

Secondary Engagement Programme

Christmas Term

Grade 10

Activity Sheets

Agricultural Science



**MINISTRY OF EDUCATION  
SECONDARY ENGAGEMENT PROGRAMME  
NOVEMBER 2020  
WEEK 10**

**LESSON # 2**

**GRADE :10**

**SUBJECT : AGRICULTURAL SCIENCE**

**TOPIC : FARM RECORDS**

**SUB TOPIC : BUDGETING**

**Objectives**

To understand the relationship between budgeting and decision making.

To prepare partial, complete and cash flow budgets .

## **Relationship between Budgeting and Decision making process**

### **Budgeting process**

- Budgeting is a discrete, politically driven process that is separate from strategic planning.
- Budgeting in Government agencies is more a political process than a financial process.
- Performance measures or objectives are necessary for effective government budgeting .
- Funding is allocated based on anticipated outcomes and / or outputs .
- The cost of delivering outputs is a key element in the budgeting process .

### **Decision making process**

- Decision makers will tend to use appropriate criteria when making decisions.
- Decision makers ask for more information than they can utilize.
- Decision makers do not use a rational comprehensive decision making process.
- Group decision making is influenced by group dynamics .
- The personal beliefs and values of decision makers influence decision making in the budgetary process.
- There is limited knowledge about how budget reduction decisions are made.
- Decision support tools assist with efficient and effective decision making.

**Partial Budget**

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**Partial Budget Example: Switch from Raising Replacement Heifers to Buying Heifers**

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**Added income due to change:**

Sell raised heifer calf: 500 lb. @ \$1.20      \$600

**Reduced costs due to change:**

Pasture maintenance      \$ 20

Grain fed      \$ 40

Supplement and mineral      \$ 45

Hay fed      \$120

Health, utilities and other costs      \$ 55

Labor      \$ 50

Subtotal      \$930

**Added costs due to change:**

Purchase bred heifer:      \$1,200

**Reduced income due to change:**

None

Subtotal      \$1,200

**Net Change: \$930 - \$1,200 = - \$270 (subtotal from column 1 minus subtotal from column 2)**

# A PARTIAL BUDGET

Proposed change: Purchase of a Combine to replace hiring. (800 acres of rice)

	Additional Costs (A.C.)	Additional Income (A.I.)
<b>Fixed Costs</b>		
Depreciation	\$ 4,000.00	None
Interest	1,200.00	
Taxes	60.00	
Insurance	150.00	
	\$ 5,410	
<b>Variable Costs</b>		
Repairs	860.00	
Fuel/oil	680.00	
Additional labour	600.00	
	\$ 2,140.00	
	\$ 7,550.00	

**Reduced Income (R.I.)**  
None

**Reduced Costs (R.C.)**  
Harvesting Charge:  
800 acres @ \$10.00/acre  
= \$8,000.00

- A. Total A.C. + R.I. = \$7,550.00 + \$0.00 = \$7,550.00
- B. Total A.I. + R.C. = \$0.00 + \$8,000.00 = \$8,000.00

Net change in profit = B - A  
= \$8,000.00 - \$7,550.00  
= \$450.00



Partial Budget



## Complete Budget

### A COMPLETE BUDGET

<b>Income</b>		\$ 6,000.00
Tomatoes	2,000 kg @ \$3.00/kg	1,500.00
Lettuce	1,000 heads @ \$1.50/head	12,000.00
Pumpkin	3,000 kg @ \$4.00/kg	
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		\$ 19,500.00

Total Income (sum of all expected sales (T.I.))

<b>Variable Expenses</b>		\$ 300.00
Nursery plants		1,500.00
Fertilizer		400.00
Insecticides		1,200.00
Labour		500.00
Transport		
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		\$ 3,900.00

Total Variable Expenses (T.V.E.)

Income above Variable Expenses = T.I. - T.V.E.  
 = \$19,000.00 - \$3,900.00  
 = \$15,600.00

#### **Fixed Expenses**

Interest on Loan		\$ 2,000.00
Taxes		300.00
Depreciation		600.00
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		2,900.00

Total Fixed Expenses (T.F.E.)

#### **Total Expenses**

Total Expenses (T.E.) = T.F.E. + T.V.E.  
 = \$2,900.00 + \$3,900.00  
 = \$6,800.00

#### **Estimated Profit**

Estimated Profit = Total Income - Total Expenses  
 = T.I. - T.E.  
 = \$19,500.00 - \$6,800.00  
 = \$12,700.00

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**Sample 1. Cash flow budget (by quarter of the year)**

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<b>Cash inflow</b>	<b><u>1st Quarter</u></b>	<b><u>2nd Quarter</u></b>	<b><u>3rd Quarter</u></b>	<b><u>4th Quarter</u></b>
Beginning cash balance	\$5,000			
Sale of crop products		\$50,000		
Sale of livestock products	25,000			
Government payments				\$10,000
<b>Total inflow</b>	<b>\$30,000</b>	<b>\$50,000</b>		<b>\$10,000</b>
<b>Cash expenditures</b>				
Seed	\$10,000			
Fertilizer		\$20,000		
Feed	10,000			
Processing			\$10,000	
Marketing				\$5,000
Capital purchases		10,000		
Interest			5,000	
Debt payments			10,000	
<b>Total expenditures</b>	<b>\$20,000</b>	<b>\$30,000</b>	<b>\$25,000</b>	<b>\$5,000</b>
<b>Quarterly net cash flow</b>	<b>\$10,000</b>	<b>\$20,000</b>	<b>-\$25,000</b>	<b>\$5,000</b>
<b>Cumulative net cash flow</b>	<b>\$10,000</b>	<b>\$30,000</b>	<b>\$5,000</b>	<b>\$10,000</b>

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No	Description	Amount
1	Average weight of bird per kg	3kg
2	Selling price of bird per kg	\$360
3	Number of birds	75
	Total income	-----
4	Fixed expenses	\$3500
5	Variable expenses	\$7200
6	Total expenses	-----

### Questions

use the information provided and calculate;

1. Total income

2. Total expenses

3. Gross margin

4. Net profit

5. The number of birds was increased to 40 units and his variable expense increased by \$5500. Calculate the farmer's additional income.

## **REFERENCES**

Agricultural Science for Secondary School Book 2

S. Ragoonanan, agriculture for C.S.E.C revision course. Caribbean educational publishers.

R. Ramharacksingh, agricultural science for C.S.E.C examinations macmillan publishers.

## **Internet**

<https://www.Researchgate.Net/publication/301511672> budgeting and decision making

<https://extension.unr.edu/publication.aspx?PubID=2383>

<https://www.yourarticlelibrary.com/accounting/budgeting-accounting/farm-budgeting-definition-types-and-advantages-agriculture/77395>

## **Video Link**

<https://www.youtube.com/watch?v=WpraVL827yQ>

<https://www.youtube.com/watch?v=MNFfHr1Gm1k>