CHAPTER V

FARM BUSINESS ANALYSIS

The major objectives of undertaking farm business analysis are:

a) to know the status of business at a particular point in time;
b) to identify the weak and strong points in business; and
c) to make necessary changes for effecting desired improvements in farm business.

Farm business essentially involves proper record keeping and maintainence of accounts, their analysis and presentation of results. Scientific planning and skillful organization of farm business can greatly help achieve higher levels of earning in livestock enterprises.

Maintenance of farm records is a crucial first step towards prospective higher earnings. The more specific benefits of keeping farm records are:

a) these help determine and rank various enterprizes in terms of level of profitability;
b) these help ascertain week and strong points of the farm business as a whole and also of specific individual enterprises;
c) these records help assess the financial position of business at a point in time;

d) in a historical context, farm records provide good basis for evaluating the gains and losses in farm business over time;

e) for purposes of drawing future business plans, farm records make available very useful information or inputs costs and their structure;

f) entrepreneurial Management, with ready access to these records, can make management decisions rather promptly; and

g) based on farm records, causes to variable performance of farmers under similar conditions can be rightly pin pointed..

FARM BUSINESS RECORD SYSTEM

There are tow major parts of the farm business record system. These include: A) physical farm records, and B) financial farm records. There is a third dimension to these records and that is supplementary farm records.

A. Physical Farm Records

These records are concerned with the physical aspects of the operation of a farm business. The farm activities recorded here include the following:

1) general farm location map and layout, etc.;
2) land use;
3) cropping pattern;
4) crop production and disposal;
5) livestock production and disposal;
6) farm Machinery;

7) labour;
8) fodder production and fodder use;
9) feeds;
10) calving intervals and dates;
11) water use; and
12) milk production and marketing.

1. General Farm Records

There are several items which mostly pertain to the physical features of farm. These include farm maps, soil map, farm stead map and contour map.

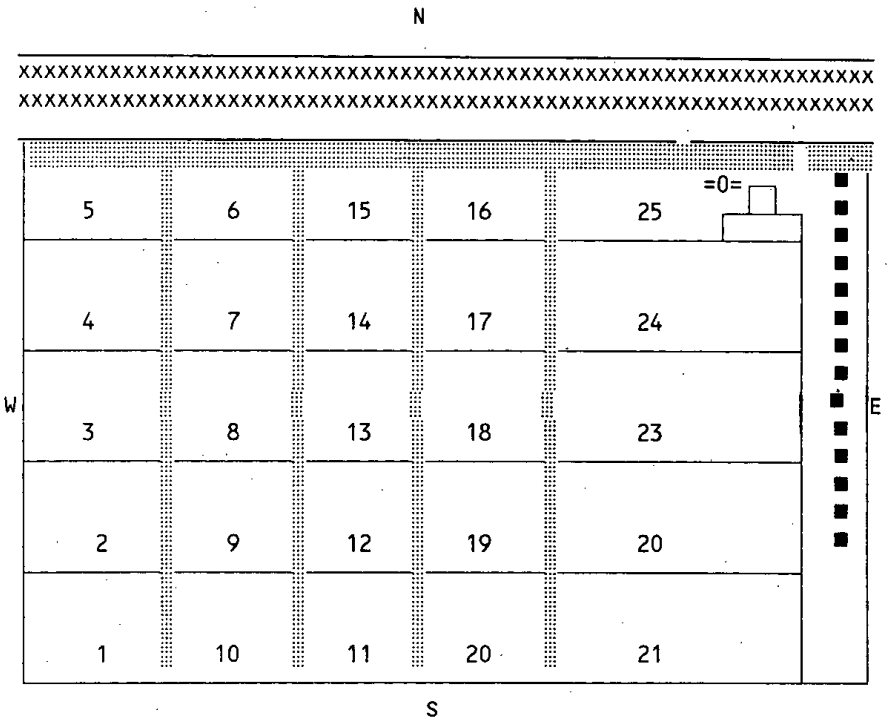
i) Farm Map

Farm map can be used for a variety of purposes. It shows the important physical features and the field arrangements. It helps in sketching any proposed changes in the layout fields and water channels, etc which can essentially result in most efficient field arrangements. Another important use of a farm map is that it facilitates in drawing plans and records for cropping programmes. For instance, crops to be grown in the coming years, quantities of farm yard manure and fertilizer to apply, likely seeding rates to follow, crop varieties to be sown, water level and plant protection measures to be adopted, can all be recorded on the map. Moreover, the actual plan including yield and problems such as water logging and salinity, weed infestation, wild bore attack etc. can also be noted on the map for each field for future reference. An example of a farm map in Faisalabad district is presented in Figure 5.1.

ii) Soil Map

Every farmer must be familiar with the types and characteristics of the soils in each field. Crop yields, and levels

Figure 5.1. Farm Layout Map in Faisalabad.



of use of fertilizer and farm yard manure are all a function of the nature of soil. The soil map greatly helps in farm planning and budgeting. Crops like gram, etc are well adapted to sandy soils, while food grain crops like wheat and maize yield do well on clay loam soils. Good knowledge of soils and soils classification is necessary to prepare an accurate soil map.

iii) Farmstead Map

A well designed farmstead map is essential when a farmer is planning for new farm buildings including sheds for animals.

2. Land Use Record

These records provide information about the use of farm land (Format is given in Table 5.1).

Table 5.1 Land Use Record (Acres)

Particulars	Years		
	1994	1995	1996
Farm Size			
Cultivated Area			
Net cropped area			
Area cropped more than once			
Total cropped area			
Fellow area			
Uncultivated Area			
Forest area			
Area under building road etc.			
Culturable waste			

3. Cropping Pattern Record

This record shows the area put under various crops during the year is given in Table 5.2.

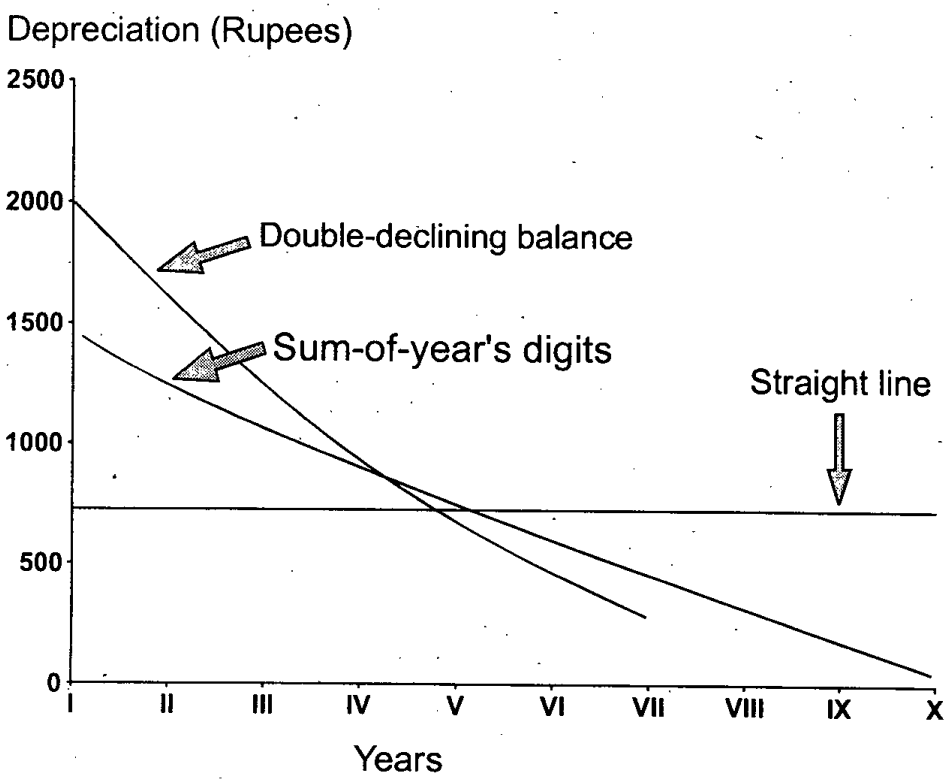
Table 5.2 Format for Cropping Pattern Record

Name of crop	1994	1995	1996
Kharif			
Sugarcane			
Cotton			
Kharif fodder			
Maize			
Sesamum			
Other crops			
Subtotal			
Rabi			
Wheat			
Rabi fodder			
Toria			
Other crops			
Sub total			
TOTAL			

4. Crop Production and Disposal Record

These records provide ready information about the actual performance of various farm enterprises. Detailed production records of each field have several important uses including profitability analysis. As an example, record of cotton crop is

Figure 5.2: Comparison of Depreciation Using Three Methods



shown in Table 5.3. Information about preparatory tillage, method and time of sowing, variety or varieties sown, fertilizer and farm yard manure applications, plant protection measures adopted, irrigations applied etc. are recorded in it. Record of package(s) of insecticides/pesticide used for cotton is very important as it is considered to be the key input for this crop. The information can be used to plan next year's crop for each field to prevent any inadvertent crop damage, especially from cotton leaf curl virus disease. Moreover, formats for recording crop production and disposal in general are given in Table 5.4 and 5.5, respectively.

Table 5.3 Format for Cotton Crop Production Record

Variety_____Area_____

Item	Quantity/Number	Date	Remark/Name
A. Land Preparation			
1. Irrigation			
(Katchi Rawane)			
Kanal			
Tubewell			
B. Preparatory Tillage			
a) Disk plough			
Chisel			
Rotavator			
Sub-soil			
b) M.B. (Tractor)			
c) M.B. (Bullock)			
d) Cultivator (Tractor)			
e) Cultivator (Bullock)			
f) Planking (Tractor)			
g) Planking (Bullock)			

Item	Quantity/Number	Date	Remark/Name

C. Irrigation

Pacci Rawani
Canal
Tubewell

D. Seedbed Preparation

a) Cultivator (Tractor)
b) Cultivator (Bullock)
c) Leveller (Tractor)
d) Leveller (Bullock)
e. Planking (Tractor)
f. Planking (Bullock)

E. **Farm Yard Manure Applied**

F. **Method of Sowing**

Tractor (Drill)
Bullock (Drill)
Pora
Kera
Broadcast

G. **Time of Sowing**

H. **Seed**

Dense population
Average population
Thin population

I. **Fertilizer Application (Bags) at the time of sowing**

Urea
DAP
SSP
NP
Other (Specify)

Item	Quantity/Number	Date	Remark/Name
Fertilizer Application (Bags) after sowing (Ist dose)			
Urea			
DAP			
SSP			
NP			
Other (Specify)			
Fertilizer Application (Bags) after sowing (2nd dose)			
Urea			
DAP			
SSP			
NP			
Other (Specify)			
Fertilizer Application (Bags) after sowing (3rd dose)			
Urea			
DAP			
SSP			
NP			
Other (Specify)			
J. **Thinning done**			
K. **Irrigation Applied**			
Canal			
Tubewell			
L. **Weed intensity**			
High			
Medium			
Low			
Nil			

Item	Quantity/Number	Date	Remark/Name
M. **Insect Attack**			
High			
Medium			
Low			
Nil			
N. **Pesticide Application**			
Ist Speay			
II Spray			
III Spray			
IV Spray			
V Spray			
VI Spray			
VII Spray			
O. Picking			
P. Yield Per Acre			
Q. Price Per Kg			
R. Income/acre			

5. Format for Livestock Production and Disposal Records

Format for livestock production records is given in Table 5.6, while format for the disposal record is shown in Table 5.7.

Table 5.4: Disposal of Crops

	Area (Acres)	Yield per acre	Total production
Kharif Crops:			
Sugarcane: Main crop			
By-product			
Cotton : Main crop			
By-product			
Maize : Main crop			
By-product			
Rice : Main crop			
By-product			
Kharif fodder			
Others			
Rabi Crops			
Wheat : Main crop			
By-product			
Oilseed : Main crop			
By-product			
Rabi fodder			
Others			

Table 5.5: Production of Crops

Crop	Domestic		Used as seed		Used as feed		Sold		Balance at the end of the year	
	Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value
Kharif Crops:										
Sugarcane: Main crop										
By-product										
Cotton : Main crop										
By-product										
Maize : Main crop										
By-product										
Rice : Main crop										
By-product										
Kharif fodder										
Others										
Rabi Crops										
Wheat : Main crop										
By-product										
Oilseed : Main crop										
By-product										
Rabi fodder										
Others										

Table 5.6 Production of Livestock Products

Product	Quantity (Kg)	Price (Rs)	Value (Rs)
Milk:			
Buffalo			
Cow			
Sheep			
Goat			
Wool:			
Sheep			
Goat			
Eggs			
Others			

Besides livestock production and disposal records, livestock breeding records should also be maintained. These help in conducting appropriate analysis and bringing about needed improvements in a commercial breeding herd. Various types of forms for breeding records can be used. One type suitable for a herd meant for beef is given in Table 5.8.

Table 5.7: Livestock changes and disposal record

Type of Animal	Inventory in the beginning of the year		Purchased during the year		Produced		Sold		Consumed		Died/ Theft		Inventory at the end of the year
	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	
Buffaloes													
Wet													
Dry													
Breeding bull													
Heifers (1-3 years)													
Youngstock													
Cows													
Wet													
Dry													
Breeding bull													
Heifers (1-3 years)													
Youngstock													
Bullocks													
Horses													
Sheep													
Goat													
Camel													
Poultry													

Table 5.8: Format for Beef Breeding and Performance Record.

Cow/Buffalo Number_____ Breed_____

Birth date or when acquired_____

Year	Date breed	Sire	Due date	Calving date	Information about calf			Remarks
					Sex	Birth weight	Wean weight	

6. Farm Machinery Record

Two types of record can be maintained for machinery. The first is a entirely cost related (Table 5.9). It makes specific provision for the calculation of cost of various items of machinery. It also includes information about the costs incurred on items like fuel, oil and lubricant, repairs and maintenance. Entries on this format can be made daily or weekly.

The second type of record deals with the farm machinery use (Table 5.10). This format records information about the use of different machines on various operations related to various crop activities. Information can be recorded on various operations done on different dates.

Table 5.9 Farm Machinery Costs Record

Item_____Year_____Date purchased_____

Date	Hours of use	Fuel		Oil and lubricants		Repair and Maintenance	
		Liters	Cost (Rs)	Qty	Cost (Rs)	Cost (Rs)	Remarks

Table 5.10 Farm Machinery Use Records

Name of farm machinery_____Make_____

Date of purchase_____

Name of crop	Ploughing (Hours)	Planking (Hours)	Transportation of farm yard manure (Hours)	Transport of the main (Hours)	Transport of the by-product (Hours)
Kharif					
Sugarcane					
Cotton					
Maize					
Rice					
Kharif fodder					
Other					
Rabi					
Wheat					
Oilseed					
Rabi fodder					

7. Farm Labour Records

Farm labour records are of two types. The first type records information on a weekly or monthly basis with respect to labour use for various operations including machine operations for each farm enterprise. Formats for labour record for cotton crop and general livestock are given in Table 5.11 and 5.12, respectively. Besides the labour records for each enterprise, aggregate farm records (Table 5.13) should also be kept. This record includes information on labour use not only for various farm enterprises but also information on labour use for other farm related general activities like marketing of farm products, repair and maintenance of machinery, channel cleaning, etc.

8. Fodder Production and Fodder Use Records

Records of fodder production and use are very important for the livestock. These should be maintained on monthly/seasonal basis as these help in identifying periods of fodder shortages etc and also indicate fodder use pattern for livestock at the farm (Table 5.14).

9. Feed Records

Feed records can be maintained for each type of livestock fed on a separate ration (Table 5.15 and 5.16). Such records can be used to determine the feed efficiency and to estimate profitability per animal. These records can be maintained for fodder, concentrates and other miscellaneous feed items on daily basis for each animal as well as for the herd as a whole (Table 5.17 and 5.18). Aggregate feed consumption records can also be

Table 5.11: Labour Record of Cotton Crop

Ploughing and Seedbed Preparation			Sowing			Fertiliser application		Irrigation		Thinning		Inter-culture		Pesticide application		Picking		Harvesting	
Date	Hours		Date	Hour		Date	Hour	Date	Hour	Date	Hour	Date	Hour	Date	Hour	Date	Hour	Date	Hour
	Han	Tractor		Han	Tractor														

Table 5.12: Labour Record of Livestock

Activity	Kharif season		Rabi Season		Total	
	Hour	Value	Hour	Valur	Hour	Value
Fodder cutting						
Transport						
Chaffing						
Feeding						
Concentrate Serving						
Watering						
Bathing						
Dung removing						
Milking						
Medical Service						
Bed Spreading						
Grass cutting						
Grazing						
Exercising						
Others						
Total						

Table 5.13: Aggregate Farm Labour Record (Hours)

Activity	Crop											Other	Total
	Sugarcane	Cotton	Maize	Rice	Kharif fodder	Wheat	Rabi fodder	Oil seed	Others	Sub Total	Live-stock		
Ploughing Tractor(T) Bullock(B)													
Planking T B													
Fertilizer													
Thinning													
Irrigation													
Pesticides													
Harvesting/Picking													
Farm Yard Manure													
Transportation													
Fodder/grass cutting													
Chaffing													
Feeding													
Watering/Bathing													
Milking													
Others													

Table 5.14: Fodder Production and Use Record

Name of fodder	Area	Quantity produced	Fodder requirement				Surplus/ deficit
			Milch	Draught	Other	Total	
Green fodder							
Sorghum							
Maize							
Guara							
Berseem							
Lucern							
Wheat Bhoosa							
Others							

Table 5.15: Feed Reeord of Buffaloes

Buffalo No

Date	Consumption (Kg)											
	Bhusa	Green fodder						Concentrate				
		Sorghum	Maize	Berseem	Lucern	Guara	Others	Cotton seed cake	Cotton seed	Oil seed cake	Wheat	Others
Total												

Table 5.16: Miscellaneous items fed to Buffaloes

Buffalo No._____

Date	Gur	Salt	Ghee	Medicines
Total				

Table 5.17: Fodder and concentrate consumption for a particular month/season/year.

Date	Consumption (Kg)											
	Bhusa	Green fodder						Concentrate				
		Sorghum	Maize	Berseem	Lucern	Guara	Others	Cotton seed cake	Cotton seed	Oil seed cake	Wheat	Others
Buffalo												
Wet												
Dry												
Heifer												
Young stock												
Breeding Bull												
Cows												
Wet												
Dry												
Heifer												
Young stock												
Breeding bull												
Draught animals												
Camels												
onkey												
orse												
eep												
at												
thers												
otal												

Table 5.18: Miscellaneous items fed to Animals

Date	Gur	Salt	Ghee	Medicines
Buffaloes:				
Wet				
Dry				
Heifers				
Young stock				
Breeding Bull				
Cows:				
Wet				
Dry				
Heifers				
Young stock				
Breeding Bull				
Draught Animals				
Camal				
Horse				
Donkey				
Sheep				
Goat				
Others				
Total				

Table 5.19: Calving Interval and Calving Dates Record

Animal type	Animal Number	Breeding date	Bull used	Due date	Calving date	Sex of calf	Birth weight

maintained on monthly basis to determine the total requirement of various feeds.

10. Farm Records for Calving Interval and Calving Dates

Calving interval records are useful to evaluate the performance of individual animal. Information pertaining to mating date, bull used, date of calving etc. is recorded (Table 5.19).

11. Water Use Records

These records are used to see the spread and number of irrigations applied to different crops. Source of water (i.e. canal or tubewell) is also indicated along with the quality of water (Table 5.20).

12. Milk Production and Marketing Records

Such records are useful to determine the quantity of milk produced in different months of the year. Besides that, the quantity marketed is also recorded along with the price received (Table 5.21).

B. FINANCIAL RECORD

These records are concerned with the financial aspects of the operation of a farm business. These records include: 1) Farm Inventory; and 2) Farm financial or cash Accounts.

Table 5.20: Water Use Record

Crop	Quantity of Tubewell Water	Jan.		Feb.		Mar.		Apr.		May		Jun		July		Aug.		Sep.		Oct.		Nov.		Dec.	
		C	T	C	T	C	T	C	T	C	T	C	T	C	T	C	T	C	T	C	T	C	T	C	T

C = Canal
T = Tubewell

Table 5.21: Milk Production of Marketing Record

	Jan	Feb	Mar	April	May	June	July	Aug	Sep	Oct	Nov	Dec
Buffalo												
1.												
2.												
3.												
Cows												
1.												
2.												
3.												
Total												
Quantity consumedby the farm household(litres)												
Quantity sold (litres)												
Price/litre												
Total income												