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Accounting for Agriculture

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***Abstract*- In India agriculture is operated and maintained by family of farmers. The proper financial accounting is not maintained in agriculture. Attention should be given on proper accounting in agriculture. The incomplete records are maintained on cash basis. Proper maintenance of accounts is useful for owners, government and research agencies. Government decided subsidy for fertilizers, manures and for other activities based on proper maintenance of records. The inputs record kept by the farmer discloses him to what extend and in what proportions he is using land, labour and capital. The accounts should be classified to ascertain cost of each crop, to compare various crops productivity, profitability and measure the effectiveness of allied activities. The problems of agricultural accounting are the difficulty of allocating various costs among various crops and other allied activities such as live stock poultry etc. Lack of proper farm management and accounting system are the main reason for low productivity.**

***Keywords*- Farm-family, Productivity, Accounting tools, Subsidy and Live stock**

I. INTRODUCTION

Though India's economy has been re-cording rapid industrial progress yet it still is based principally on agriculture and more than 75 per cent people of the country are directly or indirectly engaged in this profession. There are more than 700,000 villages in the country which are engaged in by agriculture base activities. Major share of the national income of the country is contributed by agriculture. In spite of all these, productivity in the agricultural sector has not been increase as growth witnessed in other sector of economy. Many factors are responsible for the low productivity of agriculture but one point that can mainly be attributed to it is the "farm management" which has received far less attention than the industrial and business management. In spite of the fact that agriculture plays the most significant role in our economy, no comprehensive, detailed and systematic accounting methods, and costing system and management techniques has been developed for this industry. However, IAS-41 was set out for the accounting for agricultural activity, the transformation of biological assets (living plants and animals) into agricultural produce (harvested product of the entity's biological assets) [1]. The standard generally requires biological assets to be measured at fair value less costs to sell. IAS 41 was originally issued in December 2000 and first applied to annual periods beginning on or after 1 January 2003.

II. AID TO PRODUCTIVITY

As in the case of industrial and commercial concerns, management techniques and accounting (financial, cost and management accounting) can help to reduce cost and increase productivity in the field of agriculture also. In fact, for accounting purposes agricultural sector should have been paid greater attention than the industrial sector not only because agriculture plays a bigger role in the economy but it also supplies raw material for the industries. The rise in investment and with the greater use of modern machines and equipment in agriculture, the role of accounting and management techniques has increased a great deal.

In India, the characteristic of agricultural units can be said to be typically as a family type farm. Unlike the USA and other Western countries these family-type farms are not operated and managed in a business-like manner and therefore, proper accounting for agriculture has received scant attention. Either farmers (especially small ones) do not maintain accounts or, if some keep, the basis of their accounting records is "Cash" and they fulfill their needs by adopting single-entry book-keeping system. Since accounts are maintained on "cash basis", inventories and other items are not taken into consideration; true picture of operating results is, therefore, not reflected by the accounting.

III. MAINTENANCE OF RECORD

The records maintained by the farmers should be so designed as to show the cost of production of each unit separately and also the cost of the finished products.

The farm accounting system should be divided into sections based on production units, such as various crops, live-stock and other expense categories based on location.

Since most farms are still basically family-owned, with book-keeping done by a member of the family, the specific records should normally be those which will provide, with a minimum effort, all the information the farmer must have.

Like accounting for industrial and commercial concerns, the main object of farm accounts is to ascertain operating results of the agriculture. In addition to this prime object, other specific objectives of farm accounts are:

a) To satisfy outsiders; i.e. various governmental agencies and lending agencies such as banks, mortgage grantors or landlords, etc.
b) To provide information on the strengths and weaknesses of individual production units. These data help to determine which of the operations should be emphasized in order to produce the optimum income from the capital invested.
c) Record - keeping must also provide information for proper division of income and expense between the landlord and the tenant. The family nature of many farms makes it essential that a business like record be kept so that equitable distribution of income and expense can be made. Such a record should establish sound basis for distribution of property in the event of death or any other reason which causes redistribution of the assets among the various members of the family.
d) Increasing emphasis in recent years has been placed upon the marginal usage of records. Farm organizations as well as agricultural universities have compiled information collected from a sampling of farmers in order to better advise them in the management of their operations.

IV. USEFUL GUIDELINES

Farms accounts are of much use to the farmers in making their farms more productive and profitable. Accounts, if maintained properly, may provide the farmers with useful guidelines for making revising and modifying their plans and thus improving their financial and operating affairs. Farm accounts may provide the following useful information [2]:

- The amount of money invested in land, soil improvements, building, feed, live-stock and machinery;
- Annual inputs into the farm business classified as land, labour and capital;
- The returns from each productive unit ;
- The amount of labour furnished by the farm-family and the amount and cost of hired labour.
- Yield per acre for the various crops ;
- Measures of efficiency for each live stock enterprise such as :
  (1) Production per cow;
  (2) Eggs per hen;
  (3) Returns per cow or per litre;
  (4) Returns per hen, etc;
- Total returns, total inputs, and net returns for the farm as a unit.

The farmer who keeps a record over a period of years not only can determine results for any one year but also can compare results with those of the previous years. The inputs record kept by the farmer tells him to what extent and in what proportions he is using land, labour and capital. Furthermore, the records will indicate the annual amounts of capital used for soil improvements, farm buildings; fences, machinery and power. The farmer can also estimate the value of his management (on the basis of what it would cost if hired) and thus have a complete listing of the inputs for all factors of production. The crop yields for any year may be compared with those for the previous years or with the statistics for the country.

V. SOURCE OF INFORMATION

Farm records are a valuable source of information for measuring and operational financial efficiency not only in respect of an individual but are also of great value, if summarized and comparable records for a particular area are made available. Following benefits may be derived from the analysis of groups of farm records:

(1) The organization of the individual farm may be compared with the organization of other farms in the area of the community;

(2) The efficiency of each productive enterprise and each major item of input may be compared with returns and inputs of similar farms;

(3) The earnings of the farm as a unit may be compared with the earnings of farms similar in size and system of farming;

(4) The earnings from the various systems of farming may also be compared.

Accounting for farms may be classified into the following groups:

- Records dealing with the way in which time is used, not only in respect of the workers but also for tractors, and other farm machines and equipments, etc;
- Records dealing with the use of raw materials, foodstuff, manure, fuel, lubricating oil, seed etc;
- Records dealing with livestock feeding breeding, milk, eggs, etc; and
- Records dealing with crops-acreages, kinds, yields etc.

It should be noted that the number and kind of records which are likely to be of use vary a great deal according to the size of the farm and the farming method.

VI. PROPER CLASSIFICATION

In order to ascertain the cost of each crop separately, to compare various crops and to measure the effectiveness of allied activities, it is necessary to classify various accounts properly and maintain a complete set of books of accounts. Sales and receipts and other expenses must be classified according to activities and departments. For this purpose, accounts may be classified into following main headings:

- Crop- for each crop separate accounts should be kept.
- Livestock- For each group of livestock (like cows, buffaloes, sheep, dairy cattle etc.) separate recording should be made.
- Poultry - A separate recording should be made to ascertain profitability of this activity. For this purpose various poultry. For this purpose various poultry items such as chickens, hens, roosters, turkeys, etc. should be recorded in different accounts.
- Products - Various agricultural and allied products should be recorded in separate accounts. For this purpose accounts of milk, cream eggs, wool, other dairy and live-stock products, etc. should be opened.
- Crops-related items - In this group, accounts related to crops such as chemical fertilizers, marketing, seeds etc. may be included which, taken together, form major portion of the cost of production.
- Livestock Related Items - Important items relating to live stock such as breeding fees, marketing, veterinary expenses and medicine should be recorded in distinct accounts.
- Property Items - Accounts relating to land, building, machinery and equipments (such as tractors, feed, grinder, small tools etc.) should be maintained properly.

- General Items - General items may include rent, electricity, fuel, oil and grease for operating the machines and equipments, labour cost, repairs taxes and other governmental payments, etc.
- The assets of a farm may be classified as permanent of fixed assets, and
- Production inventories.

In the first category would be placed such items as building, equipments, and breeding livestock. The second would contain inventories of products, held on hand, which will be sold within a short period of time. These would include various crops as well as livestock. In case of livestock held for long terms, such as breeding stock or milk cows, a much more detailed record should be kept. For example, for each individual cow producing milk, litres of milk per month, the cow's weight, initial cost, feed cost, veterinarian expenses, etc. should be clearly recorded and shown in the books of accounts [3].

VII. DEPRECIABLE ASSETS

It is necessary to record certain details of depreciable assets. This category would include, but not limited to: buildings, tractors and other equipments, breeding livestock; etc. For each asset purchased, the following information should be recorded:

- Original cost
- Additions
- Depreciation provided
- Selling price (if sold)
- Gain or loss on sale
- Date of sale
- Method of depreciation
- Estimated economic life of assets
- Purchased from
- Sold to
- Replacement cost.

The details regarding assets would not only help ascertain true profit or loss but also show the time, when assets are to be replaced and funds required for replacing it.

Frequently there are arrangements with tenants or hired labour which necessitate the part of their payment to be made in the form of food, lodging etc. Special accounts must be kept for this purpose.

One of the accounting problems in agriculture is the difficulty of allocating costs among various crops or other production. In order to analysis effectively the efficiency of the various production units, it is necessary for the framer to allocate these costs in different units. For example, various fertilizers applied to one field have residual benefits for crops over a period of time. In addition, a by-product of one crop may be of benefit to another crop or production unit. An instance of the little benefit is the common practice of grazing a cornfield after the crop has been harvested. Fallen corn or ears left on the stalks provide food for beef cattle or other livestock. It is difficult to allocate the cost of this feed, either to the livestock or as a reduction of the cost of the corn crop by this amount. In order to resolve this problem, it is suggested that the value of corn left in the field should be estimated by marking a section of the field and counting the unpicked or fallen ears. Using this as a basis, the rupee value of the entire field could be estimated and shown as an increase in income for the grain enterprise and as an expense for the cattle enterprise.

VIII. MEASURING EFFICIENCY

The value of financial record as a tool to determine and analyses the efficiency of the organization and operation of a farm depends primarily upon the degree to which various measures evaluate the efficiency of each enterprise of the farm and of the farm as a unit [4]. The following is an outline of the selected measures that can be calculated from a complete farm record to evaluate the efficiency of each enterprise of the farm and of the farm as a unit. The following outlines of the selected measures that can be calculated from a complete farm record to evaluate the efficiency of the farm, to describe the organization of the farm, and to measure the level of farm inputs and the efficiency of the productive enterprises are:

a. Measures of farm Earnings and Overall Farm Efficiency : 1. Total farm returns; 2. Returns of total capital invested; 3. Net earnings per acre; 3. Net earnings per acre; 4. Gross earnings ratio-returns per Rs. 100 of inputs; and 5. Net earnings ratio-net earnings per Rs.100 of inputs.
b. Organizational Efficiency: 1. Percentage of land in different crops; 2. Percentage of returns from different crops; 3. Percentage of returns from livestock enterprises; 4. Feed fed per acre; and 5. Animal units per acre.
c. Investments and Inputs: 1. Total Non-feed inputs; 2. Total farm inputs; 3. Investment in land and capital; 4. Acres in the farm and quality of soil; 5. Acres in crops; 6. Number of hired labour; 7. Investment in live-stock; and 8. Investment in plant and equipments.
d. Efficiency of crop Production: 1. Percentage of tillable land in different crops; 2. Per acre yield of different crops; 3. Crops yield index; 4. Value of crops produced per acre; and 5. Fertilized cost per tillable acre.
e. Efficiency of Livestock Production: 1. Amount of feed per units of Production; 2. Feed cost per unit produced; 3. Returns per Rs 100 Feed; and 4. Returns above feed cost per head or unit of production.
f. Labour Efficiency: 1. Labour cost per acre or crop acre; and 2. Labour cost index.
g. Power and machinery Efficiency: 1. Power and machinery cost per crop acre; and 2. Power and machinery cost index.
h. Efficiency in Buying and Selling: 1. Prices received for important products; 2. Prices paid for major purchases; 3. Price index: and 4. Expense per acre.

Owing to the relatively long production schedule in farming operations, reporting for management purposes, should be as frequent as they are in other forms of business. It is specially required in case of mechanized farming involving huge investment. The reports generally prepared only at the end of the crop year. For more efficient management, there should be frequent reports to management showing incomes and expenses and other financial and operative information. Such reports would benefit the farmer and enable him to strive for better results then only an annual report. These reports would also provide cost of production of a particular crop for enabling the farmer to take a decision for future.

Conclusively, it can be said that it has now become imperative for all the agricultural units to adopt accounting tools, methods and techniques. With the increased use of better seeds, fertilizers and other inputs and improvement in the institutional factors, agriculture in India can be modernized by developing proper accounting system covering financial, costing and management aspects of the farms.

IX. REFERENCES

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