

MANAGEMENT ACCOUNTING IN AGRICULTURE-

conversion of financial statements for
decision making



Introduction

- MA is a branch of accounting which deals with production of financial information for internal user's decision making
- Management require information on timely basis in order to make decisions
- The management cannot wait for the end of the year to study the financial statements for them to chart way forward

Features of management accounts

- Flexible as per the needs of management
- Future focused
- Emphasizes relevance rather than accuracy
- Should be presented more frequently, commonly quarterly. Some MA reports may be required monthly, weekly or even daily
- Need not comply with GAAPs

What makes good MA information?

- Reliability (trusted/credible source, verifiable)
- Relevance – can be used to make decision
- Timely – available when required for decision
- Cost effective – cost of generating the information is lower than the benefit derived from the information

Management reports

- Management reports can include the following
- Budgets and variance analysis
- Forecasting
- Cost analysis

Conversion of financial statements to MA

- A farm's financial accounts are made up of a
- Income statement,
- Statement of financial position
- and notes to the accounts, which describe the accounting policies used to prepare the accounts.

The profit and loss account: the financial version compared to the management version

The major differences between the financial and management versions of the profit and loss account are as follows.

- The management account provides more information
- Management accounts include an estimated rent against owned land.
- Management accounts include a cost against unpaid labour.
- In financial accounts, valuations of livestock and crops are usually based on production costs.
- In management accounts, they are normally based on their market value.

Income statement: the terms used in financial accounting

- The first step in converting the income statement from a financial into a management account is to understand the terms used in the financial version and how they fit together.
- The next step is to get more information from your profit and loss account.

Terms used...

- **Opening valuation** is the value, at the start of the accounting period, of livestock, crops and produce in store, bought and home-grown feedstuffs and fodder, seeds, fertilisers, sprays and tillages (that is, cultivations and newly sown or growing crops).
- Livestock, crops and produce are valued at the cost of production or market value (after taking account of marketing costs).
- For valuing livestock, the cost of production usually equals the original cost to buy the animal, plus variable costs, plus paid labour upto the point of valuation.
- For crops, the cost of production usually equals seed, fertiliser and agrochemical costs, plus contract charges and the cost of paid labour, all up to the point of valuation.
- **Closing valuation** is the value of the same items at the close of the accounting period.

Terms used....

- **Purchases** covers bought livestock, bought feed, seeds, fertilisers, chemicals, vet and medicine costs, and sundry items (such as baler twine, silage wrap, ear tags and packing materials).
- **Gross profit** is sales, plus sundry revenue, plus single payment less the cost of sales.

Overheads

Overheads (sometimes called expenses or fixed costs) are as follows.

- **Wages and salaries** (including casual labour)
- **Machinery repairs**
- **Fuel and oil for machinery**
- **Contract charges**
- **Other expenses for machinery** (includes renting or hiring machinery or similar arrangements, vehicle tax)
- **Rent and Rates** (including drainage charges)
- **Property repairs**
- **Power, electricity and heat**
- **Professional fees** (including accountants' fees)
- **Interest and bank charges**
- **Insurance** (excluding insurance for labour)

Format of income statement..

Sales	xxx
Less cost of sales	<u>(xxx)</u>
Gross profit	xxx
Overheads	<u>(xxx)</u>
Net farm profit	xxx

Cost of sales

Opening valuation		xxx
Purchases		
	Chemicals and sundry	xxx
	Feedstuffs and fodder	Xxx
	Livestock	Xxx
	Vet, medical and sundry livestock costs	<u>xxx</u>
	Total purchases	xxxx
Closing valuation		xxx
Cost of sales (opening valuation plus total purchases minus closing valuation)		xxx

Opening and closing valuations..

Year end Dec 31 st	2016	2017
	Sh000	Sh000
Dairy cows	50,000	65,000
Rearing cattle	7,500	10,000
Wheat in store	50,000	75,000
Home grown fodder	2,000	3,000
Purchased fodder	500	500
Seeds and fertilizer	3,000	2,500
Chemicals and sundry	1,100	500
Feedstuffs	700	300
Veterinary and medicines	500	1,000
Tillages (growing crops, tea etc)	46,154	53,846
Total	161,454	211,646

Other items to consider to arrive at net farm income (MA)

- **Unpaid labour** is the cost of unpaid labour, estimated using a wage rate that is appropriate to the work. The farmer and partner* are not included because net farm income represents the reward to them for their input into running the farm business.

- **Rental value (owner-occupiers)** is an estimated rent charged against owned land and buildings. It is equal to the amount that a tenant would pay for a farm of similar size and type, taking into account the farmhouse, buildings, cottages and land and single payment entitlement that applies to the owned land.

- **Imputed rent on tenants' improvements**
- applies to tenants only. It is the imputed rent for improvements the tenant has paid for, but which the landlord would normally pay for.
- This amount is taken away from net profit because net farm income treats all farms as if they were on a full tenancy, where the landlord would pay for all landlord-type improvements and would normally pass these costs on to the tenant through an adjustment to the rent.

- **Net interest charges** is interest paid on all borrowings, net of any interest received. This is added back to net profit to avoid counting the same costs twice – it is not appropriate to take away interest on money borrowed to buy land and buildings if all the farm is already charged a rental value on owned land and buildings, just as if it were a tenancy.

- **Imputed rental value of the farmhouse** reflects the benefit to the farmer of living in the farmhouse.
- The imputed rental value is based on the rent that would apply to the property on the open market.
- This is added back to the net profit because net farm income is after the rent (or rental value) is taken away, which includes the farmhouse.

- **Ownership charges** are the total charges for buildings depreciation, landlord-type repairs and buildings insurance.
- Ownership charges are added to the net profit because net farm income 'assumes' all farms are run by tenants rather than owner-occupiers.
- As a result, it is not appropriate to take away the costs of farm ownership (that is, landlord-type costs) as well as the rental value.

Depending on your farm's circumstances and how financial accounts have been prepared, you might also need to consider the following.

- Breeding livestock stock appreciation
- Adjustment to depreciation
- Change in unrealized profit

Sample MA income statement from FA

	Sh000
Net profit	81,093
<i>Less</i>	
Unpaid labour (apart from farmer and partner*)	10,000
Rental value (owner occupiers)	25,000
Imputed rent on tenants improvements (tenants only)	5,000
Breeding Livestock Stock Appreciation	10,000
Adjustment to depreciation	8,500
<i>Add</i>	
Net interest charges	5,500
Ownership charges	13,000
Imputed rental value of farmhouse	5,000
Change in unrealised profit	20,000
<i>Equals Net Farm Income</i>	66,093

FORMAT OF MA INCOME STATEMENT

>>	TOTAL CROP ENTERPRISE OUTPUT	XXX
	ADD: ADJUSTMENT FOR OUTPUT FROM CROPS	XXX
	TOTAL LIVESTOCK ENTERPRISE OUTPUT	XXX
	OUTPUT FROM HOME GROWN FODDER CROPS	XXX
	MISCELLANEOUS REVENUE	XXX
	OUTPUT FROM TILLAGES	<u>XXX</u>
	TOTAL FARM OUTPUT	XXX
	Less: TOTAL VARIABLE COSTS	(XXX)
	TOTAL FARM GROSS MARGIN	<u>XXX</u>
	Less TOTAL FIXED COSTS	<u>XXX</u>
	NET FARM INCOME	XXX

Definitions of terms used in MA...

Crop enterprise output means the output from a crop enterprise. It includes the value of crop fed on farm and straw used on farm. These should be valued at market prices.

Total crop enterprise output is the enterprise output from all the crop enterprises on the farm from the most recent harvest.

Adjustment for output from the previous years' crops is the difference between the opening value of a crop in store from the previous harvest and its value when it is eventually sold. This adjustment is made because the output from each harvest is kept separate.

Terms illustrated

EXAMPLE OF CALCULATION OF CROP ENTERPRISE OUTPUT (wheat, 2017 harvest)

Wheat sales	130,000
Wheat fed on farm	5,000
Value of unsold wheat in store	105,000
Straw sales and straw used on farm	0
Output (2017 harvest)	240,000

EXAMPLE OF CALCULATION OF DAIRY ENTERPRISE OUTPUT

Milk sales	108,000
Calf sales and transfers out of calves	0
Less herd depreciation	7,500
Output	100,500

Terms illustrated

EXAMPLE OF CALCULATION OF BEEF CATTLE ENTERPRISE OUTPUT

Opening value	7,500	
Finished cattle sales	15,000	
Cattle purchases and transfers in	5,000	
Closing value	10,000	
Output (Sales + CV – purchases – OV)	<u>12,500</u>	

EXAMPLE OF ADJUSTMENT FOR OUTPUT FROM PREVIOUS YEARS CROPS at Dec '16

2015 harvest		
OV (crop in store at 1st Jan 2016)	60,000	
CV (crop in store at 31st Dec 2016)	0	
Sales and fed on farm	80,000	
Output (CV + Sales – OV)	20,000	
2016 harvest		
OV (crop in store at 1st Jan 2016)	0	
CV (crop in store at 31st Dec 2016)	105,000	
Sales and fed on farm	135,000	

Definitions of terms used in MA...

Total livestock enterprise output is the enterprise output from all the livestock enterprises on the farm.

Livestock enterprise output means the output from a livestock enterprise. If it is a breeding livestock enterprise, the output is the amount left after taking account of herd depreciation

Output from home-grown fodder crops means the output from fodder such as home-grown hay and silage. In the opening and closing valuation, fodder stocks (for example, hay and silage in store) should be valued at market value. Sales include sales of standing fodder crops such as forage maize.

Definitions of terms used in MA...

Output from tillages means the output from growing crops and cultivations. Growing crops and cultivations are valued, based on an estimate of variable costs, labour and machinery costs from when the cultivations started up to the point of valuation.

Imputed rental value of the farmhouse. This reflects the benefit to the farmer of living in the farmhouse. This is not normally included in financial accounts but should be included in management accounts.

Variable costs are those costs that can be applied to a specific enterprise and will normally vary in line with the scale of that enterprise. Examples of variable costs are fertilisers, sprays, seed, bought fodder, bought concentrates and home-grown concentrates.

Enterprise gross margin is the enterprise output less enterprise variable costs.

Total farm gross margin is the total farm output less total variable costs.

Definitions of terms used in MA...

- **Fixed costs (sometimes called overheads)** are costs which cannot easily be put down to any one enterprise and do not vary in line with the scale of the enterprise. Many of the fixed costs in a management version of the profit and loss account are also in the financial account.
- **Depreciation** means spreading the cost of an asset over its useful life. However, you should be careful comparing depreciation in a management account with depreciation in a financial account. In management accounts, depreciation is worked out based on a current replacement cost and sometimes includes profit on asset sales. In financial accounts, depreciation is usually based on a historic cost and does not include profit on asset sales. **‘Adjustment to depreciation’**
- Machinery depreciation should include machinery bought under a hire-purchase or a finance leasing arrangement.

Terms used in MA...

- **Tenant-type repairs** means the cost of carrying out repairs to tenant-type items and repairs which a tenant would normally be responsible for eg repairs to fencing, hedges, ditches and gates.
- **Contract charges and casual labour** – because these costs can be replaced with paid labour and machinery costs, in management accounts contract charges and casual labour are normally treated as ***fixed*** costs.

FA/MA statement compared..

- See appendix 1 <C:\Users\Dr. Naibei\Desktop\APPENDIX 1.docx>

My whys

1 Why does total farm output not equal total sales?

Total farm output includes the imputed rental value of the farmhouse, and opening and closing valuations, as well as sales.

2 Why are variable costs different to purchases higher in the management account)? In the management account, variable costs include the change in the opening and closing value of seeds and fertilisers in store.

3 Why is total variable costs different to cost of sales?

Cost of sales includes the change in the opening and closing value of livestock and crops in store.

4 Why is total farm gross margin different to gross profit?

- Apart from the reasons in the three questions above, you should also take account of the following.
- In the management account, output stocks (that is, the opening and closing values of crops in store and livestock on the farm) are valued at market prices rather than their production costs.
- Total farm gross margin does not include breeding livestock stock appreciation.

Conclusions ...value of MA

- 1) allow you to better assess how well the farm is performing by using published figures and other sources to use net farm income to measure how a farm business performs
 - 2) allow you to compare your farm with others, regardless of tenure or form of business organisation
 - 3) for an owner-occupier, show the income the farm business produces over and above that which the owner-occupier could gain from renting the farm out (this can help when a farm is considering whether to continue in active farming or to rent the farm out to someone else); and
 - 4) show the income the farmer has left, after taking account of the cost of all other unpaid labour (that is, labour which is not shown as wages in the financial account but which the business is expected to fund through drawings or the private spending of those concerned).
- As a result, net farm income shows how the business is performing after all resources are given a cost, other than the manual and managerial input of the farmer

