The seven steps of marketing

A SMART SKILLS MANUAL

BOOKLET 4: REVIEWING PERFORMANCE

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ISBN-10: 1614921458
ISBN-13: 978-1-61492-145-5
Download this publication and related material at www.crsprogramquality.org/smart-skills-for-farmers/ or at www.meas-extension.org/meas-offers/training

Suggested citation: CRS and MEAS. 2016. Seven steps of marketing: A SMART Skills manual. Catholic Relief Services, Baltimore, MD, and Modernizing Extension and Advisory Services project, University of Illinois at Urbana-Champaign.

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BOOKLET 4: REVIEWING PERFORMANCE

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Step 6. Reviewing agroenterprise performance

Reginald and Bibi, who are members of the Mshika farmers' group, have harvested their two acres of maize and brought them in from the fields. The whole family helped thresh the maize and spread the grain on mats. The children took turns to shoo away the chickens while the maize grain dried in the sun. Then Reginald and Bibi shoveled the maize into bags and brought it to the collection point in the village. All the members of the farmer group were there waiting to give their bags of maize to the secretary. The group secretary counted the number of bags they brought in, checked the quality of the grain and weighed each bag. Some bags were rejected due to poor quality. The rejected bags were emptied, and two young men removed the trash, put the grain through a mesh, and then re-bagged the grain. At the end of the day, there were 270 bags ready for the trader.

On the morning of the next day, the trader arrived with a truck, and the group of farmers loaded it high with bags of maize. The trader paid the secretary in cash, and then in the afternoon, the secretary paid out the farmers. Now Reginald and Bibi have a fistful of money to take home.

The couple are happy: they have finally got some money to show for all their months of work. But have they made enough to cover their costs? How much profit have they made? Did they make as much as they expected?

This Step shows you how to work whether farmers made a profit and then to assess if it was a good or a bad year. The step build on some of the financial tools covered in lesson ten. This step contains two lessons:

- **Lesson 19** looks at calculating costs, income and profit.
- **Lesson 20** turns to reviewing the season's activities together with the farmers, documenting what has happened, what the group has learned, what to plan next season.

At the end of this step you will have:

- Reworked the profitability analysis using actual figures for material and labor cost and for sales prices.
- Reworked sales amounts with the farmers in the group to determine their levels of profit.
- Evaluated the effects of loans of profits.
- Discussed ideas with farmers about the usefulness of the profitability analysis.

LESSON 19. CALCULATING COSTS, INCOME, AND PROFITS

IN THIS LESSON

After this lesson you will be able to:

- Calculate the actual costs of materials, labor and services, and loans incurred by an individual farmer to produce a particular product.
- Calculate the farmer's income and profit from that product.
- Calculate the costs, income, and profit for a farmers' group.
- Advise farmers what to do in case of a loss or a profit.
- Suggest ways farmers can cut their losses or increase their profits.

AT THE END OF THE SEASON...

In Step 3 (Lesson 10), we learned how to calculate the expected costs and income for a particular product. This was done because at the start of the production season, we do not know the actual costs, so we made an estimate based on our knowledge and last season's prices.

At the end of the season, after the produce has been sold, we can now repeat the profitability calculations, but this time we can use actual numbers rather than estimates. The actual numbers come from two sources:

- **Costs:** information recorded by the farmers in their notebooks and records throughout the season (see Lesson 16).
- **Income:** information from the group secretary on sales.

You can calculate this information using pencil and paper, a calculator or a spreadsheet. Or you can use the profitability calculator, part of CRS's Farmbook software.

USING STANDARD MEASURES

As we mentioned in the first lessons, it is essential that you use standard measures (like kilograms and hectares) in your calculations, so the numbers can be compared across farmers, districts, and across countries. If you use local units (such as tins, basins, or local units of land area), make sure to give the conversion factors to standard units. The Farmbook software asks you to define these units and does the conversion automatically for you.

You can calculate the costs and income in the local currency, but give the current conversion rate to US dollars. The Farmbook software will ask you for the current currency conversion rate, and then will do the conversion automatically.

The farmers will have recorded two types of costs: materials and labor. Let us start with the materials costs.

AREA CALCULATIONS

When you are making production cost and profitability calculations with farmers, use the full area of production that they planted. For example, if the farmer planted 0.5 acres, or 2.5 acres, be sure to ask for all the costs related to that area. At the end of calculation, you can then calculate unit area costs, such as costs per acre. Do not ask farmers to make unit area calculations as this will cause confusion.

TABLE 78. ACTUAL CONSUMABLE MATERIALS COSTS FOR REGINALD AND BIBI'S MAIZE CROP

Product type	Maize	**Currency**		US$	
Land area	2 acres	**Currency per $**		1	
DATE	**MATERIALS**	**UNITS**	**QUANTITY**	**PRICE PER UNIT**	**COST**
		Eg, kg, bags	**A**	**B**	**A × B**
Pre-production					
3rd May	Hybrid seed	2-kg packets	8	5	40
Total pre-production costs					40
Production					
5th May	Fertilizer	50-kg bags	2	45	90
Total production costs					90
Postharvest					
4th July	Storage bags	100-kg bags	30	1	30
Total postharvest costs					30
Marketing costs					
10 July	Transport to sales point	bags	20	0.5	10
10th July	Mobile phone	Air time	5	5	10
Total marketing costs					20
Total consumable materials costs for area planted (2 acres)					180
Total consumable materials costs per acre				**= 180 / 2**	90
Total materials costs per hectare				**= 90 × 2.471**	222

Also, it is always good to check the area that the farmer claims he has planted. Many farmers overestimate the area that they plant. In some cases you may be able to measure the area planted, which will give you much better costs information.

CONSUMABLE MATERIALS COSTS

Throughout the season, Bibi carefully recorded the cost of everything she and Reginald bought for their maize crop, using the form in Table 71. These cost included things such as seeds, fertilizer, bags, and transportation and communication expenses. That made it easy for her to keep track of the costs and to add them up at the end of the season. Table 78 shows her calculations.

The field agent calculated her costs for the area planted and then calculated her unit acres costs, so that he could compare the costs for Bibi's plot with other farmers. If you make this calculation in a local currency and local land area, you should convert these values to standard units of US dollars per hectare, so that your information can be compared more widely.

COST OF DURABLE MATERIAL ITEMS

Bibi and Reginald bought a new plow at the start of the season. This was a major expense, but they expect it to last them a long time – perhaps 10 years. So Bibi has divided the cost by 10 to represent the cost for just this year. She will have to remember to include another one-tenth of the cost in her accounts next year, and the year after, for 10 years in all. Table 79 shows her calculations.

TOTAL MATERIAL COSTS

To calculate the total material costs, Bibi had to add the consumable material costs to the durable material costs as shown in Table 79.

TABLE 79. COST OF DURABLE ITEMS FOR REGINALD AND BIBI'S MAIZE CROP

Product type	Maize	**Currency**			
Land area	2 acres (0.81 hectares)	**Currency per $**			
ITEM	**UNITS**	**QUANTITY**	**PRICE PER UNIT**	**YEARS USED**	**COST PER YEAR**
	Eg hoes, buildings	**A**	**B**	**C**	**A × B / C**
Pre-production					
This year	Plow	1	100	10	10
Total pre-production					10
Production					
Last year	Hoes	2	6	4	3
Last year	Machetes	2	9	3	6
Totals production					9
Postharvest					
	Baskets	5	1	5	1
Total postharvest					1
Marketing					
	Drying sheet	1	20	4	5
	Cost of store	1	300	20	15
	Mobile phone	1	25	5	5
Total marketing					25
Total cost of durable items per year for area planted (2 acres)					45
Total cost of durable items per acre = 40/2 = 20					22.5
Total cost of durable items per year per hectare		=22.5 x 2.471			56

TABLE 80. TOTAL MATERIALS COSTS FOR REGINALD AND BIBI'S MAIZE CROP

PRODUCT TYPE	**MAIZE**	**CURRENCY**		**US$**
Land area	2 acres (0.81 hectares)	**Currency per $**	1	
Total consumable materials costs				180
Total durable items costs				45
Total material costs for area planted (2 acres)				225

LABOR COSTS

Bibi kept track of the couple's labor costs. For each activity she carefully recorded the number of person-days of family labor needed, as well as the number of person-days of workers that the couple hired.

In the "Cost/day" column, she wrote the wage for hiring a worker for one day. But what to do about the cost of family labor? She and her husband did not pay themselves a wage if they worked in their own fields! But she wanted to know the value of the time they had put in, so she wrote in the same wage as for daily laborers.

Table 81 shows her calculations.

Reginald and Bibi wanted to know their labor costs per hectare so they could compare with other farmers. So they calculated their costs first into unit acres. This was done by the following calculation (2 acres / 2 = 1 acre). Then to calculate the costs into hectares they multiplied their 1 acre costs by 2.471 to get the figures shown in Table 79.

TABLE 81. ACTUAL LABOR COSTS IN REGINALD AND BIBI'S MAIZE CROP

Product type		Maize		**Currency**		US$		
Land area		2 acres		**Currency per $**		1		
DATE	**ACTIVITY**	**PERSON-DAYS**		**COST/DAY ($)**		**COSTS ($)**		
		Hired	**Family**	**Hired**	**Family**	**Hired**	**Family**	**Total**
		A	B	C	D	E = A × C	F = B × D	E + F
Pre-production								
	1st plowing	2	2	4	4	8	8	16
	2nd plowing	2	2	4	4	8	8	16
Total pre-production costs						16	16	32
Production								
	Planting	2	5	2	2	4	10	14
	Apply fertilizer		4		2		8	8
	1st weeding	3	6	2	2	6	12	18
	2nd weeding	3	6	2	2	6	12	18
Total production costs						16	42	58
Postharvest								
	Harvesting	4	3	2	2	8	6	14
	Drying and sorting		9	2	2	0	18	18
Total postharvest costs						8	24	32
Marketing								
	Transport and sales		9		2		18	18
Total marketing costs						0	18	18
Total labor costs for area planted (2 acres)						40	100	140
Total labor costs / acre						20	50	70
Total labor costs per hectare						49	124	173

COST OF LOANS

If the farmers took out a loan, they have to pay interest on it. This is a cost so has to be included in the calculation of the total costs. You may remember that we calculated this back in Lesson 11, planning on a loan rate of 5% per month.

When Bibi and Reginald looked at their loan expenses they found the actual cost was much higher than they had planned for. Instead of 5% loans, they had to pay 10% per month to support their maize enterprise. The total cost for their maize enterprise was $282. However, they had $30 in savings and decided to borrow $200. The cost of the loan is the total amount of interest to be repaid, plus any fees or other expenses. In Table 82, the cost of the loan is $80, that is for borrowing $200 at 10% for four months. The total amount to be repaid is $280.

TOTAL COSTS

It's now easy for Bibi to calculate the couple's total costs (Table 83).

TABLE 82. CALCULATING THE COST OF A LOAN

AMOUNT OF LOAN	A		200
INTEREST RATE PER MONTH	B	10% per month	
NUMBER OF MONTHS	C	4 months	20 × 4
COST OF LOAN	D = B × C		80
AMOUNT TO BE REPAID	A + D		280

TABLE 83. TOTAL COSTS OF REGINALD AND BIBI'S MAIZE CROP

PRODUCT TYPE	Maize	**Currency**	
LAND AREA	2 acres (0.81 hectares)	**Currency per $**	
COSTS		**TOTAL AREA, 2 ACRES**	**$ PER HECTARE**
Consumable materials	A	180	222
Durable items per year	B	45	56
Total materials	C = A + B	225	278
Hired labor costs	D	40	49
Family labor costs	E	100	124
Total labor costs	D + E	140	173
Loan costs	F	80	99
Total costs (excluding family labor)	C + D + F	345	426
Total costs (including family labor)	C + D + E + F	445	550

INCOME

Bibi now calculates the income she and Reginald have earned from their maize.

The couple harvested 30 bags of maize from their 2-acre plot, it was a good year! They kept 10 bags for their own consumption. They sold the rest to their farmer group. They had planned to sell the bags at an average value of $28 per bag. However, this was a good year for maize and with bumper harvests the price of maize had fallen. Bibi and Reginald were only able to sell their bags for an average price of $23 per bag (Table 84).

CASH PROFIT (GROSS MARGIN)

Now she has calculated their costs and income, it is easy for Bibi to work out their profit. She uses the gross margin analysis we covered in Lesson 10.

The result of their work? Bibi and Reginald are fairly pleased. They made less than they planned for but they made a cash profit of $115 from their 2 acres and they kept 10 bags of maize with a market value of $230. Based on their investment of approximately $345, they secured their food security through bags of maize and had a cash surplus of $115 (Table 85).

However, when they included the cost of their own work, they only made $7.50. They discussed the figures and decided to continue with growing maize again next year. The field agent is also relieved. He calculated that the couple made $57.50/acre, or $142/ha.

TABLE 84. REGINALD AND BIBI'S INCOME FROM MAIZE

Product type	Maize	**Currency**	US$
Land area	2 acres (0.81 hectares)	**Currency per $**	1
			$
No. of bags for sale	A	20	
Price per bag	B	US$	23
Total income, 2 acres	C = A × B		460
Income, $ per hectare	C / 2 × 2.471		568

TABLE 85. REGINALD AND BIBI'S PROFIT FROM MAIZE

Product type	Maize	**Currency**	US$
Land area	2 acres (0.81 hectares)	**Currency per $**	1
		EXCLUDING FAMILY LABOR	**INCLUDING FAMILY LABOR**
		$	**$**
Total income	A	460	460
Total costs (including loan costs)	B	345	445
Profit (gross margin)	C = A – B	115	15
Profit (gross margin) per acre	D = C / 2	57.50	7.5
Profit (gross margin) per hectare	D × 2.471	142	19

COMPARING COSTS

The field agent spoke to Reginald and Bibi about their results. This was the first time that the field agent and the farmers had kept figures to see how well their maize enterprise was doing. The field agent worked with Reginald and Bibi to compare what they had planned and what they actually sold. These figures are shown in Table 86.

Looking at the differences between the pre-season estimate and the post-season actual figures, we can see that the actual material costs were higher than the estimated costs. Also, the cost of the loan was twice what they had predicted. The actual labor costs were higher than the estimated labor costs. In this particular year, the sales prices were lower than expected. This meant that the income was approximately 20% less than expected and the profits were 40% less than the estimates.

The data also show that when farmers included only the cost of hired labor, they made a cash profit. However, when the cost of the family labor was included, there was a dramatic fall in income.

Because maize is a staple food, the farmers were able to retain the value of their crops in grain. Unlike crops that are grown specifically for income, or crops that are perishable, storable crops such as maize, beans, sorghum, rice etc., can be harvested and stored for many months, providing essential food for the family.

Comparing the estimated and actual figures is a good way to help farmers forecast their costs and revenues and to correct any mistakes in the calculations. For instance, the loan expenses were much higher than predicted. Did the bank give Reginald and Bibi the wrong information or did they make a math mistake? Either way, in the next season, Reginald and Bibi should be able to fine-tune their estimates thanks to keeping good farm records.

COMPARING PROFITABILITY BETWEEN DIFFERENT CROPS

The information in Table 86 shows the profitability of maize on a unit area, i.e., maize profits per acre. This calculation can be used to compare with other staple crops such as cassava, sorghum, or with other cash crops such as tomato and coffee. When farmers and field agents have information for several crops, unit area comparisons can be used to show farmers how they can use their land most effectively to optimize their profits. See more on this type of analysis in Lesson 20.

CHECKING THE FIGURES FOR INDIVIDUALS

If you have asked a small number of farmers to keep records (as we suggested in Lesson 16), check each set of records carefully. If all the farmers in the group are keeping records, you probably will not have enough time to check them all individually. But you can ask groups of farmers to check each other's records. Give them some guidance to make sure that they have recorded all the costs properly, and calculated their income and profits correctly.

CALCULATING COSTS, INCOME AND PROFIT FOR THE FARMERS' GROUP

You can now calculate the costs, income, and profits for all members of the farmers' group. There are several ways to do this:

- **From records kept by all farmers.** If all the farmers have kept records of their costs and income, you can help them calculate them in the way described above.
- **By estimating from the farmers who kept records.** If only a few farmers have kept records, you can use their figures for costs and income per hectare to estimate the costs and incomes of the other farmers in the group. You only need to know the area

TABLE 86. REGINALD AND BIBI'S COSTS AND PROFIT FROM MAIZE

PRODUCT TYPE	MAIZE		CURRENCY	US$
Land area	2 acres (0.81 hectares)		**Currency per $**	1
COSTS		**PRE-SEASON ESTIMATED COSTS**	**POST-SEASON ACTUAL COSTS**	**DIFFERENCE**
		$	**$**	**$**
Consumable materials	A	170	180	10
Durable items per year	B	40	45	5
Total materials	C = A + B	210	225	15
Hired labor costs	D	32	40	8
Family labor costs	E	92	100	8
Total labor costs	D + E	124	140	16
Loan costs	F	40	80	40
Total costs (only hired labor)	C + D + F	282	345	63
Total costs (including family labor)	C + D + E + F	374	445	55
Price per bag		28	23	
Value of maize consumed	10 bags	280	230	
Cash income	20 bags	560	460	–100
Total value	30 bags	840	690	–150
Profit (excluding family labor)		278	115	–163
Profit (including family labor)		186	15	–171
Profit per acre (excluding family labor)		139	57.50	–81.5
Profit per acre (including family labor)		93	7.50	–85.5

planted by the farmers of the crop, to calculate his or her costs and income.

- **From records kept by the group.** The farmers' group will have records of the amount of product each farmer delivered, and the amounts sold. You can use these figures to calculate the costs, income and profit for the members and for the group as a whole.

Table 87 shows the calculations for the rest of the farmers in Reginald and Bibi's group.

The information from the group costs shows that all farmers made a cash profit from their maize enterprise except Livelong Nyerere who made a cash loss, because he only had one acre and after keeping 10 bags for the family was only able to sell five bags in the market.

COMPARING TARGETS AND ACTUAL COSTS, INCOME AND PROFIT

It is important to compare the actual costs, income and profit with the estimates that the farmers made at the start of the season. That enables them to check how well they have done, and to plan better for the next season.

Table 88 shows the estimates the group made at the start of the season. You will note that the estimates were more optimistic than then reality! This is very normal.

TABLE 87. ACTUAL COSTS, INCOME AND GROSS MARGIN PER FARMER IN A GROUP

NAME OF FARMER		BAGS SOLD	INCOME	COSTS						
	Area planted		Sales price per bag $23	Savings	Consumable	Durable	Labor ex Family	Loan costs 10% x 4 months	Total	Profit
Reginald and Bibi Mengi	2	20	460	30	180	45	40	80	345	115
Jim Tembo	3	40	920	30	270	67.5	60	120	517.5	402.5
Julius Kassanga	3	35	805	50	270	67.5	60	120	517.5	287.5
E. Kezilahabi	2	25	575	20	180	45	40	80	345	230
Salma Kikwete	4	55	1265	50	360	90	80	160	690	575
Leonard Shayo	2	25	575	30	180	45	40	80	345	230
Flaviana Matata	4	60	1380	150	360	90	80	160	690	690
Marcus Chengula	3	35	805	30	270	67.5	60	120	517.5	287.5
Livelong Nyerere	1	5	115	50	90	22.5	20	40	172.5	-57.5
Totals	24	300	6900	440	2160	540	480	960	4140	2760

TABLE 88. ESTIMATED COSTS, INCOME AND GROSS MARGIN PER FARMER IN A GROUP

Product type	Maize	**Currency**	US$		
Land area	24	**Currency per $**	1		
Expected sales price per bag	28				

NAME OF FARMER	AREA PLANTED	BAGS SOLD	INCOME	SAVINGS	COSTS					PROFIT
					Consumables	Durables	Labor	Loan costs	Total costs	
			$	$	$	$	$	$	$	$
Reginald and Bibi Mengi	2	20	560	30	170	40	32	80	322	238
Jim Tembo	3	35	980	30	255	40	48	120	463	517
Julius Kassanga	3	35	980	50	255	40	48	120	463	517
E. Kezilahabi	2	20	560	20	170	40	32	80	322	238
Salma Kikwete	4	50	1400	50	340	40	64	160	604	796
Leonard Shayo	2	20	560	30	170	40	32	80	322	238
Flaviana Matata	4	50	1400	150	340	40	64	160	604	796
Marcus Chengula	3	35	980	30	255	40	48	120	463	517
Livelong Nyerere	1	5	140	50	85	40	16	40	181	-41
Totals	**24**	**270**	**7560**	**440**	**2040**	**360**	**384**	**960**	**3744**	**3816**

TABLE 89. DIFFERENCE IN ESTIMATED AND ACTUAL COSTS, INCOME AND GROSS MARGIN

Product type	Maize	Currency	US$

	AREA PLANTED	BAGS SOLD	INCOME	SAVINGS	COSTS					PROFIT
					Durables	Consumables	Labor	Loan costs	Total	
Per acre values			$	$	$	$	$	$	$	$
Estimated totals	24	270	7560	440	2040	360	384	960	3744	3816
Actual totals	24	300	6900	440	2160	540	480	960	4140	2760
Differences	0	30	-660	0	120	180	96	0	396	-1056

When the group compared the estimates they had made at the start of the season (Table 88) with the actual figures they collected at the end of the season (Table 87), they realized the difference in results, as shown in Table 89.

- In terms of **volume**, they produced 30 more bags for sale (300 bags) than they had planned (270 bags).
- Their **costs ($4,140)** were higher than expected **($3,744),** a larger part of the higher costs were due to increased price of fertilizer and the much higher costs of a **loan**.
- The **sales price ($23 per bag)** was lower than they had hoped ($28 per bag).
- The higher volume did not quite make up for the lower price, giving them a **lower income ($6,900)** than expected **($7,560).**
- Due to the higher costs and lower revenue than expected, their **profit ($2,760)** was $1,056 lower than they had estimated **($3,816).**
- All farmers made less profit than hoped, but all made a cash profit and had 10 bags of maize for their food security. Only one farmer made a cash loss in this case because of the low land area.

REASONS FOR A LOSS

Farmers may find they have made a loss rather than a profit.

- **Are the calculations correct?** Check the figures and calculations carefully. Maybe the farmers have overestimated the costs, or made a mistake in the calculations.
- **Was there an obvious cause** – such as a drought or a severe disease that cut production? Or was there a bumper harvest that led to a sudden fall in prices? Discuss what the farmers can do to avoid such problems in future.
- **Is there still a loss if you ignore family labor?** The calculation may show a loss if family labor is included, but a small profit if it is ignored. That may or may not be a problem, depending on whether the family members can find other sources of income instead of working on their farm.
- **What caused the loss?** Why do the farmers think they lost money? Were costs too high? Was the income lower than expected – for example if yields or prices were lower than hoped? Encourage the farmers to think about these questions and how to make the enterprise more profitable next time.

CELEBRATING A PROFIT

The farmers may find they have made a profit. Time to celebrate? But wait, not quite so fast…

- **Are the calculations correct?** Check the figures and calculations carefully. Maybe the farmers have underestimated the costs, or made a mistake in the calculations.
- **Was there an obvious cause** – such as a particularly good yield because or unusually good rains? Discuss what the farmers can do to ensure they can get similar yields next year (e.g., by harvesting water and using it to irrigate their fields).
- **How can the farmers best invest the profit?** It is tempting to spend money on a big celebration, or to buy a longed-for television or motorbike. But is that the best way to spend the money? How will it help the family make a profit next year? Each farmer should carefully consider the investment needs for the enterprise and the costs of living until the next harvest, then see how much money is left over to spend.

CUTTING LOSSES AND INCREASING PROFITS

There are two ways to reduce losses or increase profits:

- **By cutting costs.** Help the farmers think of how they can cut their costs. Maybe they can invest in equipment that will cut the amount of work required? Or use a different technique that allows them to avoid spending money (such as using integrated pest management rather than spraying expensive pesticides).
- **By increasing income.** Help them think of ways they might increase their income. For example, they might harvest earlier, so benefiting from higher prices. They could increase the area planted, or switch to a higher-yielding variety. Or they could select a different target market that pays more for the product.

QUIZ 19

Answers at the end of the guide.

1. "Reginald, help me with the accounts! How much did we spend on production and marketing?" Reginald gives Bibi a pile of handwritten notes and receipts:

   Seed $15, Fertilizer $25, Weeding $65, Hoes $50, Harvesting $50.

   What is their cost of consumable materials?

   A. $205

   B. $115

   C. $50

   D. $40

2. "Those hoes should last us at least five years. How much should I include for them in this year's costs under durable items?"

   Seed $15, Fertilizer $25, Weeding $65, Hoes $50, Harvesting $50.

   A. $250

   B. $50

   C. $10

   D. $5

3. "Reginald, turn the television off! How much did we spend on hired labor?"

   Seed $15, Fertilizer $25, Weeding $65, Hoes $50, Harvesting $50.

   A. $205

   B. $115

   C. $50

   D. $40

4. "Reginald, stop watching the football! How much did the loan cost us?"

   Loan principal $100, Interest 2% per month, Loan period 6 months.

   A. $12

   B. $100

   C. $112

5. "Reginald, I know it's the football final, but this is important too! How much were our total costs?" Seed $15, Fertilizer $25, Weeding $65, Hoes $50, Harvesting $50, Loan $12.

   A. $217

   B. $177

   C. $167

6. "Yes, I'm sorry you missed the goal. Now help me work out our profit."

   Total costs $177, Bags sold 50, Price per bag $6.

   A. $477

   B. $300

   C. $123

EXERCISE 19. CALCULATING COSTS, INCOME AND PROFITS

This exercise will help a farmer group to calculate their costs of production, the income from the sale of their products and the profit that they have made.

OBJECTIVE

After this exercise the participants will be able to:

- Calculate the costs, income and profit from an enterprise.

EQUIPMENT NEEDED

- Multiple copies of the empty costing template (or you can write this information on a flipchart)
- Paper, pencils
- A calculator or a computer with a spreadsheet will assist calculations

EXPECTED OUTPUTS

A record of farmers' costs of materials, labor, loans, income and profit at the group level

TIME REQUIRED

- Two sessions of 3 hours.

The first session will work out the costs of production from up to three farmers. Try to get a sample of farmers that best represent the group.

The second session will collect information on areas of production and sales prices for farmers, which will be used to calculate profits for each of the members.

As you gain experience, you may be able to do both sessions in 3 hours.

PREPARATION

Before working on the costs of production with farmers, the field agent should visit a local input supply merchant and have a list of costs for generally used materials for the target crop. This will include things like, costs of seeds by type, costs of fertilizer by type, costs of agro-chemicals commonly used for target crop. It also includes basic costs of equipment that most farmers will use such as a power tiller, plow, hoe, machete, string, bags, knives, etc.. It is also useful to get an idea of the costs of certain services, such as plowing teams per day, tractor lease, weeding teams daily rates etc. This information is collected so that you can challenge the farmers if they give very high or very low prices.

SUGGESTED PROCEDURE

The farmers should do the profit analysis on the crop they have grown together and sold as part of the project work. If they have not yet done this, choose a crop that they all grew last season and fully understand in terms of how to produce and sell the crop and have a working knowledge of the costs and incomes involved.

The first session should be done with the field agent and up to three farmers to obtain the costs of production and get information on unit sales prices. The profitability results for all the farmers will be assessed in the second session. Having two meetings avoids people waiting around whilst the detailed interviews are being performed.

SESSION 1. COSTS OF PRODUCTION FOR INDIVIDUAL FARMERS

1. Ask the field agent to write down all costs for the production from each of the farmers in turn, and put this information into the sheets as outlined below (see Table 90):
   - The consumable material costs
   - The durable item costs
   - The family and hired labor costs
   - Costs of loans
   - Total costs
   - Income from the sales of the product
   - The profit (gross margin).
2. On each form write the farmer's name, the name of the farmers' group, the date, product and area on which the calculation is made (using standard units).

Cost of durable items

3. Calculate the costs per year of durable items (see Table 91).

Labor costs

4. In Table 92 write down all of the labor costs. Separate costs for family and hired labor costs.

Cost of loans

5. If the farmers took out a loan, they have to pay interest on it. This is a cost (see Table 93)

Total costs

6. Using the information from the previous tables, you can now fill in the summary of total costs in Table 94.

Income

7. Now calculate the income earned from the sales of the target product (Table 95).

Calculating profit

8. Use Table 96 to calculate the costs and income.

Calculating average costs and profits per unit area

9. Calculate the average costs and profits per unit area using Table 97.

SESSION 2. CHECKING THE FIGURES FOR INDIVIDUALS

In the second session you can use the average figures, calculated in session 1 to help farmers who did not keep records to work out their profit. In some cases, you will have asked a small number of farmers to keep records (as we suggested in Lesson 16), you can use their costs directly in the next calculation.

10. Check each set of records carefully. If all the farmers in the group are keeping records, you probably cannot check them all individually.

11. In Table 98, fill in the names of all the farmers with details of the area planted, bags sold and prices achieved. If farmers sold their produce on different dates at different prices, ask them to write down the incomes which you can use to calculate average income.

Calculating individual costs, profits, and group production and income

12. Ask all the farmers to call out their names so that you can enter them into Form 9. Then ask each one in turn, to fill in the columns. For farmers with no records use the average costing data from the information in Session 1, to fill in Table 98.

Comparing targets and actual costs, income and profit

13. You can now use your actual figures from this form to compare with the estimated figures that you calculated in Lesson 10.

DISCUSSION

- Did you make a profit?
- Is this profitability information of value to you?
- Did you make as much profit as you expected at the start of the season?
- What will you do next season to improve upon this season's result?

TABLE 90. CONSUMABLE MATERIALS COSTS FOR TARGET CROP

Farmer name		**Farmer group**		**Date**	
Product type		**Currency**			
Land area		**Currency per $**			

DATE	MATERIALS	UNITS	QUANTITY	PRICE PER NIT	COST
		Eg, kg, bags	A	B	A × B
Pre-production					
Total pre-production costs					
Production					
Total production costs					
Postharvest					
Total postharvest costs					
Marketing costs					
Total marketing costs					

Total consumable materials costs for area planted (X acres)	
Total consumable materials costs per unit acre ()	

TABLE 91. COST OF DURABLE ITEMS

Farmer name		**Farmer group**		**Date**	
Product type		**Currency**			
Land area		**Currency per $**			

ITEM	UNITS	QUANTITY	PRICE PER UNIT	YEARS USED	COST PER YEAR
	Eg hoes, buildings	**A**	**B**	**C**	**A × B / C**
Total cost of durable items per year for area planted					
Total cost of durable items per acre					

TABLE 92. LABOR COSTS

Farmer name		Farmer group		Date	
Product type		Currency			
Land area		Currency per $			

DATE	ACTIVITY	PERSON-DAYS		COST/DAY		COSTS		
		Hired	Family	Hired	Family	Hired	Family	Total
		A	B	C	D	E = A × C	F = B × D	E + F
Pre-production								
Total pre-production costs								
Production								
Total production costs								
Postharvest costs								
Total postharvest costs								
Marketing costs								
Total marketing costs								

Total labor costs for area planted (X acres)			
Total labor costs / acre			

TABLE 93. CALCULATING THE COST OF A LOAN

Farmer name		**Farmer group:**		**Date:**	
Amount of loan		A			
Interest rate per month (%)		B			
Number of months		C			
Cost of loan		D = B × C			
Amount to be repaid		A + D			

TABLE 94. TOTAL COSTS OF PRODUCT

Farmer name		**Farmer group:**		**Date:**	
Product type				**Currency**	
Land area				**Unit area**	
COSTS PER UNIT AREA					
Consumable items		A			
Durable items per year		B			
Total materials		C = A + B			
Hired labor costs		D			
Family labor costs		E			
Total labor costs		D + E			
Loan costs		F			
Total costs (excluding family labor)		C + D + F			
Total costs (including family labor)		C + D + E + F			

TABLE 95. INCOME FROM TARGET PRODUCT

Farmer name		Farmer group		Date	
Product		Production area (ha)			
INCOME THROUGH SALES		**NO OF UNITS SOLD**	**PRICE PER UNIT**	**TOTAL**	
Sales units x market sales price					
Sales units x market sales price					
Total sales					

TABLE 96. PROFIT (GROSS MARGIN) FROM TARGET PRODUCT

Farmer name		Farmer group		Date	
Product type				Currency	
Production area (ha)				Currency per $	
				INCLUDING FAMILY LABOR	**EXCLUDING FAMILY LABOR**
Total income		A			
Total costs		B			
Profit (gross margin)		C = A – B			
Profit (gross margin) from x unit area (e.g., acre or ha plot)					

TABLE 97. AVERAGE COSTS PER UNIT AREA

Product type				Currency	
Farmer 1 name		Farmer group		Date	
AMOUNT PER UNIT AREA (e.g. per acre or ha)			**INCLUDING FAMILY LABOR**	**EXCLUDING FAMILY LABOR**	
Total income		A1			
Total costs		B2			
Profit (gross margin)		C1 = A1 – B1			

Farmer 2 name		Farmer group		Date	
AMOUNT PER UNIT AREA (e.g. per acre or ha)			**INCLUDING FAMILY LABOR**	**EXCLUDING FAMILY LABOR**	
Total income		A1			
Total costs		B2			
Profit (gross margin)		C1 = A1 – B1			

Farmer 2 name		Farmer group		Date	
AMOUNT PER UNIT AREA (e.g. per acre or ha)			**INCLUDING FAMILY LABOR**	**EXCLUDING FAMILY LABOR**	
Total income		A1			
Total costs		B2			
Profit (gross margin)		C1 = A1 – B1			

AVERAGE		**INCLUDING FAMILY LABOR**	**EXCLUDING FAMILY LABOR**
Average income	D = (A1+A2+A3)/3		
Average costs	E = (B1+B2+B3)/3		
Average profit	D – E		

TABLE 98. ACTUAL COSTS, INCOME AND GROSS MARGIN PER FARMER IN A GROUP

Farmer group name										
Product type				**Currency**						
Land area				**Currency per $**						
FARMERS' NAMES	**AREA PLANTED**	**BAGS HARVESTED**	**BAGS SOLD**	**AVERAGE PRICE / BAG**	**COSTS**					**GROSS MARGIN**
					Income	**Materials costs**	**Labor costs ex Family**	**Loan**	**Total**	
Total										

LESSON 20. REVIEW, DOCUMENTATION, AND PLANNING THE NEXT SEASON

IN THIS LESSON

After this lesson you will be able to:

- Describe how to help farmers analyze the previous season's results.
- Compare the performance of several farmers' groups.
- Plan your guidance for the farmers for the next season.

FARMERS' RECORDS

Individual farmers. As far as possible, individual farmers should be responsible for keeping their own records. That will help them gain the skills they need to manage their businesses in a professional manner.

Encourage them to keep records, and where necessary guide them how to do so. Just as important, help them analyze the information they have gathered so they can make decisions based on it. It may be good to start with just a few farmers in the first season, and encourage them to help their friends and neighbors to keep their own records in the next season.

Group records. To be commercial farmers, it is vital that the farmers' group keep good records of targets, actual production and sales, and details of financial transactions. Keeping these records is the responsibility of the group's elected agents.

Help the agents to collect this data and maintain these records. Also help them to analyze the group's performance, report the results to the members, and use the information to make decisions during the season and for the following season.

LEARNING FROM THE FIRST SEASON

The farmers have produced, sold, and calculated their profits. It is time to discuss with them what they have learned. Help them review both the quantitative and qualitative aspects:

Quantitative measures

- Did the group meet the targets in terms of production
- Did the group meet their price targets?
- Did the group manage to meet their cost targets?
- Did they make the income and profits they had expected?
- Did they repay their loans?
- Was it profitable to take a loan?

Qualitative measures

- Was the approach a success? What went right? What do they want to do again next season?
- What went wrong? What would they do differently next season?
- What did we learn from the first season? Are the farmers doing better in groups?

You can use Table 99 to record the farmers' comments.

TABLE 99. END-OF-SEASON REVIEW FORM

	WHAT WENT WELL?	WHAT DID NOT GO SO WELL?
Farmer organization		
Gathering information		
Business plan		
Pre-production		
Production		
Postharvest		
Collective marketing		
Profit analysis		
Was the product a good selection?		
Things to change		
General comments		

Farmers often find it particularly useful to learn from the experience of other farmers. Consider arranging joint meetings or cross-visits between groups so they can exchange ideas.

REVIEWING PERFORMANCE

In addition to evaluating the performance of a crop or livestock agroenterprise, the farmers should also review the performance of their group members, particularly the marketing team, lead farmers and or committee members.

Performance monitoring is a sensitive issue, but it should be discussed constructively. You should be sensitive to problems in group dynamics and find ways to suggest where changes may help.

Elections are one way to ease changes in positions and enable other members of the group to take on new responsibilities. They can be a non-confrontational way for a group to change people who are not performing in key roles.

DISCUSSING WITH YOUR TEAM

This is also good time to discuss your results with your colleagues, other field agents and supervisor.

- **Comparing groups.** Are some groups doing better than others? Why? How did the farmers your colleagues have been advising do? What can you learn from them? What can you share from your own experiences? What difficulties have you encountered, and how can you overcome these?
- **Reviewing the agroenterprise approach.** How successful has the agroenterprise approach been? Did it help farmers to produce and sell for a profit? Did they learn new skills? Did the information gathering and processing help you to assist farmers? Does the approach reduce the time and costs of serving farmers or increase it? Does it result in more and better impact at the farm level? What difficulties and challenges have you and your colleagues faced in implementing the approach?

You can use the profitability calculator in the Farmbook software to compare the productivity and profitability across farmer groups and products.

DOCUMENTING AND REPORTING

The government, donors, NGOs, financial institutions and private-sector investors need formal reports filled with data about the season's activities and results. Find out what format is required for the report. If you have kept good records for the group, you should be able to prepare the report in the correct format easily.

Anecdotes. These are an effective way to send your message across about the work you have been doing with the farmers. For example, you could describe how a particular family has succeeded by joining a farmers group that started supplying eggs to a city bakery. Adding human interest to a report can help other farmers understand and accept the agroenterprise approach. To complement your anecdotes, take photographs or make short videos about the key points in the production and marketing cycle so you can use them in reports and in your future work with farmers.

Do not be afraid to report failures. Failures are inevitable when testing new ideas. Failure will happen in any business venture. By documenting and analyzing failures, we can learn from them and avoid repeating them.

PLANNING THE NEXT SEASON

The farmers have reviewed the previous season or production cycle. Now it is time to plan for the next season using the experience they have gained. You should help them do this well before the start of the next season so they have time to explore markets, purchase inputs and apply for any loans they may need.

- **Same product and market?** If they plan to target the same product and market, they probably will not need to gather a lot of new information. They can use the information and contacts they already have. But farmers should still check whether any major changes have taken place, for example in prices or market demand. Perhaps they can renew agreements or contracts with suppliers and buyers and negotiate loan arrangements with financial institutions on similar terms to the previous season.
- **Different product or market?** If the farmers decide to switch (or add) products or target a different market, they will probably need to do more work to gather and analyze information. You may need to help them do this. See Lesson 5, Lesson 7 and Lesson 8 for more.
- **Seeking improvements.** It is always possible to make improvements, even in the most successful business. Encourage the farmers to look for ways to cut costs, increase their output, obtain better prices, or invest money in a more effective way.
- **Profitability analysis.** Help the farmers repeat the profitability analysis (Lesson 10) to estimate their costs, income and profit from the next season's enterprise.
- **Business plan.** The group should revise its business plan if necessary (see Step 4). If they are sticking to the same product and market, few changes may be needed. If they are changing products or markets, they will need to make more substantial revisions.
- **Investing in the enterprise.** Encourage the farmers to re-invest part of their profits in profitable ventures. They may do this as individuals (for example, by buying seed, fertilizer or equipment for their farms), or as a group (building a warehouse to store grain). The higher the farmer savings to cover the costs of materials and labor, the more the farmer will keep in profit at the end of the year.

TAKING A BACK SEAT

The farmers have had a season's experience, so they will start off with a much higher level of knowledge and understanding than when you began working with them. That means they should need less direct training and guidance this time.

So take more of a back seat. Try to make sure they do as much of the planning, record keeping, and analysis as possible. Be clear that you have many other farmers to serve, so while you will be pleased to provide support and advice, they have to run the agroenterprise themselves next season.

QUIZ 20

Answers at the end of the guide.

1. Each group is unique. There is no point in comparing them.

   A. Correct. Little is to be gained from comparing across groups

   B. Not correct. Both farmers and field agents can learn by comparing groups, so it is important to gather data in a standard format to allow comparisons

2. Who are the main users of data on costs, income, and profitability?

   A. The farmers themselves

   B. The officers of the farmers' group

   C. The field agent

   D. The field agent's organization

3. The farmers made a loss and they are frustrated by the agroenterprise process. What should you do?

   A. Abandon work with the group: they clearly do not have the motivation to continue

   B. Discuss the problems with the group and explore ways to overcome them in the next season

   C. Try to persuade them that they should do the same thing next season

4. The farmers have produced, sold and calculated their profits. It is time to discuss with them what they have learned. What are the quantitative and qualitative measures they need to discuss?

   Match the question to the correct category.

CATÉGORIE	QUESTION
A. Qualitative	1. Was the approach a success?
B. Quantitative	2. Did the group meet their price and cost targets?
	3. Did they make the income and profits they had expected?
	4. Did they repay their loans?
	5. Was it profitable to take a loan?
	6. Did the group meet production targets?
	7. What do they want to do again next season?

5. In addition to evaluating the performance of a crop or livestock agroenterprise, the farmers should also review the performance of their...

   A. Group members

   B. Buyers

   C. Suppliers

   D. Traders

6. Why are anecdotes an effective way of documenting and reporting your work?

   A. Adding human interest to a report can help other farmers understand and accept the agroenterprise approach

   B. It creates a competitive environment for farmers

   C. Farmers gain confidence when they learn of the failures of others

Step 7. Scaling up

The last step leads you through the activities that you need to complete before the next season. These are:

- **Scaling up.** This means finding ways to extend the agroenterprise approach to more farmers. We outline some ideas in **Lesson 21**.

At the end of this step you will have:

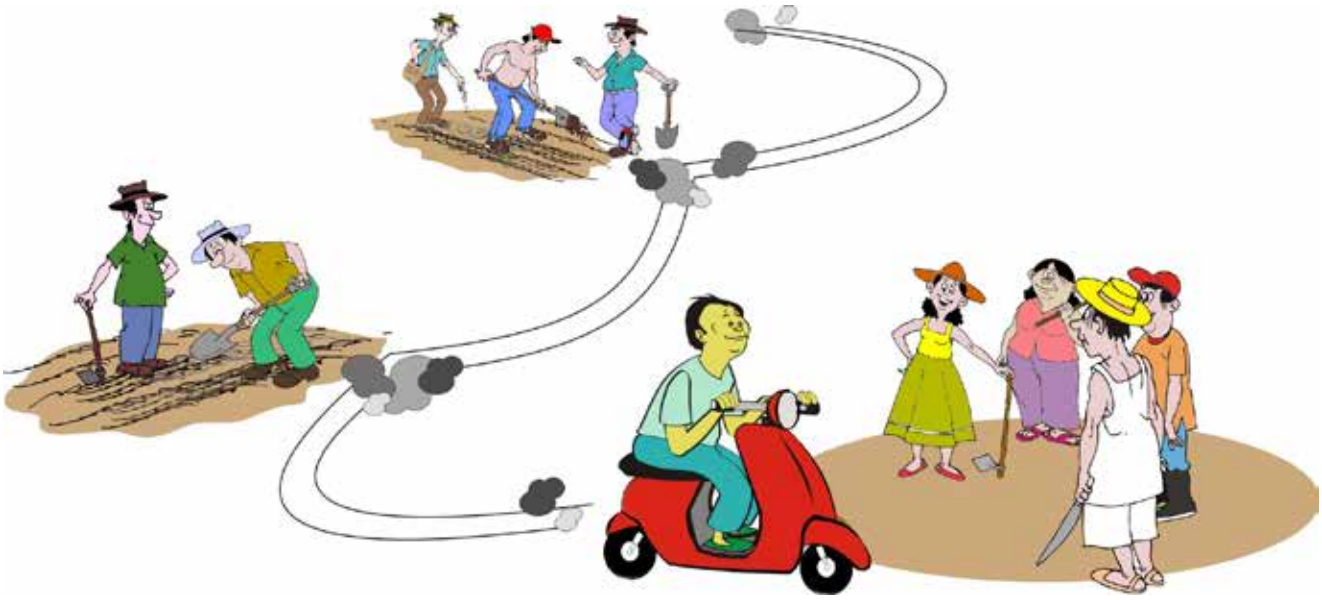
- Reviewed the previous season's experiences with the farmers' group and your colleagues
- Helped the farmers plan for the next season or production cycle
- Explored ways to achieve a greater impact by scaling up the agroenterprise approach.

LESSON 21. SCALING UP

IN THIS LESSON

After this lesson you will be able to:

- Work out how many farmers' groups a field agent can manage
- Describe options for further training field agents
- Describe second-order farmers' associations and farmer cooperatives
- Help farmers prepare a plan for scaling up their enterprise
- Describe other ways of helping develop and spread new ideas about production and marketing.



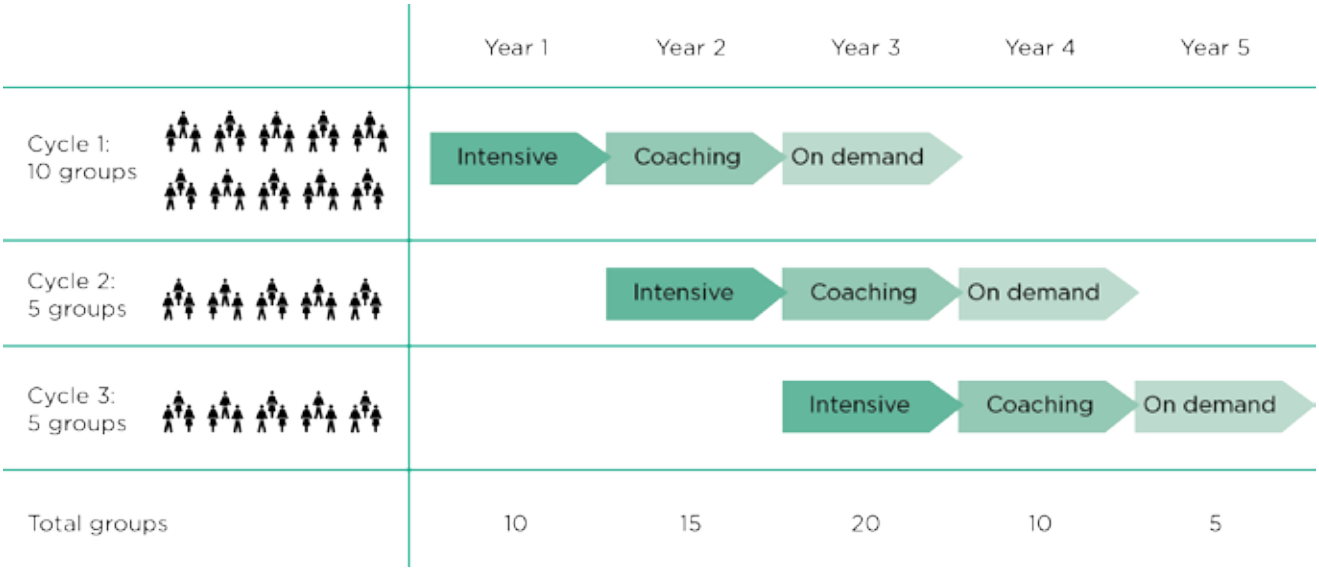
A HUGE DEMAND FOR ADVICE ON MARKETING

There is a huge demand among farmers for help with marketing. So we need to find ways to serve more groups in more places. This lesson looks at some ways to do this:

- Managing more groups
- Training other facilitators
- Working with second-order associations and cooperatives
- Working with buyers
- Promoting innovation
- Communication and the media.

HOW MANY GROUPS CAN A FIELD AGENT MANAGE?

There is no fixed number of farmers' groups that a field agent can support. It depends on the type and detail of training provided, the location, the situation of the groups, market options, and the capacity of the field agent.



OUTLINE FOR ROLLING TRAINING PLAN FOR ONE FIELD AGENT FOR A 5-YEAR PROJECT

If you are working in an area where the farmers are poor but markets are functioning reasonably well, a well-trained field agent can start working with 5–10 farmer groups of 20–30 farmers each, in the first production cycle.

If the process is successful and there is demand from other farmer groups, the field agent can add five to ten or more groups each production cycle. The timeframe for the production cycle may be a season, a year, or several years, depending on the product.

The diagram below shows how a plan to add new groups might be organized.

- **In year 1,** the field agent provides 10 farmers' groups with intensive training.
- **In year 2,** the field agent coaches these same groups, visiting them every month and at marketing time. This allows the field agent time to start new groups.
- **In year 3**, the field agent comes to the first year group only when requested, coaches the groups who started in year 2 and begins to work with a new set of farmer groups.

In a 5-year project, the field agent would support 20 groups through the three phases.

TRAINING OTHER FACILITATORS

Another way to spread the agroenterprise approach is to train people to facilitate other groups of farmers to set up their own agroenterprises. These facilitators might include:

- **Staff of partner organizations.** Various NGOs, community organizations, faith-based organizations, and extension agencies that promote agricultural development. These organizations often focus on increasing production or community organizing. Training them in agroenterprise skills would enable their staff to expand their services and increase their impact.
- **Community field agents.** Entrepreneurial farmers, especially young people, may be interested in taking on the role of being a private-sector field agent. They may be able to work part-time or full-time to help groups improve their marketing.

Some projects and organizations support part or all of the salaries of such agents. Elsewhere, they may be able to charge farmers' groups a fee for the services they provide.

The most successful private field agents often start working in savings-and-loans groups before expanding to agroenterprises. A field agent who learns the 5 skills as part of a project can go onto becoming a private sector field agent. A field agent may also train local community members to become private sector service providers.

SECOND-ORDER ASSOCIATIONS

Collaboration among farmers' groups can help scale up the collective marketing of farm products. Such collaboration may take the form of a second-order marketing association or a cooperative (see Lesson 17).

The two representatives from each group relay information and decisions between their groups and the association.

The association enables the farmers to buy from and sell to larger traders, and to get better prices.

FROM FIRST-ORDER MARKETING GROUPS TO A SECOND-ORDER ASSOCIATION

FARMER COOPERATIVES

Cooperatives are larger, more formal organizations that typically have full-time staff and offer their members more services:

- Access to new technologies such as (seed, fertilizer, agro-chemicals, irrigation)
- Access to veterinary services
- Access to basic inputs at lower market costs, based on bulk purchase

- Extension service support for production
- Financial support for loans and profitability analysis
- Storage and crop conditioning facilities
- Market information (spot prices and market trend data)
- Market support (finding buyers and making collective marketing arrangements)
- Providing access to loans, insurance and warehouse receipt options
- Support for certification.

Some cooperatives also provide social services:

- Access to medical clinics
- Adult education
- Basic infrastructural projects (water, sanitation, market access roads, transport).

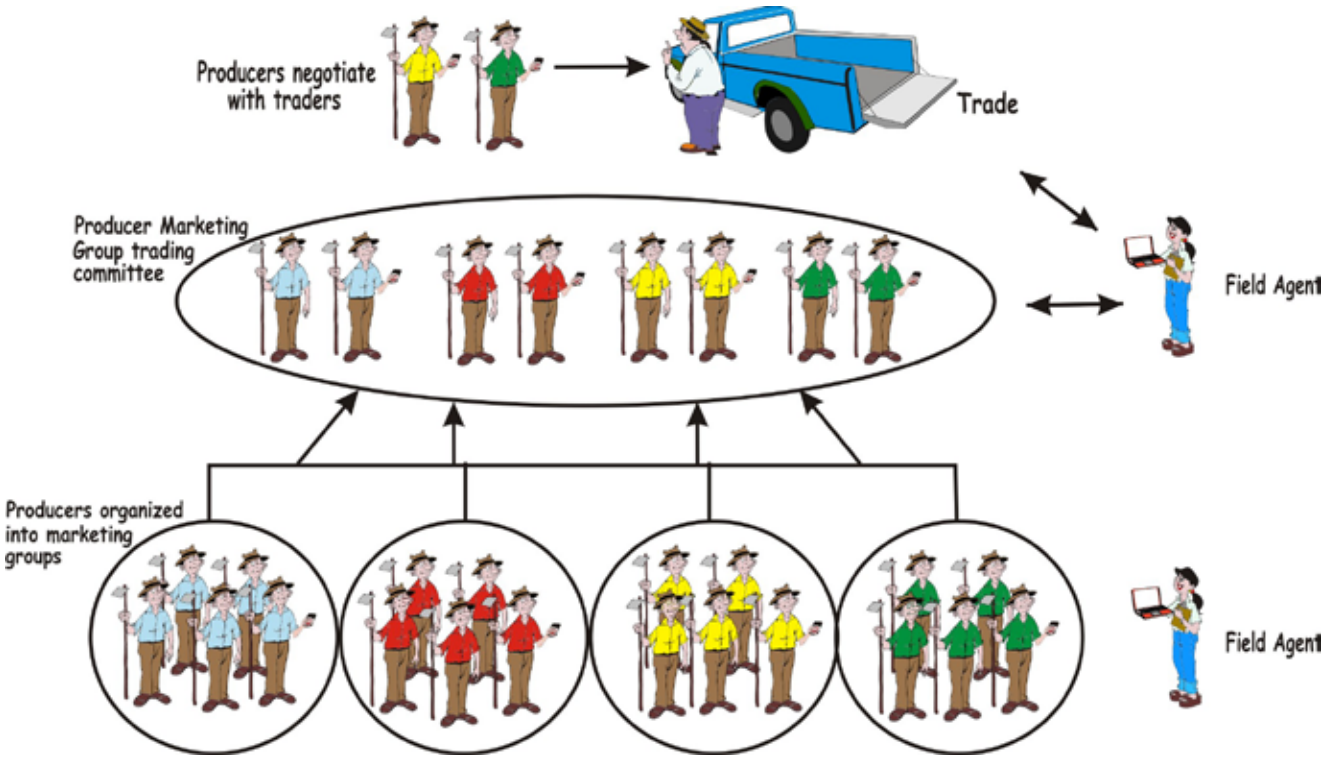
These services may also be open to non-members, but members get preferential rates.

To join a cooperative, a farmer usually pays a one-time or annual membership fee, and is also asked to buy shares.

COOPERATIVE MANAGEMENT

Several cooperatives may be organized into unions:

- Farmers' groups (20–30 members)
- Cooperatives (10–30 farmer groups)
- Cooperative unions (4–5 cooperatives).



Because they serve so many farmers and are a place where farmers can learn and get information, cooperatives can be a very useful way to scale up the agroenterprise approach.

Where they are well managed, cooperatives generally improve the lot of their members. Millions of farmers support and are empowered by the cooperative movement.

But in some countries mismanagement of cooperatives has left many with a bad reputation. Some cooperatives are imposed by the government. They are sometimes controlled by elites or politicians. Where farmer's groups have been manipulated for political purposes, many cooperatives are corrupt or inefficient.

So farmers may be suspicious of cooperatives, and in some areas, it may be challenging to work with them. Make sure that any organization that claims to support farmers is honest and provides services that promote the farmers' wellbeing.

WORKING WITH FORMAL BUYERS

Local traders and other more formal buyers typically purchase from a large number of farmers. Negotiating with lots of individuals is time-consuming and not very efficient. As we have seen, many buyers welcome the opportunity to negotiate to buy larger amounts from groups of farmers. They are often prepared to pay a higher price for the convenience of buying in bulk.

Once you have helped the farmers get organized into a group, it is helpful to work with the buyers.

- Are they interested in buying more?
- Would they like to buy other products as well?
- Would they pay a better price for better quality?
- Can they pay more quickly for reliable supplies?

As a field agent, facilitate agreements between farmers and buyers to build trading relationships. Encourage farmers' groups to monitor buyer trends, consumer

demands, and preferences so they can work better with formal buyers. Doing this requires close contact throughout the growing season. Mobile phones make this easy.

Once they have seen the advantages of working with groups, the buyers may be interested in helping their other suppliers get organized and to sell to them in bulk.

PROMOTING INNOVATION

Farmers can often improve their incomes by identifying new market trends and opportunities, and finding ways of supplying these new demands. They can also become more competitive by reducing their production costs or boosting their productivity.

This probably requires new production techniques or better ways of organizing and communicating. This type of innovations typically start with one person seeing a new way of doing something. This idea is tested on a small scale, perhaps with a small group of farmers. If it is successful, the group as a whole can adopt the new approach and integrate it into their next business plan.

Where do new ideas come from? The farmers themselves are an important source. You should also work with researchers and the private sector to identify new things that might work. The internet is also a good source. See the course on Promoting innovation for more ideas.

COMPARING COSTS BETWEEN CROPS

In Lesson 19 we learned how to compare estimated and actual costs for an individual farmer and for a farmer group. One of the other things that a field agent can do with farmers is to compare the profit or (returns to land and labor), from different types of crops. For example, a field can take the costs of production, (materials, labor and loans) and the income based on sales, for maize and compare that on the same unit area for another crop such as cassava, rice or coffee.

TABLE 100. COST COMPARISON FORM

COSTS	CROP A	CROP B	DIFFERENCES
based on same unit area e.g., 1 acre	**(e.g. maize)**	**(e.g. beans)**	
Consumable materials			
Durable materials			
Hired labor			
Family labor			
Loan costs			
Revenue (income)			
Profit (gross margin)			

COMMUNICATION AND THE MEDIA

Farmers listen to the radio and may be able to watch television. Increasing numbers have mobile phones, and may have access internet cafés nearby. If these information services are available, use them to promote agroenterprise development.

For example, you could:

- Contribute to a radio drama about marketing.
- Be interviewed on a talk show, or become a regular guest talking about agriculture and prices in the market.
- Prepare and distribute printed production and marketing guides.
- Contribute to information materials produced by the government or NGOs.
- Explore ways to get information, such as prices, to farmers via their mobile phones.

CONCLUSION

Scaling up successful interventions depends on effective planning, rigorous implementation and regular documentation. You are a vital part of the development process. Use your skills and your connections to try new ideas and develop new ways of achieving positive results in farmers' lives.

We hope that the information in this course will help you to work with farmers and enable them to become better agricultural entrepreneurs.

QUIZ 21

Answers at the end of the guide.

1. What is the best approach for planning work with farmers' groups?

   A. Start work with all the groups at the same time. The weaker ones will drop out, allowing you to focus on the stronger ones who have a chance of success.

   B. Work with one group at a time. Make sure they can manage their production and marketing well before moving on to another group.

   C. Stagger the work: begin by working intensively with several groups, then in the next season reduce your involvement with them, so freeing you to start with another set of groups.

2. What is the best method for scaling up the agroenterprise approach?

   A. There is no one best method. It depends on the particular situation.

   B. Encouraging groups to federate into second-order associations or cooperatives.

   C. Training partners and farmers in agroenterprise skills.

   D. Working with traders and other buyers.

   E. Using the mass media to reach large numbers of farmers.

3. Match the scaling up method with the correct channel

METHOD	CHANNEL
A. Interview on a talk show	1. Working with buyers
B. Testing a new production technique	2. Innovation
C. Exploring interest in buying larger volumes	3. Radio
D. Helping several groups to collaborate on marketing	4. Second-order associations

4. What factors should a field agent consider when trying to determine how many farmers she can support?

   A. Access to technology

   B. Capacity of field agent

   C. Group situation

   D. Location

   E. Market options

   F. Type of training

5. Match the type of organization with the most likely number of members

TYPE OF ORGANIZATION	MEMBERS
A. Farmers' group	1. 4–5 cooperatives
B. Cooperative union	2. 10–30 farmers' groups
C. Cooperative	3. 20–30 members

6. Which is not a feature of a good cooperative?

   A. Provide information and advice

   B. Offer access to cheap inputs

   C. Provide access to loans and insurance

   D. Farmers are required to join

EXERCISE 21. YOUR SCALING UP PLAN

OBJECTIVE

After this exercise the participants will be able to:

- Set new production and sales targets
- Develop a plan to organize farmers so they can supply target markets.

EQUIPMENT NEEDED

- Flip chart, market pens, calculator

EXPECTED OUTPUTS

- Farmers begin to organize a new plan for the next season, with higher targets, or more lucrative markets and more farmers involved in production and sales.

TIME REQUIRED

- 180 minutes

PREPARATION

- None

SUGGESTED PROCEDURE

The field agent will need to lead the discussion with farmers on how they might scale up. Lesson 21 discussed how farmers' groups can start thinking about scaling up their agroenterprises – review these options with farmers. The field agent should lead the farmers through a series of question to work out the basic ideas that the farmers will use for scaling up their production. The farmers group will need to review their performance and also work on their market plans to evaluate scaling options. Specifically, farmers will need to:

1. Review market strategy: This review will require revisiting markets to find out whether buyers will take more produce and if so, what increase in production do the buyers want?
2. Fixing the new target: Based on the previous season's production, sales and with new information from buyers, the farmers can set a new target.
3. Identifying the appropriate scaling method: What should the farmers do to scale, how can the field agent help? And what do farmers want to do?

When talking to the farmers consider the following questions:

- Do you, as field agent, know other farmer groups, growing the same product, who could join with this group?
- Can the farmers increase production within their group? (yes / no)
- How will the farmers increase their production and sales? (more technology, more land, more members)
- Can the farmers work with other existing groups? (available / not available)
- Do the farmers need to form new groups? (yes / no)
- Who will facilitate the new group members? (project / farmers / other)

Examples of more detailed questions

Does the field agent know about other farmer groups in this market?

- Field agents work with other farmer groups, and should tell the farmers if there are other like-minded groups in the project, or outside the project who might be interested in joining forces to work on new marketing targets. If the answer to this is yes, the field agent should work to link up similar farmer groups.

Issues related to increasing production from existing group

- Did the sales in the previous season indicate that farmers could sell more produce to identified buyers at a profit?
- Can the farmers reach their new production target from the group members?
- Would the increase in production come from improved technology, more land, or new members in the group?
- Can the farmers invest in new technology to achieve new targets?

ISSUES RELATED TO INCREASING PRODUCTION FROM INCREASING SIZE OF EXISTING GROUP?

- Are there other farmers who want to join the group?
- Can the first group help new farmer to develop an enterprise plan?
- Is it best for the new farmers to join the existing

group or form an associated group?

Do the farmers need to work with other existing groups?

- Is there a cooperative or other association that the first group can join?
- Can the group associate with other project groups, that are nearby to increase their abilities to scale their input purchases and for selling their produce?

Who will facilitate the new group members?

- Can the project field agent help to support the new members or groups?
- Can the project field agent help to train a local private sector field agent?
- Will any of the existing group members take on the local service provider role?

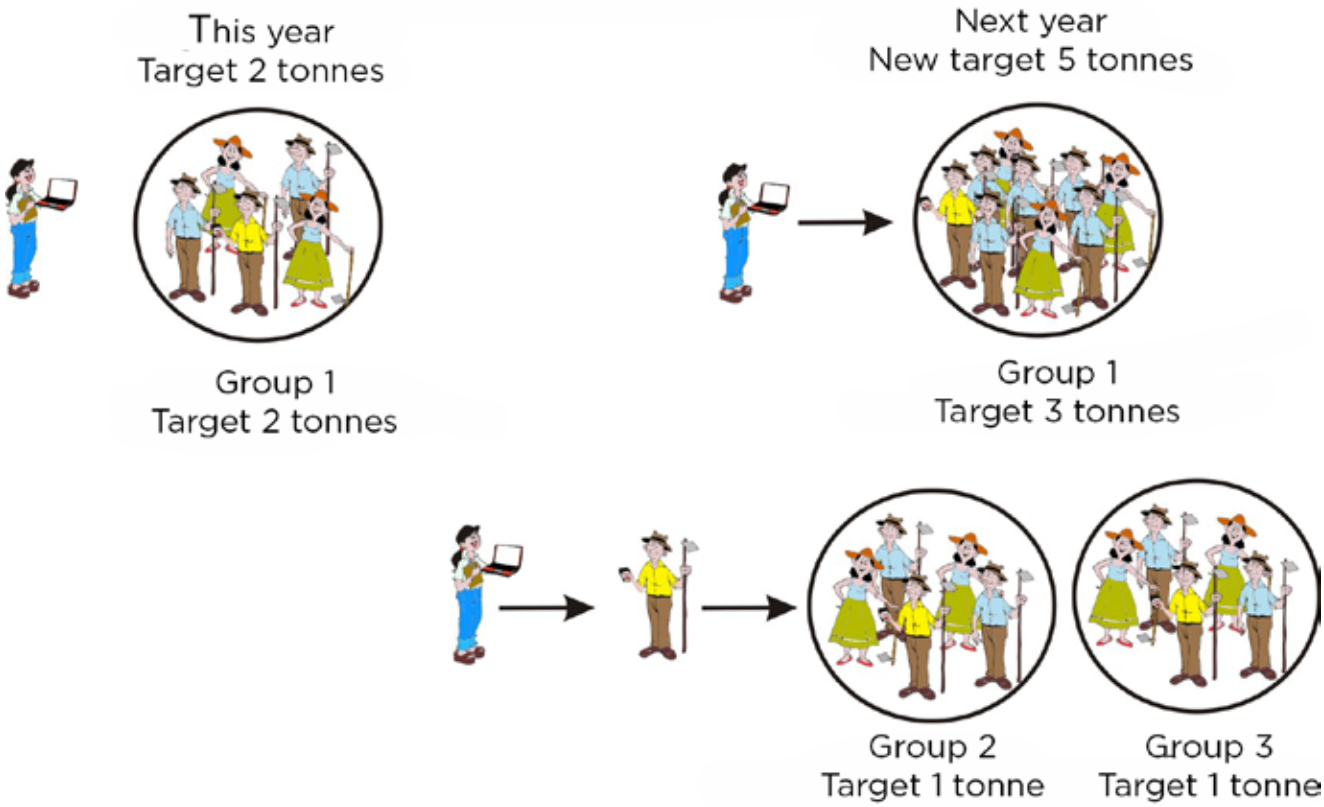
Mapping the scaling plan

Using a sheet of paper and marker pens, ask the farmers to draw a picture or diagram of how they plan to scale up their production. In the example below, the farmers have expanded their first group and joined with two new groups.

Task for the group

Work with the field agent to draw up a scaling plan for the next year. Indicating the following issues.

- Clarify increased demand for product. If not available, do a rapid market survey.
- Identify buyers and confirm volume they will buy.
- Map out the basic scaling process.
- Confirm with field agent if there are existing groups to link with.
- If more members are needed recruit them and record their names and locations
- Identify who will provide field agent support or communication to members.
- Select a person in the first group who will work with other groups.
- Start the process of market analysis and business development for the next season.
- Implementation plans will now include more than one group.
- Record each of these activities and inform all group members about decisions for scaling up.



Annexes

ANNEX 1. MSHIKA FARMERS' GROUP

The information in this case study will enable you to prepare a business plan for the maize enterprise of the Mshika farmers' group, Hai District, Northern Zone, Tanzania. The business plan can either be developed by hand or by entering the data into Farmbook, an on-line agro-business planning and monitoring tool. This case study is designed to provide a hands-on introduction to the Farmbook tool and should be used in conjunction with the Farmbook training PowerPoint presentation. It is linked to the business plan presented in Lessons 10 and 19 of the 7 Steps of Marketing Manual.

Your tasks are as follows:

Read through the text in the case study (this will help you to orient yourself with the information)

Follow the data given in this example and **fill in the corresponding sections of Farmbook**

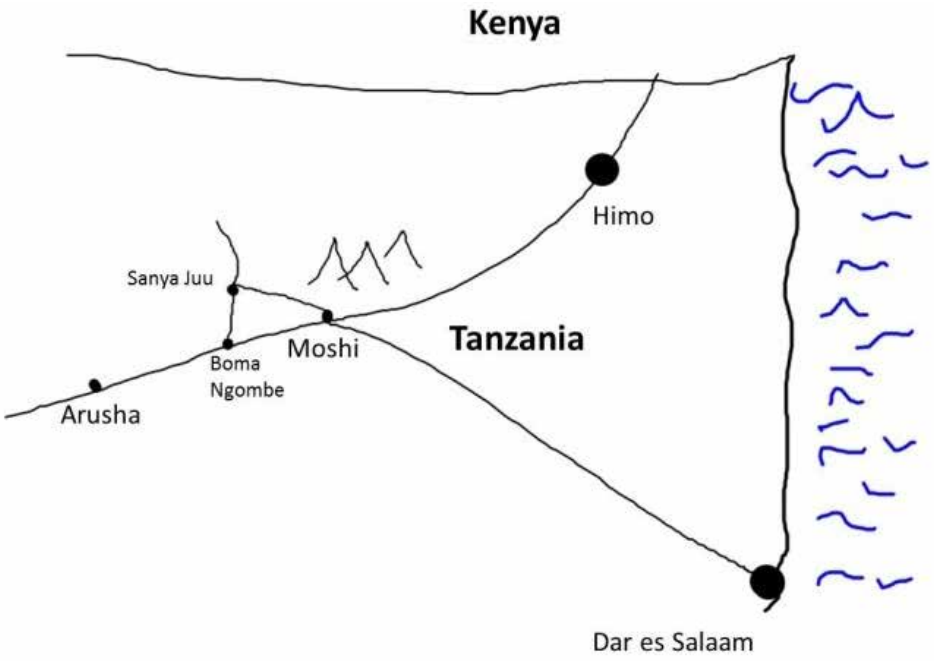
1. Register the farmers in their households
2. Register farmers into a farmer's group. Use **your own name** as the farmer group name.
3. Use the information in the case study to build the narrative section of the business plan.
4. Enter the narrative and production data into the business plan.
5. Review financial data and enter the costs of production for farmers based on farm size.
6. Baseline this data.
7. Go to sales register enter the quantity of bags sold according to sales information in the study.
8. Review reports.
9. Synchronize data.

MSHIKA FARMERS' GROUP IN SANYA JUU

The village of Sanya Juu is located 21 km north of Boma Ngombe, the headquarters of Hai District, in West Kilimanjaro, Tanzania. Boma Ngombe is the local trading centre along on the main Arusha to Dar-es-Salaam highway. Boma Ngombe is situated 55 km from Arusha to the west and 20 km from Moshi, to the east. It lies at an altitude of 1300 meters. According to the field agent's GPS, the location of Sanya Juu has a

TABLE 101. MEMBERS OF THE MSHIKA FARMERS' GROUP

#	SALU-TATION	FARMERS' NAMES	MARITAL STATUS	TELEPHONE	HOUSEHOLD ROLE	FARMER	LAND-HOLDINGS	GENDER	DATE OF BIRTH	ID DOCUMENTS
						yes / no			dd/mm/yyyy	
1	Mr	Reginald Mengi	Married	27 394 9656	Head	yes	3	Male	4/6/1950	None
2	Mr	Jim Tembo	Married	27 853 6923	Head	yes	4	Male	22/5/1955	Tz 254402203
3	Mr	Julius Kassanga	Married	27 287 8927	Head	yes	5	Male	17/5/1970	None
4	Mrs	Euphrase Kezilahabi	Married	27 889 3323	Cousin	yes	3	Male	14/1/1980	None
5	Mrs	Salma Kikwete	Married	27 853 7832	Head	yes	7	Female	3/3/1982	None
6	Mr	Leonard Shayo	Married	27 888 2352	Head	yes	4	Male	2/10/1970	Tz 29992339
7	Mrs	Flaviana Matata	Married	27 999 2783	Head	yes	16	Female	25/9/1952	Tz 25384842
8	Mr	Marcus Chengula	Married	27 079 2132	Head	yes	4	Male	9/3/1968	None
9	Mr	Livelong Nyerere	Married	27 866 5000	Head	yes	1	Female	7/3/1953	Tz 29983339



MAP OF SANYA JUU

longitude of 3.183333 and the latitude is 37.06667. Sanya Juu is productive farming area, with good market access to the main northern towns and cities in Tanzania and is close enough to have market linkages to demand from the Kenyan market.

THE FARMERS' GROUPS

In 2007, the farmers of Sanya Juu decided to form the Mshika farmer group to improve their food security. World Fusion helped them with basic farming ideas and inputs. The farmers originally organized themselves to learn about how to manage pests and diseases of their major food crops, maize and beans. The farmers made some improvements, but the group did not meet every week, and progress was slow.

FARMER MARKETING GROUPS

In mid-2011, the Department for Agriculture and Livestock Development Organization initiated a new activity with the farmers' groups, focusing efforts on helping them to improve their market opportunities for cash crops and livestock products. The first activity was a participatory diagnosis facilitated by Agnes Mamba.

Agnes told the farmers that improving productivity was important, but the farmers must also be better organized and learn how to market their produce. She offered to support farmers that were interested in working on their marketing skills. However, she made it clear: to be successful the farmers would need to show real determination.

The farmers met and decided to step up their game. Agnes came again and this time she led the group through a visioning exercise, working with the farmers to find out more about what they have been doing and what they want to do in the future. When Agnes pressed the farmers about what they wanted to achieve, they identified three main aspects to their vision:

- To produce more consistent and higher yields to ensure their food security
- To raise incomes to improve housing and to pay for the education of their childre
- To improve food security through higher productivity and higher incomes for the farmer's group.

Following the advice of Agnes, the farmers decided to re-organize their group and prepare a new constitution. They decided to call themselves the Mshika Farmers' Group, and made plans to work with Agnes to shift from a production group to a marketing group. Agnes asked them to start a savings group in order to save money to invest in their enterprise. She guided the farmers to organize themselves into a savings group to help to self-finance their investment. This required the farmers to register the group with the NGO, World Fusion. The group was registered under the name Mshika and provided the business identifier 10109189925. The group entered Jim Tembo's phone number as the primary contact number for the group, and gave 3 April as the date of formation. They also included the positions of the newly elected group leadership:

- **Jim Tembo** as the chairman of the group
- **Salma Kikwete** as the secretary
- **Flaviana Matata** as treasurer
- **Livelong Nyerere** as the lead farmer
- **Marcus Chengula** as the market agent.

ROLE OF THE MARKETING TEAM

Agnes worked with Marcus to set up a team of 3 members to form an "enterprise committee". This team was responsible for gathering market information for the group. The work included regular market visits and asking traders about price trends and purchasing conditions. At the market visits, Agnes guided them on how to approach traders, what questions to ask and how to record the information collected. They made visits to the local market in Sanya Juu, Boma Ngombe, Arusha and Himo town.

The marketing team gathered information on maize, beans, sunflower, hot pepper, pawpaw, mushroom, pigs and local chickens, based on market demand. In order of net profit, the best options were: pawpaw, maize, mushroom, sunflower, local chicken and beans. Pigs were uneconomic. This information was reported back to the entire group of farmers who used the following criteria to select the most attractive option for developing as an enterprise:

- Market demand
- Quick return and income generation
- Knowledge of how to produce the crop
- Profitability
- Dual purpose for food and income generation.

Based on these criteria the group selected maize as their initial enterprise. They chose maize, because demand for maize is high in the local and regional markets, they have contacts with some interested buyers and they know how to grow maize. It is also their food crop, so the farmers can consume what they cannot sell.

The next step in developing their maize enterprise was to undertake a more detailed rapid market chain analysis, so that the group would have enough information to prepare a business plan to guide them in production targets and marketing. The information that they have collected by talking to the different actors is summarized below. Use this information in preparing your business plan and profitability analysis.

MAIZE PRODUCTION

The farmers have land for commercial production at distances of up to 5 km from their homes. They also have plots close to their houses but these are small and mainly used by the women for vegetable production. Maize is their main food and cash crop. They normally grow maize, but most farmers use local seed and rarely use fertilizer.

However, things have changed. Agnes suggested that the farmers visit the Selian research station, 20 km away, to ask for help to improve their maize production. The researchers advised that if the farmers wanted to grow maize for sale that they should use a technology package that included new varieties, fertilizer and improved agronomic practices. The researcher also provided the following recommendations:

- Improved seed of their new varieties: TAN 250 (a hybrid maize), OPTAN 200 (an open pollinated variety).
- Appropriate use of fertilizer: one or two 50 kg bags of NPK.
- Improved agronomy such as preparing the land on time, sowing on time, hand weeding the fields at least twice in the first 3–4 weeks of crop growth, or spraying the crops to remove weeds, drying grain immediately after harvest, and storing dry grain in clean bags, in a well-ventilated store to maintain quality.
- The researcher told them that there are input supply shops in Boma Ngombe, which sells open-pollinated and hybrid seeds.
- Fertilizer is available in Arusha, at $30–40 per 50-kg bag, but it costs about $3 to ship a bag of fertilizer back to Sanya Juu.

After their visit to the Agricultural Research Station, the farmers discussed the options with Agnes. Traditionally the famers have kept seed from year to year, but they noticed that their yields declined in subsequent years, particularly with the hybrid maize seed. Some many farmers were using open-pollinated varieties because that seed can be used for 2–3 years.

To avoid yield declines and boost their production, the farmers made a plan that all the members would buy new hybrid seed from Bombe Ngombe market. At the market they researched the prices of seed (Table 102). The input supplier informed them they would need 8 kg of seed per acre.

The farmers were also told by the researchers that if they planted new hybrid maize seed, or the open pollinated varieties, they would only get good results if they used fertilizer. When they went to the input dealer, the manager told the farmers what he thinks that most farmers get in terms of yield when they combine different types of seed with fertilizer. The input manager said that because most farmers do not use hybrid seed or fertilizer, their yields were very low and that the only way to get higher yields was to invest in improved maize production.

The farmers discussed the ideas and decided that they would all stick to one plan, to all grow the hybrid TAN 250 seed, and use fertilizer at a rate of one bag of NPK fertilizer per acre. The Secretary took notes of the first planning meeting to provide the following pre-season production plan.

This information included the current savings that the farmers held, and their contribution towards the costs of inputs for the production. The farmers would have to borrow the additional funds needed to cover the cost of inputs.

The farmers used their savings and also borrowed money, to purchase TAN 250 seed in Bombe Ngombe market and then made arrangements to buy the fertilizer. To do this they gathered information from the group about the area of maize they were

TABLE 102. COSTS OF MAIZE SEED

	COST PER 2-KG BAG
Local seed	1
Open-pollinated seed	3
Hybrid seed	5

TABLE 103. PRODUCTION OF MAIZE DEPENDS UPON SEED TYPE AND USE OF FERTILIZER

	NUMBER OF 100-KG MAIZE BAGS PRODUCED		
	No fertilizer	50 kg fertilizer/ acre	100 kg fertilizer / acre
Local seed	5	8	10
Open-pollinated seed	8	13	17
Hybrid seed	11	15	22

TABLE 104. PRODUCTION PLAN FOR MSHIKA FARMERS' GROUP

#	FARMER'S NAME	POSITION	MAIZE PRODUCTION AREA	FERTILIZER USED	SEED TYPES USED	SAVINGS
			Acres	Bags/acre		$
1	Reginald and Bibi Mengi	Member	2	1	Hybrid TAN 250	30
2	Jim Tembo	Chairman	3	1	Hybrid TAN 250	30
3	Julius Kassanga	Member	3	1	Hybrid TAN 250	50
4	Euphrase Kezilahabi	Member	2	1	Hybrid TAN 250	20
5	Salma Kikwete	Secretary	4	1	Hybrid TAN 250	50
6	Leonard Shayo	Member	2	1	Hybrid TAN 250	30
7	Flaviana Matata	Treasurer	4	1	Hybrid TAN 250	150
8	Marcus Chengula	Market agent	3	1	Hybrid TAN 250	30
9	Livelong Nyerere	Lead Farmer	1	1	Hybrid TAN 250	50

TABLE 105. IMPLEMENTATION PLAN FOR MSHIKA FARMERS' GROUP

AREA OF INTERVENTION	ACTIVITIES	PERSONS/INSTITUTIONS RESPONSIBLE	TIMEFRAME
Preproduction	Plowing	Farmer group	August
	Second Plowing	Farmer group	September
Production	Planting	Farmer Group	September
	Weeding	Farmer Group	October
	Second Weeding	Farmer Group	November
Postharvest handling/ processing	Harvesting	Farmer group	December
	Drying/ sorting	Farmer group	December
Marketing	Transport	Farmer group	January

TABLE 106. CALENDAR FOR NORTHERN TANZANIA WITH RAINY SEASON

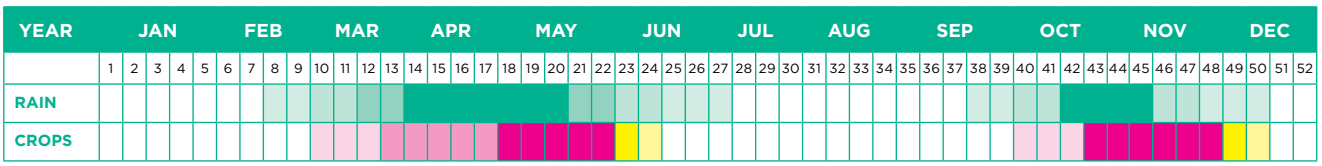


TABLE 107. REGINALD AND BIBI MENGI SAMPLE PRESEASON MATERIAL COSTS – TWO-ACRE MAIZE PLOT

CONSUMABLE ITEMS		UNITS	QUANTITY	PRICE PER UNIT	COST DOLLARS
		Eg, kg, bags	A	B	A × B
Pre-production					
	Hybrid seed	2 kg packets	8	5	40
Production					
	Fertilizer	50 kg bags	2	40	80
Postharvest					
	Storage bags	Bags	30	1.0	30
Marketing					
	Transport to market	100 kg bags	20	0.5	10
	Market Fees	100 kg bags	20	0.5	10
Total consumable items					170

DURABLE ITEMS	UNITS	QUANTITY	PRICE PER UNIT	YEARS USED	COST PER YEAR
		A	B	C	A × B / C
Pre-production					
Plow	Item	1	100	10	10.00
Production					
Hoes	Item	2	6	4.0	3.00
Machetes	Item	2	9.0	3.0	6.00
Postharvest					
Baskets	Item	5	1.0	5.0	1.00
Marketing					
Storehouse rent	Building	1	300	20	15.00
Mobile phone	Item	1	25	5	5.00
Total cost of durable items per year					40.00

Total material costs	210

TABLE 108. REGINALD AND BIBI MENGI SAMPLE LABOR COSTS FOR TWO ACRES OF MAIZE: FARMERS' FIGURES

DATE	ACTIVITY	PERSON-DAYS		COST/DAY		COSTS		
		Hired	Family	Hired	Family	Hired	Family	Total
		A	B	C	D	E = A × C	F = B × D	E + F
Pre-production								
	Plowing	2	2	4	4	8	8	16
	2nd plowing	2	2	4	4	8	8	16
Total pre-production costs						16	16	32
Production								
	Planting	0	5	2	2	0	10	10
	Weeding	2	6	2	2	4	12	16
	2nd weeding	2	6	2	2	4	12	16
Total production costs						8	34	42
Postharvest costs								
	Harvesting	4	3	2	2	8	6	14
	Drying, sorting		9	2	2	0	18	18
Total postharvest costs						8	24	32
Marketing costs								
	Transport		9		2	0	18	18
Total marketing costs						0	18	18
Total labor costs						32	92	124

going to produce that year, so that they could make calculations about the number of bags of seed and fertilizer they would need.

Implementation plan: At the second planning meeting of the group, Agnes suggested that the farmers prepare an implementation plan (Table 105). This information was also linked to a production calendar (Table 106). The main season (long rains) is from March to June with harvest in June–July. The short rains, October–November, are less reliable but do allow maize cultivation.

The farmers decided to start their commercial maize production in the October season. They used the calendar to mark out the timing of their plans in terms of production and marketing.

Costs of production: Agnes worked with some individual farmers to get an idea of the costs of production for maize by the farmers. Agnes interviewed three farmers who were representative of the group. The figures for Reginald and Bibi Mengi are provided in Tables 107–108. Reginald and Bibi have a two-acre plot and therefore all the costs are provided for that size plot. Agnes gathered data on costs of materials and labor. Material costs were defined as consumable, i.e., they were used in one season, and durable, which means that they last for several years. Labor costs were defined as hired labor and family labor.

The costs for the other two farmers, Jim Tembo and Salma Kikwete, are given in Tables 109–115.

Credit and loans: The farmers use a range of methods to borrow for their investments in crop and livestock production. Some get financial support from their savings, families, or local input supply merchant. Input suppliers, typically provide free inputs at the start of the season, or accept a small down payment but deduct this cost from

TABLE 109. JIM TEMBO SAMPLE PRESEASON MATERIAL COSTS – THREE-ACRE MAIZE PLOT

CONSUMABLE ITEMS		UNITS	QUANTITY	PRICE PER UNIT	COST DOLLARS
		Eg, kg, bags	A	B	A × B
Pre-production					
	Hybrid seed	2 kg packets	12	5	60
Production					
	Fertilizer	50 kg bags	3	40	120
Postharvest					
	Storage bags	Bags	45	1.0	45
Marketing					
	Transport to market	100 kg bags	30	0.5	15
	Market Fees	100 kg bags	30	0.5	15
Total consumable items					255

DURABLE ITEMS	UNITS	QUANTITY	PRICE PER UNIT	YEARS USED	COST PER YEAR
		A	B	C	A × B / C
Pre-production					
Plow	Item	1	100	10	10.00
Production					
Hoes	Item	2	6	4.0	3.00
Machetes	Item	2	9.0	3.0	6.00
Postharvest					
Baskets	Item	5	1.0	5.0	1.00
Marketing					
Storehouse rent	Building	1	300	20	15.00
Mobile phone	Item	1	25	5	5.00
Total cost of durable items per year					40.00

Total material costs	295

TABLE 110. JIM TEMBO LABOR COSTS FOR THREE ACRES OF MAIZE: FARMERS' FIGURES

DATE	ACTIVITY	PERSON-DAYS		COST/DAY		COSTS		
		Hired	Family	Hired	Family	Hired	Family	Total
		A	B	C	D	E = A × C	F = B × D	E + F
Pre-production								
	Plowing	3	3	4	4	12	12	24
	2nd plowing	3	3	4	4	12	12	24
Total pre-production costs						24	24	48
Production								
	Planting	0	7.5	2	2	0	15	15
	Weeding	3	9	2	2	6	18	24
	2nd weeding	3	9	2	2	6	18	24
Total production costs						12	51	63
Postharvest costs								
	Harvesting	6	4.5	2	2	12	9	21
	Drying, sorting		13.5	2	2	0	27	27
Total postharvest costs						12	36	48
Marketing costs								
	Transport		13.5		2	0	27	27
Total marketing costs						0	27	27
Total labor costs						48	138	186

TABLE 111. SALMA KIKWETE SAMPLE PRESEASON MATERIAL COSTS – FOUR-ACRE MAIZE PLOT

CONSUMABLE ITEMS		UNITS	QUANTITY	PRICE PER UNIT	COST DOLLARS
		Eg, kg, bags	A	B	A × B
Pre-production					
	Hybrid seed	2 kg packets	16	5	80
Production					
	Fertilizer	50 kg bags	4	40	160
Postharvest					
	Storage bags	Bags	60	1.0	60
Marketing					
	Transport to market	100 kg bags	40	0.5	20
	Market fees	100 kg bags	40	0.5	20
Total consumable items					340

DURABLE ITEMS	UNITS	QUANTITY	PRICE PER UNIT	YEARS USED	COST PER YEAR
		A	B	C	A × B / C
Pre-production					
Plow	Item	1	100	10	10.00
Production					
Hoes	Item	2	6	4.0	3.00

TABLE 112. SALMA KIKWETE LABOR COSTS FOR FOUR ACRES OF MAIZE: FARMERS' FIGURES.

DATE	ACTIVITY	PERSON-DAYS		COST/DAY		COSTS		
		Hired	Family	Hired	Family	Hired	Family	Total
		A	B	C	D	E = A × C	F = B × D	E + F
Pre-production								
	Plowing	4	4	4	4	16	16	32
	2nd plowing	4	4	4	4	16	16	32
Total pre-production costs						32	32	64
Production								
	Planting	0	10	2	2	0	20	20
	Weeding	4	12	2	2	8	24	32
	2nd weeding	4	12	2	2	8	24	32
Total production costs						16	68	84
Postharvest costs								
	Harvesting	8	6	2	2	16	12	28
	Drying, sorting		18	2	2	0	36	36
Total postharvest costs						16	48	64
Marketing costs								
	Transport		18		2	0	36	36
Total marketing costs						0	36	36
Total labor costs						64	184	248

TABLE 113. TOTAL MATERIAL AND LABOR COSTS – TWO ACRES

Material costs	210
Labor costs (excluding family)	32
Total costs	242

TABLE 114. TOTAL MATERIAL AND LABOR COSTS – THREE ACRES

Material costs	295
Labor costs (excluding family)	48
Total costs	343

TABLE 115. TOTAL MATERIAL AND LABOR COSTS – FOUR ACRES

Material costs	380
Labor costs (excluding family)	64
Total costs	444

TABLE 116. FARMER LOAN COST ESTIMATES

LOAN REPAYMENT COSTS		ONE-ACRE FARM	TWO-ACRE FARM	THREE-ACRE FARM
		$	$	$
Amount of loan	A	100	200	300
Instalment amount	B	30	60	90
Number of instalments	C	4	4	4
Cost of loan	D = A × B × C	20	40	60
Amount to be repaid	D + A	120	240	360

TABLE 117. PLANNED SALES OF MAIZE FROM TWO ACRES OF MAIZE: FARMERS' PRE-SEASON FIGURES

INCOME	UNIT	NO. OF UNITS	PRICE PER UNIT	INCOME
			$	$
Sale of maize	100 kg bags	20	28	560
Total income		20		560

TABLE 118. GROSS MARGIN: FARMERS' PRE-SEASON FIGURES

	COSTS
	$
Material costs	210
Labor costs (excluding family)	32
Loan costs	40
Total costs	282
Income	560
Gross margin	278

the farmer when they buy the grain at harvest time. Very few farmers are able to get credit from formal sources.

However, in Sanya Juu, there are some financial options. The Small Enterprise Development Association loans money at a rate of 15% over 6 months. Kenneth Goodman, the local money lender charges somewhere between 5 and 10% interest per month, for a loan of up to $250 paid in monthly instalments. He normally lends for 3–4 months.

The farmers indicated that they planned to take out loans of approximately $100 per acre to cover the remaining costs of production and expected to pay back $30 per acre per month over 4 months, $120 per acre total. The expected loan amounts and expenses are listed in Table 116.

Farmers will also use their savings as a contribution towards input costs. The basic savings of the Mshika group members are shown in the farm group information and will contribute to individual farmer decisions regarding credit. For example, Reginald and Bibi used their savings of $30 as part payment for the seed and fertilizer. The total costs of the maize enterprise is estimated at $240 for a two acre plot.

The farmers debated the price they would get for their maize next season, but based on last year's prices, they thought the price would be about the same. They calculated their projected income to be based on a bag price of around $28 for a 100 kg bag.

When the farmers calculated what they expected to gain as profit, they made the following calculations (Table 118). Once they worked out the costs for Reginald and Bibi, they used this to make calculations for the rest of the farmers (Table 119).

ACTUAL COSTINGS

When Reginald and Bibi looked at their loan costs they found the reality was much higher than they had planned for. Instead of 5% loans in monthly installments of $60, they had to pay 10% per month in monthly installments of $80 to support their maize enterprise. The total cost for their maize enterprise was $242. However, they had $30 in savings and decided to borrow $200, piecing together other business options and some loans he had made to neighbors to cover the difference.

Enterprise Implementation: Based on the farmer's calculations, they planted their crops, fertilized the maize and weeded the crop. At harvest, the maize was collected and transported to farmers' homes where it is was dried and hulled. The grain was then packed and stored ready for market.

Food security: As maize is the staple food for the farmers in this area, households planned to keep 10 bags of maize for home consumption. Some farmers kept another 20 kg of seed per acre for next year's seed.

Recording actual expenses: Throughout the season, the farmers carefully recorded the cost of everything they bought for their maize crop. This made it easy to keep track of the costs and to add them up at the end of the season. Bibi kept careful track of the expenses for their two acre plot (Tables 121–122).

Jim Tembo also carefully recorded expenses for his three-acre farm (Tables 123–124).

Salma Kikwete also recorded expenses throughout the production season for her four-acre farm (Tables 125–126).

Marketing: This was a good season for maize and most farmers produced as much if not more than they planned. They were very happy about the production season. But it was not only the Mshika farmers who had done well, and with so much maize on the markets, prices had fallen.

In Sanya Juu, there were a number of small traders that purchased maize at $19 per bag. The farmers had no confidence in these traders, who they considered were cheating them.

Buyers: Marcus Chengula, the marketing agent, visited the markets again and found that in Bombe Ngoma, the larger traders were Tonga Kasesi, Mashou Obama, Dafrasa Museveni, and Mamangina Babangida. In Boma Ngombe traders paid $24 per bag. If the farmers wanted to get these higher prices, they had to sell 7–10 metric tonnes at one time (Table 127).

SELLING AS A GROUP

Despite the lower prices, the farmers decided to sell their maize to the group, and then to Mrs Kasesi, who was offering $24 / bag. The farmers were aware that Mrs Kasesi is a miller and has higher standards than the local traders, which are reflected in her sale conditions. She rejected products that fell below her quality parameters (uniform seed size with no mixture of varieties, clean, less than 5% impurities, 12% moisture). She also needed to be assured of delivery in order to meet her contract agreements.

TABLE 119. ESTIMATED FARMER FINANCIAL ANALYSIS PRE-SEASON FIGURES

Product type	Maize	**Currency**	US$		
Land area	24	**Currency per $**	1		
Expected sales price per bag	28				

NAME OF FARMER	AREA PLANTED	BAGS SOLD	INCOME	SAVINGS	COSTS					PROFIT
					Consumables	Durables	Labor	Loan costs	Total Costs	
			$	$	$	$	$	$	$	$
Reginald and Bibi Mengi	2	20	560	30	170	40	32	40	282	278
Jim Tembo	3	35	980	30	255	40	48	60	403	577
Julius Kassanga	3	35	980	50	255	40	48	60	403	577
E. Kezilahabi	2	20	560	20	170	40	32	40	282	278
Salma Kikwete	4	50	1400	50	340	40	64	80	524	876
Leonard Shayo	2	20	560	30	170	40	32	40	282	278
Flaviana Matata	4	50	1400	150	340	40	64	80	524	876
Marcus Chengula	3	35	980	30	255	40	48	60	403	577
Livelong Nyerere	1	5	140	50	85	40	16	20	161	-21
Totals	**24**	**270**	**7560**	**440**	**2040**	**360**	**384**	**480**	**3264**	**4296**

TABLE 120. COST OF LOAN FOR TWO ACRES OF MAIZE (REGINALD AND BIBI): FARMERS' FIGURES

LOAN REPAYMENT COSTS		$
Amount of loan	A	200
Installment amount	B	20
Number of installments	C	4 months
Cost of loan	D = B × C	80
Amount to be repaid	A + D	280

TABLE 121. ACTUAL COSTS OF MATERIALS FOR TWO ACRES OF MAIZE (REGINALD AND BIBI): FARMERS' FIGURES.

DATE	CONSUMABLE ITEMS	UNITS	QUANTITY	PRICE PER UNIT	COST ($)
		Eg, kg, bags	A	B	A × B
Pre-production					
	Hybrid seed	2 kg packets	8	5.0	40
Production					
	Fertilizer	50 kg bags	2	45.0	90
Postharvest					
	Storage bags	Bags	30	1.0	30
Marketing					
	Transport to market	100 kg bags	20	0.5	10
	Mobile air time	air time cards	2	5	10
Total consumable items					180

DURABLE ITEMS	UNITS	QUANTITY	PRICE PER UNIT	YEARS USED	COST ($ / YEAR)
		A	B	C	A × B / C
Pre-production					
Plow	Item	1	100	10	10.00
Production					
Hoes	Item	2	6	4.0	3.00
Machetes	Item	2	9.0	3.0	6.00
Postharvest					
Baskets	Item	5	1.0	5.0	1.00
Marketing					
Tarpaulin	1 sheet	1	20	4	5.00
Storehouse rent	Building	1	300	20	15.00
Mobile phone	Item	1	25	5	5.00
Total cost of durable items per year					45.00

TABLE 122. ACTUAL LABOR COSTS FOR TWO ACRES OF MAIZE (REGINALD AND BIBI): FARMERS' FIGURES

DATE	ACTIVITY	PERSON-DAYS		COST/DAY		COSTS		
		Hired	Family	Hired	Family	Hired	Family	Total
		A	B	C	D	E = A × C	F = B × D	E + F
Pre-production								
	Plowing	2	2	4	4	8	8	16
	2nd plowing	2	2	4	4	8	8	16
Total pre-production costs						16	16	32
Production								
	Planting	0	5	2	2	0	10	10
	Weeding	2	6	2	2	4	12	16
	2nd weeding	2	6	2	2	4	12	16
Total production costs						8	34	42
Postharvest costs								
	Harvesting	4	3	2	2	8	6	14
	Drying, sorting		9	2	2	0	18	18
Total postharvest costs						8	24	32
Marketing costs								
	Transport		9		2	0	18	18
Total marketing costs						0	18	18
Total labor costs						32	92	124

TABLE 123. ACTUAL MATERIAL COSTS FOR THREE ACRES OF MAIZE (JIM TEMBO): FARMERS' FIGURES

DATE	CONSUMABLE ITEMS	UNITS	QUANTITY	PRICE PER UNIT	COST DOLLARS
		Eg, kg, bags	A	B	A × B
Pre-production					
	Hybrid seed	2 kg packets	12	5.0	60
Production					
	Fertilizer	50 kg bags	3	45.0	135
Postharvest					
	Storage bags	Bags	45	1.0	45
Marketing					
	Transport to market	100 kg bags	30	0.5	15
	Mobile air time	air time cards	3	5	15
Total consumable items					270

DURABLE ITEMS	UNITS	QUANTITY	PRICE PER UNIT	YEARS USED	COST PER YEAR
		A	B	C	A × B / C
Pre-production					
Plow	Item	1	100	10	10.00
Production					
Hoes	Item	2	6	4.0	3.00
Machetes	Item	2	9.0	3.0	6.00
Postharvest					
Baskets	Item	5	1.0	5.0	1.00
Marketing					
Tarpaulin	1 sheet	1	20	4	5.00
Storehouse rent	Building	1	300	20	15.00
Mobile phone	Item	1	25	5	5.00
Total cost of durable items per year					1.00

TABLE 124. ACTUAL LABOR COSTS FOR THREE ACRES OF MAIZE (JIM TEMBO): FARMER FIGURES

DATE	ACTIVITY	PERSON-DAYS		COST/DAY		COSTS		
		Hired	Family	Hired	Family	Hired	Family	Total
		A	B	C	D	E = A × C	F = B × D	E + F
Pre-production								
	Plowing	3	3	4	4	12	12	24
	2nd plowing	3	3	4	4	12	12	24
Total pre-production costs						24	24	48
Production								
	Planting	0	7.5	2	2	0	15	15
	Weeding	3	9	2	2	6	18	24
	2nd weeding	3	9	2	2	6	18	24
Total production costs						12	51	63
Postharvest costs								
	Harvesting	6	4.5	2	2	12	9	21
	Drying, sorting		13.5	2	2	0	27	27
Total postharvest costs						12	36	48
Marketing costs								
	Transport		13.5		2	0	27	27
Total marketing costs						0	27	27
Total labor costs						48	138	186

TABLE 125. ACTUAL COSTS OF MATERIALS FOR FOUR ACRES OF MAIZE (SALMA KIKWETE): FARMERS' FIGURES

DATE	CONUSMABLE ITEMS	UNITS	QUANTITY	PRICE PER UNIT	COST DOLLARS
		Eg, kg, bags	A	B	A × B
Pre-production					
	Hybrid seed	2 kg Packets	16	5.0	80
Production					
	Fertilizer	50 kg Bags	4	45.0	180
Postharvest					
	Storage bags	Bags	60	1.0	60
Marketing					
	Transport to market	100 kg Bags	40	0.5	20
	Mobile air time	air time cards	4	5	20
Total consumable items					360

DURABLE ITEMS	UNITS	QUANTITY	PRICE PER UNIT	YEARS USED	COST ($ / YEAR)
		A	B	C	A × B / C
Pre-production					
Plow	Item	1	100	10	10.00
Production					
Hoes	Item	2	6	4.0	3.00
Machetes	Item	2	9.0	3.0	6.00
Postharvest					
Baskets	Item	5	1.0	5.0	1.00
Marketing					
Tarpaulin	1 sheet	1	20	4	5.00
Storehouse rent	Building	1	300	20	15.00
Mobile phone	Item	1	25	5	5.00
Total cost of durable items per year					45.00

TABLE 126. ACTUAL COST OF LABOR FOR FOUR ACRES OF MAIZE (SALMA KIKWETE): FARMERS' FIGURES

DATE	ACTIVITY	PERSON-DAYS		COST/DAY		COSTS		
		Hired	Family	Hired	Family	Hired	Family	Total
		A	B	C	D	E = A × C	F = B × D	E + F
Pre-production								
	Plowing	4	4	4	4	16	16	32
	2nd plowing	4	4	4	4	16	16	32
Total pre-production costs						32	32	64
Production								
	Planting	0	10	2	2	0	20	20
	Weeding	4	12	2	2	8	24	32
	2nd weeding	4	12	2	2	8	24	32
Total production costs						16	68	84
Postharvest costs								
	Harvesting	8	6	2	2	16	12	28
	Drying, sorting		18	2	2	0	36	36
Total postharvest costs						16	48	64
Marketing costs								
	Transport		18		2	0	36	36
Total marketing costs						0	36	36
Total labor costs						**64**	**184**	**248**

TABLE 127. PRICES PAID BY MAIZE TRADERS AND FARMER GROUP

LOCATION	TRADERS	$/100 KG BAG	$/TONNE
Dar es Salaam	Export Traders Ltd	28	280
Bomba Ngoma	Mrs Kasesi	24	240
Farmer Group	Buying price	23	230

The farmers agreed to sell to the farmer group at a price of $23, and then they would work out a second payment if they were able to sell to Mrs Kasesi at $24. The figures for sales of the farmers are given in Table 111. This shows that only two farmers sold outside of the group, (side selling), the rest sold to the group for $23 per bag. The group then sold this consignment collectively to Mrs Kasesi for the agreed price of $24 per bag. The group made a profit and the farmers decided to put this into a bank account, to help with investments in the next year (Tables 128–129).

TABLE 128. GROUP FINANCIAL ANALYSIS ACTUAL COSTS AND SALES PRICES

NAME OF FARMER	AREA PLANTED	BAGS SOLD	INCOME SALES	SAVINGS	COSTS					PROFIT
			Price per bag $23		Consumable	Durable	Labor excl. family	Loan costs 10% × 4 months	Total	
Reginald Mengi	2	20	460	30	180	45	32	80	337	123
Jim Tembo	3	40	920	30	270	45	48	120	483	437
Julius Kassanga	3	35	805	50	270	45	48	120	483	322
E. Kezilahabi	2	25	575	20	180	45	32	80	337	238
Salma Kikwete	4	55	1265	50	360	45	64	160	629	636
Leonard Shayo	2	25	575	30	180	45	32	80	337	238
Flaviana Matata	4	60	1380	150	360	45	64	160	629	751
Marcus Chengula	3	35	805	30	270	45	48	120	483	322
Livelong Nyerere	1	5	115	50	90	45	16	40	191	-76
Totals	**24**	**300**	**6900**	**440**	**2160**	**405**	**384**	**960**	**3909**	**2991**

TABLE 129. SALES REGISTER

	SALES EVENT 1						SALES EVENT 2					TOTALS	VARIANCE	REVENUE
Farmer	**Bags**	**Units**	**Price**	**Date**	**Mkt type**	**Revenue $**	**Units**	**Price**	**Date**	**Mkt type**	**Revenue $**			
Reginald and Bibi Mengi	20	20	23		1	460		23				20	0	460
Jim Tembo	40	10	23		1	230	30	23		1	690	40	0	920
Julius Kassanga	35	20	23		1	460	15	23		1	345	35		805
E. Kezilahabi	25	25	23		1	575		23		1	-	25		575
Salma Kikwete	55	20	23		1	460	35	23		1	805	55		1,265
Leonard Shayo	25	10	23		1	230	15	23		1	345	25		575
Flaviana Matata	60	30	23		2	690	30	23		1	690	60		1,380
Marcus Chengula	35	10	25		2	250	25	23		1	575	35	0	825
Livelong Nyerere	5	5	23		1	115				1	-	5	0	115
Totals	**300**	**150**				**3470**	**150**				**3450**	**300**	**0**	**6900**

Group sales		**Units**	**Price**	**Date**	**Mkts**	**$**
Sale 1		260	24		4	6,240
Sale 2						
Group sales						6,240
Group costs						5,980
Group profit						260
Individual sales		40	23		2	920
Total revenue		**300**				**7160**

	Market Types
1	Farmer Group
2	Processing
3	Rural assembly
4	Wholesale

ANNEX 2. IMPLEMENTATION PLAN FOR AN AGROENTERPRISE

AREA OF INTERVENTION	ACTIVITIES	PERSONS/ INSTITUTIONS RESPONSIBLE	TIMEFRAME	COSTS
Marketing				
Business organization				
Production				
Postharvest handling/ processing				
Monitoring				

ANNEX 3. CONVERSION TABLES

AREA

1 hectare = 2.471 acres

1 acre = 0.4047 hectares

1 *manzana* = 0.7 hectares

1 *jerib* = 0.2 hectares

1 *timad* = 0.25 hectares (in some less fertile areas, 1 *timad* = 0.4 hectares)

WEIGHTS

1 kilogram = 2.2046 pounds = .0011 short tons = .0010 metric tonnes = .00098 long tons

1 short ton = 2,000 pounds = 907.18 kilograms = .9072 metric tonnes = .8929 long tons

1 long ton = 2,240 pounds = 1,016.05 kilograms = 1.0160 metric tonnes

1 cubic meter of water weighs 1 metric tonne

1 metric tonne = 2,204.6 pounds = 1,000 kilograms = 22.046 hundredweight = 10 quintals

= 36.7437 bushels of wheat or soybeans

= 39.3679 bushels of maize or sorghum

= 45.9296 bushels of barley

YIELDS

1 tonne per hectare

= 14.8700 bushels per acre (soybeans or wheat)

= 15.9320 bushels per acre (maize or sorghum)

= 18.5915 bushels per acre (barley)

1 bushel per acre

= 67.2495 kg per hectare (soybeans or wheat)

= 62.7664 kg per hectare (maize or sorghum)

= 53.7996 kg per hectare (barley)

LENGTHS

1 kilometer = 0.6214 miles

1 mile = 1.60934 kilometers

1 meter = 39.37 inches

1 centimeter = 1/100 meter = .394 inches

1 millimeter = 1/1,000 meter = .0394 inches

ANNEX 4. INPUT COSTING SHEET (ONE PER CROP)

ITEM	COST	LOCATION
Product		
Pre-production		
Plough		
Hoe		
String		
Bags		
Production		
Fertilizer		
Seeds		
Pesticide		
Herbicide		
Marketing		
Postharvest		
Other		

Answers to quizzes

Quiz 1

1. Which of these is a marketing approach?

   Correct answer: D. The others are typical of a production approach.

2. Two of these statements are from farmers who have been working in a marketing project. Which two?

   Correct answers: B, D

3. Select the skills that a marketing specialist will need.

   Correct answers: A, B, C, D. All of these are skills that a marketing specialist will need

4. What types of people might the project team work with?

   Correct answers: A, B, C, D, E, F, H, I, J (all except military leaders).

5. Here are some steps in agroenterprise development. Put them in the correct order.

   Correct answers: C, G, D, B, A, E, F

6. Before starting to work on an agroenterprise project, the project manager needs to evaluate the "in-house" agroenterprise capacity. What types of questions should you ask yourself and your team?

   Correct answers: A, B, D, F, G.

Quiz 2

1. Marketing projects are like production-oriented projects, only with marketing aspects added on.

   Correct answer: B. While there are some similarities, the marketing approach depends on a good understanding of the market for the farmers' products.

2. A marketing project tells the farmers what to grow, then buys the produce from them and sells it.

   Correct answer: B. The project must not act as a trader or marketing agent. The farmers have to learn these skills!

3. The project will work with everyone in the community.

   Correct answer: B. The project will have to select participants and products carefully. It is up to the farmers themselves to choose who will take part and what they will produce.

4. You can use participatory techniques to establish the case for a marketing approach. Match the description to the correct approach.

   Correct answers: A4, B3, C2, D1

5. When you introduce the idea of marketing to the community members, what kinds to things should you be prepared and to clearly tell them?

   Correct answers: A, C, D, E, G, H. The marketing approach does not try to change the control in the community. While it tries to help people make money, it cannot promise to make everyone rich.

6. When is the best time to use a visioning session?

   Correct answer: A. Visioning is best done at the start of a marketing project.

Quiz 3

1. A mobile phone would be very useful for the farmers' group to contact potential buyers. But they say they cannot afford to buy one. What should you do?

   Correct answer: D.

2. The farmers need seed and fertilizer at the start of the season, but they do not have the cash to buy them. Here are some possibilities.

   Correct answers: A, B, E. Each of these approaches has advantages and disadvantages, and the best answer will depend on the particular situation.

3. What are the advantages of using vouchers?

   Correct answers: A, B, D

4. Match the set of skills to the correct purpose.

   Correct answers: A5, B2, C1, D4, E3

5. All groups should be formed to achieve a goal that merits a collective effort without having to resort to subsidized monetary incentives.

   Correct answer: A. Groups should not rely on subsidies.

6. It is likely that future development project services will charge for training, increasing both employment options and building in more sustainability

   Correct answer: A. By charging for services, projects can be more sustainable.

Quiz 4

1. You are working with a farmers' group that has worked together on pest and disease control, but has never worked on marketing before. What might an appropriate entry point be?

   Correct answers: B, C.

2. A restaurant chain has approached you for help in organizing farmers to grow fresh vegetables to supply it on a regular basis. Do you focus on helping the farmers…

   Correct answer: D.

3. Your agroenterprise team is experienced in marketing, but the farmers' group is new, and many members can only just feed their own families. What should you do?

   Correct answer: A.

4. You find it is necessary to control erosion first before commercial production can begin. What entry point is this?

   Correct answer: A. Controlling erosion involves improving the management of natural resources.

5. A dairy wants you to help organize farmers to produce milk. What entry point is this?

   Correct answer: F. The dairy is an existing buyer.

6. A lack of seeds, fertilizer and equipment is holding back farmers in your area. You decide to help input suppliers make such inputs more easily available. What entry point is this?

   Correct answer: G. Input suppliers are a type of business service.

Quiz 5

1. As a field agent, you should agree if farmers want you to help them sell a new product to a new market

   Correct answer: B. You should help the farmers consider all the options so they can make an informed decision

2. The men in the village want to focus on marketing maize, while the women want to sell eggs. Which is the best alternative for you?

   Correct answer: D. If it is not possible to reach agreement, it may be better to form two marketing groups, one for maize and another for eggs.

3. When choosing products for marketing, which is the best way to find out the traders' opinions?

   Correct answer: A. It is important to understand the traders' views and listen to their opinions/ But it is best to talk to traders individually, as they are unlikely to give accurate information if they part of a group.

4. Match these product/market options with the level of risk.

   Correct answers: A3, B2, C1, D2

5. New crop, familiar market is considered a medium risk.

   Correct answer: A. This is considered a medium risk because the market is familiar (low risk) but the crop is new (high risk).

6. You are asking a group of women about their situation. Sort these questions into the correct categories.

   Correct answers: A4, B2, C1, D3

Quiz 6

1. How many members should a marketing group have?

   Correct answer: B. If the group has more than 30 members, consider splitting it in two.

2. The marketing group already has a chairperson, secretary, production coordinator and marketing coordinator. Which vital position must it still fill?

   Correct answer: A. The group may also want to fill the other positions, but the treasurer is vital.

3. Match each of these documents with the correct description.

   Correct answers: A2, B3, C1, D4

4. "I have the time to start my own business. Can you give me some money to help get me started?" How should the field agent answer?

   Correct answer: A. You should focus on helping groups of people to help themselves.

5. "I'd rather not work on a group farm. Can I work in my own farm instead?" How should the field agent answer?

   Correct answer: A. The producers will work on their own farms, not on a collective farm.

6. So we'll all work on our own farms, but market our products together? How should the field agent answer?

   Correct answer: B. Buying and selling as a group helps reduce costs and increase profits.

Quiz 7

1. "Everyone in this area uses a particular size of soft-drink bottle to measure liquids. So I don't need to worry about converting to a standard weights and measures."

   Correct answer: B. Standard measurement systems are important because they allow unambiguous record keeping.

2. It's not practical to take the whole farmers' group to do a market survey. So what is your best approach?

   Correct answer: B. A small group that the farmers select themselves is probably the best option.

3. What is a market map?

   Correct answer: B. The map shows the location of the different actors (e.g. producers, traders, processors and consumers, input dealers and other service providers). It can show several actual and potential markets, as well as the prices of the product at each stage when it is sold.

4. Help Laura complete and analyze this market survey

   Correct answers: A5, B4, C6, D1, E3, F2

5. Help me pick the best ways of getting better prices.

   Correct answers: A, C, E, F

6. Laura has done a market survey, but her notes are mixed up. Help her put them in order.

   Correct answers: A6, B1, C5, D4, E2, F3

Quiz 8

1. Match the activity with the correct timing.

   Correct answers: A1, B2, C3, D3, E1

2. Match the strategy to increase production with its possible disadvantage.

   Correct answers: A2, B4, C1, D3

3. The farmers' group is considering ways to increase their income. Which of the following is likely to increase their output?

   Correct answers: A2, B1, C1, D2, E3

4. The farmers' group is considering ways to increase their income. Which of the following is likely to increase the product price?

   Correct answers: A, D, E

5. Here are some ways in which the farmers' group might increase production. Match the strategy with the corresponding advantage.

   Correct answers: A1, B3, C4, D2

6. Here are some ways that the farmers' group can improve their postharvest handling. Match the strategy with the corresponding advantage.

   Correct answers: A4, B3, C1, D2

Quiz 9

1. Which of the following are business services?

   Correct answers: A, C, D, E, F, G. The trader (B) is a core chain actor as he or she takes ownership of the product.

2. Which of the alternatives below will help strengthen local business services?

   Correct answers: A, D

3. You help a group of farmers get a loan from a bank. The group then uses this money to lend small amounts to its members. What type of financial service is this?

   Correct answer: E.

4. A group of chicken farmers saves money every week. They lend the week's savings to one of their members, who invests in some day-old chicks. The borrowers repay the loan with interest. What type of financial service is this?

   Correct answer: B. This is typical of a savings and loan group, or savings and internal lending community (SILC).

5. A group of tomato farmers saves money every week. They distribute the money at the start of the planting season so they can buy seed and fertilizer. What type of financial service is this?

   Correct answer: A. This is typical of a savings group.

6. You help a storekeeper write a business plan and get a loan to start selling farm chemicals. What type of financial service is this?

   Correct answer: C. This is an individual loan.

Quiz 10

1. The farmer has won the lottery and wants to buy some new stuff! Match each cost with the correct category.

   Correct answers: A2, B1, C3, D1

2. "I have been farming for all my life. I've never kept track of costs, and I'm not going to start now." How should you respond?

   Correct answer: B, D. Many farmers will be skeptical and suspicious of you at first. Explain why it's important to keep track of costs , and help them do so.

3. A farmer says it took her three days to plow her half-hectare field, one day to sow seed, two days to weed the plot, and a day to harvest it. The cost of labor in her village is Rs 30 a day. How much should she count as the cost of her labor?

   Correct answer: C. She took a total of 7 days, multiplied by Rs 30 per day = Rs 210 for half a hectare. Multiply by 2 because she farms half a hectare: Rs 420.

4. A farmer calculates that to grow 5 quintals of teff, he must spend a total of birr 1,500. He can sell the teff for birr 1,200 a quintal (teff prices are high at the moment!). What is his profit?

   Correct answer: B. Five quintals x birr 1,200 per quintal = birr 6,000. Minus birr 1,500 in costs leaves birr 4,500 in profit.

5. When calculating the cost of labor, you should:

   Correct answer: A. You can ask the farmers to estimate how much the labor is worth in money terms, or use the local daily rate for hired labor.

6. What is a farmer's gross margin?

   Correct answer: C. "Gross margin" is another word for "profit".

Quiz 11

1. Amina wants to rent some land so she can grow vegetables. She wants to borrow some money from the Farm Bank. The bank offers her what type of loan?

   Correct answer: B

2. Amina borrows $100 from the Farm Bank for 4 months. The bank charges 3% interest a month. What is the cost of the loan?

   Correct answer: C

3. Amina borrows $100 from the Farm Bank for 4 months. The bank charges 3% interest a month. How much in total does Amina have to repay?

   Correct answer: D

4. Match the Five Cs with the right question.

   Correct answers: A2, B4, C1, D5, E3

5. Match the descriptions with the correct definitions.

   Correct answers: A3, B1, C7, D5, E9, F8, G6, H2, I4

6. Match the descriptions with the correct definitions.

   Correct answers: A4, B5, C2, D1, E3

Quiz 12

1. The farmers have been considering several possible agroenterprises. They have matched each one against several criteria.

   Correct answer: D. If they cannot make a profit, they should drop this option.

2. The men of the village really want to grow cotton, while the women are not interested: they would prefer to start a tree nursery. Which should you support?

   Correct answer: C. If two groups strongly prefer different products, it is probably best to support them both. Especially if women form one of the groups, since they often have different interests from the men.

3. Two of these criteria are fundamental to the choice of a product and market. Which ones?

   Correct answers: A, D. The others may be important criteria, but they are not fundamental to the choice of an agroenterprise.

4. The farmers are considering increasing their output of onions to supply a trader they already sell to. This is...

   Correct answer: C (a low-risk option).

5. Which of these considerations are fundamental for selecting an agroenterprise, and which are additional criteria to consider?

   Correct answers: A (fundamental): 1, 2, 7, 8

   B (additional): 3, 4, 5, 6, 9, 10, 11

6. After lots of hard work, the farmers are finally ready to choose an agroenterprise and marketing strategy. How can you help them make a final decision?

   Correct answers: A, E

Quiz 13

1. "Our group doesn't need a loan, so we don't need to bother with writing a business plan!"

   Correct answer: B.

2. In visioning, you should start with...

   Correct answer: C. It is best to start off with the long-term vision, then work backwards to mid- and short-term. But remember that you may have to change the long-term vision if it turns out to be unrealistic.

3. Fill in the blank: Setting _____ is the process of deciding how much to produce and then monitoring whether you are on course to achieve this.

   Correct answer: C (production targets)

4. Fill in the blank: _____ is the process of helping farmers imagine the future of their enterprise, then working out how to get there in the long, medium, and short terms.

   Correct answer: D (visioning)

5. Fill in the blank: _____ is working out what you need to do at each stage in the production and marketing process in order to achieve your enterprise goal

   Correct answer: B (pathway analysis)

6. Fill in the blank: Setting _____ is identifying challenges and looking for ways to overcome them.

   Correct answer: A (problem analysis)

Quiz 14

1. Match the names with the correct areas of the business model canvas

   Correct answers: A8, B3, C9, D4, E1, F5, G7, H6, I2

2. Match the description with the correct area of the business model canvas.

   Correct answers: A9, B4, C2, D1, E8, F7, G3, H5, I6

3. If you want to plan a completely new production and marketing system, in which part of the business model canvas should you start?

   Correct answer: A. It is best to start with the marketing – in other words, your customer. Then you can choose the product(s) you can sell to these customers. But keep other aspects in mind as you do so.

4. Match the areas of the business model canvas with the sections in a business plan.

   Correct answers: A5, B3, C2, D1, E4

5. Here are some sticky notes. What part of the business model canvas should they go into?

   Correct answers: A2, B6, C7, D8, E4, F3, G1, H5, I9

6. What is the purpose of the farmers using sticky notes to write down their business ideas and information from their market surveys?

   Correct answer: A. The sticky notes can be moved around until the group finds the best combination of ideas.

Quiz 15

7. Put these sections of the business plan in the correct part of the plan and the correct order

   Correct answers:

   A. Part 1: 8, 2, 9, 10, 4, 5

   B. Part 2: 7, 1, 6

   C. Part 3: 3

8. Match the information with the correct section of the business plan

   Correct answers: A2, B4, C3, D1

9. Put the following calculations in the order in which you should do them

Correct answers: D, E, A, B, C

10. Where do the names of the chairperson and other group leaders go in the business plan?

    Correct answer: B. The names go in the "Business organization" section of the plan.

11. "Payment on delivery and after quality tests by Kasese Traders". Where does this statement go in the business plan?

    Correct answer: C. This information goes in the "Marketing strategy" section, under "Customer relations".

12. "The group will transport the bags of maize to Kasese Traders in Himo by hiring a pickup belonging to the Muvimaha Society". Where does this statement go in the business plan?

    Correct answer: C. This information goes in the "Marketing strategy" section, under "Place".

Quiz 16

1. What three elements are essential in an implementation plan?

   Correct answers: A, B, C

2. It is vital that all farmers keep accurate records of their costs

   Correct answer: B. While it is desirable for all the farmers to keep records, it is probably unrealistic. Choose three farmers instead to represent the group

3. The Nyabyumba farmers group wants to grow potatoes and has decided on some activities to implement. Help them put them in the right order

   Correct answers: B, D, A, E, C.

4. The process of preparing a business plan and implementation plan helps to build a sense of common purpose within the farming group, and between farmers and their service providers.

   Correct answer: A (true)

5. A business plan gives the field agent a clearer understanding of the groups' _____.

   Correct answers: B, D, E

6. What is an implementation plan?

   Correct answer: A. The implementation plan shows how to put the business plan into effect.

Quiz 17

1. All the farmers in the group should be involved in negotiating a sales deal.

   Correct answer: B. The group should give some general guidelines, but it is better for a small team of two or three people to do the negotiations. The team must keep the larger group informed about decisions made.

2. The farmers can just load a truck and take their products to the market. They will be sure of finding a buyer prepared to pay a good price.

   Correct answer: B. While it may be possible to get a good deal by just loading a truck and sending it to market, such situations are rare. It is generally better to try to reach a deal beforehand.

3. Here are some problems you may encounter with collective marketing. What should you do about each one?

   Correct answers: A4, B1, C2, D3

4. Put these collective marketing activities into the correct order

   Correct answers: C, F, I, D, E, B, H, A

5. Match the types of market with the correct description

   Correct answers: A2, B3, C1

6. Collective marketing can encounter various types of problems. Match the example with the correct type of problem.

   Correct answers: A5, B4, C1, D3, E2, F6

Quiz 18

1. "Ibrahim the trader is trying to cheat us! He came in his pickup today and offered ten cents a bag less than Jojo."

   Correct answer: B. If he fills up his truck, Jojo has lower costs per bag – so is able to offer a higher price.

2. "Now Jojo is playing games! Last week he paid $5 a bag; now he is offering only $4.50."

   Correct answer: B. The price that traders are willing to pay usually depends on the price that they can sell at.

3. A bag of onions fetches $5 in the market. Jojo expects to sell 75 bags. What is his expected revenue?

   Correct answer: C: $5 × 75 = $375.

4. Paying for the driver, helper, checkpoints, market fees, and fuel will cost Jojo $4Unloading 75 bags costs $0.20 a bag. His total costs equal...

   Correct answer: B. $44 + ($0.20 × 75) = $59.

5. Jojo's expected revenue is $37His costs (excluding the cost of buying the grain) are $59. He expects a profit of 10%. How much does he have left to buy the grain?

   Correct answer: C. $375 – $59 – ($375 × 10%) = $278.50

6. So Jojo has $278.50 left to spend on grain. How much can the farmers expect him to offer for their 75 bags?

   Correct answer: C. $278.50 / 75 = $3.71 per bag

Quiz 19

1. "Reginald, help me with the accounts! How much did we spend on production and marketing?" Reginald gives Bibi a pile of handwritten notes and receipts:

   Seed $15, Fertilizer $25, Weeding $65, Hoes $50, Harvesting $50.

   What is their cost of consumable materials?

   Correct answer: D. Consumable items are seed ($15) and fertilizer ($25).

2. "Those hoes should last us at least five years. How much should I include for them in this year's costs under durable items?"

   Seed $15, Fertilizer $25, Weeding $65, Hoes $50, Harvesting $50.

   Correct answer: C. Divide the cost of the hoes ($50) by the number of years (5).

3. "Reginald, turn the television off! How much did we spend on hired labor?"

   Seed $15, Fertilizer $25, Weeding $65, Hoes $50, Harvesting $50.

   Correct answer: B.

   Bibi and Reginald hired workers to help with the weeding ($65) and harvesting ($50).

4. "Reginald, stop watching the football! How much did the loan cost us?"

   Loan principal $100, Interest 2% per month, Loan period 6 months.

   Correct answer: A. 2% of $100 is $2. Multiply by 6 months to find the loan cost of $12.

5. "Reginald, I know it's the football final, but this is important too! How much were our total costs?" Seed $15, Fertilizer $25, Weeding $65, Hoes $50, Harvesting $50, Loan $12.

   Correct answer: B.

   Remember to divide the cost of the hoes by 5 as they will last 5 years:

   $50/5 = $10.

   So $15 + 25 + 65 + 10 + 50 + 12 = $177.

6. "Yes, I'm sorry you missed the goal. Now help me work out our profit."

   Total costs $177, Bags sold 50, Price per bag $6.

   Correct answer: C.

   Here is Bibi's calculation (Reginald had gone back to the television):

   Income = 50 × $6 = $300.

   Profit = $300 – $177 = $123.

Quiz 20

1. Each group is unique. There is no point in comparing them.

   Correct answer: B. It is worthwhile compare the performance of groups to understand why some may be working well and others not so well.

2. Who are the main users of data on costs, income, and profitability?

   Correct answer: A. The others are all important, but secondary, users.

3. The farmers made a loss and they are frustrated by the agroenterprise process. What should you do?

   Correct answer: B. If people are not successful at first, it can be hard to help them continue. Open, honest discussion is the best option.

4. The farmers have produced, sold and calculated their profits. It is time to discuss with them what they have learned. What are the quantitative and qualitative measures they need to discuss?

   Correct answers: A (qualitative): 1, 7

   B (quantitative): 2, 3, 4, 5, 6

5. In addition to evaluating the performance of a crop or livestock agroenterprise, the farmers should also review the performance of their…

   Correct answer: A. The group should take a look at the members, particularly the marketing team, lead farmers and or committee members.

6. Why are anecdotes an effective way of documenting and reporting your work?

   Correct answer: A. Examples are a good way of motivating farmers and helping them learn from others.

Quiz 21

1. What is the best approach for planning work with farmers' groups?

   Correct answer: C. It is best to stagger the work to make it more manageable.

2. What is the best method for scaling up the agroenterprise approach?

   Correct answer: A. The best method will depend on the circumstances.

3. Match the scaling up method with the correct channel

   Correct answers: A3, B2, C1, D4

4. What factors should a field agent consider when trying to determine how many farmers she can support?

   Correct answers: B, C, D, E, F

5. Match the type of organization with the most likely number of members

   Correct answers: A3, B1, C2

6. Which is not a feature of a good cooperative?

   Correct answer: D. Membership of a cooperative should be voluntary

References and further reading

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WEBPAGES AND RESOURCE INSTITUTIONS

Agriculture for basic needs. (Agricultura para necesidades básicas). Development project based on the 5 skills sets with success stories, handbooks and other materials in Spanish. www.a4n.com.sv

Alianzas de aprendizaje para el desarrollo empresarial rural en América Latina. A learning and knowledge space on rural enterprise development for Spanish-speaking countries. www.alianzasdeaprendizaje.org

CRS Agricultural Program publications http://www.crsprogramquality.org/publications/tag/agriculture

Food and Agriculture Organization of the United Nations (FAO). The Rural Infrastructure and Agro-Industries Division supports the development of entrepreneurship in agricultural support services. FAO member countries are assisted with appropriate policies, strategies and methodologies for strengthening agricultural support systems and the delivery of services as well as technologies for production and post-production activities. FAO has a dedicated website on "Linking farmers to markets." www.fao.org/ag/ags/index_en.html, www.fao.org/ag/Ags/subjects/en/agmarket/linkages/

International Institute for Environment and Development (IIED). IIED is a global leader in sustainable development, specializing in linking local to global. In Africa, Asia, the Caribbean, Central and South America, the Middle East and the Pacific, it works with some of the world's most vulnerable people to ensure they have a say in the policy arenas that most closely affect them — from village councils to international conventions. http://www.iied.org/general/about-iied/about-iied

Linking worlds. This website is a resource for practitioners and researchers who are taking on the challenges of linking smallholder producers to modern markets. It facilitates the sharing of experiences and "new business models" through research papers, case studies, tools, impact studies, and descriptions of active "action-learning" projects – thereby helping companies and NGOs become more effective at realizing both development and commercial benefits. http://www.linkingworlds.org/

Modernizing Extension and Advisory Services. Extension systems in Africa, Asia, the Middle East, Eastern Europe, and Central America need to undergo significant change if they are to effectively serve the food security and economic development needs of resource-poor men and women farmers. New approaches must draw on full breadth of resources in public, private and civil society organizations and utilized available advanced information and communications technologies. MEAS is a Center of

Excellence that seeks to promote and support such endeavors. http://www.meas-extension.org/home

Michigan State University. The mission of the Department of Agricultural, Food, and Resource Economics is to create, preserve, and disseminate knowledge through research, teaching, and outreach. The Department applies knowledge to help individuals lead more productive lives, and to assist in the development and improvement of firms, organizations, communities, and public institutions. http://aec.msu.edu/about.htm

microLINKS. A knowledge-sharing family of applications and tools designed to improve the impact of USAID microenterprise programs and activities. The latest information on microenterprise: best practices; proven approaches from USAID missions, partners, and practitioners; a library of documents, reports, and tools; and an environment that supports and enriches communities of practice. http://microlinks.kdid.org/

Regoverning markets, Smallscale producers in modern agri-food markets. Rapid changes are taking place in national and regional agrifood markets in developing countries, with implications for the ability of agriculture to contribute to economic growth, poverty reduction and sustainable rural development. This project explores best practice in connecting small-scale producers with dynamic markets, and to bring these findings into the wider policy arena. http://www.regoverningmarkets.org/

Royal Tropical Institute. Value chain development, Provides access to selected free, full-text electronic documents on pro-poor value chains. http://portals.kit.nl/kitportals/value-chain-development

Sustainable food lab. The mission of the Sustainable Food Lab is to accelerate the shift of sustainable food from niche to mainstream. We define a sustainable food and agriculture system as one in which the fertility of our soil is maintained and improved; the availability and quality of water are protected and enhanced; our biodiversity is protected; farmers, farm workers, and all other actors in value chains have livable incomes; the food we eat is affordable and promotes our health; sustainable businesses can thrive; and the flow of energy and the discharge of waste, including greenhouse gas emissions, are within the capacity of the earth to absorb forever. http://www.sustainablefoodlab.org/

The seven steps of marketing

A SMART SKILLS MANUAL

BOOKLET 4: REVIEWING PERFORMANCE

This is the fourth of four booklets in the guide *Seven steps of marketing: A SMART Skills manual.*

Marketing is one of the biggest challenges for small-scale farmers in developing countries. Many farmers would like to improve their output or the quality of their products, but they need a way to sell their produce and increase profits.

This manual outlines seven steps that field agents, extension workers and program managers can follow to help farmers improve their marketing:

1. Getting organized
2. Identifying products and organizing groups
3. Collecting information for the business plan
4. Building a business plan
5. Marketing as a group
6. Reviewing agro-enterprise performance
7. Scaling up.

The manual consists of 21 lessons, each with guidelines, exercises to do with a group of farmers or with development agents, and quizzes to test your understanding.

This is one manual in a series on SMART Skills – the skills that field agents need to help farmers in developing countries improve their livelihoods. A companion manual on marketing basics describes the ideas that underlie the seven steps in this manual.

http://www.crsprogramquality.org/smart-skills-for-farmers/

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