arrange for 1st weeding -Sharpen hoes</p> <p>3.3 Arrange for 2nd weeding</p>



Calculations and answers:

1. Foot note:

To Score Quiz: Give yourself 1 point for each NO answer; 2 points for each SOMETIMES answer; 3 points for each YES answer.

How Did You Score?

A score of 25-30 points indicates that you are trying to manage your money and likely have control over your financial situation.

A score of 15-25 points indicates that you need to improve your money management practices.

A score of 10-15 points indicates that you need to increase your knowledge and skills if you want to improve your money management abilities.

2. Calculation of cost of Tomato sauce

CALCULATION ONE: How much does it cost Mrs Mtolo to make her tomato sauce?

Step 1. Calculate the Total cost of ingredients (add them together) put your answer in the table above.

(R36.31)

Step 2. Calculate the Cost in rands per kilogram put your answer in the table above.

(Total cost divided by 4.5 kilograms)

(R36.31/4.5) = R8.07

CALCULATION TWO: How much profit can Mrs Mtolo make per batch of Sauce? People are willing to pay R8.00 for a 750 ml mayonnaise jar of her sauce (because All Gold, the next best thing sells for R10.99 for 750ml in the supermarket).

Step 1. If the quantity in a mayonnaise size bottle is 750ml, what is the cost price to Mrs Mtolo per bottle?

(750ml = .750kg) We multiply the amount desired (kg) by the R/kg cost

(.750kg x R8.07 = R6.05)

The cost of 750ml of Mrs Mtolo's tomato sauce is _____ per bottle.

Step 2. People are prepared to pay R9.00 for a bottle and it costs Mrs Mtolo R6.05 per 750ml bottle. Therefore, we subtract the price people are willing to pay from the actual cost of per bottle.

(R9.00 - 6.05 = R2.95)

The profit on a 750ml bottle for Mrs Mtolo is _____ per bottle!



CALCULATION THREE: How much profit can Mrs Mtolo make for each batch of tomato sauce?

Step one: How many 750ml bottles can Mrs Mtolo get out one batch?

(4.5kg divided by .75kg = 6 bottles)

Step two: How much profit can Mrs Mtolo estimate that she will make per batch?

(number of bottles multiplied by her profit per bottle)

(6 bottles x R2.95 = R17.70)

Note: we can also calculate this in a different way.

Total yield of batch = 4.5kg

Cost per kilogram R8.07

(Cost of batch =R36.31)

Selling price = R9 per 750ml how much would 1 kilogram cost?

If .75kg cost sells at R9.00 then 1kg sells for X Rand (X is unknown and we have to solve for X)

=9: .750kg = X:1

=9/.750 = X/1

=12= X

X=12 therefore, the

Selling price per kilogram is R12.

Selling price per kilogram is R12.00 and she makes 4.5kg

(Selling price of batch = R54.00)

Profit for Mrs Mtolo = Selling price less Cost price = R54.00- R36.31 =

R17.69

**NOW, do you think that you can work out the cost of the recipe you made? Bring your costing to your face to face meeting with your tutor if you have any questions.*

