DESNOES & GEDDES FOUNDATION FARMER'S WORKBOOK

FARMING AS A BUSINESS

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Acknowledgements

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ACDI/VOCA has developed Farming as a Business training programmes throughout the world for variety of countries, crops and contexts.

In 2013, the USAID Jamaica Rural Economy & Ecosystem Adapting to Climate Change also adapted ACDI/VOCA's Farming as a Business (FaaB) training manuals and curricula to agroforestry in Jamaica.

This manual is a further adaptation of ACDI/VOCA's FaaB manual to the needs of the USAID Jamaica Rural Economy and Ecosystems Adapting to Climate change II (Ja REEACH II) programme.

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Table of Contents

Introduction

To Our Farmers

The ACDI/VOCA Ja REEACH II programme promotes an approach to agriculture where farmers know their market and are linked to a buyer before they start growing. This workbook was developed in conjunction with the Desnoes & Geddes Foundation (D&GF) to train its farmers in the Red Stripe Out-Grower programme in business principles applied to the production of cassava.

The D&GF is executing Project Grow: Accelerating the Inclusion of Small Farmers & Youth into the Commercial Cassava Value Chain (IFYC) project. A critical part of this project targets best practices in cassava production as well as the application of the business principles to the contract grower's farm operations. The IFYC project is an endeavor by HEINEKEN and its partners to drive innovation in agro-processing and to translate this into an opportunity for both social and commercial value creation throughout the local cassava supply chain.

This workbook contains exercises linked to the Farming-as-a-Business (FaaB) manual to enable farmers to practice the exercises contained in the facilitator's manual. The goal of approaching farming as a business and the purpose of this workbook is to increase farmers profits from agricultural production by building their business capacity.

As a result of undergoing this FaaB training farmers will be able to make informed decisions based on calculations of cost of production, assessments of market opportunities and an understanding of the risks of different options. The curriculum focuses on building their business management capacity through recordkeeping, formulating production cost estimates, and projecting production volumes and income. These skills will help farmers to understand the impact that improved management, diversification and market selection can have on their farm income.

CHAPTER 1 | CAN FARMING BE OPERATED AS A BUSINESS?

DEFINING A BUSINESS

1. A business can be defined as?

2. A farmer's resources can largely be divided into three major categories:

   A. _____

   B. _____

   C. _____

3. Farming can be defined as?

RISK AND RISK MANAGEMENT STRATEGIES

1. Risk can be defined as?

2. Complete the table below.

Risk	Causes	Effects	Corrective Actions
Crop Failure			
Post-Production Losses			
Market Price Failure			
Market Failure			

INTRODUCTION TO FARMING AS A BUSINESS

1. Profit is the difference between the gross income (price times quantity sold) and the gross costs (production and operating costs). In other words:

   Net Income =

   Gross Income =

   Gross Cost =

2. Profit can be increased by either increasing gross income or reducing gross cost. Strategies for doing this include:

Strategies for increasing gross income	Strategies for decreasing gross costs
1.	
2.	
3.	
4.	

CHAPTER 2 | PROFIT AND LOSS

The conversation between Dawn and Clifton, a farmer (businessperson):

Dawn: Good morning Clifton.

Clifton: Good morning Dawn. You have been away for long, is the work too much?

Dawn: Yes, I have been training farmers from Clarendon on how to do farming as a business.

Clifton: (Laughing...) Farming as a business, Dawn you amuse me. How can farming be a business? I have been in farming since I was young and now I am an old man. If farming was a business I would be rich by now and not in these tatters and living in that small house.

Dawn: (Smiling...) Clifton you are very hard working but farming needs more than just hard work. It needs planning, use of modern techniques, understanding prices and calculating costs to know whether you are making a profit or a loss. Let me demonstrate what I mean by asking you some questions about your farming. How much yield do you expect to get from this one acre of cassava?

Clifton: Normally I harvest 20,000 lbs. from this acre from which I would have 18,000 lbs. for marketing due to a loss of 2,000 lbs. (10%) through rotting and pests.

Dawn: So, you sell 18,000 lbs.; what is the price of cassava in the market?

Clifton: The price has gone down and 1-pound fetches $12.70 at the market. In total, I end up getting $228,600.

Dawn: Let us look at what you put into the farm to get this yield.

Clifton: I don't keep records, but I remember that I paid for $5,000. for sticks that gave me enough planting material to establish the acre. I paid $2,000 to prepare the batch of sticks for planting. I also applied 3 bags each of 14-28-14 and 15-5-35 fertilizer and pesticides - Ridomil, Topsin, Caprid and Caratrax.

Dawn: What are the costs of those inputs Clifton? It is important to know, as you will see later. How much did you pay?

Clifton: This will be very difficult Dawn, as you know this was last year and prices could have changed. I think I paid $27,000 for 6 bags of fertilizer, and another $13,000 for fungicides and insecticides.

Dawn: (Laughing...) Clifton you have a good memory I guess you must have been a very bright student at school!

Clifton: Dawn if it was not for lack of school fees I would be a teacher like you now (teasing).

Dawn: Tell me how much you spent on labour in all your operations.

Clifton: I had to hire a tractor to rip and plough my field. You know I like working with my wife. It takes one day together to plant so we did it ourselves because I did not have the money to pay to hire labour and you know people charge $2,000 per man-day. I ended up hiring some help to do weeding, fertilizing and pest control which took 20 man-days in total per acre.

Dawn: You are an organized man, is that all?

Clifton: Ooh! How can I forget harvesting! That is what I enjoy doing most. I usually hire 10 persons for harvesting at a rate of $2,000 per day because it is so much work. It takes 20 man-days to harvest an acre.

Dawn: Now with that information I can work out how much profit comes from your one acre of cassava.

Clifton: Yes! I would also like to know.

EXERCISE: INCOME STATEMENT

Clifton's Income Statement - Cassava - 1 acre - Blank				
	Amount	Units	J$	Total (J$)
GROSS INCOME				
Total Cassava Produced		lbs		
Total Consumption - "Sale" to family		lbs		-
Storage losses		lbs		-
Cash Sales		lbs		-
GROSS INCOME				-
GROSS COST				
Non-labour Inputs- Cost:				
Planting material		stick		
Granular fertilizer		bag		
Soluble fertilizer		bag		
Fungicide		cycle		
Insecticide		cycle		
Total Non-labour inputs				
Labour Inputs- Cost:				
Land preparation		hour		
Planting preparation		mday		
Planting		mday		
Weeding, Fertilizing, Pest Management		mday		
Harvesting		mday		
Total Labour Cost				
Operation Cost:				
Transportation				
Contingencies				
Land charges				
Maintenance				
Supervision				
Irrigation				
Depreciation				
Total Operational Cost				
Gross Cost				
NET INCOME PROFIT (loss)				
Return to family investment				

1. What was Clifton's gross income from his farm last season?

2. How much did it cost Clifton to farm last season?

3. Did Clifton make a profit or a loss? Of how much?

4. How much did he earn for each day he worked (return to labour)?

5. If he can work on his neighbour's farm for $2,000 per day, would he earn more working for his neighbour or operating his own cassava business?

6. If we did not include the value of the cassava consumed by his family, would Clifton have made a profit or loss? Of how much?

7. What measures can Clifton take towards improving his profit?

Increase Production (increasing quantity)	**Improve Quality** (increasing price)	**Decrease Costs** (increase net income)	**Improve Market Power** (increase income and decrease costs)

CHAPTER 3 | THE IMPACT OF CHANGE, THE START OF PLANNING

Read the story below that picks up on the conversation between Dawn and Clifton.

Dawn: Now you see you made a small profit..

Clifton: That is a small amount of money. I think maybe it is good I quit farming altogether.

Dawn: You don't need to stop farming at all, but you need to start farming using more of a business approach. You need to find better ways to use your resources. You can use planning methods to test the profitability of different ways of farming. This is part of what we call 'farming as a business'.

Clifton: Tell me what I need to do to make more profit.

Dawn: Suppose you use a drip irrigation system and maybe you should start growing more than just cassava so when the price of cassava is not good or there is a bad season you have profit from other crops.

Clifton: Dawn, how can I grow more crops when it will cost me more money?

Dawn: It is true producing more crops will be more costly, but you also can increase your profit. There is a business that is providing inputs on credit to farmers that grow hot pepper and onion for them.

Clifton: Why do I need to spend more time on planning and accepting inputs on credit, and what are the benefits of a drip irrigation system over the flood irrigation system that I currently use?

Dawn: Let us look at what you put into the farm to get this yield.

Clifton: I don't keep records, but I remember that I paid for $5,000.00 for sticks that gave me enough planting material to establish the acre. I paid $2,000 to prepare the batch of sticks for planting. I also applied 3 bags each of 14-28-14 and 15-5-35 fertilizer and pesticides - Ridomil, Topsin, Caprid and Caratrax.

Dawn: Installing a drip irrigation system means that you can apply your water and fertilizer at the same time and since you have your own well that you get water from for your house you could use water from the same well to drip irrigate your fields. For instance, based on the experience of farmers who have gone to a drip irrigation system, your cassava yield could double from 27,000 lbs. to 54,000 lbs. compared to the flood irrigation system that washes away most of your granular

fertilizer that you put on top of your soil. The drip irrigation system however Clifton will cost you $150,000.

Clifton: I see, that sounds great, tell me more, Dawn

Dawn: This does not come without using more resources. You have been using good cassava seed so that cost should not change. You have been broadcasting fertilizer, but if you invest in a drip irrigation system, the system will deliver fertilizer in a liquid form directly to the roots of the plants. You will spend money on the drip irrigation system and you will spend more on soluble fertilizer but it will pay off with a doubled yield. Because you are doubling your yield the storage bags cost will also double.

Clifton: This still interests me, but what about all the work?

Dawn: Increased yield will give you more income. We took the time to build your income statement for last year for cassava. We can build a projected income statement to see what your profit and your return to your family labour probably would be.

Clifton: Dawn you like teasing me. I know the cost of inputs will be higher and I will also have to pay interest for borrowing the inputs. Labour costs could also go up because of my increased harvest.

Dawn: Very good Clifton! Your labour for land preparation, planting, weeding and pest management will be the same. You will not need to hire labour to apply fertilizer after your initial base fertilizer application because you will use a soluble NPK fertilizer, that you will add to your irrigation system. Your granularvfertilizer need will be 2 bags at $4,500 each and your soluble fertilizer need will be 3 bags at $9,000 each. You will need to increase your harvesting labour to accommodate your increased yield as well. You will need more labour for harvesting your total labour days will increase from 20 days to 40 days.

Clifton: Well! Now you have me interested. Do I have to put on a suit to act like a businessman? I will build projected income statement. It might even be fun, but I will need help.

Clifton's Income Statement - Cassava - 1 acre - Blank				
	Amount	Units	J$	Total (J$)
GROSS INCOME				
Total Cassava Produced		lbs		
Total Consumption - "Sale" to family		lbs		-
Storage losses		lbs		-
Cash Sales		lbs		-
GROSS INCOME				-
GROSS COST				
Non-labour Inputs- Cost:				
Planting material		stick		
Granular fertilizer		bag		
Soluble fertilizer		bag		
Fungicide		cycle		
Insecticide		cycle		
Total Non-labour inputs				
Labour Inputs- Cost:				
Land preparation		hour		
Planting preparation		4-node stick		
Planting		mday		
Weeding, Fertilizing, Pest Management		mday		
Harvesting		mday		
Total Labour Cost				
Operation Cost:				
Transportation				
Contingencies				
Land charges				
Maintenance				
Supervision				
Irrigation				
Depreciation - Drip irrigation system				
Total Operational Cost				
Gross Cost				
NET INCOME PROFIT (loss)				
Return to family investment				

1. How much did it cost Clifton to implement improved agronomy practices?

2. What was Clifton's income after implementing the drip irrigation system?

3. How did the implementation of a drip irrigation system affect his net income (profit)?

4. Did the return on his labour increase or decrease compared with last season? Can Clifton now make money farming his own land, or working for his neighbour?

5. Did Clifton's cash only profit go up or down compared to last season?

Credit

1. Definition of Credit:

2. What are some benefits of credit?

3. Definition of Interest:

Clifton's Income Statement - Cassava - 1 acre - Blank				
	Amount	Units	J$	Total (J$)
GROSS INCOME				
Total Cassava Produced		lbs		
Total Consumption - "Sale" to family		lbs		-
Storage losses		lbs		-
Cash Sales		lbs		-
GROSS INCOME				-
GROSS COST				
Non-labour Inputs- Cost:				
Planting material		stick		
Granular fertilizer		bag		
Soluble fertilizer		bag		
Fungicide		cycle		
Insecticide		cycle		
Total Non-labour inputs				
Labour Inputs- Cost:				
Land preparation		hour		
Planting preparation		4-node stick		
Planting		mday		
Weeding, Fertilizing, Pest Management		mday		
Harvesting		mday		
Total Labour Cost				
Operation Cost:				
Transportation				
Contingencies				
Land charges				
Maintenance				
Supervision				
Irrigation				
Depreciation - Drip irrigation system				
Total Operational Cost				
Gross Cost - without interest expense				
Interest cost for drip irrigation system - 12% per annum				
Gross Cost - with interest expense				
NET INCOME PROFIT (loss)				
Return to family investment				

4. How much does Clifton need to borrow?

5. How much would Clifton need if he uses drip irrigation?

6. How much more or less does Clifton make if he were to install the drip irrigation system?

DIVERSIFICATION

1. What do you understand by diversification?

Onion and hot pepper templates to develop crop budgets for crop diversification

Clifton's Projected Income Statement - 1 acre - Onion				
	Amount	Units	J$	Total (J$)
GROSS INCOME				
Total amount of onion produced		lbs		
Total Consumption - "Sale" to family		lbs		-
Storage losses		lbs		-
Cash Sales		lbs		-
GROSS INCOME				-
GROSS COST				
Non-labour Inputs- Cost:				
Planting material		stick		
Granular fertilizer		bag		
Soluble fertilizer		bag		
Fungicide		cycle		
Insecticide		cycle		
Total Non-labour inputs				
Labour Inputs- Cost:				
Land preparation		hour		
Planting preparation		4-node stick		
Planting		mday		
Weeding, Fertilizing, Pest Management		mday		
Harvesting		mday		
Total Labour Cost				
Operation Cost:				
Transportation				
Contingencies				
Land charges				
Maintenance				
Supervision				
Irrigation				
Depreciation - Drip irrigation system				
Total Operational Cost				
Gross Cost				
NET INCOME PROFIT (loss)				
Return to family investment				

Clifton's Projected Income Statement - 1 acre - Pepper				
	Amount	Units	J$	Total (J$)
GROSS INCOME				
Total amount of pepper produced		lbs		
Total Consumption - "Sale" to family		lbs		-
Storage losses		lbs		-
Cash Sales		lbs		-
GROSS INCOME				-
GROSS COST				
Non-labour Inputs- Cost:				
Planting material		stick		
Granular fertilizer		bag		
Soluble fertilizer		bag		
Fungicide		cycle		
Insecticide		cycle		
Total Non-labour inputs				
Labour Inputs- Cost:				
Land preparation		hour		
Planting preparation		4-node stick		
Planting		mday		
Weeding, Fertilizing, Pest Management		mday		
Harvesting		mday		
Total Labour Cost				
Operation Cost:				
Transportation				
Contingencies				
Land charges				
Maintenance				
Supervision				
Irrigation				
Depreciation - Drip irrigation system				
Total Operational Cost				
Gross Cost				
NET INCOME PROFIT (loss)				
Return to family investment				

CHAPTER 4 | PLANNING

INTRODUCTION TO PLANNING

Assumptions:

- Household labour contributions will be 14 days per week.
- The average household size in rural Jamaica is 4.6, we assume two adults per household working six days per week, plus two additional household members working one day each.
- The plan will start in October. Explain that October is a good time to start the planning cycle because it is the month when they are most likely to not have crops in the ground.
- Land size will be 2 acres of irrigated land.
- The farmer has enough cash on hand to plant the crop at the beginning of the growing season.
- Farmers are working with just three crops: cassava and two others.

Developing a Planning System

1. What three primary documents in this manual that make up the FaaB planning system.

2. What is a cropping plan used for?

3. What is a labour calendar used for?

4. What is a cash flow budget used for?

The Cropping Plan

Work together in your groups to develop a cropping plan that will help achieve your goals based on your own operations.

Crop	Size (acre)	October	November	December	January	February	March
Irrigated Production							
Cassava	1						
Irrigated Production							
	1						
	1						

Crop	Size (acre)	April	May	June	July	August	September
Irrigated Production							
Cassava	1						
Irrigated Production							
	1						
	1						

P = Planting; H = Harvesting

The Labour Calendar

Work together in your groups to develop a labour calendar that will help achieve your goals based on your own operations.

PROJECTED LABOUR CALENDAR													
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
CASSAVA (1 acre)													
Land prep													
Planting prep													
Planting													
Pest management													
Weeding													
Fertilizing													
Irrigation													
Harvesting													
Total													
CROP #2 (1 acre)													
Land prep													
Planting prep													
Planting													
Pest management													
Weeding													
Fertilizing													
Irrigation													
Harvesting													
Total													
CROP #3 (1 acre)													
Land prep													
Planting prep													
Planting													
Pest management													
Weeding													
Fertilizing													
Irrigation													
Harvesting													
Total													
Admin & Management													
Other Labour													
TOTAL LABOUR DAYS													
Family Labour Available													
Family Labour (surplus / deficit)													
Labour to Hire													
Value of Hired Labour ($)													

Cash Flow Budget

PROJECTED CASH FLOW BUDGET															
	Sold	Price	Month												
GROSS INCOME	pound	$/lb	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
Cassava - 1 acre															
Crop 1 - 1 acre															
Crop 2 - 1 acre															
GROSS INCOME - TOTAL															
GROSS COST															
CASSAVA (1 acre)															
Capital cost															
Irrigation system															
Operational cost															
Land prep															
Planting prep															
Planting															
Pest management															
Weeding															
Fertilizing															
Irrigation															
Harvesting															
Total															
CROP #1 (1 acre)															
Capital cost															
Operational cost															
Land prep															
Planting prep															
Planting															
Pest management															
Weeding															
Fertilizing															
Irrigation															
Harvesting															
Total															
CROP #2 (1 acre)															
Capital cost															
Operational cost															
Land prep															
Planting prep															
Planting															
Pest management															
Weeding															
Fertilizing															
Irrigation															
Harvesting															
Total															
Total Costs															
Net returns															
Credit - Loan															
Other cash injection															
Loan repayment + Interest															
Cash Flow															
Accumulated Cash Flow															

CHAPTER 5 | RECORD KEEPING

RECORD KEEPING

1. What does record keeping allows you to be able to do?

Sales Journal

Harvest Date	Quantity Harvested (lbs.)	Sales Date	Quantity Sold (lbs.)	Price per Unit (JMD)	Value of Sale (JMD)	Name of Buyer	Notes
Summarize monthly and forward sales data to cash flow							

2. What does the Sales Journal allow farmers to do?

3. Where is the data from the Sales Journal transferred to?

Purchase Journal

Purchase Date	Item Purchased	Qty. Purchased	Total Price	Date Item Used	Qty. of Prod Used	Value of Product Used	Crop Item Is Used On	Notes

4. What does the Purchase Journal allow the farmer to do?

5. Where is the data from the Purchase Journal transferred to?

Credit Sales Journal

Date	Description	Credit	Repay

6. What does the Credit Journal allow farmers to do?

7. Where is the data from the Credit Journal transferred to?

LABOUR JOURNAL													
[Day, Month and Year]													**Total**
CASSAVA (1 acre)													
Land prep													
Planting prep													
Planting													
Pest management													
Weeding													
Fertilizing													
Irrigation													
Harvesting													
Total													
CROP #2 (1 acre)													
Land prep													
Planting prep													
Planting													
Pest management													
Weeding													
Fertilizing													
Irrigation													
Harvesting													
Total													
CROP #3 (1 acre)													
Land prep													
Planting prep													
Planting													
Pest management													
Weeding													
Fertilizing													
Irrigation													
Harvesting													
Total													
Admin & Management													
Other Labour													
TOTAL LABOUR DAYS													
Family Labour Available													
Family Labour (surplus / deficit)													
Labour to Hire													
Value of Hired Labour ($)													

8. What does the Labour Journal allow farmers to do?

9. Where is the data from the Labour Journal transferred to?

CASH FLOW ACCOUNT

	Month												
GROSS INCOME	October	November	December	January	February	March	April	May	June	July	August	September	TOTAL
Cassava													
Crop 1													
Crop 2													
GROSS INCOME - TOTAL													
GROSS COST													
CASSAVA													
Capital Cost													
Operational Cost													
Land prep													
Planting prep													
Planting													
Pest management													
Weeding													
Fertilizing													
Irrigation													
Harvesting													
Total													
CROP #1													
Capital cost													
Operational cost													
Land prep													
Planting prep													
Planting													
Pest management													
Weeding													
Fertilizing													
Irrigation													
Harvesting													
Total													
CROP #2													
Capital cost													
Operational cost													
Land prep													
Planting prep													
Planting													
Pest management													
Weeding													
Fertilizing													
Irrigation													
Harvesting													
Total													
Total Costs													
Net returns													
Credit - Loan													
Other cash injection													
Loan repayment + Interest													
Cash Flow													
Accumulated Cash Flow													

10. What does the Cash Flow Account allow farmers to do?

CHAPTER 6 | FARMERS' ASSOCIATIONS

Clifton's story continued:

We have been talking to Clifton on his own. However, Clifton is one of the farmers that receives water from the National Irrigation Commission Water Scheme in Ebony Park AgroPark, Clarendon where there are many more farmers like him. He is happy now that he has learnt from Dawn how to use FaaB tools to plan before he invests in farming. With improved farming technologies, he should be able to make more profit. He now understands that farming can be approached just like any other business. However, he still needs to maximize his profit.

Farmers at Ebony Park in Clarendon have been growing hot pepper and horticultural crops and selling them to middlemen who come to collect the produce from the AgroPark. On some occasions, the middlemen fail to come and individual farmers transport produce to the nearest market. The transport is usually over loaded with passengers and farm produce. Fares are high and the transport is unreliable. Sometimes it rains and the farmers fail to reach the market, losing their produce on the side of the road. When they are lucky to get to the market, they sometimes flood the small market and are forced to accept lower prices for their produce.

Farmers who cannot sell all their perishable produce on market days often lose the produce. Some farmers have abandoned farming altogether. There have also been injuries and lives lost from overloading and poor maintenance of the trucks.

Recently the farmers had meetings to find ways of reducing their losses. They agreed to form a farmers' association through which they will formally sell their produce to identified buyers. They also agreed to purchase farm inputs and tools as an association so as to take advantage of bulk purchase discount schemes. The first thing they had to do was to carry out a survey to know how much they could save through bulk purchasing and the minimum quantities of the inputs they needed to purchase to benefit from the wholesale prices. They also agreed to bulk up their production to satisfy the buyers' requirements.

FARMERS' ASSOCIATIONS

1. Define a farmers' association

2. List the advantages and disadvantages of associations

Advantages	Disadvantages

EXERCISE: SAVING COSTS WITH FARMERS' ASSOCIATIONS

Scenario:

Clifton was appointed to be the team leader to a group of farmers who were sent to the nearby town to assess the cost of seed, hoes, chemicals, fertilizers, bags and other inputs when bought at wholesale prices. This report was presented to the other farmers at the next meeting. Clifton, who was acting Chairman, also informed the farmers' association of the input requirements per acre from his experience in Farmer Field School training. We will assume that the farmers have one acre of land each.

a) Use Clifton's information in Table 6.1, calculate the minimum number of acres the association will collectively need to take advantage of buying wholesale.

b) Ask the participants to calculate the savings per individual farmer.

c) Use Table 6.2 "Potential individual savings from collective purchasing of inputs" to complete the exercise

Table 6.1 Clifton's Price list and minimum quantities

Import	Retail Price	Wholesale Price	Min. Wholesale Qty.	Quantity Required per Acre
Improved Seed	**$2000**	**$1500**	**200lbs**	**25**
Hoes	**$3000**	**$2000**	**10 hoes**	**4**
Plastic crates	**$6000**	**$4000**	**400 crates**	**40**
Knapsacks	**$25000**	**$20000**	**10 units**	**2**
Fertilizer – 15-05-35	**$60**	**$50**	**900lbs**	**300lbs**
Fertilizer - Urea	**$30**	**$25**	**500lbs**	**100lbs**

Import	Retail Price	Wholesale Price	Min. Wholesale Qty.	Quantity Required per Acre
Improved Seed	**$2000**	**$1500**	**200lbs**	**25**
Hoes	**$3000**	**$2000**	**10 hoes**	**4**
Plastic crates	**$6000**	**$4000**	**400 crates**	**40**
Knapsacks	**$25000**	**$20000**	**10 units**	**2**
Fertilizer – 15-05-35	**$60**	**$50**	**900lbs**	**300lbs**
Fertilizer - Urea	**$30**	**$25**	**500lbs**	**100lbs**

EXERCISE: COLLECTIVE MARKETING

Farmers' Group Scenario:

Farmers in Clarendon have been growing hot pepper for a long time. There are a lot of farmers currently growing the crop and together they harvest around 10,000 lbs of pepper per week. When it comes to marketing, however, it has always been a problem year after year. There are no buyers in Clarendon and farmers take their produce to Kingston.

The farmers would like to move their produce to Kingston where they are paid on delivery. This has an advantage that they are able to purchase their inputs at more competitive prices in Kingston compared to the local shops. The farmers usually look for transport after they have harvested and each farmer usually travel the journey to Kingston and individually sells their produce. The truckers charge $300 per bag of hot pepper, each bag weighs approximately 40 pounds. The farmers usually ride along at the cost of $500 each way to and from Kingston. The trucks are not reliable and often break down resulting in loss of produce and delays in reaching the market. Most of them are also usually overloaded, resulting in accidents, which at times result in loss of produce and lives.
In the event that they reach the market and the produce is not bought that day, it costs each farmer $1,000 for accommodation excluding food which they probably bring from their homesteads. The farmers pay $1,400 each per day for Kingston marketing fees.

A different option is available to Clarendon farmers to hire a reasonably good truck that can carry up to 10,000 lbs. per load. The negotiated rate with the trucker is to make the round trip for J$25,000.

Assumptions:

- Average plot of hot pepper per farmer is 1 acre.
- Average harvest per week per 1 acre is 1,500 lbs.
- Farmers harvest hot pepper over a 16-week period.
- In Scenario 2 the transport costs include two farmers making the trip to Kingston hauling 10,000 lbs. of produce for themselves and five other farmers

1. How much does it cost a farmer to market a pound (lb) of hot pepper in Scenario 1?

2. How much does it cost a farmer to market a pound of hot pepper in Scenario 2?

3. When the farmers collaborated to transport their produce to market, by what amount did their cost increase or decrease per pound?

4. What is the total savings or additional cost per farmer?

CHAPTER 7 | MARKETING

INTRODUCTION TO MARKETING

1. What do you understand to be a market?

2. What do you understand to be marketing?

3. Outline and discuss four marketing issues in Farming-as-a-Business - perishability, product characteristics, seasonality and marketing information.

4. The advantages and disadvantages of operating in the various markets include:

Market	Advantages	Disadvantages
Municipal markets		
Formal buyers (companies)		
Farmgate selling		

CONTRACT FARMING

1. How would you define contract farming?

2. The farmers' advantages and disadvantages of contract farming can include:

Advantages	Disadvantages

3. To ensure a benefit to the farmer and the buyer, contracts should specify key performance criteria.

1. _____

_____

_____

_____

_____

_____

_____

_____

4. Name some major causes of default for farmers and buyers:

FARMERS CONTRACT DEFAULTS	BUYERS CONTRACT DEFAULTS

[Firm Name]

Agreement for Contract Farming
Annual registration form (to be completed in duplicate)

[Firm Name] offers to buy cassava. The conditions under which the crop will be grown are outlined below.

Technical

1. This contract is between [Firm Name] and the farmer.
2. The farmer agrees to follow all crop production activities in accordance with [Firm Name] recommendations and instructions.
3. Only chemicals permitted for use by [Firm Name] may be used on the crop.
4. [Firm Name] guarantees to buy all cassava produced by the farmer that meets the Grade A product specifications identified by [Firm Name].
5. The target yield for cassava is XX lbs gross per acre. Failure to attain this yield will result in decreased profits for the farmer.

Financial

6. All necessary seed, fertilizer and chemicals will be supplied to the farmers on credit.
7. Repayment of all inputs will be done with an equivalent value of cassava. Table 1 shows the estimated repayment amounts and the estimated repayments that the farmer will make for 1 acre. The actual amounts will depend on the inputs taken by the farmer.
8. [Firm Name] will keep a record of the inputs and volumes taken by each farmer.
9. Each farmer will be a member of a farmer group of 10-15 farmers. If any farmer in the group does not repay his inputs, the other farmers in the group will be responsible for the repayment.
10. The entire crop that falls within specifications of Clause 8 must be sold to [Firm Name]. The farmer is permitted to utilize any rejected cassava as he wishes.

Crop purchase

11. The farmer will reap the cassava into his or her own crates and deliver them to the centre where they will be weighed. Poor quality cassava may not be accepted. The farmer will be given a receipt for all of the cassava accepted as proof of delivery.
    Once at the pack-house in Kingston, the cassava will be graded and there will be some rejection. Therefore, the quantity ofcassava delivered may not be the same as the quantity that payment is received for.
12. [Firm Name] will organize the transportation of produce from the collection point.
13. Farmers will be paid via bank transfer to their individual bank accounts within 14 days of delivery.
14. The credit supplied to the farmer will be repaid upon delivery by deducting the actual amount of the loan from the value of the delivered product
15. Farmers will receive a minimum price of J$XX / lbs of Grade A cassava.

Company Conditions

16. The farmer hereby guarantees to use all inputs supplied on the contracted crop.
17. Farmers are strictly prohibited from selling cassava covered under this agreement to any other buyer.
    Any breach of this agreement will result in farmers forfeiting their contracts, being permanently disqualified from future agreements and liable for prosecution

SUMMARY OF FARMING AS A BUSINESS

- For all businesses, maximizing profit involves using the resources available to increase price and quantity or decrease costs.

- Credit (cash from financial institutions and in-kind from value chain actors) can help farmers invest in higher value crops and improved practices, where they otherwise would not be able.

- Diversification can reduce risks and may even lead to greater profits.

- A projected income statement can help us to know the profit of our current activities, see how to save costs, and project the income if we change our practices.

- Planning is key to reducing risk, growing the farm business and increasing income.

- Planning means using tools such as the projected income statement, cropping plan, labour calendar, and cash flow budget.

- Good planning requires good record keeping.

- Farmers' associations can reduce farmers' costs from bulk purchasing and increase incomes from access to better markets and higher price from increased volumes.

- Market information is critical to helping farmers make informed sales and purchasing decisions.

- Well-managed contract farming can reduce risk and increase incomes for both the farmer and the buyer.

ANNEX A | GLOSSARY

Break Even Price: The minimum price the businessperson must receive to cover all costs of production.

Break Even yield: The crop yield that must be realized to pay all costs of productio

Business: An activity operated for the purpose of earning a profit by providing a service or a product. It involves a businessperson putting resources at risk.

Capital: Cash or goods used to generate income.

Cash Flow: Any amount of money that flows into the business as income, loans, or gifts, or flows out of the business as expenditures.

Cash flow budget: A budget that provides an overview of cash inflows and outflows during a specified period of time.

Collective marketing: Collaborating with others to sell product in bulk. Used to access new markets, achieve better sales terms, and strengthen the negotiating position.

Collective purchases: Collaborating with others to purchase inputs in bulk. Used to reduce the per unit cost of inputs, and strengthen the negotiating position with sellers.

Consumption: Expenditure during a particular period on goods and services used in satisfaction of needs and wants.

Competition: When many sellers, buyers, workers and others are in the same market trying to get the same business by offering the best combination of price, quality, and service.

Credit: The creation of debt when one person uses a resource (something) of another with the agreement to return it (pay it back) at a later date. The lender (the provider) and the borrower (the taker) agree on when the loan will be repaid. A debt can be created from receiving cash or something in-kind such as inputs.

Cropping plan: A cropping plan outlines how farmers plan to use their land for different crops. It helps them determine how to use their land most efficiently to maximize income.

Depreciation: Diversification is a way to manage risk. Diversifying means doing more than one activity, such as working with new crops, adding value to existing crops, or engaging in livestock activities.

Diversification: The process of apportioning the total cost of an asset over its useful life.

Farmers' association: A group of farmers who collaborate for the purpose of collective benefit such as increased profits, improved skills from group trainings, or advocacy. The associations may be small and informal or be carefully structured and incorporated.

Farming: The active production of useful plants or animals in ecosystems that have been created by people.

Farm record systems: Tools used to record, consolidate, and analyze farm data for the purpose of maximizing efficiencies and profit. In FaaB, the farm record system includes the cropping plan, the labour calendar, and the cash flow budget.

Fixed capital: Machinery, tools, and other materials that will last for over one year and are invested in and paid for by a business.

Gross cost (also called Total Costs): Total value of all expenses including depreciation of, fixed capital and operating costs plus the value of any decrease in the values of products in inventory.

Gross income (also called Total Income): The value of products sold and the value of any increase in the products in storage. For example, if a farmer sells cassava for $10,000 and the value of her cassava in storage increases from $50,000 to $130,000, then the gross income is $90,000 ($10,000 from sales and $80,000 from increased inventory).

Income Statement: Financial document showing the income, expenses, and profit over a given period (such as one year).

Interest: Interest is the fee paid for using someone else's capital (money). Generally, the interest rate is agreed to before the loan is taken and it is often a percentage of the total value of the loan.

Investment: Using money to produce a product or service that is more valuable than the money with which you started.

Journal entries: Data entered into daily logs such as product sales, input purchases, labour hired for the purpose of recording and tracking on-farm expenditures, income, and production activities.

Labour calendar: A schedule of the labour available in the household and the labour required to complete the tasks set out in the cropping plan. It shows if there are shortfalls that may require hiring labour (which can change the potential profitability of a crop) and determines how to use labour most efficiently to maximize income.

Labour costs: The total expense for hired labour to produce a specified crop. Family labour is not considered a direct expense but an investment in the farm business.

Man Day: A unit used to measure labour. Equivalent to one working day for an adult (approximately 8 working hours per day per person).

Market: where products are bought and sold; it can be a physical location or a set of relationships between buyers and sellers.

Marketing: The process of creating customers.

Middlemen: Market participants that purchase from the producer or another middleman and sell to the final consumer or another market actor. They provide a needed service to the farmer, but can also exploit the farmer.

Monthly accounts: Data compiled from daily journal entries into monthly summary of business activities on the farm. In FaaB this includes monthly labour accounts and monthly cash flow budgets.

Operational costs: The costs of actions or services needed to produce a crop. It does not include the costs of inputs but could include labour, hiring draft-power, etc.

Output: The total volume of commodity produced in a given time period.

Planning: The process of setting goals, developing strategies, and outlining tasks and schedules to accomplish the goals.

Producer price: The price at which the farmer sells the commodity to a buyer who purchases from the farm. It is also called the farm-gate price. The price is usually lower than the price in the end market because it does not include the cost of transport, packaging, or processing.

Production: The transformation of inputs into outputs. In farming, it is the transformation of land use, labour use, and capital use into produce.

Production costs: All the expenses incurred to produce a product. In farming this could include seeds, chemicals, labour, transport, processing, and packaging.

Productivity: The relationship between the amount that is produced and inputs. In agriculture, it refers to volume of crops produced per input of land, time, or money.

Profit (Net Income): Gross income minus gross costs. Net income can also be negative if gross costs are higher than gross income. In that case, the businesses made a loss.

Projected Income Statement: A management and predictive tool that informs the businessperson about the actual or anticipated costs, gross income and profit. These can be projected for one crop or a whole farm.

Return to Labour: Net profit from one commodity divided by total number of family man-days used to produce the commodity. It is a measure of efficiency.

Record Keeping: The organized and timely recording of information about the business and the systematic analysis of information to help businesspeople know what has actually happened. Farm records usually record both physical and financial activity. Farm record

summaries can determine profits, resource efficiencies, and provide a key input into planning for the future.

Return per dollar invested: The amount of money a farmer earns selling a crop, compared with how much money was invested in producing the crop. It is a measure of efficiency.

Revenue: Total amount of income generated by sales of goods.

Risk: The quantifiable likelihood of loss or less-than-expected returns. In agriculture, this includes risk in production, transport, and marketing.

Savings: Money or goods set aside for future use. For the farm, it is putting aside some of a business' profits or earnings for investing in the next production cycle.

Yield: Yield is the total volume of the commodity produced on a given piece of land. In a farming business, yield is the quantity of crop produced (kilograms) per acre in one production cycle.

Unit Cost: The total cost of production (inputs and operational costs) per unit (such as kilogram).

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Ja REEACH II Project | 1A Braemar Avenue, Kingston 10, Jamaica, W.I. | Tel: 1.876.946.1602 to 3
Fax: 1.876.946.1604 | Email: info@jareeach.org