

# **FARM MANAGEMENT AND NATURAL RESOURCE ECONOMICS**

## **Farm Record Maintenance and Cost Analysis**

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### **Keywords**

## **Introduction**

In context of farm management and natural resource economics, the farm record maintenance and cost analysis approach needs to be adopted with in conceptual framework of farm level agricultural system. Beyond traditional farm management; recently system analysis of farm management approach is widely accepted. Farm management is nothing new. It is some thing review every time we choose between alternatives as we attempt to make the most overlies, fully keeping consideration of natural resource. Farm management has shifted its focus from input-out relationships to enhancing an ecological balance and system resilience through such avenues as increasing diversity, component interactions, and enhanced biological subsystems. Therefore very right definition of farm management aims to ensure that the organization serves its mission (including environment) in an effective way, and also that it serve the needs of those who control or otherwise have power over the organization. Major features of farm management need consideration of maintaining farm records and accordingly make cost analysis. The most successful management is seen as installing both efficiency in resource use and effectiveness in the achievements of the goals. Also management is seen as a universal process involving a set of management functions. These functions are considered in wide perspectives. As planning, organization, staffing, communication, motivation, leading, monitoring and controlling. The farm record maintenance and analysis is also useful in decisional roles at the different levels of stakeholders. A farm owner may use this information for direct supervision, and running of the organization. The important use of farm record maintenance and farm analysis are meaning but to know the its relations with the various environment surrounding it, to develop the organization strategies which may be viewed as a mediating force between the organization and farmers and to carry out duties of supervision which they seeks to tailor strategy to its strengths and to its need and trying to maintain a pace of change that is responsive to the environment without being disruptive to the organization.

Since farm management is considered a thought of as being a decision process in a continual ways, the maintaining farm records and cost analysis operated upon; will always help in decisions to be taken for allocating the limited resources of land, labor, and capital among alternatives and competitive uses. This allocating process forces the manager to identify goals (including environment) to guide direct the decision-making.

In the context of natural resources economics, the farm management has to be considered broadly. This is of farm management as the process by which resources and situations are manipulated over a time by the manager of the farm system with information recorded in farm record in ordered to achieve his/ her goals. Thus, farm system looks the farm as having a variety of interface, i.e. contact point with other systems or environment. The details on farm record maintenance and cost analysis are given bring fourth part of chapter.

## **Cost Principles**

Most of the Producers give considerable importance to the cost of production while keeping production decision. When we speak of cost of producing a commodity, we generally refer to the expenses incurred in producing a unit of a product in a particular

time period, without specifying the amount and the time period, any reference to cost will be meaning less.

Cost consideration enters into almost every day in farm organization and operations. To get a clear picture of cost concepts that is appropriate to farm management decisions, the cost problems is divided into three parts:

- (i) Cost output relation.
- (ii) Cost price relation
- (iii) Product cost in joint farm operation and joint product.

**Cost Elements**

Cost is made up of two elements: (i) Fixed cost and; (ii) Variable cost. The sum of these two costs is called total cost. The other costs are derived from these groups as listed below:

**Table1: Hypothetical Cost data showing in the relationship among the various cost concepts**

Q units of output	Fixed cost FC	Variable cost VC	Total cost FC + VC	Average Cost per unit TC/Q	Marginal VC/Q	Average fixed cost FC/Q	Average variable cost VC/Q
0	125	0	125	Infinity	-	$\infty$	0
1	125	30	155	155	30	125	30
2	125	45	170	85	15	62.5	22.5
3	125	56	181	60.3	11	41.7	18.7
4	125	58	183	45.8	2	31.3	14.5
5	125	62	187	37.4	4	25.8	12.4
6	125	70	195	32.5	8	21.8	11.7
7	125	90	255	30.7	20	17.8	12.8
8	125	131	256	32.0	41	15.6	16.4
9	125	203	328	36.4	72	13.9	22.5
10	125	335	460	46.0	132	12.5	33.5

Table 1 information showed that

- (i) Fixed cost is constant one all the levels of output.
- (ii) V.C. is associated with the level of output
- (iii) TC and VC increases with the increases in output.

(iv) MC is independent of FC whatever may be the amount of the fixed cost.

(v) AFC is continuously decreasing

(i). **Fixed cost (FC):** Sum of interest, depreciation, rent, traps, unpaid family labor, crop or live stock insurance, if any.

(ii) **Variable cost (VC):** Sum of cost of seeds, manure, hired labor, irrigation changes and the like that are directly related to output.

(iii). **Total cost (TC) = F.C. + VC.**

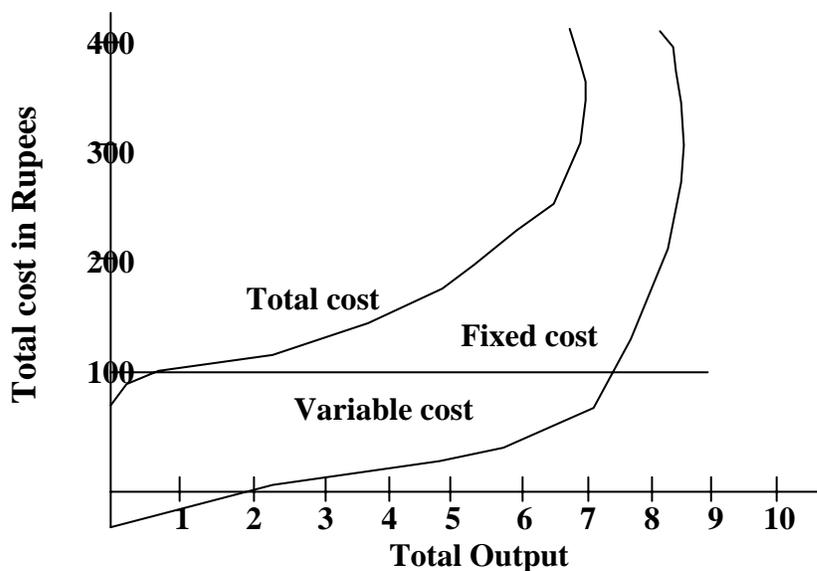
Cost per unit of output:

(iv). Average Cost (AC) =  $TC / Q$  (Q= output)

(v). Marginal Cost (MC)  $\Delta VC / \Delta Q$

(vi). Average Fixed Cost (AFC) =  $FC / Q$

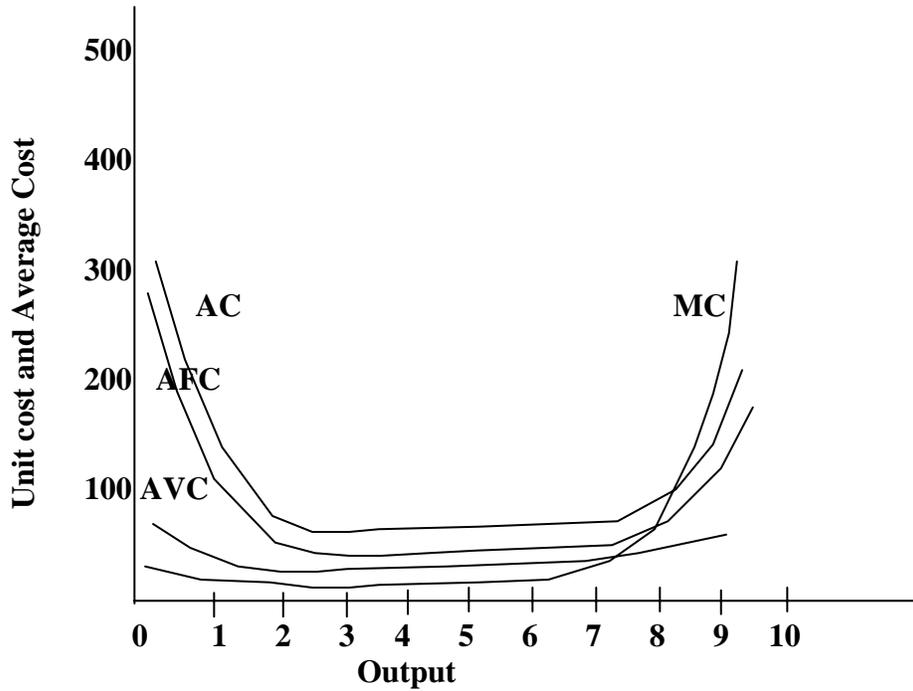
(vii). Average Variable Cost (AVC) =  $VC / Q$



**Fixed cost:** These costs are related to fixed resources and are overhead cost. They are the same at all levels of production and result from costs that have already been sunk. Rent, interest, depreciation taxes and wages of the permanent laborers constitute fixed cost. Fixed costs have little relation to making decision on the level of production of farming practices.

**Variable cost:** These costs are related to the variable resources and change in the output. The variable costs are fit if there is no production on the farm. They change with the quantity of production. In the beginning as the production increases variable costs rise quite rapidly, but with further rise in production variable costs do not increase properly with the production due to economies brought about by mass production. Later on, as diminishing return set in variable cost start rising more rapidly than the production.

The variable costs are very important deciding we if should produce & how much to produce. If farming is to be carried on the variable cost must be less than the selling price.



**Total cost (TC):** The fixed cost and variable costs make total cost of producing each unit of crop or livestock product. The total cost stands even when production is zero. They increase on the like variable costs & determine if farming will be profitable. But once the total cost are covered the farmers remains indifferent to the average cost as per unit cost of production.

**Average Total Cost (ATC):** It refers to the average of all costs (fixed plus variable) per unit of output. In the beginning the average costs are very high because the fixed costs are distributed on a few units of production. But as more units are produced the fixed cost are spread over more and more units. When the fixed costs have spread over many units, there is not much effect of the fixed cost on average costs. Variable cost assumes importance as average costs being to rise. Average cost finally began to rise as evident for the cost curves.

**Average Fixed Cost (AFC):** Average fixed cost is a fixed cost per unit of output. Since the total fixed cost is the same at all the levels of production, the average fixed cost falls continually at a decreasing rate as more output is produced. It is because the fixed cost is divided by increasingly large numbers as output increases.

**Average Variable Cost (AVC):** The average variable cost refers to total variable cost per unit of output. The average variable cost has an inverse relationship with average

product (AP). When AP increases AVC decreases. When AP decreases AVC increases. Further more, when A.P. is at maximum, the AVC must be at the minimum.

**Marginal cost: (MC):** Marginal cost (MC) is the change in cost associated with an increase of one unit of output.

As marginal cost are related to the costs of producing additional units of output they are affected only by the variable costs, fixed cost, as a rule, do not influence the marginal cost, because they neither increase nor decrease with the additional production. Marginal costs are very important in determining as to how far production should be pushed and how much of the various resources should be used. A farmer adds to production as long as the added return is greater or at least equal to the added cost.

### **Cost Concept**

The cost concept approach to farm costs which has kindly been used by the Directorate of Economics & Statistics and CA CP, Ministry of Agric. & costs, Govt. of India, is discussed below:

Cost  $A_1$  = All actual expenses in cash and kind includes in production by owner

- (a) Wages of hired human labour.
- (b) Wages of permanent labour.
- (c) Wages of contract labour.
- (d) Wages of hired bullock labour.
- (e) Imputed value of owned bullock labour.
- (f) Charges of hired machinery.
- (g) Imputed value of owned machinery.
- (h) Market rate of manure & fertilizers
- (i) Market rate of seed.
- (j) Imputed value of owned seeds.
- (k) Imputed value of manures.
- (l) Market value of pesticides, herbicides, hormones, etc.
- (m) Irrigation charges.
- (n) Irrigation structure, etc.
- (o) Interest on working capital
- (p) Miscellaneous expenses (value of other items which are used up in current production).

Cost  $A_2$  = Cost  $A_1$  + Rent paid for leased in land is any.

Cost  $B_1$  = cost  $A_1$  + interest on value of own capital ( $B_1 = A_1 + \text{overhead cost}$ )

Overhead cost includes = interest on fixed capital

- = Interest on working capital
- = Repairs to dead stock
- = Depreciation

Cost  $B_2$  = cost  $B_1$  + rental value of owned land and rent paid for leased in land.

Return to family labour or cost  $C_1$  = imputed value of family labour.

Return to land or cost  $C_2$  = cost  $B_2$  + imputed value of family labour.

### **Farm Efficiency Measures**

An important demand in farm business management or decision-making relates to the manner in which available resources are allocated. A measuring indicator is necessary to provide the standard for appraising accuracy of decisions regarding the use of resources. Efficiency can be related to:

- (1) The operation of farm business as a whole.
- (2) An in divide phase of the business, line of production or enterprise.
- (3) To use of various factors of production or resources.
- (4) To any single input

Various efficiency measures therefore need to be development to express technical efficiency in various farms enterprises and related these to the financial success. The various farm efficiency measures can be discussed as:

1. Physical efficiency measures (*technical efficiency*)
2. Value efficiency measures (*financial efficiency*)

They can be further categorized into:

- a. Aggregate or absolute measures.
- b. Ratio measures.

#### **1. Physical Efficiency Measures:**

- (a) Aggregate measures
  - (i) Total area of the farm
  - (ii) Number of livestock
  - (iii) Total production
- (b) Ratio measures
  - (i) \*Land use efficiency
    - \*Yield per acre
    - \*Production efficiency
    - \*Cost yield index
    - \*Intensity of cropping
    - \*Percentage of land under selected crops
  - (ii) Labour efficiency
    - Crop acreage /man
    - Production man-work equivalent

- (iii) Machinery efficiency  
Horse power /acre of land available & used

## 2. Financial Efficiency Measures: Aggregate & ratio measures

### Aggregate measures

- (i) Total capital managed
- (ii) Gross income
- (iii) Gross expenses
- (iv) Gross profit
- (v) Net worth = Total assets – total liabilities

### Farm Income and Profit Efficiency Measures

- (i) Net cash income = Total cash receipts – Total cash operating expenses
- (ii) Net farm income = Net cash income + charges inventory and appreciation
- (iii) Farm earning = Net farm income + value of farm prior leges
- (iv) Family labour earning = Farm earning – interest charges on farm capital
- (v) Return to management = Family labour earning – imputed value of family labour.

(vi) Percent return to capital =  $\frac{\text{Farm earnings} - \text{family labour value}}{\text{Average capital investment}} * 100$

### Ratio measures

- (i) Gross output per gross input
- (ii) Fertilizer cost per crop acres = fertilizer cost/ crop acres
- (iii) Power and equipment cost per crop acre  
=  $\frac{\text{Total cost of machinery}}{\text{Total crop acres}}$
- (iv) Power and equipment / investment per acre  
= Total machinery investment / total crop area

### (v) Cost Ratio

Operating cost ratio = operating expenses/cross profit

Fixed cost ratio = Fixed expenses/ Gross profit

Gross Cost Ratio = total expenses /Gross income

Cost per acre = Total expenses/ no. of acres

### (vi) Capital ratio

Capital per nit of gross profit = Total capital investment/ Gross income

### (vii) Income ratio:

Rate of capital turn over =  $\frac{\text{Gross income}}{\text{Total farm assets}} * 100$

Net income per acre = Gross income – Gross expenses / Number of acres

## Farm Business Records and Accounts

In agricultural business management the role of farm records and book keeping maintaining accounts and analysis of immense importance because business should reveal, what the entrepreneurs has incurred as cost, what return he is getting and how much profit is being generated from the efforts of the owner of the business.

### Book keeping

As the art of applying the principles of sciences & accounting is keeping the books of accounts. Book keeping is the art as well as the science of recording in books of business transactions in the regular and systematic manner so that their nature and extent and financial effect can be readily ascertained at any time.

**Advantages:** There are advantages of the science of book keeping

1. Avoids mistakes, misunderstanding and losses.
2. Details in receipts and expenditure are known.
3. The results of the years farming are ascertained.
4. The actual financial position is known at the end of the year.
5. Financial position of the businessperson could be compared with the neighbors.
6. Administration and economy are better understood and business habits are acquired.
7. In case of any legal dispute records become the sources of evidence.

Types of book keeping depend on:

1. Type and size of business
2. Kind of information sought.
3. Time that could be devoted

A good system should be simple, accurate and provide for consistent treatments of like situations. However, the record should contain a properly describe and dated account of what is taken in and what is paid out.

There are two systems of book keeping:

- (i) Single entry system
- (ii) Double entry system

(i) **Single entry system:** Reduces the work in keeping record and each item of sales or expenditure is recorded ones. These are organized as:

- \* Inventory;
- \* Crops or livestock records;

Accounts payable and receivable

Records of income are:

Sales of crops or livestock or their products/sales of crops/livestock

Date	Description	Price	Amount	Value
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Records of expenditure are:

Purchase of Livestock/Feed

Date	Description	Price	Weight	Value
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Equipment expenses

Date	Description	Crop equipments	Livestock equipment
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Hired Labor

Date	Description	Crop equipments	Livestock equipment
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Miscellaneous expenses

Date	Explanation	Rent	Taxes	Insurance	Interest	Mis. crop	Misc. Livestock
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New Improvements

Date	Description	Value	Total Value
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**(ii) Double Entry System:** In this system the recording of transactions is in two-fold aspects, that is, two entries are made for each transaction in the same set of books, one being a debit entry and the other a credit entry.

### Ledger Entry

Dr.

Date	Particulars	Folio	Amounts	Date	Particulars	Folio	Amount
June, 10 2005	To cash	25	FERTILIZER A/C 400.00				

### Cash Account

				June, 10 2005	To cash	25	FERTILIZER A/C 400.00
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Thus this is a two-fold aspect of transaction. Two parties are involved one giving benefit and the other receiving benefit. Thus, two accounts are affected in each transaction. In the above example, the two accounts are: Fertilizer account which is gaining and the cash account which is losing. In the case of fertilizer account the value of stock of fertilizer has increased by Rs.400.00 and in cash account Rs.400.00 is given out that is lost to the business. So, the former account is debited and the later is credited. The entries are made in the two sides viz. debit side and credit side of the ledger book.

### Cost Accounting

There are two types of accounts:

1. Cost accounting (Full cost accounting)
2. Financial accounting (farm/business book keeping)

**Full cost accounting:** Sets fourth income and expenditure and profit and loss of the business as a whole, as well as each department, enterprises, each product or commodity as a separate unit. An account is kept for each enterprise or department and from them income and expenditure pertaining to that unit (enterprise), which is debited and credited in its respective accounts. Details records are kept for each enterprise and farm as a whole and balance sheet of whose business is prepared. The advantage, which accrues, is that details are obtained for the business.

In the single enterprise accounting details for only one enterprise is recorded but that balance sheet for the farm as whole is prepared. This has advantage of simplicity and a detailed of a particular enterprise is available for research.

**Financial Accounting:** Financial accounting is the method of recording transactions involving the transfer value money or money's worth, so that financial results of the business as a whole may be readily ascertained at any time.

The financial accounting sets fourth income, expenditure and profit and loss of the business of the whole that is the complete unit. The accounts profit and loss, balance sheets at the end of the year show the standing of the business in relation to the farmers and agribusiness man and the other parties concerned.

#### Account (A/C)

Account is a record or register of a particular class of pecuniary transaction at one place collectively in a summarized form and is kept in a book called ledger. For example: Paliwal accounts, interest a/c, bullock a/c etc.

#### Classification of Accounts:

- (a) **Personal accounts:** This is an account of a person or firm with which the trader deals e.g. Paliwal accounts. Hindustan Machinery a/c.
- (b) **Real or Property account:** An account of each property or possession dealt in by the trader in his business. e.g. Implement account, milk a/c.
- (c) **Nominal or Fictitious accounts:** This is an account of each head of expenditure or source of income, e.g., Discount account, Interest a/c

#### Format: Personal account

#### Paliwal A/C

Dr.

Date	Particulars of the benefit received by the person	Folio	Amount  Rs. P.	Date	Particulars of the benefit received by the person	Folio	Amount  Rs. P.
2005 Sept.12	To Milk	15	2,500.00				

**Format: Real or Property account****Implement Account**

Dr.

<b>Date</b>	<b>Particulars of the benefit received by the person</b>	<b>Folio</b>	<b>Amount</b> <b>Rs. P.</b>	<b>Date</b>	<b>Particulars of the benefit received by the person</b>	<b>Folio</b>	<b>Amount</b> <b>Rs. P.</b>
12-6-96	Farm machinery & Co.	10	200.00		By Cash	15	200.00

**Format: Nominal or Fictitious account****Rent Account**

Dr.

Cr

<b>Date</b>	<b>Particulars of the benefit received by the person</b>	<b>Folio</b>	<b>Amount</b> <b>Rs. P.</b>	<b>Date</b>	<b>Particulars of the benefit received by the person</b>	<b>Folio</b>	<b>Amount</b> <b>Rs. P.</b>
March 31, 2005	To storage	15	300.00		By Cash	10	300.00

**Heads of Accounts in Farming Business**

- Capital account
- Private or drawing a/c
- Cash a/c
- Land a/c or land improvement a/c
- Building a/c
- Machinery or implement a/c
- Office fixture or furniture a/c
- Livestock a/c

**Farm produce account** comprises of:

Crop produce a/c

Livestock product a/c, Dairy, Poultry, meat, miscellaneous a/c

Miscellaneous receipt a/c

Interest on investment: Rent on land or building, discount on prompt payment.

**Personal account:** It records trader's dealings, with person or firms. A separate account is opened of each person or firm and by recording therein particulars of all transactions in cash or goods etc. It may have taken place between the dealer and the person, the former can readily ascertain at any time amount owing to or by that person to him.

**Name of Person or Firm**

Dr.

Cr

Date	Particulars of the benefit received by the person	Folio	Amount Rs. P.	Date	Particulars of the benefit received by the person	Folio	Amount Rs. P.

**Paliwal A/C**

Dr.

Cr

Date	Particulars of the benefit received by the person	Folio	Amount Rs. P.	Date	Particulars of the benefit received by the person	Folio	Amount Rs. P.

There are two types of balance: Debit balance and Credit balance.

**Debit balance:** On a personal account would indicate that the person in question has received more benefits than he has imparted to the trader and that he owes to the trader the amount of the balance.

**Credit balance:** The balance at the credit side is more than debit would indicate that the person owes the amount shown in credit balance to the trader.

**Real or property account:** It records the dealing in or with property assets or possessions. A separate account is kept for each class of property such as cash, stock, plants, machinery, furniture, etc., so that by recording there in particulars of such assets received or given away, the trader can ascertain the value of each asset on hand on any particular date.

**Name of the Asset**

Dr.

Cr

Date	Particulars of incoming goods	Folio	Amount Bullock	Date	Particulars of the outgoings	Folio	Amount Rs. P.

**Paliwal A/C**

Dr.

Cr

March 31, 2005	To storage	15	300.00		By Cash	10	300.00
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**Debit balance:** On an asset or real account on any date would mean the value of the particular asset in hand on that date.

**Credit balance:** There is no credit balance expect sold for profit.

**Examples of Real or Property Account**

1. **Purchase of property.** (Machine, building, plants, livestock, implements etc.)
  - Machinery A/c Dr.
  - Party (implement factory) i.e., personal A/c Cr.
  - Charges paid over and above the property (stamp duty, freight charges etc)
  - Property A/c Dr.
  
2. **Sale of property. (Either cash or credit)**
  - Cash or Personal A/c (of the purchase) Dr.
  - Cash or party A/c Cr.
  
3. **Loss of property.**
  - Profit or loss A/c Dr.
  - Lost property (say machine) A/c Cr.
  
4. **Maintenance of property**
  - General expenses A/c Dr.
  - (for which repair is done)
  - Cash or Party A/c Cr.
  
5. **Addition or improvement of property**
  - (These are revenue-earning improvements i.e., heavy manuring of land)
  - Property A/c (Land A/c)
  - Cash or Party A/c
  
6. **Income from property:** (Rent from land or building, bullock hire or sale o milk etc.)
  - Income land or building or milk A/c Dr.
  - Cash or Party A/c
  
7. **Exchange of property:** N.B. if same A/c is Dr. and Cr. then it is against the rule of double entry system. So two journalizing is done.
 

**Example:** A buffalo is exchanged for a cow (Mohan Lal).

  - Cow A/c Dr.
  - Bufaloe A/c Cr.
  
  - Mohan Lal's A/c
  - Mohan Lal's A/c Dr.
  - Bufaloe A/c

## 8. Mortgage

Cash A/c

Mortgage A/c

(Open in parties name e.g., Ram Dhani's mortgage A/c)

Interest on mortgage

Interest A/c

Dr.

Cash A/c

Cr.

On payment, party or wholly

Mortgage A/c

Dr.

Cash A/c

Cr.

The Balance of Payment

Balance of mortgage is liability in B/s

Property mortgaged is Asset in B/S

(Because amount of mortgage shown is amount shown deducted)

**Nominal or fictitious account:** It records a trader's expenses or gains a separate account is opened for each head of expenditure or income such as, rent, salaries, wages, discount, commission interest, stationary, cartage, discount etc., so that the trader can see the amount expended, lost or gained under each headings.

Dr.

Cr

Date	Particulars of amount expended	Folio	Amount Rs. P	Date	Particulars of amount gained	Folio	Amount Rs. P.
27-2-96	To Ram Nath to Jagmohan & sons	15	100.00 200.00	26-2-96	By cash By cash	20	100.00 100.00

**Debit balance:** A nominal account would mean that the expenses or loss under the particular head has exceeded the income or gain from that head and would than represent a loss.

**Credit balance:** Just the opposite of the debit balance.

### The Journal

The journal is used for recording transactions, which cannot conveniently be passed through the books of original entry, such as opening or closing entries, transfer entries (taking an item from one account to another), interest, depreciations, and bad debts etc.

## Format of a journal

### Paliwal Journal

S. N	Date	Particulars	Ledger Folio	Amount	
				Dr.	Cr
1.	2005 Oct., 1	Machinery A/c Dr.	1	80.00	
		To Prem Machinery (Machinery bought from)	2		80.0
2.	5	Kisan machinery Dr.	2	50.00	
		To cash (Cash paid to KM)	6		50.0
3.	12	Rent A/c To Cash	3	15.00	
		(Rent paid) (Details)	5		15.0

### Paliwal Journal

June 1,2005	Cash A/c	Dr.	<b>Rs.</b> 50,000.00	<b>Rs.</b>
	To Capital A/c			50,000.00
	If more money is invested:			
	Cash A/c	Dr.		
	Capital A/c	Cr.		
	For withdrawals:			
	Capital A/c	Dr.		
	Cash A/c	Cr.		
	When at the end of the year, the balance, difference between profit & loss is transferred to capital a/c.			

N.B. The farmer becomes a creditor to the business because capital has increased by that amount.

Capital accounts is an important a/c but taken as a personal a/c because he is a creditor of the business for the amount of capital invested and debtor for the amount withdrawn for his personal or household expenditure.

<b>June 1,2005</b>	<b>In profit:</b>			
	Capital A/c	Cr.	With the amount of gain	
	If loss:			
	Capital A/c	Dr.	With the amount of loss	
	In case of already established business, when investment is party in cash, and kind (Property) these are debited and capital a/c is credited.			
	In case of asset and liabilities (difference between assets and liabilities). If there as in increase:			
	Capital A/c	Cr.		
	If there id decrease:			
	Capital A/c	Dr.		

These all are Opening Entries.

**Private or Drawing Account:** Private expenses of the proprietor are treated quite separately from the business expenses.

Receipt by the Household

All amount withdrawn, cash or kind\*, Dr.

\*Kind include food grains, dairy produce; livestock produces Crop, Dairy, Livestock A/c

Supplied by Household

- (i) Meals, tiffins to servants.
- (ii) Family labour.
- (iii) Use of household storage, etc

The value (Rs.) of these supplies is the Dr. of these viz.

Family labour A/c	Dr.
Grain A/c	Dr.
Building	Dr.
Private A/c of the farmer	Cr.

### **Farming Transactions Involving Nominal Accounts**

N.B. These accounts are temporary in nature, which are later on to be transferred to Profit or Loss account for income and expenses of each kind).

#### **1. Wage accounts**

- (a) Cash payment:

Wages A/c	Dr.
To Cash A/c	Cr.
  
- (b) Kind payment viz. wheat or meal:

Wages A/c	Dr.
To Wheat A/c	Cr.
Wages A/c	Dr.
To private A/c	Cr.
  
- (c) Calculated wages for unpaid family member:

Wages A/c	Dr.
To Private A/c	Cr.
  
- (d) Borrowed labour in exchange:

Wages A/c	Dr.
To Private A/c	Cr.
  
- (e) In kind at harvest:

Wages A/c	Dr.
To Crop A/c	Cr.

Wages account is transferred to P. & L. accounts at the end of the year.

**2. Salaries**

Salaries A/c	Dr.
Transferred to P. & L. A/c	Cr.

**3. Seeds, Manures and feeding stuff etc.**

Seeds or Manures or Feeding stuff A/c	Dr.
Party's Cash A/c	Cr.

If the seed or manure or feeding stuff is prepared on the farm itself then:

Manures or Seed or Feeds A/c	Dr.
Crop or livestock A/c	Cr.

If the seed or manure or feeding stuff is prepared on the farm itself then:

Manures or Seed or Feeds A/c	Dr.
Crop or livestock A/c	Cr.

N. B. Valuation of the seed or manure or feeding stuff, if produced on the farm, is done at the cost of production or harvest price as an alternative.

If the crop or pasture is grazed:

Grazing A/c	Dr.
Crop or Pasture A/c	Cr.

**4. Seed A/c**

Crop A/c	Dr.
	Cr.

**5. Manures A/c**

Crop A/c	Dr.
	Cr.

(In case of green manuring)

OR

Miscellaneous A/c

(Cattle manure)

at market price rate per cart load.

**6. Rent, Rates, Insurance**

Rent

**(a) Owned land**

**(i) Interest**

Interest A/c	Dr.
--------------	-----

Capital A/c	Cr.
-------------	-----

**(ii) Rental value**

Rent A/c	Dr.
----------	-----

Capital A/c	Cr.
-------------	-----

**(b) Land taken on rent or lease**

(Amount paid in kind is calculated at the wholesale harvest price)

Rent A/c	Dr.
----------	-----

Landlord's A/c	Dr.
----------------	-----

**7. Rent for the use of Building**

Rent A/c Dr.  
Cash A/c Cr.

If a part of the building is used for storage etc., then

Rent A/c Dr.  
Private A/c Cr.

**8. Land Revenue or Canal Dues**

Rent or rate A/c Dr.  
Cash or Party's A/c Cr.

Irrigation A/c Dr.  
Cash or Party's A/c Cr.

**9. Use of Machinery**

On Hire  
Rent or hire A/c Dr.  
Of implements  
Cash A/c Cr.  
If owned  
Department A/c Dr.

**10. Insurance**

Insurance or Rent Rate A/c Dr.  
Cash or Party's A/c Cr.

**11. Taxes**

Taxes or General Expenses A/c Dr.  
Cash or Party's A/c Cr.

**12. Commission**

Commission or General Expenses A/c Dr.  
Cash or Party's A/c Cr.

**13. Interest**

Interest A/c Dr.  
Cash or Party's A/c Cr.

If interest is received for loan given

Interest A/c Cr.  
Cash or Party's Dr.

**14. Interest on Capital and Drawings**

(a) Capital investment in Farming. Less rate of interest

(i) For interest on capital:

Interest A/c Dr.  
Capital A/c Cr.

(ii) Interest on Drawing:

Private A/c	Dr
Interest A/c	Cr.

**15. Bad Debts**

Bad debts are unrecoverable as it becomes after the time bar (after three years), absconding debtor become insolvent).

Bad debt A/c	Dr.
Debtor's Personal A/c	Cr.

This account is closed

If after some time the debt is realized:

Cash (to the extent of amount recovered) A/c	Dr.
Debt A/c (to the total amount of debt)	Cr.

Account is closed: if it is coming in dividends then the account is not closed, then.

Cash A/c	Dr.
The amount is dividend received	Cr.

Bad debt recovered: If the time is not barred and the amount is realized then a bad debt account is opened:

Cash A/c	Dr.
Bad debt A/c (to the extent of recovery)	Cr.

This bad debt account is opened because personal account has already been closed when the debt is written off.

Bad debt recovered A/c is transferred to P & L A/c at the end of the year.

**Classification of Books of Accounts**

**Principle Books-** Ledger  
Cash Book

**Subsidiary books-** Purchase Day Book  
Sales Day Book  
Returns Book  
Bill Book  
Journal

**Ledger**

The ledger is the principal book of accounts in which personal, real or property, Nominal and Fictitious accounts are opened and entry is made from the journal.

Ledger is a book of accounts in which provision is made for summation and classification of all the debit and credits recorded in the book of original entry. Ledger is the book of the record of secondary entry prepared from the original journal recorded in chronologically Journal information is organized classified and summarized.

## Format

Dr.				Cr.			
Title of the Account							
Date	Particulars	Folio	Amount	Date	Particulars	Folio	Amount

- \* Particulars are the detailed column of transactions (name of the corresponding entries i.e., To whom Cr. what the account is Dr.)
- \*\* Folio gives the number of page from which the entry is made from the book of original entry (viz. Journal, impressed account, return book etc.)
- \*\*\* This is also a particular column or the details of the transactions. Name of the corresponding entry i.e. by whom or by what account is Cr.

Again there are two sides in the ledger. The left side is called Debit (Dr.) side and the entry made in this side is called debit entry- the side of the value received. The right side of the ledger is called the credit side and the entry made is credit entry-the side meant for value given out. Every transaction entered into ledger affects two accounts in the ledger; one receives and the other gives.

**Posting:** It is an act of separately transferring each entry from the journal or other book of the original entry to the account that such entry affects in the ledger. When the transaction is posted from the journal into the ledger it is entered in the same column in the ledger. Thus, posting is the process of transferring items from journal to their proper account in the ledger.

### Rules:

1. Every debit entry must have a corresponding credit entry and vice versa.
2. Every debit entry is recorded by a word 'To' and credit entry by a word 'By'.
3. Debit account receives and credit accounts gives.
4. Names of accounts in particular columns are inter changed\* method of starting the ledger:
  - (a) Page of the ledger are numbered.
  - (b) Division of pages.
  - (c) Name of the account is written on top, in the middle of the page.
  - (d) Arrangement of accounts is as follows:
    - (i) Capital or drawing A/c.
    - (ii) Real accounts. Cash, bank, work stock, cattle, goat, sheep, machinery, implement building, land, improvements, A/cs etc.
    - (iii) Nominal accounts. Crop dairy produce, feeding stuff, wages, rent, seed, manure, land revenue, rates, interest, depreciation, general expenses A/cs.
    - (iv) Personal accounts. Accounts of debtor and creditor.
5. Indexing in alphabetical order.

- Posting- All debit items are posted first and then credit items to avoid mistakes.

### Functions of a Ledger

- Sorts out or classify items appearing in the journal and the other subsidiary books.
- It keeps the entire transactions relating to that account in a condensed form.
- Find out the combined effects of entries for each individual account, also for then entire business.
- Permanent record for future reference in regard to debtor and creditor.

### Journal

Cash A/c	Dr.	Rs.300.00
To Livestock A/c	Cr.	300.00

### Ledger

#### Cash Account

Dr.							Cr.
Date	* Particulars	** Folio	Amount	Date	*** Particulars	Folio	Amount
2005 Jan.,10	To Livestock	3	300.00	2005			

#### Livestock Account

Dr.							Cr.
Date	* Particulars	** Folio	Amount	Date	*** Particulars	Folio	Amount
				2005 Jan.,10	By cash	5	300.00

### Cash Book

The cashbook is a principal book for entry, especially when there are numerous entries to be made under the cash account, it is a separate book. It is like ledger and is bound register. The cashbook is meant for recording the receipt and payment of money whether in coins, notes, cheque, postal order, bank draft etc. The cashbook though separately maintained is in integral part of ledger. It is in fact of ledger account for cash a real account. Thus, when an entry is made in the cashbook one side of the double entry is thereupon completed.

On the Dr. side the cashier enters the cash received and on the Cr. side all the payment made. Dr. and Cr. pages face each other. The entry of receipts is made on the Dr. side giving the dates, the name of the firm by whom the firm is credited (the business) for what the firm has paid, and the amount. The credit side, sometimes called the 'Contra' (a Latin term) which means opposite or against, on the other side. Since the firm cannot pay more than what it receives the credit side can never exceed the debit side. Reconciliation statement is made which means the difference of the total of two sides, which is shown by the content of the cash box.

**Different forms of cashbook.** The forms of cashbook depend on the nature of the business and the manner in which cash is dealt with.

1. **Single column cashbook.** With one cash column.
2. **Double column cashbook.** Two money columns on each side, one cash and the other bank or one cash the other discount column.
3. **Three-column cashbook.** Three money columns on each side viz., discount, cash and bank.

#### Single Column Cash Book

Dr.

Cr.

Date	* Receipts	** L.F.	Amount	Date	*** Expenses	L.F.	Amount

#### Double Column Cash Book

Dr.

Cr.

Date	Receipts	L.F.	Bank-Discount	Cash	Date	Expenses	L.F.	Bank/Dis.	Cash

#### Triple Column Cash Book

Dr.

Cr.

Date	Receipts	L.F.	Dis.	Cash	Bank	Date	Expenses	L.F.	Dis.	Cash	Bank

#### **Farm Inventory**

The list of the physical property of a business along with their values at a specific point of time is called farm inventory. Inventory for a business is taken at two points of time in a year i.e. at the beginning of the agricultural year at the end of the year. It constitutes cash assets, depreciable assets and non-depreciable assets. The difference in the inventory at the two points of the time indicates the changes in the inventory.

Farm inventory from the basis for the preparation of income statement, balance sheet, measures of income, etc. The loss in the value of asset due to depreciation can be worked out from the farm inventory.

As per the sub-items, inventory is presented like cash assets, depreciable assets and non-depreciable as present in below table:

<b>S.N.</b>	<b>Particulars</b>	<b>Beginning of the year 1.7.2004 Quality as/Kg or no.</b>	<b>Value in Rs.</b>	<b>End of the year 30.6.2005 Quality/Q /kg/no.</b>	<b>Value in Rs.</b>
<b>I</b>	<b>Cash assets</b>				
	Cash on hand				
	Saving in bank etc				
	<b>Sub total</b>				
<b>II</b>	<b>Depreciable assets</b>				
	Land (ha)				
	Farm building				
	Machinery & equipment				
	Implements				
	Dairy cattle				
	Bullocks				
	Sheep's & goats				
	Poultry bird				
	<b>Sub total</b>				
<b>III</b>	<b>Non-depreciable assets</b>				
	Grain ready for disposal				
	Fodder & feed				
	Livestock products				
	Seeds				
	Fertilizers				
	Pesticides & fungicides				
	Sub-total				
	<b>Total of all assets</b>				

Change in the inventory is found out by taking the difference of the value of assets during the two periods. As evident from the table that the items that need to be included in the farm inventory are, the number of various assets along with their values. As for as recording the number of items are concerned it can be done by visual verification. The relevant weight and measures are also noted for the corresponding items of assets.

The preparation of farm inventory involves physical verification of the assets. Physical verification of the items does not pose a problem to the farmer. Problem arises while valuing the assets since improper evaluation leads to erroneous farm decisions.

## **Balance sheet**

Balance sheet is, therefore a statement at a given date showing on the one side the trader's property and possessions and on the other liabilities, represents the capital of the business. Balance sheet is a statement setting fourth the various assets and liabilities as well as the capital of the business at a given data.

**Drawbacks of balance sheets:** It does not exhibit the financial position of the business, as it is not a serious one.

## **Assets**

Assets mean the entire possessions and property of every description, which the business owns at any particular date. They are the debit balances of profit & loss accounts and real accounts, balance of certain nominal accounts and as such as payments made in advance and outstanding debtors of accrued income and also included among the assets. An asset is, therefore something of value, which either belongs to the business or is owned to it by someone else.

**Classification of Assets:** Assets are classified as to their liquidity liabilities are classified as to their maturity or discharges.

**Fixed assets:** These are permanent use and earning incomes. These constitute the fixed capital of the business. Depreciate in value.

**Floating (circulating) assets:** These are used for further production of wealth and used once only. This is not cash.

**Liquid assets:** Cash or which could quickly be converted into cash fictitious assets (Intangibles) profit and loss account. Expenses paid in advance.

## **Liabilities**

Liabilities are the total debit or others at any particular date. They are credit balance of real (bills payable) accounts the personal accounts and capital accounts. The amount of outstanding express remaining unpaid on the date of credit and income received in advance such as hire of implements received for and unexpired period, etc are also included among the liabilities.

## **Assets and liabilities in classified form**

Assets are recorded on the right hand side and liabilities on the left hand side. Balance sheet is a statement not an account. Therefore not to or by or Dr. and cr. are used. Dr. balance consists of assets. They are:

1. Cash in hand or in bank;
2. Plaus & tools;
3. Office furniture's;
4. Stock of goods;
5. Debit due to customers;

Cr. Balances consists of liabilities. They are:

1. Sums due to creditors;
2. Proprietors capital accounts

### **Profit and Loss Account**

The function of profit and loss account is to enable the trader to ascertain the net profit or net loss resulting from the business transaction during a given period.

In farming we call profit or loss account “production or profit & loss A/C”. The profit and losses are a nominal account and are carried out it.

The gross profit as shown by the trading account would be transferred to the credit side of the profit and loss A/C. On the credit side of the profit or loss account would also be shown other items of miscellaneous income such as interest, commission, discount, dividend, profit on exchange, rent received etc.

On the debit would be set out the entire expenses incidental to the carrying on the business, such as office rent, scariest, insurance, advertising, printing and such other expenses or losses as may have arisen in the courage of earning the above income.

The balance or differences of debit and credit is the final results of the farmer’s operations for the period and it is either net profit or net loss, which is carried to the capital account. The net loss is carried to the debit side of the capital account, as the capital account by an entry debiting profit and loss account and crediting capital account, as the capital is increased by the amount of profit.

#### **Points imperative for profit & loss account:**

1. That only such item of income and expenses, which properly belong to the business are included on each side of account.
2. That the items include pertaining to trading period under review.
3. The each items of income or expenditure is shown under its appropriate head.
4. That there is proper grouping and classification of items.
5. That the whole account is constructed up on a consistent basis from the year so as to admit of useful comparison.

**Forms of profit and loss account:** It varies with the nature of the business, information sought. The account should be so drawn up as to disclose the fullest information at the glance, as also to enable the easy comparison to be made of the various expenses and the source of income with similar items of the previous year’s records.

#### **Uses of the profit and loss accounts:**

1. Financial results are ascertained for the working year.
2. The true nature & extent of expenses or loss arranged under various heading and the various sources of income are known.

**Considerable points for profit & loss account:**

1. All operating expenses (other than investment) whether actually paid or out.
2. All the farm income (other than receipts from the sale of articles which formed the part of the equipments) that is farm produce, dairy produced, poultry produce, fisheries produces etc. increase in the value of livestock during the given period or year, whether actually received or not.
3. The profits from the sale of farm produce held over from previous year.
4. The estimated value of goods produced & still held for future sale or use on the farm.
5. The value of farm produce supplied to the household of the farmer.
6. The value of farm produce of the current year given as wages or fed to livestock during the year, it is also shown into account.