Record Keeping and Cost Classification

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Overview

- The Importance of Good Records
- Record Formats and Examples
- Classifying & Allocating Costs
The Importance of Records and Farm Planning

The efficient organization and skillful operation for the use of all farm resources to accomplish the total farm goals and objectives.

The key to success is: MANAGEMENT
Doing a good job of production - not enough

Farm business management required

Important to integrate production technology with appropriate business management
Aspects Of Farm Operations

- Human Resources
- Financial Management
- Production
- Marketing
Management

The allocation of limited resources to satisfy unlimited wants

FARM PLANNING
Identifying the unlimited wants

GOALS
Clearly identify reason/need to farm
Crop Farm Index: Prices Received and Prices Paid
All Items, U.S., By Quarter

Percent (1990-92=100)

Year

USDA:NASS
July 29 2005
Livestock Farm Index: Prices Received and Prices Paid
All Items, U.S., By Quarter

Percent (1990-92=100)

Year

USDA: NASS
July 29, 2005
Three Key Questions:

WHERE AM I?

WHERE DO I WANT TO BE?

HOW DO I GET THERE?
Why Plan?

- Dealing with Uncertainty in a Complex Market
- Help Make Difficult Business Decisions
- Farms Are Different: Goals, Resources, Opportunities
External Forces:

1. ECONOMIC TRENDS
2. COMMODITY MARKETS
3. INPUT COSTS
4. TECHNOLOGY
5. REGULATIONS
6. OTHERS?
A Farm Manager May Have Many Goals

- Maximizing income or profit
- Maximizing net worth
- Increasing the size of the business
- Minimizing labor to produce required income
A Farm Manager May Have Many Goals (cont’d)

- Maximizing production
- Preserving the farm for future generations
- Preserving jobs on the farm
Establish Objectives

Objectives are simple & measurable

- Utilize clean seed to increase yield by 20% in next two years
- Adopt technology to reduce labor cost by 25% in the next 5 years
- Increase output by 40% over the next 3 years
Land
Labor
Capital
Technology
Management
Products
Why Keep Records?

- Source of Accurate Information
- Document Costs/Returns
- Measurement of Financial Success
- Financial Comparison With Past Years
- Aid In Making Sound Decisions
There Are Two Types of Records

- FINANCIAL-Income & Costs
- PRODUCTION-Yield, Field Operations

They Are Combined & Discussed in this Session
### Sample Records – Crop Mix

<table>
<thead>
<tr>
<th>Crop Name</th>
<th>Field No.</th>
<th>No. of Dunum</th>
<th>Total Production (Kg)</th>
<th>Yield (Kg/D0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>1</td>
<td>30</td>
<td>9,000</td>
<td>300</td>
</tr>
<tr>
<td>Wheat</td>
<td>3</td>
<td>40</td>
<td>8,000</td>
<td>200</td>
</tr>
<tr>
<td><strong>Totals-Wheat</strong></td>
<td></td>
<td><strong>70</strong></td>
<td><strong>17,000</strong></td>
<td><strong>242.86</strong></td>
</tr>
<tr>
<td>Rice</td>
<td>2</td>
<td>10</td>
<td>8,000</td>
<td>800</td>
</tr>
<tr>
<td>Rice</td>
<td>4</td>
<td>20</td>
<td>12,000</td>
<td>600</td>
</tr>
<tr>
<td><strong>Totals-Rice</strong></td>
<td></td>
<td><strong>30</strong></td>
<td><strong>20,000</strong></td>
<td><strong>666.67</strong></td>
</tr>
<tr>
<td>Date</td>
<td>No.</td>
<td>Paid To</td>
<td>Payroll</td>
<td>Seed</td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td>------------------</td>
<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>1</td>
<td>15/10</td>
<td>Fred’s Seed</td>
<td>10,000</td>
<td>6,000</td>
</tr>
<tr>
<td>2</td>
<td>28/10</td>
<td>Cash</td>
<td>5,000</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>11/1</td>
<td>Frank’s Seed</td>
<td>2,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Totals</strong></td>
<td>5,000</td>
<td>12,000</td>
</tr>
</tbody>
</table>
# Cash Farm Income

<table>
<thead>
<tr>
<th>Date</th>
<th>No</th>
<th>Sold To</th>
<th>Crops Wheat</th>
<th>Rice</th>
<th>Lvstk Goats</th>
<th>Sheep</th>
<th>Equip</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/10</td>
<td>5</td>
<td>Grain Co. (4.5 mt @ ID 300/mt)</td>
<td>1,400,000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31/10</td>
<td>21</td>
<td>Farmer’s Co-op (5.4 mt @ ID 370/mt)</td>
<td></td>
<td>2,000,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2/11</td>
<td>6</td>
<td>Farmer’s Co-op (20 hd @ ID 25,000 ea)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>500,000</td>
</tr>
<tr>
<td>2/11</td>
<td>17</td>
<td>Used Equip. Shop (plow)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>800,000</td>
</tr>
</tbody>
</table>
Decision Tools

- Enterprise Budgets
- Partial Budgets
- Net Present Value Analysis
- Financial Management
REVENUE & COSTS

COSTS ARE CLASSIFIED AS:

Variable (Direct)

Fixed
Variable Costs

- Vary with number of units produced
  - Type of Field Operation
  - Type and Amounts of Inputs Used
  - Frequency of Field Operations

Expressed As
- Per Dunum
- Per Hectare
- Per Animal Unit (Head)
Examples of Variable Costs

- Plowing
- Seed/Seeding
- Fertilizer
- Irrigation (Water/Pumping Costs)
- Weed Control
Examples of Variable Costs (cont’d.)

- Harvesting
- Insect Control
- Transportation
- Machinery Fuel & Repairs
- Labor
- Others?
Opportunity Cost

What is Opportunity Cost? It is the value of the next-highest-valued alternative use of a particular resource.

Also thought of as ‘Benefits Received from Alternative Action’

If you spend time going to this workshop, you cannot spend that same time at the bazaar.

So, the opportunity cost of this workshop is the pleasure you forgo by not attending the bazaar!
Opportunity Cost and Land Values

If a farmer’s land is owned, what is its true cost for analyzing profitability?

The opportunity cost of farm land is the measure of its value as a ‘rental rate’

The farm land rent may be determined as:

- Land Value (ID/D) X Rate of Return from Alternative Land Investments, FR=LV X RR
- The Rate of Return is assumed to be 10 % for this example
- This rate will vary for different types of land & for different areas of a country, based mainly on alternative uses of land
Opportunity Cost and Land Values

So, if we know that the price of farm land is ID 187,500/D, then we can calculate the opportunity cost of land as:

ID 187,500 X 0.10 = ID 18,750, where ten percent is the assumed Rate of Return on land investments of similar type.

Conversely, we can calculate the land value if we know the farm rental rate, \( LV = \frac{FR}{RR} \)

ID 15,000/0.10 = ID 1,500/Dunum land rental rate.

The Assumed Return on Alternative Investments is Important to Calculate Accurate Land Values and Rental Rates for Farms.
If you know that a 500 dunum rice farm has a market value of ID 100,000,000 and the expected return on investment in similar land is 12%, what would you estimate the expected rental rate (per dunum) of the farm to be?

Solution: ID 100,000,000/500 = ID 200,000/Dunum

ID 200,000 X .12 = ID 24,000/Dunum

Land Rent for Rice Farm
Fixed Costs

Do not vary with number of units produced

Remain the same regardless of how much output is produced and sold from the farm

**EXAMPLES OF FIXED COSTS**

- Land Charges
- Taxes
- Fees
Fixed Costs (cont’d.)

Administrative Expenses
Manager’s Salary
Equipment Depreciation
Others?

Exercise: Classify Costs
## Classify as Variable Cost or Fixed Cost

<table>
<thead>
<tr>
<th>Item</th>
<th>ID/Dunum</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seed</td>
<td>10,500</td>
<td></td>
</tr>
<tr>
<td>Depreciation on Equip.</td>
<td>29,600</td>
<td></td>
</tr>
<tr>
<td>Fertilizer</td>
<td>23,000</td>
<td></td>
</tr>
<tr>
<td>Labor</td>
<td>13,000</td>
<td></td>
</tr>
<tr>
<td>Land Rent</td>
<td>9,000</td>
<td></td>
</tr>
<tr>
<td>Cultivation</td>
<td>4,500</td>
<td></td>
</tr>
<tr>
<td>Harvesting</td>
<td>6,300</td>
<td></td>
</tr>
<tr>
<td>Admin. Costs</td>
<td>10,000</td>
<td></td>
</tr>
</tbody>
</table>
Cost Allocation

METHODS OF ALLOCATING FIXED COSTS

Basis of Use

Share of Gross Income

Share of Variable Costs

Exercise: Allocate Fixed Costs
Allocation of Fixed Costs

A farm produces wheat, barley and rice and has the following costs:

Office Expenses ID  300,000
Manager’s Salary ID  1,800,000

You decide to allocate office expenses based on gross income and the manager’s salary on variable costs.
### Allocation of Office Expenses

**(ID 300,000)**

<table>
<thead>
<tr>
<th>Product</th>
<th>Gross Income (ID)</th>
<th>Dunum</th>
<th>Share of GI (%)</th>
<th>Allocation ID</th>
<th>ID/D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>6,000,000</td>
<td>100</td>
<td>60</td>
<td>180,000</td>
<td>1,800</td>
</tr>
<tr>
<td>Barley</td>
<td>1,000,000</td>
<td>50</td>
<td>10</td>
<td>30,000</td>
<td>600</td>
</tr>
<tr>
<td>Rice</td>
<td>3,000,000</td>
<td>20</td>
<td>30</td>
<td>90,000</td>
<td>4,500</td>
</tr>
<tr>
<td>Total</td>
<td>10,000,000</td>
<td>170</td>
<td>100</td>
<td>300,000</td>
<td></td>
</tr>
</tbody>
</table>

Share of GI is income from each enterprise divided by total gross income. Cost per dunum is each allocated cost divided by dunum for each enterprise.
## Allocation of Manager’s Salary

**ID 1,800,000**

<table>
<thead>
<tr>
<th>Product</th>
<th>Total Variable Costs (ID)</th>
<th>Donum</th>
<th>Share of TVC (%)</th>
<th>Allocation (ID)</th>
<th>ID/D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>40,000</td>
<td>100</td>
<td>20</td>
<td>360,000</td>
<td>3,600</td>
</tr>
<tr>
<td>Barley</td>
<td>30,000</td>
<td>50</td>
<td>15</td>
<td>270,000</td>
<td>5,400</td>
</tr>
<tr>
<td>Rice</td>
<td>130,000</td>
<td>20</td>
<td>65</td>
<td>1,170,000</td>
<td>58,500</td>
</tr>
<tr>
<td>Total</td>
<td>200,000</td>
<td>170</td>
<td>100</td>
<td>1,800,000</td>
<td></td>
</tr>
</tbody>
</table>
Summary

-Farm Business Consists Of-

✎ Financial Management
✎ Personnel Management
✎ Production
✎ Marketing
Management Emphasizes:

- Allocation of limited resources
  - Recordkeeping
  - Cost Classification
  - Cost Allocation