Implemented by: Food and Nutrition Security, Enhanced Resilience (FANSER)

Farmer Business School

Production system

Village Chickens, Cassava, Cowpeas

Training notebook and workbook

Zambia

(Luapula Province)

1st Edition 2020

Foreword

The Farmer Business School (FBS) approach has been developed for cocoa production systems in 2010 by GIZ/Sustainable Cocoa Business and local partners from Ghana, Nigeria, Côte d'Ivoire, Cameroun and Togo. Over 480,000 cocoa producers have been trained by local partners in these 5 countries with the support of the Federal Ministry of Economic Cooperation and Development of Germany (BMZ) and other donors such as Bill & Melinda Gates Foundation, World Cocoa Foundation, NIRSAL and the European Union.

Since 2012, other GIZ programs as well as public and private partners have adapted FBS to other export and food commodities. The total outreach in Africa is exceeding 1,400,000 smallholders in 22 African countries.

Inspired by these successes, the Food and Nutrition Security, Enhanced Resilience (FANSER) program in Zambia has adopted the FBS approach as part of its strategy. In addition to the market and business orientation, FBS builds on a nutrition sensitive approach to agriculture. The objective of the project is improved food and nutrition security for Zambian peoples affected by malnutrition that can be achieved in a sustainable and profitable way from local production. In Zambia, FANSER implements its activities in Eastern and Luapula provinces in cooperation with Ministry of Agriculture and Food Security and other stakeholders.

The present training notebook is an adaptation of the FBS this curriculum to livestock (poultry) productions systems in Zambia. The adaptation work has been done in partnership with the Agribusiness Facility for Africa (ABF) and Food and Nutrition Security, Enhanced Resilience (FANSER) program with reference to the FBS version implemented in Namibia and Nigeria.

The training shall contribute to achieve the following objectives:

- Productivity and quality increases of smallholder agriculture;
- Production diversification of smallholdings;
- Improved household nutrition especially among the rural communities
- Improved incomes and living conditions of smallholders and their families and
- Professionalizing producers and their organizations.

The present training notebook is an adaptation of this curriculum to livestock(poultry) systems in Zambia. The adaptation work has been done in partnership with the programmes Agribusiness Facility for Africa (ABF) and Food and Nutrition Security, Enhanced Resilience (FANSER) program.

Only FBS-Trainers that underwent a special qualification program including classroom and learning trainings with farmers deliver the training in line with the principles of adult and discovery learning and the quality standards of FBS.

At the end of the training

Ask for your FBS participation certificate with serial number and signature of your trainer

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ABC of the **A**gricultural **B**usiness **C**ommunity

A	**A**griculture **A**sset
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C	**C**redit **C**alculate
D	**D**iversification **D**ebt
E	**E**nterprise **E**quipment
F	**F**arm **F**ood
G	**G**ain **G**ross margin
H	**H**arvest **H**ectare
I	**I**ncome **I**nvestment
J	**J**ob
K	**K**ilogram **K**ilocalorie
L	**L**oss **L**abour
M	**M**anagement **M**arket

N	**N**utrition **N**egotiation
O	**O**rganization **O**wner
P	**P**lan **P**rofit **P**roductivity
Q	**Q**uality **Q**uantity
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T	**T**on **T**rial
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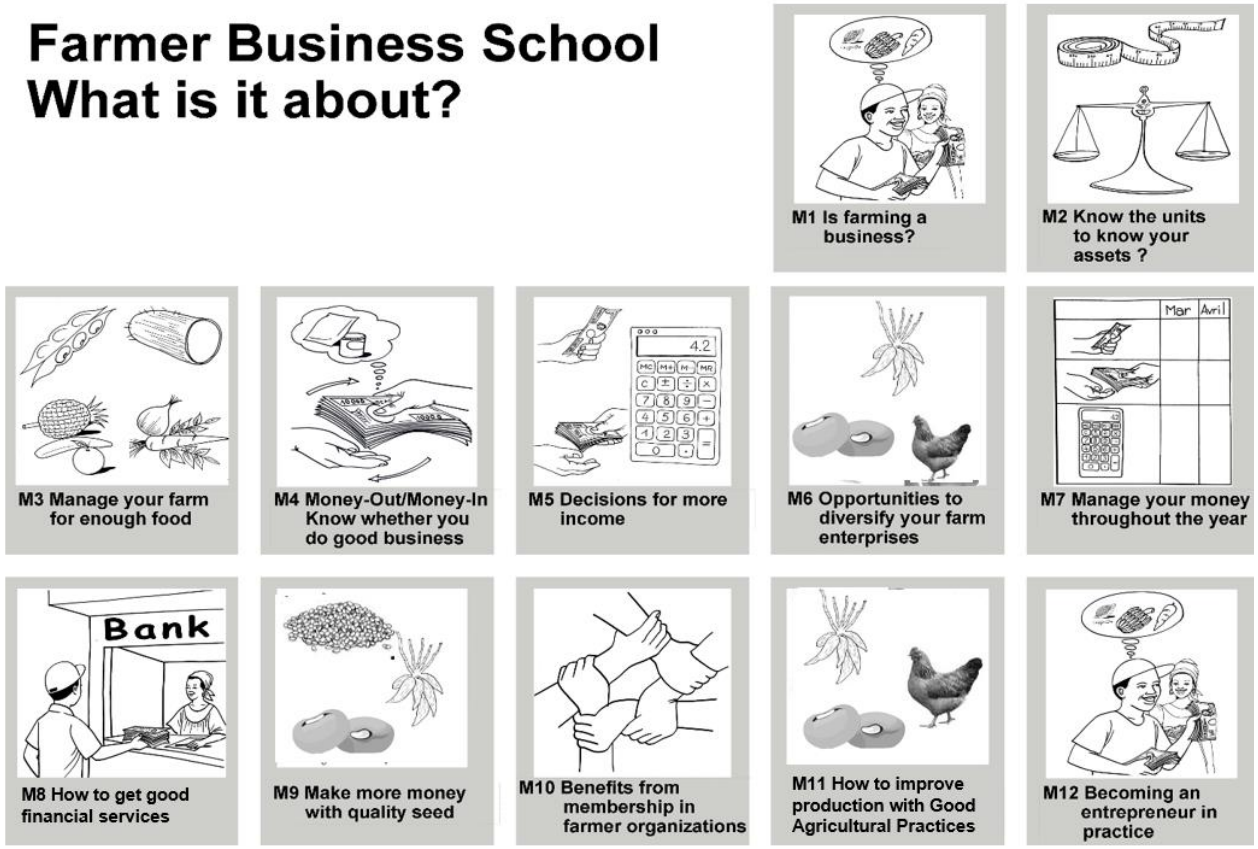
V	**V**alue **V**ariable cost
W	**W**ork **W**arrantage
X	E**X**port crop E**X**penditure
Y	**Y**ield
Z	**Z**ero **Z**one

1. Farmer Business School: the training



What are the advantages?

The skills learned at the Farmer Business School will allow you to become a better entrepreneur who:

- Takes advantage of improved technologies and market opportunities to increase income
- Plans and adapts his production to assure food security for the family
- Targets decisions and investments in production of cassava, cowpeas and village chicken rearing
- Leads professional negotiations with buyers, input suppliers, credit institutions and land owners.
- Manages financial means and credit.

Module 1 Farming is a business

What examples of businesses do you know?

Examples of businesses	Start and end of activities	Capital Needs	Money Entries
Construction business 	One can start when one has a contract with a client One must respect the conditions of the client One construction site follows the next	One needs **capital** for the machines, the materials and the employees	Gives income when the construction is completed
Trading 	One can start and stop commerce at any time.	One needs **capital** to buy merchandise and to pay employees	Gives income all year long
Processing of agricultural products Groundnut and Sesame butter 	One can start the processing at any time if one has the equipment and primary materials One stops the processing when the primary material is no longer available.	One needs **capital** to buy raw material and equipment	Gives income all year long as long as you have raw material
Agriculture My farm is my business 	One needs to start the agricultural work at the beginning of the season	One needs **capital** for tools, equipment, inputs and paid workers	Gives income once a year Money is spent every day (« and is not even calculated »)

What do you need and use to produce (collect examples)**?**

Inputs	Tools and equipment	Labour	Money	Land
Seeds Insecticide Fungicide	Machete, hoe Sprayer Drying slaps and racks	Family work force Paid workers, communal labour	Own money Credit	Own Land Rented Land

Main Lesson:

The agricultural entrepreneur (man or woman) plans and organizes him/herself to have inputs, tools, labour and money necessary for the production ready at the right time.

What does one need to know about the market to do good business?

The market for agricultural produce	The market for inputs and equipment
• The location of the market • Who needs the product and wants to buy it? • The quality of product that is demanded by the market • The price of the product compared to other markets	• The locations of sale • Who sells the inputs and equipment? • The quality of the inputs and equipment • The price of sale of the inputs and equipment

How does the price of agriculture products change?

The prices of agriculture products change according to the season of the year • At times of abundance, the prices are lowest. • Prices are highest at times of scarcity for example during the dry season.	The prices of agricultural products change between years. • The price of a product that is needed by more and more people will rise from one year to the next. • The price of a product that is produced in greater abundance will fall from one year to the next.

Main Lesson

To do successful business, the agricultural entrepreneur (man or woman) informs him/herself on the prices of inputs and products at different markets at different moments.

This allows the farmer to plan production and to make decisions on the purchase of inputs and the sale of produce.

Module 1-Agricultural Calendar to plan the production Cassava

The times of work of the work is shown by a square ■

The tasks of the entrepreneur		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	Land Clearing												
	Land preparation-Ridging												
	Purchase Cuttings												
	Planting												
	Replacing unestablished cuttings												
	Weeding												
	Harvest and marketing												

Main Lesson

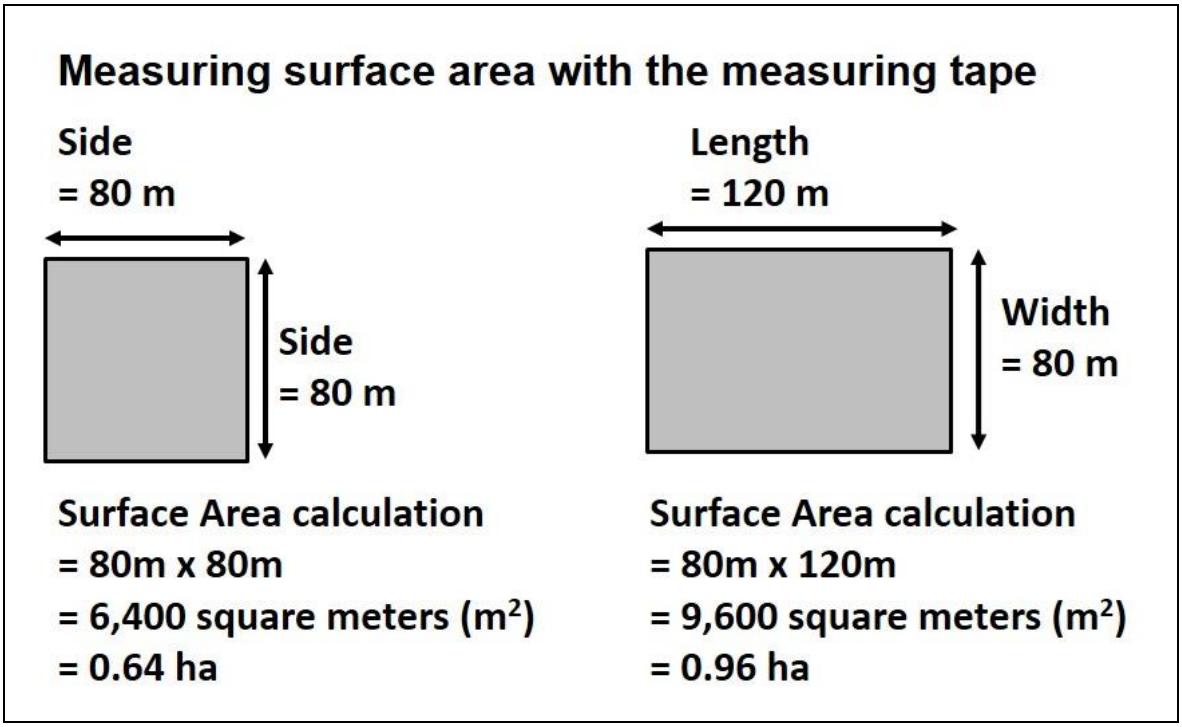
For a good yield, the agricultural entrepreneur (man or woman) plans to do the necessary work in the field and apply the inputs at the right time.

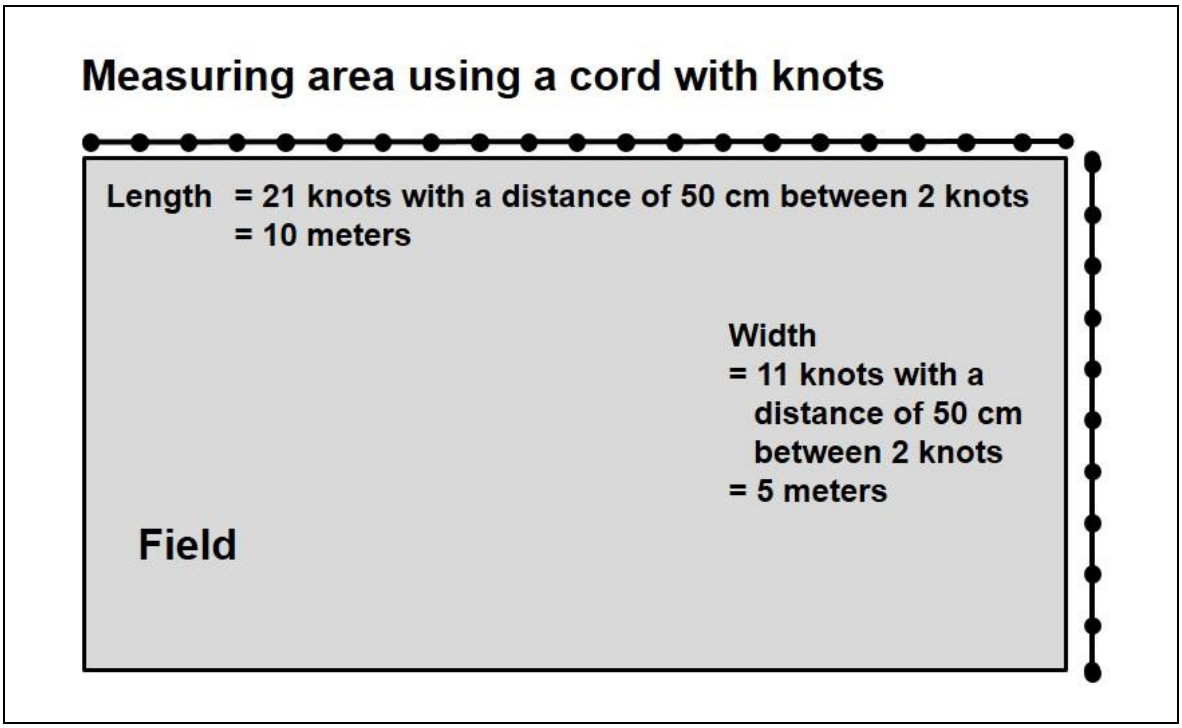
Measure and calculate the surface of a field

The size or surface area of a field is measured in meters squared or hectares.

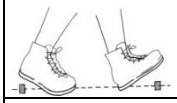
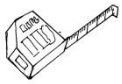
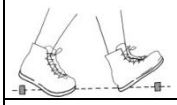
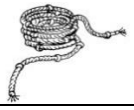
1 hectare(ha) is 10,000 meters squared (m^2)

1 lima is 0.25 hectare (ha) which is 2,500 meters squared (m^2).





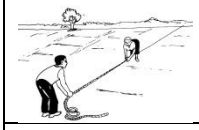
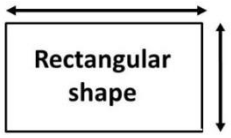
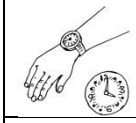
Exercise

	Method	Length	x	Width	=	Surface Size	Difference/ Measuring tape	Rank
Group 1	Estimation by steps 		x		=			
	Measuring tape in meters 		x		=			
Group 2	Estimation by steps 		x		=			
	Cord with knots 		x		=			

Main Lessons

1. Measures of the size of field by using walking-steps are not always accurate.
2. The agricultural entrepreneur (man or woman) who
   - Underestimating field size risks using too little fertilizer and too little seeds. This can lead to reduced yields.
   - Overestimating field size risks using too much fertilizer and to plant too close together. This can lead to reduced yields and unnecessary spending.
3. Accurate knowledge of the size of the farm is important to plan production, to correctly apply inputs, and to correctly space plants and seeds.
4. The agricultural entrepreneur (man or woman) measures his fields with a measuring tape, a cord with knots or a measure band.
5. A field in the shape of a rectangle or square is easy to measure. On such a field it is easier to sow or plant in lines respecting the correct spacing distances.

Standard Measures and Units

Distance	**Kilometre (km): 1 km is 1,000 meters (m):**
Length or width of a field 	**Meter (m): 1 m is 100 centimetres (cm).**
Surface Area 	**Meter squared (m^2)** **Hectare (ha): 1 ha is 10,000 m^2** **1 Acre: 4,000 m^2 (e.g. 50m x 80m, or 40m x100m)** **1 Hectare: 2.5 acres** **1 Lima: 2,500 m^2 (e.g. 50m x50m, or 25m x 100m)** **1 Hectare : 4 Lima**
Yield per Unit Area 	**Yield per hectare =Yield per 2.5 acres or Yield per 4 Lima** **e.g. 2,400kg/ha of soya: 600kg/Lima of soya**
Volume 	**Litres (l)** **Millilitre (ml)** **Litre (l) : 1 l (litre) = 1,000 ml (millilitres)**
Weight 	**Grams (g)** **Kilograms (kg): 1 kg is 1,000 g** **Ton (T): 1 Ton is 1,000 kg**
Time 	**Minutes (min)** **Hour (h)= 1 hour has 60 minutes** **Day (D) = 1 day has 24 hours**
Agricultural work 	**Man-day (MD): The work of an adult man in one day.** Example: Work on one hectare requires 10 Man-days. (10 MD / ha). The work can be done by 1 adult person in 10 days or 10 adult persons in 1 day. **It is important to specify the number of hours in a workday.**

Main Lessons

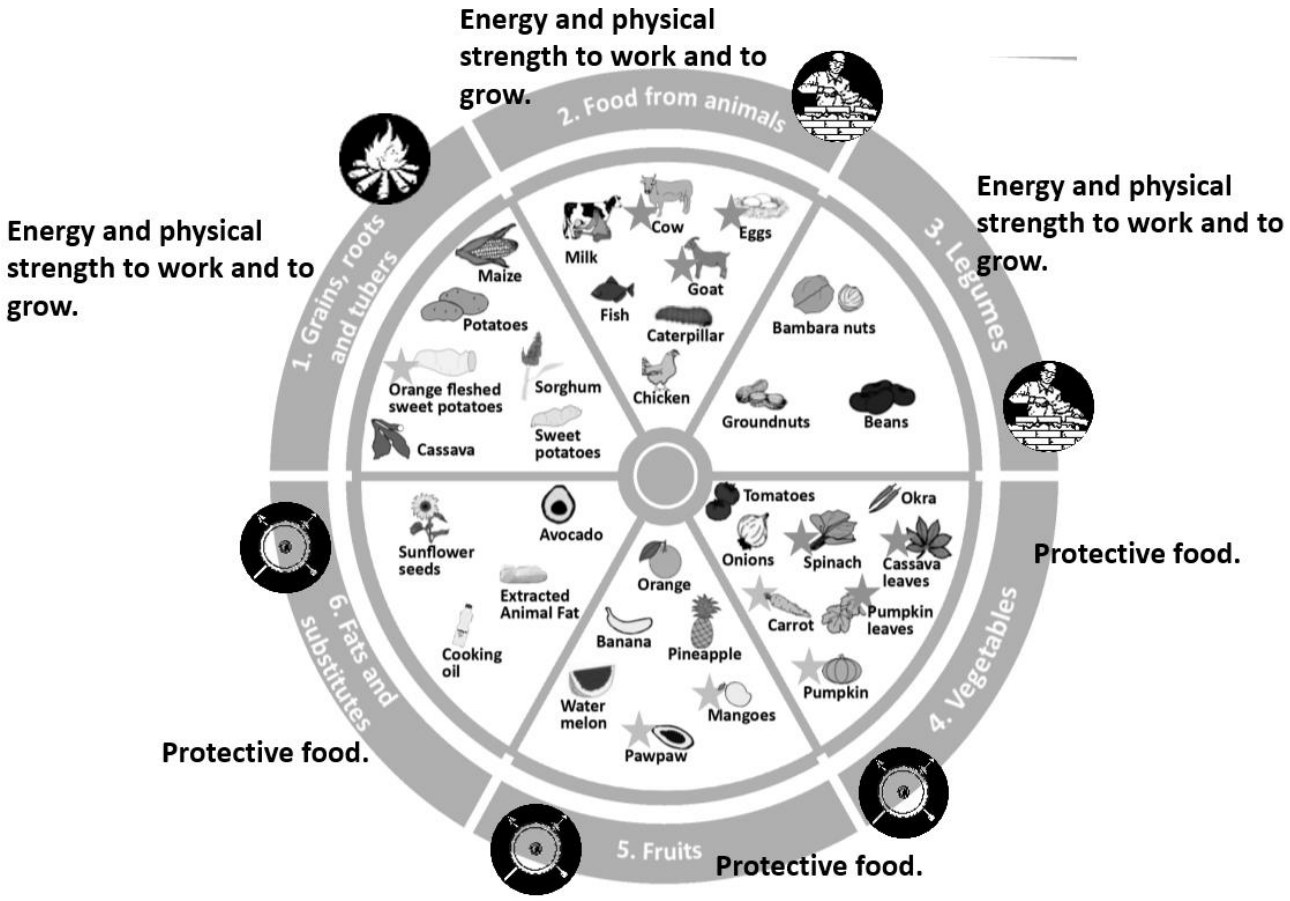
Units and measures are important for the agricultural entrepreneur (man or woman). They are necessary …

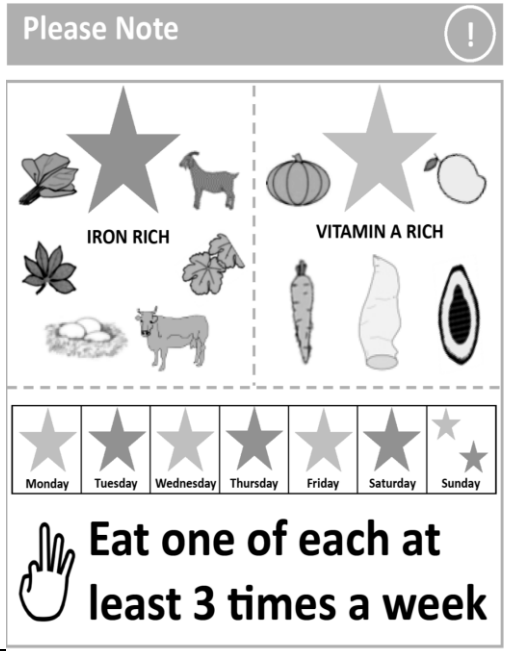
- To know precisely your assets, your land and labour.
- To correctly plan production and the quantities of inputs that need to be purchased in time
- To apply correct amounts of Agro-inputs such as seeds, fertiliser, chemicals
- To know the quantity harvested
- To correctly evaluate losses or profits
- To better sell your products.

Measures and units are essential to do good business in agriculture.

Module 3 Manage your farm for more and better food

Making money with agriculture is good, but the farm must provide also enough good food for your family. For this reason, we want to tackle this issue.



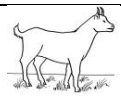
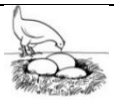
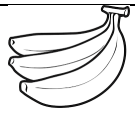


Source: adapted from FAO 2004. Family Nutrition Guide

Main lesson

The agricultural entrepreneur (man or woman) knows that each type of food is necessary for a good and balanced nutrition of his/her family.

The six (6) Food groups and their content in energy, protein and fat

Food Group	Food		Energy kcal per kg	Fat Grams per kg	Protein Grams per kg	
Grains, roots and tuber		Rice	3,610	10	65	
		Maize	3,530	38	93	
		Sorghum	3,450	32	107	
		Cassava	1,490	2	12	
		Sweet potato	1,050	17	3	
		Potato	930	0	30	
Legumes		Groundnut	5,670	450	258	
		Beans	3,330	8	226	
		Soybeans	1,700	70	155	
		Cowpeas	870	5	49	
Food from animals		Fish (dried)	2,550	470	74	
		Meat	1,610	79	195	
		Eggs	1,580	112	120	
		Village chicken	1,020	7	23	
Fruits		Bananas	930	1.8	11.5	
		Oranges	470	2	10	

		Fruits	**450**	**2**	**9**	
		Watermelons	**390**	**2**	**6**	
Vegetables		Amaranthus	**3,850**	**65**	**14.5**	
		Vegetables	**300**	**2**	**10**	
		Okra	**290**	**2**	**21**	
		Spinach	**230**	**4**	**29**	
Fats and substitues		Cooking oil	**8,840**	**1,500**	**26**	
		Sunflower seeds	**5,980**	**500**	**240**	

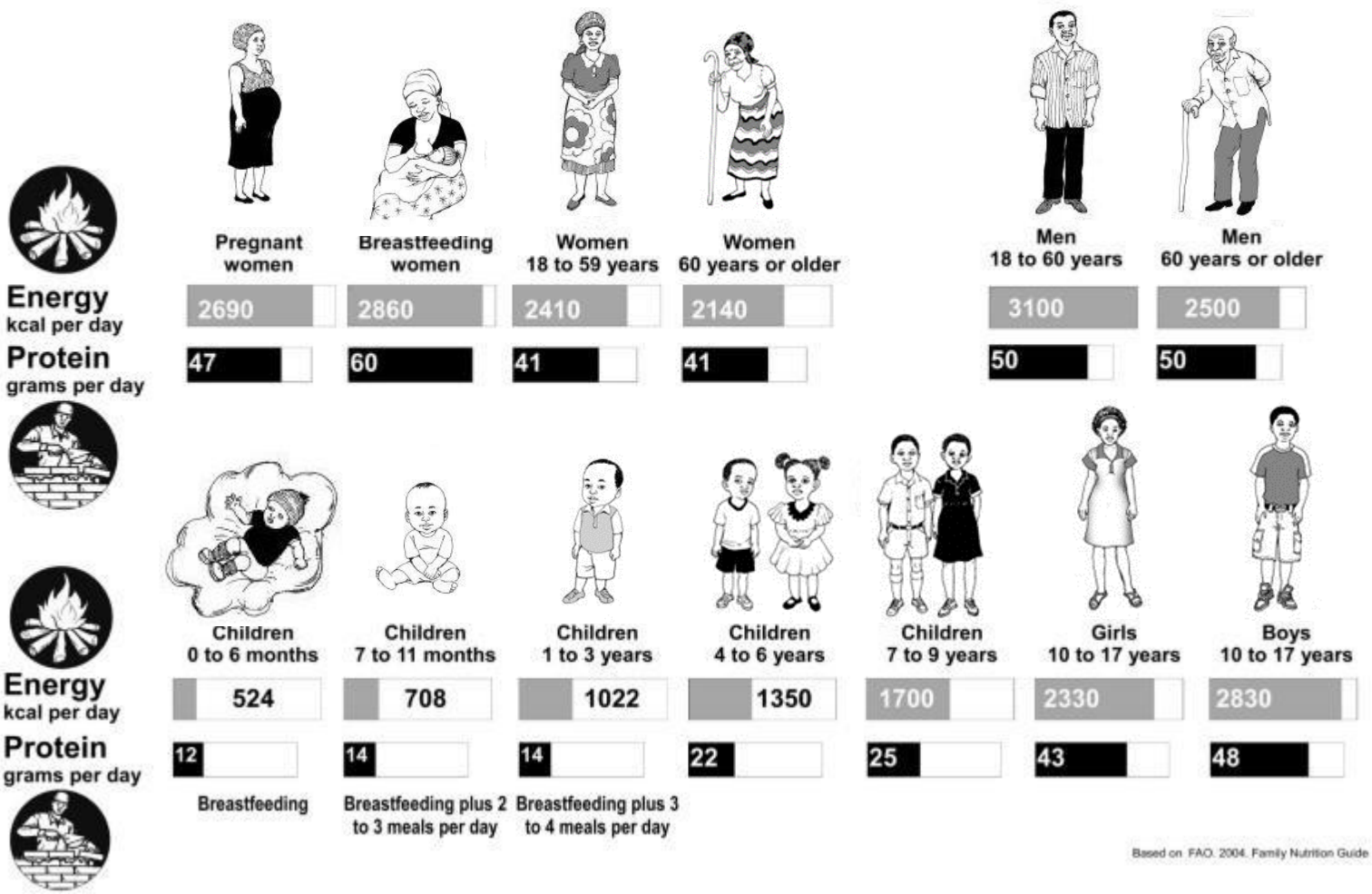
Adapted from FAO 2004.Family Nutrition Guide; http://www.nutritiondata.com/facts/fats-and-oils/575/2

Explanation: The kilocalorie (Kcal or 1000 calories) is a measure for the energy of a food. The number of kilocalories of one kg of a given food shows you whether the food is rich or poor in energy.

Main lesson

The agricultural entrepreneur (man or woman) knows that the different types of food need to be combined to ensure a good nutrition of his/her family.

How much energy and protein do we need per day?



Main Lessons

The agricultural entrepreneur (man or woman) knows that the members of his family have different needs of food.

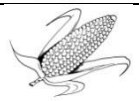
Very good food for pregnant and breastfeeding women ensures good health and growth of new children.

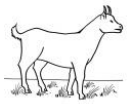
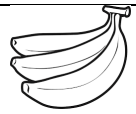
From the 7th month onward children need good quality meals (without spices!) and breast feeding for good health and growth.

Children of a certain age need almost as much food as adult persons.

Nutritional calendar: How do you cover the food needs of your family?

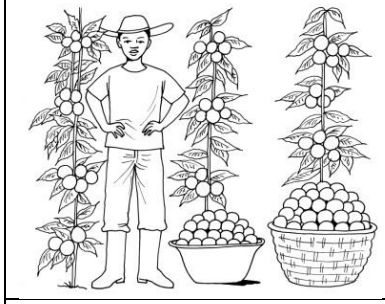
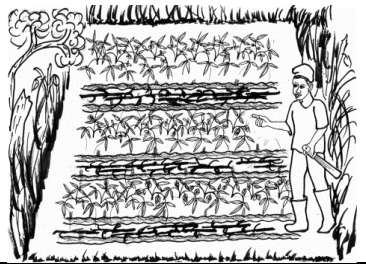
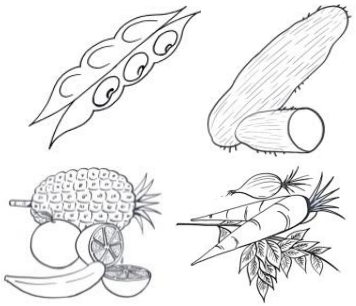
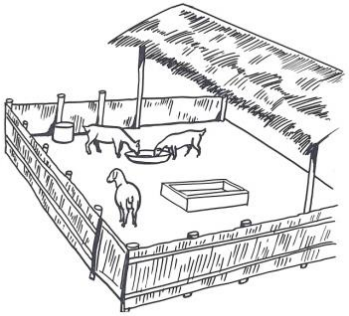
- Mark a square ☐ if the product is sold
- Mark a circle ❍ if the product is eaten
- Mark a triangle △ in the months you need to buy the product
- Indicate by a line _____ how long the product is available from own production
- What are the months of high prices and the months of low prices for a food item?

Food Group	Food	Sell ☐	Eat ❍	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Grains, roots and tuber	 Sorghum														
	 Potato														
	 Fresh cassava														
	 Pumpkin														
	 Orange Fresh Sweet Potato														
	 Rice														
	 Maize														

Food Group	Food	Sell ☐	Eat ❍	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Legumes	 **Soybean**														
	 **Groundnut**														
	 **Cowpeas**														
	 **Beans**														
Foods from Animals	 **Village Chicken**														
	 **Goat**														
	 **Fish**														
	 **Eggs**														
Fruits	 **Oranges**														
	 **Bananas**														

Food Group	Food	Sell ☐	Eat ◯	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
	 **Watermelons**														
Vegetables	 Spinach														
	 Okra														
	 Amaranthus														
Fats and substitutes	 Sun Flower seeds														
	 Cooking oïl														

How to have more and better food?

Improving yields **Improved varieties** 	**Fertilization** 	**Mulching to conserve water** 	**Diversify cropping** 	**Associate crops** 
Reduce losses in storage 	**Manage money to buy food** 	**Raise animals** 	**Prepare well** 	**Clean water and hygiene** 

Other possibilities

- ➔ Produce crops that ripen early or that resistant to drought;
- ➔ Harvest water for small irrigation
- ➔ Some families might have the opportunity to establish fishponds

Source: adapted from FAO 2004.Family Nutrition Guide

Module 4 Money-Out, Money-In: Know whether you are doing successful business

But before we start, let's learn how to use a calculator

What is a Calculator?

A calculator is a tool you can use to do addition, subtraction, multiplication and division

To put on the calculator

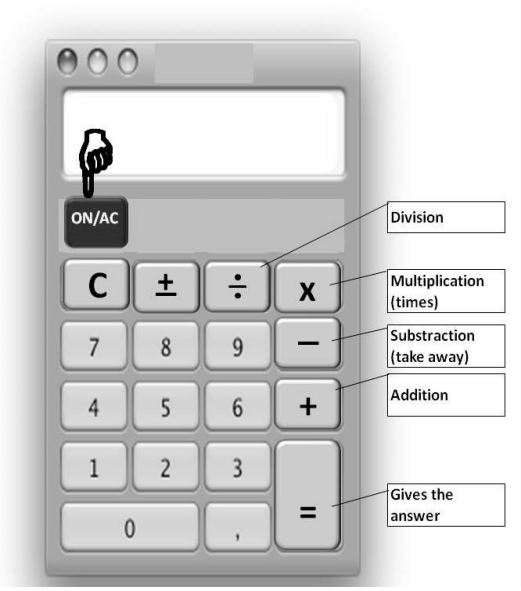
Press the **ON/AC**

To clear a wrong number

Press C – CE

To start a new calculation

Press the **ON**/**AC** to clear

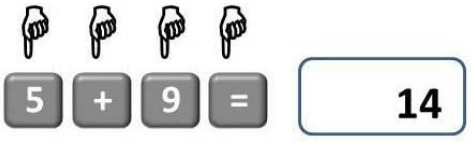


Addition (plus)

Example:

5 + 9 = 14

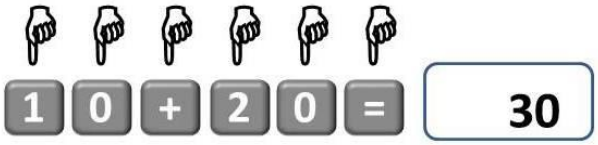
Type



Example:

10 + 20 = 30

Type

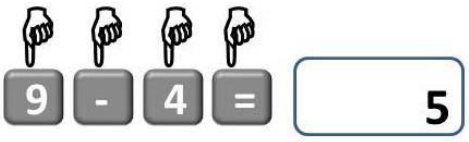


Subtraction (take away)

Example:

9 - 4= 5

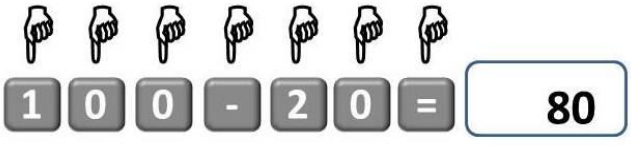
Type



Example:

100 - 20 = 80

Type



Example:

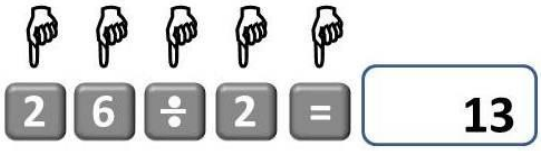
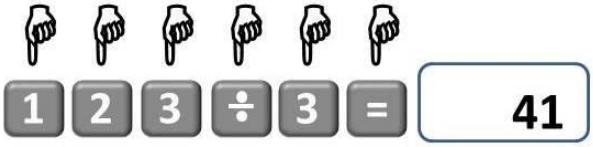
- 20 - 29= - 49

Type

Multiplication (times)

Example: **25 x 12 = 300**	**Type**	
Example: **22 x 27 = 594**	**Type**	

Division (divide)

Example: **26 / 2 = 13**	**Type**	
Example: **123 / 3 = 41**	**Type**	

Here are some examples. Try to get the same result.

Addition (plus)	
100 + 250 =	350
124 + 24 + 52 =	200
1035 + 465 + 120 =	1620

Subtraction (take away)	
33 - 13 =	20
175 - 35 =	140
1243 - 12 =	1231

Multiplication (times)	
33 x 3 =	99
75 x 5 =	375
12 x 12 =	144

Division (divide)	
200 / 4 =	50
350 / 7 =	50
1100 / 8 =	137,5

Here we will see how to determine if business was good or bad. We will calculate the "money in" and "money out" from different produce.

Exercise Sheet 1: Village Chicken

Steps:

2. Multiply the quantity with the price in each line.

- Sum the money spent ("Money-Out") on inputs and labour
- Multiply the yield by the price of sale ("Money-In")
- Subtract the sum of "Money-Out" from the "Money-In"
- Determine if there was a profit or a loss

General characteristics of Village Chicken rearing in Luapula Province

- Free range scavenging, with high rate of mortality due to predation
- Low or absence of vaccination against common diseases
- Little or no feed supplement

100 local breed birds, with 70% mortality experienced (1 batch/year)	**Unit**	**Quantity**	**Price (ZMW)**	**Total (ZMW)**
1. Money-Out				
Inputs and services				
Chicks	Each	100	10	
Transport to Market	Per 5 chickens	6	20	
Total cost of inputs and services				
Labour				
Placement of chics	MD	0.25	25	
Collection of bedding and litter management	MD	2	25	
Hygiène & clearing management	MD	2	25	
Care and feed supplement	MD	15	25	
Marketing/Selling	MD	1	25	
Total labour needs and costs	**MD**	**20.25**	**ZMW**	
Total costs (Costs of inputs and services + costs of labour)			**ZMW**	
2. Money-In				
Production (Poultry) x Price of Sale	kg	30	35	
By-Product (1) Eggs x Price of sale	Each	150	1	
By-Product (2) Manure x price of sale	kg	150	5	
Total money-in (ZMW)				
3. Profit or loss?	**Money-In − Money-Out ☺ or ☹**		**ZMW**	
4. Unit cost (Total money out/Production)			**ZMW/kg**	

Exercise Sheet 2: Cassava-Non improved

0.25ha of Cassava: Local variety (recycled planting material)		Unit	Quantity	Price (ZMW)	Total (ZMW)
1. Money-Out					
Inputs and services					
Planting material (Cuttings)		Bundle	15 x	10 =	
Empty bags		50kg bag	20 x	6 =	
Transport from field		Per bag	20 x	10 =	
Transport to market		Per bag	20 x	15 =	
Total costs of inputs and services					
Labour					
Land Clearing		MD	9 x	25 =	
Land preparation-Ridging		MD	15 x	25 =	
Planting		MD	5 x	25 =	
Replacement of unestablished cuttings		MD	4 x	25 =	
Weeding		MD	7.5 x	25 =	
Harvesting		MD	9 x	25 =	
Peeling, drying & packing		MD	10 x	25 =	
Marketing		MD	3 x	25 =	
Total labour needs and costs		MD	**62.5**	**ZMW**	
Total costs (Costs of inputs and services ➕ costs of labour)				**ZMW**	
2. Money-In					
Cassava yield **x** Price of Sale		Kg	1,000 x	2 =	
cuttings x price of sale		Bundles	10 x	10 =	
Total money in				**(ZMW)**	
3. Profit or loss? Money-In ➖Money-Out			☺ or ☹		
4. Unit cost (Total money out/Production)				**ZMW/Kg**	

Exercise Sheet 3: Cowpeas (Non-improved) 

0.25 ha of Cowpeas: local variety, mixed cropping		**Unit**	**Quantity**	**Price (ZMW)**	**Total (ZMW)**
1. Money-Out					
Inputs and services					
Seed		5kg	2 x	30 =	
Empty bags		50kg bag	4 x	6 =	
Transport from field to home		Per bag	4 x	10 =	
Transport to Market			4 x	10 =	
Total costs of inputs and services					
Labour					
Land preparation-Ridges		MD	7 x	25 =	
Planting		MD	4 x	25 =	
Thinning & gap filling		MD	2 x	25 =	
Re-ridging		MD	2 x	25 =	
Weeding		MD	7.5 x	25 =	
Harvesting		MD	3.5 x	25 =	
Threshing & packing		MD	2.5 x	25 =	
Marketing		MD	1 x	25 =	
Total labour needs and costs		MD	**29.5**	**ZMW**	
Total costs (Costs of inputs and services + costs of labour)				**ZMW**	
2. Money-In					
Cowpeas Yield **x** Price of Sale		Kg	180 x	6 =	
3. Profit or loss? Money-In − Money-Out				☺ or ☹	
4. Unit cost (Total money out/Production				**ZMW/kg**	

Comparing of Profits from current production systems

Please tell what is good and what bad business is and indicate reasons.

		 **100 Birds/Chickens**	 **0.25 ha Cassava**	 **0.25 ha Cowpeas**
No. of animals/Yield	No. animals/Kg	**30**	**175**	**520**
1. Money-Out	ZMW/0.25ha/Cycle	**1,626**	**2,332.5**	**901.5**
2. Money-In	ZMW/0.25ha/Cycle	**1,950**	**2,100**	**1,080**
3. Profit or Loss?	ZMW/0.25ha/Cycle			

Main Lessons

1. To know if you are doing successful business with a crop, you need to know the "Money-In" and "Money-Out" with precision.
2. The agricultural entrepreneur (man or woman) tracks the inputs and labour used in a field, and calculates the "Money-In" and "Money-Out"
3. From the "Money-In" the entrepreneur subtracts the "Money-Out". The result tells him if he made profit or loss.
4. The agricultural entrepreneur (man or woman) makes a **profit**, if the "Money-In" is greater than the "Money-Out". In that case he/she does **good business**.
5. The agricultural entrepreneur (man or woman) makes a **loss**, if the "Money-Out" is greater than the "Money-In." In that case he/she does **bad business**.
6. You recognize a loss with the minus dash in front of the number: **-**
7. The good agricultural entrepreneur (man or woman) will abandon this crop or use a better technique to make a profit.
8. To make sure that he/she will make a profit, the agricultural entrepreneur calculates "Money-In" and "Money-Out" **before production**.

Module 4 –Solution Exercise 1 : Local (Village Chicken)

100 local breed birds, with 70% mortality experienced (1 batch/year)	Unit	Quantity	Price (ZMW)	Total (ZMW)
1. Money-Out				
Inputs and services				
Chicks	Each	100	10	1,000
Transport to Market	Per 5 chickens	6	20	120
Total cost of inputs and services				**1,120**
Labour				
Placement of chicks	MD	0.25	25	6.25
Collection of bedding and litter management	MD	2	25	50
Hygiene & cleaning management	MD	2	25	50
Care and feed supplement	MD	15	25	375
Marketing/Selling	MD	1	25	25
Total labour needs and costs	**MD**	**20.25**	**ZMW**	**506.25**
Total costs (Costs of inputs and services + costs of labour)			**ZMW**	**1,626.25**
2. Money-In				
Production (Poultry) x Price of Sale	kg	30	35	1,050
By-Product (1) Eggs x Price of sale	Each	150	1	150
By-Product (2) Manure x price of sale	kg	150	5	750
Total money-in (ZMW)				**1,950**
3. Profit or loss? Money-In − Money-Out ☺ or ☹			**ZMW**	**323.75**
4. Unit cost (Total money out/Production)			**ZMW/kg**	**54.21**

Module 4 –Solution Exercise 2 : Cassava (Non-Improved)

0.25ha of Cassava: Local variety (recycled planting material)		Unit	Quantity	Price (ZMW)	Total (ZMW)
1. Money-Out					
Inputs and services					
Planting material (Cuttings)		Bundle	15 x	10 =	150
Empty bags		50kg bag	20 x	6 =	120
Transport from field		Per bag	20 x	10 =	200
Transport to market		Per bag	20 x	15 =	300
Total costs of inputs and services					**770**
Labour					
Land Clearing		MD	9 x	25 =	225
Land preparation-Ridging		MD	15 x	25 =	375
Planting		MD	5 x	25 =	125
Replacement of unestablished cuttings		MD	4 x	25 =	100
Weeding		MD	7.5 x	25 =	187.50
Harvesting		MD	9 x	25 =	225
Peeling, drying & packing		MD	10 x	25 =	250
Marketing		MD	3 x	25 =	75
Total labour needs and costs		MD	**62.5**	**ZMW**	**1,562.50**
Total costs (Costs of inputs and services + costs of labour)				**ZMW**	**2,332.50**
2. Money-In					
Cassava yield **p**rice of Sale		Kg	1,000 x	2 =	2,000
cuttings x price of sale		Bundles	10 x	10 =	100
Total money in				(ZMW)	**2,100**
3. Profit or loss? Money-In − Money-Out				☺ or ☹	**-232.50**
4. Unit cost (Total money out/Production)				**ZMW/Kg**	2.33

Module 4 –Solution Exercise 3 : Cowpeas (Non-Improved)

0.25 ha of Cowpeas: local variety, mixed cropping		**Unit**	**Quantity**	**Price (ZMW)**	**Total (ZMW)**
1. Money-Out					
Inputs and services					
Seed		5kg	2 x	30 =	60
Empty bags		50kg bag	4 x	6 =	24
Transport from field to home		Per bag	4 x	10 =	40
Transport to Market			4 x	10 =	40
Total costs of inputs and services					**164**
Labour					
Land preparation-Ridges		MD	7 x	25 =	175
Planting		MD	4 x	25 =	100
Thinning & gap filling		MD	2 x	25 =	50
Re-ridging		MD	2 x	25 =	50
weeding		MD	7.5 x	25 =	187.50
Harvesting		MD	3.5 x	25 =	87.50
Threshing & packing		MD	2.5 x	25 =	62.50
Marketing		MD	1 x	25 =	25
Total labour needs and costs		MD	**29.5**	**ZMW**	**737.50**
Total costs (Costs of inputs and services + costs of labour)				**ZMW**	**901.50**
2. Money-In					
Cowpeas Yield **x** Price of Sale		Kg	180 x	6 =	**1,080**
3. Profit or loss? Money-In − Money-Out			☺ or ☹		**178.5**
4. Unit cost (Total money out/Production				**ZMW/kg**	**5.01**

Module 5 Decisions for more income

How to do better business?

In this section we will see the possible improvements and how to make good decisions. We will use our results and do the same calculations for improved techniques. The calculations are explained on page 33.

Some of the improvements made to the current farming systems in order to improve productivity and enhance product quality are as tabulated in the table below.

Village Chicken • Use of improved breed of the chickens that grow faster (4 months) • Food supplement i.e. Maize bran, sunflower cake, minerals • Provision of clean and safe drinking water from protected sources • Strict adherence to vaccination regimes • Provision of Clean poultry shelter to protect the chickens from diseases and predators
Cassava • Crop rotation • Use of improved varieties that mature early and yield more • Use of fertiliser and herbicides • Observing the recommended planting spacing • Scouting for pests and diseases, and rouging of diseased plants
Cow peas • Crop rotation • Use of certified improved seeds • Use of recommended plant spacing • Scouting for pests & diseases, and application of appropriate action where and when necessary.

Module 5 – Exercise 1:

Village Chicken 

	Unit	Village chicken-Local breed 70%Mortality out of 100 birds			Village Chicken-Improved breed (2% Mortality out of 100 birds		
		Quantity	**Price ZMW**	**Total**	Unit	Price ZMW	Total
1. Money-Out							
Inputs							
Chicks	Each	100	10	1,000	100	15	
Maize Bran	50kg Bag	0	0	0	6	50	
Sunflower cake	50kg Bag	0	0	0	2	100	
Minerals	Lumpsum	0	0	0	2	150	
Vaccination-Gumboro	100mls	0	0	0	2	30	
Vaccination -Newcastle	100mls	0	0	0	2	30	
Vaccination-Fowl pox	100mls	0	0	0	2	100	
Disinfectant	1 ltr	0	0	0	1	100	
Transport to Market	trip	6	20	120	5	40	
Cost of Inputs				**1,120**			
Labour							
Placement of Chicks	MD	0.25	25	6.25	0.25	25	
Collection of bedding and litter	MD	2	25	50	3	25	
Hygiene and Cleaning	MD	2	25	50	2	25	
Vaccination	MD	0	25	0	1	25	
Disinfection	MD	0	25	0	2	25	
Care/Securing	MD	15	25	375	26	25	
Marketing	MD	1	25	25	3	25	
Labour needs + costs	**MD**	**20.25**	**-**	**506.50**	**37.25**	**-**	
Money-Out (ZMW)				**1,626.25**			
2. Money-In							
Poultry yield x Price of Sale	Each	30	35	**1,050**	98	50	
Eggs yield x price of sale	Each	150	1	**150**	1,470	1	
Manure yield x price of sale	Kg	150	5	**750**	500	5	
Total Money-In	ZMW			**1,950**			
3. Profit or Loss	☺or☹			**323.75**			
Unit Cost (ZMW/Chicken)				**54.21**			

****Note**: Use of improved breed of chickens will enable two production cycles/year, hence figures above under improved category will be double

Module 5 – Exercise 2

Cassava 	Unit	Cassava local variety (0.25 ha)			Cassava- improved variety (0.25ha)		
		Quantity	Price (ZMW)	Total (ZMW)	Quantity	Price (ZMW)	Total (ZMW)
1. Money-Out							
Inputs and Services							
Planting material (cuttings)	Bundle	15 x	10 =	150	20 x	50 =	
Herbicide	1 litre	x	=		1 x	120 =	
Fertiliser (Basal)	50kg	x	=		0.5 x	500 =	
Empty bags	Each	20 x	6 =	120	90 x	6 =	
Transport-Field to home	Per bag	20 x	10 =	200	90 x	10 =	
Transport to Market	Per bag	20 x	15 =	300	90 x	15 =	
Total	ZMW			**770**			
Labour							
Land Clearing	MD	9 x	25 =	225	9 x	25 =	
Land preparation-Ridging	MD	15 x	25 =	375	15 x	25 =	
Planting	MD	5 x	25 =	125	7 x	25 =	
Gap filling	MD	4 x	25 =	100	1 x	25 =	
Weeding-Manual	MD	7.5 x	25 =	187.50	x	25 =	
Herbicide application	MD	x	25 =		5 x	25 =	
Harvesting	MD	9 x	25 =	225	16 x	25 =	
Peeling soaking Drying	MD	10 x	25 =	250	18 x	25 =	
Marketing	MD	3 x	25 =	75	4 x	25 =	
Labour needs and costs	MD	**63**		**1,562.50**			
Money-Out (ZMW)				**2,332.50**			
2. Money-In							
Cassava **x** Price of Sale	Kg	1000 x	2 =	**2,000**	4,500 x	2 =	
Cuttings x price of sale	Bundle	10 x	10 =	**100**	25 x	50 =	
Total Money in (production x sale Price) ZMW				**2,100**			
3. Profit or Loss ☺or☹ Money-In − Money-Out	**ZMW**			**-232.50**			
Unit Cost (ZMW/kg) Money-Out / Yield				**2.33**			

Module 5: Exercise 3

Cowpea 		Cowpea Non-Improved (0.25 ha)			Cowpea-Improved (0.25 ha)		
	Unit	Quantity	Price (ZMW)	Total (ZMW)	Quantity	Price (ZMW)	Total (ZMW)
1. Money-Out							
Inputs and Services							
Seed	5kgs	2	30	60	1	120	
Herbicides	1 ltr				1	120	
Pesticides/Aphicides	30mls				1	60	
Empty grain bags	50 kg bag	4	6	24	9	6	
Transport-field to home	Per bag	4	10	40	9	10	
Transport to the market	Per bag	4	10	40	9	10	
Cost of Inputs				**164**			
Labour							
Land preparation-Ridges	MD	7	25	175	7	25	
Planting	MD	4	25	100	5	25	
Thinning and gap filling	MD	2	25	50	1	25	
Re-ridging	MD	2	25	50	2	25	
Weeding	MD	7.5	25	187.5	2	25	
Herbicide application	MD		25		1	25	
Pesticide application	MD		25		1	25	
Harvesting	MD	3.5	25	87.5	5	25	
Threshing and packing	MD	2.5	25	62.5	4	25	
Marketing	MD	1	25	25	1	25	
Labour needs and costs	MD	**29.5**		**737.50**	**29**	-	
Money-Out (ZMW)				**901.50**			
2. Money-In							
Yield x Price of Sale	Kg	180	6	**1,080**	450	6	
3. Profit or Loss ☺or☹ Money-In − Money-Out				**178.50**			
Unit Cost (ZMW/kg) Money-Out / Yield				**5.01**			

Explanation of Fixed Costs

Certain costs are called « fixed costs ». These are costs for equipment and tools that the farmer owns and are used on multiple crops or over multiple years, such as sprayers or irrigation pumps. The Fixed Costs do not vary with the size of the field.

Main Lessons

1. The Difference between Money-In and Money-Out indicates whether we are making a loss or profit from the use of the land.
2. The Unit Cost of a crop indicates if it can compete on the international market with the same crop produced elsewhere. In the case of food crops, the Unit Cost indicates if it is better to buy the crop on the market.
3. The good agricultural entrepreneur (man or woman) calculates well ahead of the season to decide what he/she will produce and which techniques to use.
4. During the production season the good agricultural entrepreneur (man or women) registers money spent for farm operations and inputs.
5. After the harvest, the good agricultural entrepreneur evaluates his/her profit and identifies what changes are needed to improve the planning and profit for the next production season.

Module 5 – Solution Exercise 1- Local (Village) Chicken

Village Chicken 

		Village chicken-Local breed 70%Mortality out of 100 birds			Village Chicken-Improved breed (2% Mortality out of 100 birds		
	Unit	**Quantity**	**Price ZMW**	**Total**	Unit	Price ZMW	Total
1. Money-Out							
Inputs							
Chicks	Each	100 x	10 =	1,000	100 x	15 =	1,500
Maize Bran	50kg Bag	0 x	0 =	0	6 x	50 =	300
Sunflower cake	50kg Bag	0 x	0 =	0	2 x	100 =	200
Minerals	Lumpsum	0 x	0 =	0	2 x	150 =	300
Vaccination-Gumboro	100 mls	0 x	0 =	0	2 x	30 =	60
Vaccination -Newcastle	100 mls	0 x	0 =	0	2 x	30 =	60
Vaccination-Fowl pox	100 mls	0 x	0 =	0	2 x	100 =	200
Disinfectant	1 ltr	0 x	0 =	0	1 x	100 =	100
Transport to Market	trip	6 x	20 =	120	5 x	40 =	200
Cost of Inputs				**1,120**			**2,920**
Labour							
Placement of Chicks	MD	0.25 x	25 =	6.25	0.25 x	25 =	6.25
Collection of bedding and litter	MD	2 x	25 =	50	3 x	25 =	75
Hygiene and Cleaning	MD	2 x	25 =	50	2 x	25 =	50
Vaccination	MD	0 x	25 =	0	1 x	25 =	25
Disinfection	MD	0 x	25 =	0	2 x	25 =	50
Care/Securing	MD	15 x	25 =	375	26 x	25 =	650
Marketing	MD	1 x	25 =	25	3 x	25 =	75
Labour needs + costs	**MD**	**20.25**	**-**	**506.50**	**37.25**	**-**	**931.25**
Money-Out (ZMW)				**1,626.25**			**3,851.25**
2. Money-In							
Poultry yield x Price of Sale	Each	30 x	35 =	**1,050**	98 x	50 =	4,900
Eggs yield x price of sale	Each	150 x	1 =	**150**	1,470 x	1 =	1,470
Manure yield x price of sale	Kg	150 x	5 =	**750**	500 x	5 =	2,500
Total Money-In	ZMW			**1,950**			**8,870**
3. Profit or Loss ☺or☹				**323.75**			**5,018.75**
Unit Cost (ZMW/Chicken)				**54.21**			**39.3**

Module 5 – Solution Exercise 2 : Cassava

Cassava 	Unit	Cassava local variety (0.25 ha)			Cassava- improved variety (0.25ha)		
		Quantity	Price (ZMW)	Total (ZMW)	Quantity	Price (ZMW)	Total (ZMW)
1. Money-Out							
Inputs and Services							
Planting material (cuttings)	Bundle	15 x	10 =	150	20 x	50 =	1,000
Herbicide	1 litre	x	=		1 x	120 =	120
Fertiliser (Basal)	50kg	x	=		0.5 x	500 =	250
Empty bags	Each	20 x	6 =	120	90 x	6 =	540
Transport-Field to home	Per bag	20 x	10 =	200	90 x	10 =	900
Transport to Market	Per bag	20 x	15 =	300	90 x	15 =	1,350
Total	ZMW			**770**			**4,160**
Labour							
Land Clearing	MD	9 x	25 =	225	9 x	25 =	225
Land preparation-Ridging	MD	15 x	25 =	375	15 x	25 =	375
Planting	MD	5 x	25 =	125	7 x	25 =	175
Gap filling	MD	4 x	25 =	100	1 x	25 =	25
Weeding-Manual	MD	7.5 x	25 =	187.50	x	25 =	
Herbicide application	MD	x	25 =		5 x	25 =	125
Harvesting	MD	9 x	25 =	225	16 x	25 =	400
Peeling, soaking, drying	MD	10 x	25 =	250	18 x	25 =	450
Marketing	MD	3 x	25 =	75	4 x	25 =	100
Labour needs and costs	MD	**63**		**1,562.50**			**1,875**
Money-Out (ZMW)				**2,332.50**			**6,035**
2. Money-In							
Cassava **x** Price of Sale	Kg	1000 x	2 =	**2,000**	4,500 x	2 =	**9,000**
Cuttings x price of sale	Bundle	10 x	10 =	**100**	25 x	50 =	**1,250**
Total Money in (production x sale Price) ZMW				**2,100**			**10,250**
3. Profit or Loss ☺or☹ Money-In ➖ Money-Out	**ZMW**			**-232.50**			**4,215**
Unit Cost (ZMW/kg) Money-Out / Yield				**2.33**			**1.34**

Module 5 - Solution Exercise 3 : Cowpeas

Cowpea 		Cowpea-Non-Improved (0.25 ha)			Cowpea-Improved (0.25 ha)		
	Unit	Quantity	Price (ZMW)		Quantity	Price (ZMW)	Total (ZMW)
1. Money-Out							
Inputs and Services							
Seed	5kgs	2 x	30 =	60	1 x	120 =	120
Herbicides	1 ltr	x	=		1 x	120 =	120
Pesticides/Aphicides	30mls	x	=		1 x	60 =	60
Empty grain bags	50 kg bag	4 x	6 =	24	9 x	6 =	54
Transport-field to home	Per bag	4 x	10 =	40	9 x	10 =	90
Transport to the market	Per bag	4 x	10 =	40	9 x	10 =	90
Cost of Inputs				**164**			**534**
Labour							
Land preparation-Ridges	MD	7 x	25 =	175	7 x	25 =	175
Planting	MD	4 x	25 =	100	5 x	25 =	125
Thinning and gap filling	MD	2 x	25 =	50	1 x	25 =	25
Re-ridging	MD	2 x	25 =	50	2 x	25 =	50
Weeding	MD	7.5 x	25 =	187.50	2 x	25 =	50
Herbicide application	MD	x	25 =		1 x	25 =	25
Pesticide application	MD	x	25 =		1 x	25 =	25
Harvesting	MD	3.5 x	25 =	87.50	5 x	25 =	125
Threshing and packing	MD	2.5 x	25 =	62.50	4 x	25 =	100
Marketing	MD	1 x	25 =	25	1 x	25 =	25
Labour needs and costs	MD	**29.5**		**737.50**	**29**	**-**	**725**
Money-Out (ZMW)				**901.50**			**1,259**
2. Money-In							
Yield x Price of Sale	Kg	180 x	6 =	**1,080**	450 x	6 =	**2,700**
3. Profit or Loss ☺or☹ Money-In − Money-Out				**178.50**			**1,441**
Unit Cost (ZMW/kg) Money-Out / Yield				**5.01**			**2.80**

Module 6 Improve your farm enterprise for more income throughout the year

- What crops will you choose?
- Rank crops based on Profit
- Make a choice based on this ranking

	Unit	 Village Chicken-Local variety	 Village Chicken-improved variety	 Cassava-Local variety	 Cassava-Improved variety	 Cowpeas-Local variety	 Cowpeas Improved variety
Surface Area	Ha/Flock size	100 Birds	100 Birds	0.25	0.25	0.25	0.25
1. Money-Out	ZMW/0.25ha/year	**1,626.25**	**3,851.25**	**2,332.50**	**6,035**	**901.50**	**1,259**
2. Money-In	ZMW/0.25ha/year	**1,950**	**8,870**	**2,100**	**10,250**	**1,080**	**2,700**
3. Profit or Loss? <u>Without risk</u> ☺or ☹	ZMW/0.25ha/Year	**323.50**	**5,018.75**	**-232.50**	**4,215**	**179**	**1,441**
Rank							
3. Profit or Loss? <u>With risk</u> ☺**or** ☹	ZMW/0.25ha/Year			**-232.50**	**4,215**	**179**	**1,441**
Rank							

What is a risk in agriculture?

The agricultural entrepreneur (man or woman) does not like risks because they are difficult to predict. However, one can determine during the planning what the impact of risks could be on revenues.

We use an example to learn this.

Market Risks	Production Risks
The market price of Village chicken and by-products reduce by 10% (i.e. from K35 to K31.50 for local Breed, and from K50 to K45 improved Breed. Eggs and manure prices reduced from K1 and K5 to K0.90 and K4.50 respectively)	Outbreak of pests and diseases may reduce the Sorghum yields: - The yield of the local variety falls from 30 to 27 - The yield of the improved variety falls from 98 to 88

Let us determine the impact of these risks on the success of our business with a small calculation.

The Money-Out does not change -- the money has already been spent.

	Unit	 Local breed	 Improved breed
Flock size/year	Per Bird	100	100
1. Money-Out	ZMW	**1,626.25**	**3,851.25**
2. Money-In			
Yield (lower)	Birds/year	27	88
Price (lower)	ZMW/Bird	31.50	45
Yield **x** Price of Sale	ZMW/Year	**850.50**	**3,960**
3. Profit or Loss? (Money in **MINUS** Money Out) ☺or ☹	ZMW/Year	**-775.75**	**108.75**

Are the two risks acceptable?

What can you do to avoid the risk?

Register the result in the preceding table to compare the results with the situation without risk.

Main Lessons

1. Comparing profits of different crops and production techniques helps to make decisions on using the land to maximize revenue. This comparison is important to all agricultural entrepreneurs (man or woman)

2. Production decisions are based on these comparisons.

3. The good agricultural entrepreneur knows that a fluctuation in prices constitutes a risk on revenue. Risks are a concern for traditional as well as improved varieties and techniques.

4. To evaluate the impacts of this Market Risk, the entrepreneur calculates the Money-in with a much lower price ("pessimistic") than the current price (or last season's price). If the "pessimistic" profit can still satisfy the revenue objectives, then the risk is acceptable.

Module 7 Manage your money throughout the year

Bad management of money	➲ How does one know if the money is managed badly? ➲ What are the causes? ➲ How to manage money well during the year?

One should Plan! The person, who fails to plan, plans to fail!

First step: Foresee household expenditure

Below are the expenditures of a Household of 6 persons (2 children not yet in school, 2 children in primary school).

Can we foresee these expenditures? When is the money needed? Let's calculate how much money is needed for the household in one year.

Money Needs	**Can be foreseen**	**Period**	**Money-Out**	
			ZMW per month	ZMW per year
Matches 	Yes	Each month	3	36
Salt 	Yes	Each month	14	168
Soap 	Yes	Each month	60	720
Kerosene	Yes	Each month	20	240
Purchase food 	Yes	Each month	350	4,200
Mobile phone recharge 	Yes	Each month	20	240
Sub-total	Yes	Each month	**467**	**5,604**
School fees (500 ZMW per child, 3 times a year) 	Yes	January	3,000	3,000
Clothing 	Yes	December	300	300
Happy events	Yes	Once a year (March)	400	400
Total expenditure for household per year that can be foreseen				**9,304**

Second Step: Fill financial calendar on

- Let us put these numbers into a financial calendar. In the next page you will see the numbers calculated in Module 5.
- How much money is left at the end of each month?
- How much money is left at the end of the year?

Third Step:

Fill out the second financial calendar. The expenditures for Inputs and Labour are those from the Exercise Sheets in Module 5 – using improved practices.

Module 7 - Financial Calendar based on a farm using current practices (ZMW) - Exercise

Money-Out	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Totals
Village Chicken (100 Birds)													
Inputs	1,000								120				**1,120**
Labour	6.25								500				**506.25**
Cassava (0.25 ha)													
Inputs									320	300	150		**770**
Labour	100		187.50					475	75	225	375	125	**1,562.50**
Cowpeas (0.25ha)													
Inputs					64	40						60	**164**
Labour	150	50	187.50		150	25						175	**737.50**
Household monthly	467	467	467	467	467	467	467	467	467	467	467	467	**5,604**
School fees and material	3,000												**3,000**
Happy events												400	**400**
Clothing												300	**300**
Total per month													**14,164.25**
Money-In	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	
Village Chicken									**1,950**				**1,950**
Cassava										**2,100**			**2,100**
Cowpeas						**1,080**							**1,080**
Total per month													**5,130**
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	
Monthly balance Money-In minus-Money-Out													**-9,034.25**
Cumulative balance													

Module 7 - Financial Calendar based on a farm using improved practices (ZMW) - Exercise

Money-Out	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Totals
Village Chicken (100 Birds)													
Inputs & Services	2,130	30	530	30	200		2,130	30	530	30	200		**5,840**
Labour	56.25				881.25		125				800		**1,862.50**
Cassava (0.25ha)													
Inputs & Services								900		1,910		1,350	**4,160**
Labour		125				225			375	850	200	100	**1,875**
Cowpeas (0.25ha)													
Inputs & Services				**54**	**90**			**90**		**300**			**534**
Labour	**50**	**100**		**125**	**100**			**25**			**175**	**150**	**725**
Household monthly	**467**	**467**	**467**	**467**	**467**	**467**	**467**	**467**	**467**	**467**	**467**	**467**	**5,604**
School fees and material	**3,000**												**3,000**
Happy events												**400**	**400**
Clothing												**300**	**300**
Total per month													**24,300.50**
Money-In	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	
Village Chicken					**8,870**						**8,870**		**17,740**
Cassava												**10,250**	**10,250**
Cowpeas								**2,700**					**2700**
Total per month													
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	
Monthly balance Money-In minus-Money-Out													**6,389.50**
Cumulative balance													

Module 7 - Financial Calendar based on a farm using Non-improved practices (ZMW) - Solution

Money-Out	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Totals
Village Chicken (100 Birds)													
Inputs	1,000								120				**1,120**
Labour	6.25								500				**506.25**
Cassava (0.25 ha)													
Inputs									320	300	150		**770**
Labour	100		187.50					475	75	225	375	125	**1,562.50**
Cowpeas (0.25ha)													
Inputs					64	40						60	**164**
Labour	150	50	187.50		150	25						175	**737.50**
Household monthly	467	467	467	467	467	467	467	467	467	467	467	467	**5,604**
School fees and material	3,000												**3,000**
Happy events												400	**400**
Clothing												300	**300**
Total per month	4,723.25	517	842	467	681	532	467	942	1,482	992	992	1,527	**14,164.25**
Money-In	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	
Village Chicken									**1,950**				**1,950**
Cassava										**2,100**			**2,100**
Cowpeas						**1,080**							**1,080**
Total per month						**1,080**			**1,950**	**2,100**			**5,130**
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	
Monthly balance Money-In minus-Money-Out	**-4,723.25**	**-517**	**-842**	**-467**	**-681**	**548**	**-467**	**-942**	**468**	**1,108**	**-992**	**-1,527**	**-9,034.25**
Cumulative balance		**-5,240.25**	**-6,082.25**	**-6,549.25**	**-7,230.25**	**-6,682.25**	**-7,149.25**	**-8,091.25**	**-7,623.25**	**-6,515.25**	**-7,507.25**	**-9,034.25**	

Module 7 - Financial Calendar based on a farm using improved practices (ZMW) - Solution

Money-Out	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	Totals
Village Chicken (100 Birds)													
Inputs & Services	2,130	30	530	30	200		2,130	30	530	30	200		**5,840**
Labour	56.25				881.25		125				800		**1,862.50**
Cassava (0.25ha)													
Inputs & Services								900		1,910		1,350	**4,160**
Labour		125				225			375	850	200	100	**1,875**
Cowpeas (0.25ha)													
Inputs & Services				54	90			90		300			**534**
Labour	50	100		125	100			25			175	150	**725**
Household monthly	467	467	467	467	467	467	467	467	467	467	467	467	**5,604**
School fees and material	3,000												**3,000**
Happy events												400	**400**
Clothing												300	**300**
Total per month	**5,703.25**	**722**	**997**	**676**	**1,738.25**	**692**	**2,722**	**1,512**	**1,372**	**3,557**	**1,842**	**2,767**	**24,300.50**
Money-In	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	
Village Chicken					**8,870**						**8,870**		**17,740**
Cassava												**10,250**	**10,250**
Cowpeas								**2,700**					**2700**
Total per month					**8,870**			**2,700**			**8,870**	**10,250**	**30,690**
	Jan	**Feb**	**Mar**	**Apr**	**May**	**Jun**	**Jul**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	
Monthly balance Money-In minus-Money-Out	**-5,703.25**	**-722**	**-997**	**-676**	**7,131.75**	**-692**	**-2,722**	**1,188**	**-1,372**	**-3,557**	**7,028**	**7,483**	**6,389.50**
Cumulative balance		**-6,425.25**	**-7,422.25**	**-8,098.25**	**-966.50**	**-1,658.50**	**-4,380.50**	**-3,192.50**	**-4,564.50**	**-8,121.50**	**-1,093.50**	**6,389.50**	

Fourth Step: Discussion

Which situation is preferable? What changes are necessary?			With **current** production techniques per year (ZMW)	With **improved** production techniques per year (ZMW)
	Can be foreseen?	Period-month		
Money-Out for household	yes	each month	5,604	5,604
Money-Out for scalarisation, clothing, happy events	yes	different months	3,700	3,700
Money-Out for Production (inputs and labour)	yes	different months	**4,860.25**	**14,996.50**
Total money-out			**14,164.25**	**24,300.50**
Money-In from production	yes, but can change	different months	**5,130**	**30,690**
Money available for savings, other expenditure Money-In from Production and other sources minus Money-Out for Household and inputs			**-9,034.25**	**6,389.50**
Difference between the two situations (ZMW)				

Note: In this example all product from the farm is sold! We have not yet deducted what the family eats!

Attention

- Discuss the differences and which situation is preferable.
- What changes are needed?

Main Lessons

1. In the agricultural enterprise, expenditures (Money-Out) for the farm and the household are made each month, but the revenue (Money-In) comes only during the months of harvest or sale of produce. Therefore, there are months of the year where the expenditures are greater than the revenues. These months are called "**deficit months**."
2. For this reason, the good agricultural entrepreneur (man or woman) makes a financial calendar. He or she plans with the spouse(s) the expenditures for production and household needs.
3. To cover the expenditures in deficit months, the good agricultural entrepreneur saves money from the sales of produce ("surplus months").
4. Improved techniques can improve the revenues of the agricultural entrepreneur.
5. The needs for Inputs can be identified with calculations of Gross Margin and the Financial Calendar. This information can be used to make savings in a targeted way or to solicit credit for production.

Module 8 How to get good financial services

The financial calendars lead to a number of questions...

Savings

Saving is when money is put aside by an individual or household for use in the future. Saving can also be done in the form of investments, animals or land, which can be sold when cash is needed and is a way of building assets.

Why is it important to create savings?

- When saving in a bank account, the money is safe and/or might earn an interest.
- Savings in an account are often a necessary pre-condition to obtain a loan.
- With savings the agricultural entrepreneur can invest in his/her enterprise and thereby increase Money-In, for example, by buying improved seeds or fertilizer.

How can you create savings? What are the advantages and disadvantages?

	Hide money at home	Bring money to a bank/mobile money	Saving money in the SILC groups
Advantage	1. The money is immediately available. 2. There is no fees and bank charges	1. The money is safe at the bank/mobile account. 2. Having savings at the bank/mobile money may facilitate a loan from the bank/mobile providers. 3. Saving at the bank/mobile money reduces the risk of spending money impulsively because it is not immediately available.	1. Can be accessed easily 2. Low interest rates 3. Flexible payments terms 4. No monthly charges on saved or deposited money
Disadvantage	1. Money is not safe and can be stolen. 2. Money can be destroyed (by a fire, for example). 3. There is increased risk of making impulsive expenditures.	1. The money is not immediately available. 2. Bank services often attract a service fee.	1. Money is not safe and can be stolen 2. Money can be destroyed (by a fire, for example)

Paying money into your bank/mobile money account	Removing money from your bank/mobile money account
• Go to the bank/mobile agents.	• Think why you need money, and how much • Go to the bank/mobile agents.
• Fill out the deposit form/direct deposits at banks/mobile agents booths.	• Fill out the money withdrawal form/using your phone to withdraw.
• The deposit is registered electronically in your bank/mobile money account.	• The withdrawal amount is electronically deducted from your bank/mobile money account.
• Receive a deposit confirmation slip or phone message alert	• Message alert on your phone confirming your withdrawal

Saving money in the SILC groups	Removing money from SILC groups
• Plan amount to save on the meeting day	• Calculate total savings to-date
• Save during SILC meetings day	• Plan amount to borrow from the group
• Amount recorded in the group register book and signed by the member	• Sign in the savings register upon getting the money
• Keep your personal record each time an amount is saved in the group	Keep your personal record each time an amount is removed from your savings

Bank Deposits

Collection of money from the people

Commercial Banks, Savings and Credit Cooperatives, and some Microfinance Institutions (MFI) accept money from people who have, it to save or who are saving it from their income. They keep the money safe on your behalf.

The agricultural entrepreneur can put money into **current**, **savings** and **fixed accounts**.

What saving products are being offered by financial service providers?

A **current account is an account for business people like you** Money put in this account can be taken out any time through the bank, ATM, or mobile money services.

A **savings account** helps you to save money and keep it safe or with the objective to get a loan. He/she can take money whenever need arises by going to the bank, or possibly through an ATM or mobile money. The bank pays interest on the money in this account every three months, every six

months or every year. As an owner of a savings account you receive an ATM card from the bank to make withdrawal or a bank book into which money deposits and money withdrawals is recorded.

A **fixed deposit account** helps the agricultural entrepreneur or any other person/farmer to keep money safe and to earn interest, which can increase the investment. He/she can only take out his/her money at a time he/she has agreed with the bank, for example after six months. The money that is paid on top of the amount (interest) in this account depends on how long the money will be in this account. If for any reason, he/she wants to take out the money before the time he/she has agreed with the bank, the bank charges him/her a penalty fee. This type of account could be used by an agricultural entrepreneur or any other person/farmer to put in more money for inputs and implements.

When opening a bank account, the agricultural entrepreneur (man or woman) investigates what the direct and the indirect cost associated with a bank account might be:

Direct cost	**Indirect cost**
• Monthly account holding fees • Counter withdrawal fees • Costs for an ATM card • Costs of ATM withdrawal • Account opening and closing fees	• Know your Customer requirements • Travel time and cost to reach the nearest bank branch, agent, or ATM

There are many financial institutions which offer different services, with different fee structures. The good agricultural entrepreneur informs him/herself about the possible options for him/her.

What saving products are being offered by financial service providers/mobile money?

1. **……**
   ……
   ……
2. **……**
   ……
3. **……**
   ……

Loans

What is a credit/loan and interest?

- A loan/credit is money you borrow from a person or a bank promising to pay back this money. This is a service you get, and you pay interest on the borrowed money. Money can be borrowed for a very short time (1 month to 12 months).
- Interest in the money you earn on your investment with the Bank or insurance
- Money can be borrowed for a short time (1 to 2 years).
- Money can also be borrowed for a long time (3 years onwards).
- Interest can be charged every week or every two weeks, every month or every year on the money you borrowed.

Reasons people borrow:

- To invest
- To respond to an emergency
- To consume

What are the responsibilities when borrowing?

- How did you feel when you lent something – anything – to someone that was not returned to you? What did you do?
- How did you feel when you failed to return something that you borrowed? What happened?
- When someone borrows something, what are their responsibilities as the borrower?
- What can happen if the borrower fails to meet their responsibilities as a borrower?

What is the difference between using your own money and using borrowed money?

Using own money	Using borrowed money
• Fewer obligations and responsibilities • No interest to pay	• A loan comes with obligations for the borrower, including repayment with interest and, in some cases, group membership. • More access to more financial capital • A loan costs money

The most common sources of loans are summarized below.

Microfinance institution	Informal lender	Loans from friends and family
		
Bank		

What to know before borrowing:

- Why do you intend to get a loan (purpose)?
- The sources of income and/or savings you need to reimburse the loan.
- When you will get the loan?
- The amount of your reimbursement, including principal amount (initial loan amount), interest and fees;
    - Usually, interest is charged monthly as a percentage on the principle loan amount in the informal sector. Banks usually use annual interest. Make sure that you really understand what the interest rate is, not only in a percentage but also in monetary terms;
    - Loan processing fees as a percentage of the loan principle.
    - Mandatory credit life insurance.
- That from the investment made of the loan money, you will be able to both repay the loan and make a profit.

- Understand the repayment schedule and the grace period before the first repayment is due.

When you apply for a loan, the bank or MFI will demand several things from you before they consider giving you a loan. Some requirements could be:

- A valid ID card;
- Proof of residence (e.g. utility bill);
- Some form of collateral or compulsory savings.

Depending from whom you borrow, the service fee and interest you will have to pay will vary.

Let us have a closer look at how a bank provides a loan. After applying for the loan, a bank will give you a letter telling you it has agreed to give you the money you have asked for. The bank also shows when you must pay back the total amount of money.

The agricultural entrepreneur as the borrower and the bank know the payments of the loan, including service fee, interest and repayment of the principal, and when all the payments are to be made. This makes planning simple for all.

Example

John is a farmer from Mansa district. He needs ZMW 15,000 to buy 100 improved Breed of Village Chickens and inputs for his Cassava crop(1ha). He decides to go to the bank to borrow this money.

The bank agrees to give John the money, but tells him that he must pay back ZMW 16,700 in 12 months (at 11% interest rate)

The ZMW 15,000 John borrowed is the credit. John will have to pay an additional ZMW 1,700 as interest (11%) for the money he borrowed.

The 12 months is how long it will take until John has to pay back the money.

There are two common types of loans

- Business loans
- Personal loans

Business Loan

This loan is given to businessmen and women like farmers to make their business (farming) better or to increase the size of their business (farm increasing from 1 hectare to 2 hectare). Business loans are given to groups or to individuals. Examples of business loans are:

Agricultural Loan:	E.g. a short-term loan that can be used to buy planting material, seeds, fertilizer, insecticides, and herbicides. Or a long-term loan that can be used to purchase agricultural implements
Expansion Loan:	This loan helps farmers to increase their farming business by increasing the cropping area. Other loans offered by some commercial banks, can be, to purchase a Commercial Farm, buy tractor and other farming equipment or implements.
Other investment loans:	For other non-agriculture related businesses (expanding existing businesses e.g. groceries shops).

Personal Loan

This type of loan is not for business. It is rather used to buy things that are needed for the home like a solar system or to pay school fees.

Ways by which money can be borrowed

- The agricultural entrepreneur can borrow money as a single person (individual loan). In this case, the bank always asks for things like a building, a car or land to be put down, as collateral, before giving out the money. In case he/she is not able to pay back the loan, the bank can take possession of the collateral. If he/she pays the loan and the service fee back in time, the bank will be happy to serve him/her in the future.
- The agricultural entrepreneur can borrow money as a member of a group (Co-operative). The group can be a registered Farmers' Organization. If he/she pays back the loan and the service fee in time, the other group members will be happy to keep him/her in the group. If he/she does not pay back in time, the bank may require other members of his/her group to pay on his/her behalf or make it more complicated for other members of his/her group to borrow money.

The good agricultural entrepreneur pays back his/her loan plus the interest in the agreed time.

This way he/she can build a good relationship with the lender and make sure that next time he/she will get another loan at the same or maybe even better conditions!

Main Lessons

1. The good agricultural entrepreneur (man or woman) plans his/her expenditures and money entries all along the year to avoid shortages of money and unforeseen loans that are expensive.
2. To meet the needs of Money-In in deficit months, the good agricultural entrepreneur (male or female) makes savings with the surplus money from product sales. It takes discipline to do so.
3. Saving money with a bank or a micro-finance institution which is close by has the advantage that money is safe. Another advantage is that one is obliged to plan for expenses before withdrawing money.
4. To know which bank account to open and use, the agricultural entrepreneur inquires the conditions and associated cost.
5. There are different types of savings that offer various benefits. Banks and institutions of micro-finance provide information and advice to inform their customers.
6. There are different types of loans. The good agricultural entrepreneur looks at the various options and chooses the type of loan with convenient service fees and conditions for reimbursement
7. The good agricultural entrepreneur (male or female) takes a loan only when he/she is sure to be able to repay on time. For this reason, he/she plans the investments and expenditures required. The Gross Margin and the Financial Calendar are the appropriate tools for this planning.
8. Once a loan is received, the good agricultural entrepreneur (male or female) sticks to the objective of the investment. Otherwise, the agricultural entrepreneur is likely to have repayment problems.

Module 9 Earning more Money by Investing in Good Quality Seed and planting material

We have seen that you can make money with farming through good planning, improved techniques, quality inputs (seeds, plant nutrients), good agronomic practices and improved post-harvest management (drying, storage, marketing). Besides, an understanding of the basic calculations that help us make good decisions, including financial literacy and entrepreneurship, that has been covered extensively throughout the module.

Let us now see the issue of using good quality seed.

1. Good quality seed and planting material influences the yield of cowpea and cassava

What is good quality seed? What is your experience?	What are the benefits from quality seeds?
Good quality seed is clean! **No** stones, sand, debris, nor seeds of weed nor seeds of other crops.	Using such seed saves work because there are less weeds. 
Free from mechanical damages. Possession of good shape, size, colour, etc. according to specification of variety.	Such seed germinates well. 
Good quality seeds have been stored well and treated well.	Such seed germinates well.
Good quality seeds have an optimum moisture content of: Cereals: 10-12 %, Oilseeds: 6-7%	They can be stored for a long time and still germinate well.
Good quality seeds are less infested by pests and diseases.	Such seed saves money less because less pesticide is needed. 
Good quality seeds germinate fast and uniform.	Less seed is needed. Less weeding is needed.
Good quality seed is perfectly adopted to the climatic conditions.	The crops are less stressed and achieve higher yields.
Desired genetic make-up (from high yielding, early maturing and disease tolerance plants).	Yield prediction is very easy. High profit per unit area. 

What is good quality planting material? What is your experience?	What are the benefits from quality planting material?
Free from mechanical damages. Possession of good shape, size, colour, etc. according to specification of variety.	Such planting material germinates and grows well. 
Good quality planting material have been stored well and treated well.	Such planting material germinates well.
Good quality planting material are less infested by pests and diseases.	Such planting material saves Money because less pesticide is needed. 
Good quality planting material germinate fast and uniform.	Less planting material is needed. Less weeding is needed.
Good quality planting material is perfectly adopted to the climatic conditions.	The crops are less stressed and achieve higher yields.
Desired genetic make-up (from high yielding, early maturing and disease tolerance plants).	Yield prediction is very easy. High profit per unit area. 

2. What yield trend do you observe when using own seeds or planting material? What yield

trend do you observe when using quality seeds or planting material?

Good quality seeds can contribute about 20-25 % increase in yield.

The plant population is more uniform, and maturity is more equal and therefore easier to manage.

3. What are the possibilities to get quality seed?

The farmers have the following options to choose from:

- **Self-production**: This is when the farmers raise their own new generation seeds
- **Purchase**: Buy new generation seed from reputable seed producers, who follow the commercial production process

10 rules for a successful self-production of quality seeds.

1. Choice of good plot with fertile, well-drained loamy soil texture.

2. Prepare the field by ploughing, harrowing and ridging.

3. Source good, high quality seed from the plots that have produced the highest yields, other farmers or reputable seed producers.

4. Crop rotation and sowing of pure stands (no crop association).

5. Apply Good Agricultural Practices.

6. Careful weeding is important to minimize the contamination of the seed with weed seed.

7. Observe seed production plot and take out infested plants.

8. Threshing should be done carefully to avoid mechanical damage on the seed.

9. Seeds can be coated with pesticides and fungicides for a better protection. Post-harvest pesticides should also be applied on storage bags.

10. Store the seed in a clean, dry and proper room.

Purchase of new generation seed and planting material from reputable producers

The seed or planting material that reaches the farmers must be of the best quality possible.

What does that mean?

- The seed/planting material must correspond to what is written on the label
- The seed/planting material must meet the optimum agro-ecological conditions of under the specific farming zone or region
- The seed must be of a good varietal purity and have a good germination rate.
- The seed quality/planting material must meet the certification standards
- Evidence of the producer having been supervised all through the multiplication process for the safeguard of the genetic purity, and
- The germination must have been checked before sale to farmers
- The supplier must be traceable (through lot number, physical address and contact telephone)

Main lessons

1. The good entrepreneur (man or woman) knows that quality seeds result in the more yields.
2. The Agricultural entrepreneur (man or woman) prepares for using new seeds
3. The good agricultural entrepreneur (man or woman) uses only registered or certified seeds from reputable seeds suppliers of improved varieties.
4. The good agricultural entrepreneur (man or woman) knows where he or she can purchase quality seed.

Module 10 Benefits from membership in farmer organizations

- What is the use of being in a farmer organization?
- What are the problems and risks of an organization that you know?
- How do you avoid these problems?
- What is your conclusion?

How can one know if a farmer organization works well?

➲ Existence of the group

- Members pay of annual contributions without pressure
- Members accept the costs (deductions on sales) without complaining

➲ Operation of the group

- Existence of Rules
- Existence of rules on the control of accounts
- Regular Production and presentation of reports
- The evolution of group activities (tonnage production, sales volumes of expenditure group purchasing of inputs) is positive

In the next section we will look at the advantages of being a member of a farmer organization.

Exercise 1 – Group Purchase of Inputs

Group purchase of inputs can help to negotiate lower prices as larger quantities are bought.

As an example, we assume that inputs can be purchased at a 10% discount through purchases as a group.

Let us see how much the benefit is for one group member, if all required inputs (seed, herbicide, fertilizer, pesticides, bags, etc.) are purchased as a group at lower price. Services such as land preparation, transport from field to house and to market is not to be included.

Calculation of benefit from group purchase of inputs – improved farming techniques

Module 10 Exercise Sheet Group sales

Let's calculate the additional profits obtained through group sales – in the case of improved farm production

		 Improved Breed (Village Chicken)		 Improved variety (Cassava)		 Improved variety (Cowpeas)	
	Unit	Individual Sale	Group Sale 10 % price increase	Individual Sale	Group Sale 10 % price increase	Individual Sale	Group Sale 10 % price increase
Surface Area	Ha	1	1	1	1	1	1
1. Money-In	ZMW	**4,900**	**5,390**	**9,000**	**9,900**	**2,700**	**2,970**
Production	Kg	98	98	4,500	4,500	450	450
Price	ZMW/kg	50	55	2	2.20	6	6.60
3. Benefit of group sale	ZMW	0	490	0	900	0	270

Total Benefit of group sales	**ZMW**	**1,660**

Module 10: Exercise Sheet

Calculation of the profit of group purchase of Inputs – in the case of Improved farming techniques

Inputs can be provided less 10% less expensive through grouped purchase

		 Improved Breed (Village Chickens)		 Improved variety (Cassava)		 Improved variety (Cow peas)	
	Unit	Individual input purchase	Group input purchase with 10% Discount	Individual input purchase	Group input purchase with 10% Discount	Individual input purchase	Group input purchase with 10% Discount
Surface Area	Ha/flock	200	200	0.25	0.25	0.25	0.25
Cost of Inputs	**ZMW**	**2,720**	**2,448**	**1,910**	**1,719**	**354**	**318.60**
Profit of group purchase	**ZMW**	**0**	**272**	**0**	**191**	**0**	**35.40**

Total Benefit of group purchase of inputs	**ZMW 498.40**

Total Benefit of group business	**ZMW 2,158.40**

What lessons can you learn from these examples?

Main Lessons

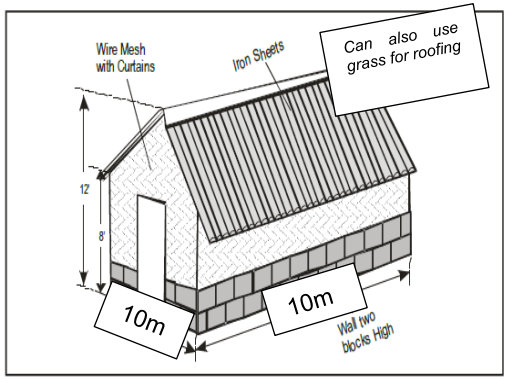
1. Agricultural entrepreneurs (men or women) form groups or associations to do things they are not able to do alone.
2. Groups or associations of agricultural entrepreneurs (men or women) have a common business objective. To achieve their common goal, the members learn together, from each other and support each other.
3. For service providers, it is easier and cheaper to work with farmer groups or associations than with individuals. A group of agricultural entrepreneurs (men or women) can more easily seek financial services or information on production techniques from extension.
4. For input suppliers, it is easier and cheaper to work with farmer groups or associations than with individuals. A group of agricultural entrepreneurs (men or women) can organize grouped purchases of agricultural inputs and can better prices from the input supplier.
5. For buyers of agricultural products, it is easier and cheaper to work with farmer groups or associations than with individuals. A group of agricultural entrepreneurs (men or women) can organize grouped sales of agricultural products like potato. The group can get better prices from the buyer – if the quality of the product is correct.
6. Associations or groups of agricultural entrepreneurs that function well have clear rules that are respected. When the rules are broken by members, sanctions are applied.
7. Good leaders of farmer associations play their role to improve the business of all members.
8. Agricultural entrepreneurs (men or women) that are members of well-functioning associations or groups do better business.
9. Agricultural Entrepreneurs that are doing better business with the support of their association pay their membership fees without reluctance.

Module 11 More money with Good Agricultural Practices (GAP)

Any Farmer must realise that productivity, good quality produce comes from a combination of production factors that include:

a. Weather pattern
b. Soil and environmental management
c. Access to quality and affordable Inputs and better market with good prices
d. Farming practices applied

Any of the above factor cannot singly manage to improve the productivity and produce quality but rather a combination of all the above. But one of the areas where a famer can invest is the farming practices being applied by adopting Good Agricultural Practices (GAP) that adapt to the current climatic changes. Some of the general Good Agricultural Practices (GAP) are listed below:

Poultry – Village Chicken 	**Cassava** 	**Cowpeas** 
• Construction of clean and appropriate livestock housing.  • Use recommended stocking of village chicken in the poultry house – 100 chickens in a 100m^2 (10m x 10m) using the semi-intensive system.	• Plan for seed to be planted – use of certified/improved varieties (e.g. Mweru) that mature in about one and half years  -Use un-diseased cuttings-, and practice crop rotation 	• Use of certified seeds which are early maturity varieties, yield more, resistant to pests and diseases  • Practice crop rotation to have healthy plants and also avoid pest and disease build-up in the field

- Good selection of breed such as **SASSO improved local chicken which mature at 4months and can have two cycles per year**
- Supplement of adequate feed and clean water – 50kgs bags mixture of maize bran and sunflower cake for 100chickens per week (mixture of 35kgs maize bran to 15kgs of sunflower cake)
- Keep surrounding and inside the poultry house clean and dry by regular removal of chicken manure (at least twice per week) and replacing with dry wood shavings to reduce outbreak of diseases.
- Adherence to vaccination programme to reduce outbreak of diseases – follow a recommended timeline of vaccination (Newcastle at 2weeks and 12 weeks, fowl fox at 3 weeks and 13weeks, gumboro at 5weeks and 15weeks)

-Adhere to recommended planting depth and spacing

-Use recommended/specific basal fertiliser to enhance productivity and quality of the produce

-

Timely weeding possibly before planting using organic herbicide

-Use the recommended seed rate (5kgs per lima) for proper plant growth.

- scout for pests and diseases before applying chemicals and use only herbal insecticides and pesticides such as neem tree chemicals in the picture below and try to avoid the use artificial chemicals

Module 12 Becoming an entrepreneur in Practice

The work templates have been presented to you in this session.

- What have you learned?
- What will you change?
- After this training what will you do to become an agricultural entrepreneur in practice?
- What do you need to succeed and do good business?

Ask for your FBS participation certificate with serial number and signature of your trainer

<u>Use the following templates to</u>

➔Plan production

➔Record Money-Out and Money-In

➔ Calculate whether you make Profit or Loss

➔Plan expenditure and income from sales and

➔ Control the reimbursement of loans

5. Templates for application

Plan and evaluate production

Cropping calendar for plot 1

Size of the Plot (field)	Main Crop	Variety
	Associated mixed crop 1	Associated mixed crop 2

Work Planned	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

Profit or Loss plot 1

Plot area: _____	**Unit**	**Expected before production** Quantity	Price (ZMW)	Total (ZMW)	**Evaluation after harvest** Quantity	Price (ZMW)	Total (ZMW)
1. Money-Out							
Inputs							
Total cost of inputs							
Labour (Man-Days)							
	MD						
	MD						
	MD						
	MD						
	MD						
	MD						
	MD						
	MD						
	MD						
	MD						
	MD						
Total Labour needs and costs	MD						
Total Money-Out Costs of inputs + Cost of Labour			ZMW				
2. Money-In Production X sales price			ZMW				
3. Profit or Loss? Money-In MINUS Money-Out			ZMW				
4. Unit Cost (ZMW/kg) Money-Out / Production			ZMW/kg				

Tracking Money-Out for plot 1

Date	Reason	Amount « money out »
	Total	

Tracking Money-In for plot 1

Date	Reason	Amount « money in »
	Total	

Plot 2

Cropping calendar for plot 2

Size of the Plot (field)	Main Crop	Variety
	Associated crop 1	Associated crop 2

Work Planned	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

Profit or Loss plot 2

Plot area: _____	**Unit**	**Expected before production** Quantity	Price (ZMW)	Total (ZMW)	**Evaluation after harvest** Quantity	Price (ZMW)	Total (ZMW)
1. Money Out							
Inputs							
Total cost of Inputs							
Labour (Man-Days)							
	MD						
	MD						
	MD						
	MD						
	MD						
	MD						
	MD						
	MD						
	MD						
	MD						
	MD						
Total Labour needs and costs	MD						
Total Money-Out Costs of inputs + Cost of Labour			ZMW				
2. Money-In Production X sales price			ZMW				
3. Profit or Loss? Money-In MINUS Money-Out			ZMW				
4. Unit Cost (ZMW/kg) Money-Out / Production			ZMW/kg				

Tracking Money-Out for plot 2

Date	Reason	Amount « Money Out »
	Total	

Tracking Money-In for plot 2

Date	Reason	Amount « Money In »
	Total	

Plot 3

Cropping calendar for plot 3

Size of the Plot (field)	Main Crop	Variety
	Associated crop 1	Associated crop 2

Work Planned	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

Profit or Loss plot 3

Plot area: _____	**Unit**	**Expected before production** Quantity	Price (ZMW)	Total (ZMW)	**Evaluation after harvest** Quantity	Price (ZMW)	Total (ZMW)
1. Money Out							
Inputs							
Total Cost of Inputs							
Labour (Man-Days)							
	MD						
	MD						
	MD						
	MD						
	MD						
	MD						
	MD						
	MD						
	MD						
	MD						
	MD						
Total Labour needs and costs	MD						
Total Money-Out Costs of inputs + Cost of Labour			ZMW				
2. Money-In Production X sales price			ZMW				
3. Profit or Loss? Money-In MINUS Money-Out			ZMW				
4. Unit Cost (ZMW/kg) Money-Out / Production			ZMW/kg				

Tracking Money-Out for plot 3

Date	Reason	Amount « Money Out »
	Total	

Tracking Money-In for plot 3

Date	Reason	Amount « Money In »
	Total	

Evaluate the production year

Plot number	Main Crop	Area	Money-Out	Production	Unit	Sales Price per unit	Money-In	Profit or Loss ☺ or ☹
1								
2								
3								
	Total							

	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5
Main crop					
Am I satisfied with the results of the year?	☺ or ☹	☺ or ☹	☺ or ☹	☺ or ☹	☺ or ☹
What is the most important change to make for the next year?					
What purpose has this change?					
How will I make this change? How much will it cost?					
How much money can I raise?					
Do I need credit?					

Managing money throughout the year

Planning of household expenditure

Financial Needs	Expenditures (SSP)	When
Matches		Monthly
Salt		Monthly
Soap		Monthly
Petrol		Monthly
Food		Monthly
Water		Monthly
Sub-total		Monthly
School fees		Once per year
Clothing		Once per year

Financial Needs	Expenditures (ZMW)	When
Happy Events Christmas		December
Easter		March/April
Reserves for unforeseen expenditures		Monthly

My Financial Calendar for Planning

Money-Out

Crop		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
	Inputs												
	Labour												
	Inputs												
	Labour												
	Inputs												
	Labour												
	Inputs												
	Labour												
	Inputs												
	Labour												
	Inputs												
	Labour												
Equipment and tools													
Household													
School fees													
Happy Events													
Clothing													
Total Money-Out per month													

Money-In

Crop	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
Other revenues												
Total Money-In per month												
Monthly balance Money In – Money Out												
Cumulative Balance												

Manage loan and reimbursement

Purpose of loan	
Interest Rate	
Date of loan	
Final Reimbursement date	
Amount received	
Amount to reimburse	
Date	**Amount reimbursed**

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