CHAPTER SIX

Farm Resources Management

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6.1 Management of Land on Farm

Efficient use of land

- ✓ The efficient use of land can be measured in terms of attempts to **maximize returns per unit of land**.
- ✓ In fact, management of land basically relates to **management of soil fertility.**
- ✓ Thus, ***management of soil is an integral part of land management***.
- ✓ The central idea of soil management is maintaining desirable physical conditions and proper water-air relationship in soil through proper tillage practices and related activities.
- ✓ The soil maintenance programme would include the *building up of the soil fertility* to **the level of optimum yields.**
- ✓ This can be done by replacing plant food removed by crops, leaching and erosion.
- ✓ The problem of land management on the farm arises **due to its misuse.**

- The following factors have been found mostly responsible for the misuse of land:
  - ✓ *Lack of proper action by farmers to check the silent loss of top soil*
  - ✓ *Due to continuous cropping, soils are exhausted and relined without replenishment of plant nutrients*
  - ✓ *Poor soil conservation- as result much of it erodes and blows away*
- For managing land on a farm the following aspects must be considered:

1. **Soil fertility balance sheet**: it shows the removal of major plant nutrients from soil by crops on one side *and replenishment of those nutrients to the soil through crops residues, animals' manures, legumes and chemical fertilizers on the other side.*

2. Capacity and efficiency of land

- Capacity of a piece of land refers to its physical power to absorb lager amount of variable inputs to reach maximum output level where marginal product become zero.
- For example, a hectare of soil deficient in plant nutrients with poor cultural practices, would absorb more quantities of variable resources than a fertile land of the same area to reach its maximum capacity of production.

3. Conservation and reclamation of soil

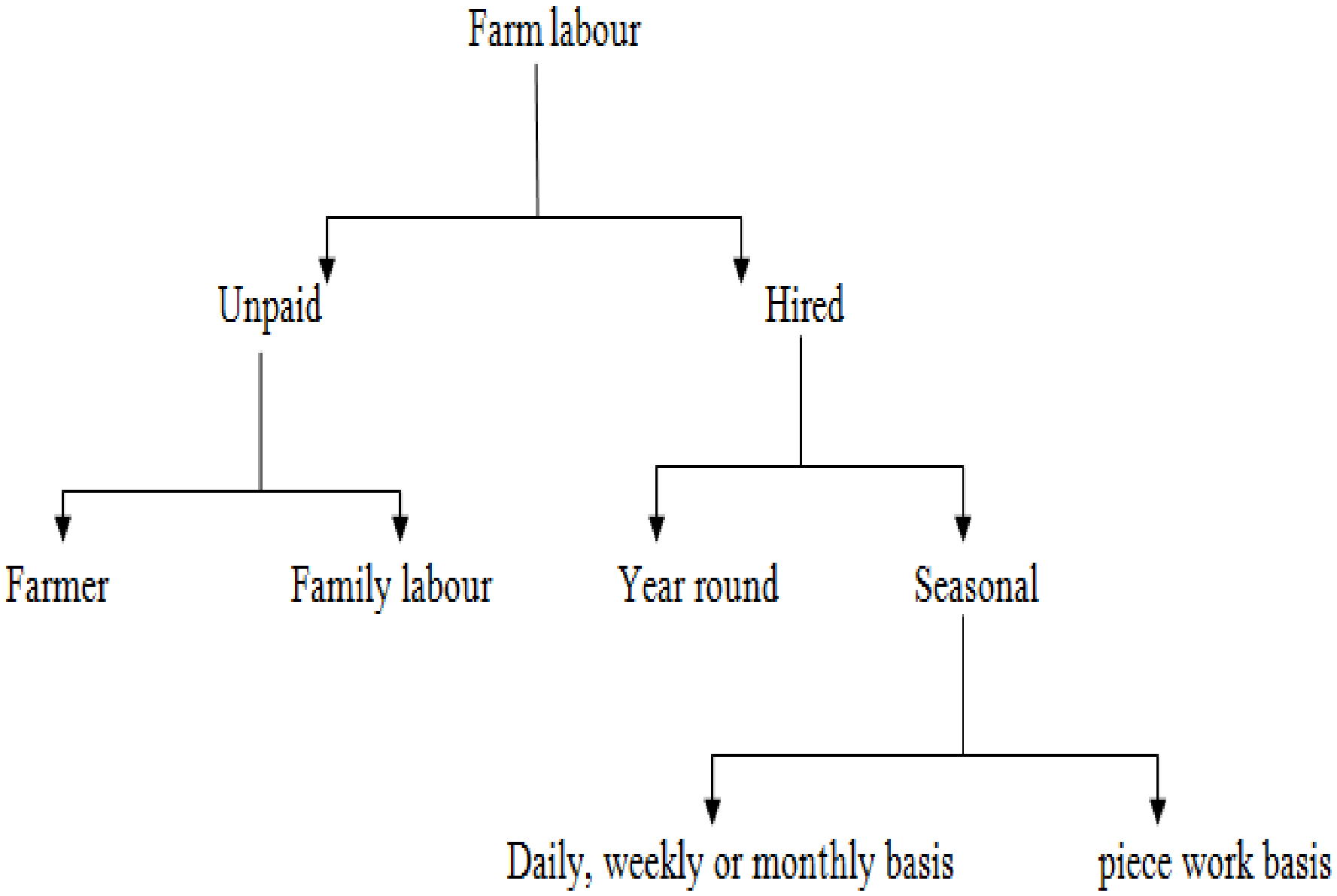
- Soil conservation is basic to maintaining and increasing soil fertility and means to increasing farm productivity and profits.
- The soil conservation plan includes the followings practices:
  - Better tillage operations
  - Application of organic manures
  - Removing soil toxicity
  - Prevention of soil erosion & Adopting good crop rotation

4. **Preparation of proper farm layout**
5. **Adoption of suitable cropping scheme and crop rotation**

6.2. Management of Labor on Farm

- ✓ A labour receiving 50% or more of his total earnings from agricultural operations during the year is called an **agricultural labour.**

- Classification of farm labor



Methods of estimating labor needs on farm

- The estimation of labour needed for the farm as a whole may be made by adding the labour needed by various farm enterprises to be taken during the year- **Activities**

- For estimating approximate number of labour requirements of crops and livestock enterprises in various seasons on the farm, labour calendar needs to be prepared- **Time period**

- Labour requirements of crops per hectare and livestock per unit maintained on the **farm during peak periods have** to be calculated and plans have to be made for meeting the needs through adjustment.

Management of labour needs during peak periods of agricultural operations

- The labour requirements during peak periods can be handled in the following ways:

1. **Adjustment in cropping pattern**. The crops and their varieties can be combined in such a way that incidence of labour peak could be reduced.

- For example, early, mid season and late maturing varieties can be grown to spread harvesting seasons.

2. **Increasing the working time**. It is a common feature to work for more hours during the peak seasons and to postpone leisure to the lean seasons.

- This is the easiest and most common method to handle the labour peak and is more applicable for family and permanently contracted labour.

3. **Extending the time period of operations**. Some operations can be extended over a long time period, though it may result in reduction of yields.

- A delayed sowing will reduce yields, if farmer is not able to sow his all acreage timely.
- In such situation, farmer may opt to late sowing as alternative to no sowing of the crop.

4. Omitting certain operations/ decreasing the intensity of some operations.

- Some operations such as tillage, hoeing etc can be decreased to some extent without appreciable loss in yields.
- For example, 3-4 ploughings may be given instead of 5-6 as recommended for crops to be sown during peak periods.

5. Mechanization of peak period operations.

- This is the most important for breaking the labor peaks.
- The cost benefit analysis for mechanizing such operations as sowing, harvesting, threshing etc to break the labor peak is highly important.
- Even small farmers have been found to use machines on custom hiring to manage peak period operation.

6. Other methods.

- These consists of ***contracting for certain peak period operations*** i.e. more use of casual labour, incentive payments to permanent labour for working more hours.
- Also family labour reserve can be used at certain peak times.

Factors affecting efficiency of labor on farm

- *Physical condition of the labor*
- *Kinds of tools and implements he/she uses*
- *Weather conditions under which laborer works*
- *Interest taken by laborer in the assigned work*
- *Amount of capital combined with a given amount of labor*
- *Layout of farms and farm building*
- *Other incentives and perquisites, in addition to wages paid to laborers from time to time.*

Methods of increasing labor efficiency on farm

- *Use of improved implements and machines along with other modern agricultural inputs*
- *Proper management and supervision*
- *Planning work load and field operations*
- *Making daily work plan flexible*
- *Giving incentives for good work*
- *Training of laborers in specialized jobs*
- *Treating laborers with respect and courtesy*

5.3. Management of Capital on Farm

- The management of capital resource along with other farm resources is *important from many angles*.
- It can be *used to increase the productivity and use of other resources such as land and labour*.
- If capital in the form of irrigation water with other improved agricultural inputs is made available to farms in an arid region, there would be significant increase in productivity and farm income.
- Similarly capital invested in soil conservation and land reclamation results in higher returns per Birr of investment
- Animal feeder and milking machineries

- **Classification of capital on farm**

It can be classified in to:

i) fixed capital and

ii) working capital

Fixed capital: it consists of investment in ***land improvements, buildings, roads, fences, drains, ditches, water channels, irrigation structures, machinery and major equipments and implements, livestock (both draft and milk animals) etc***. these capital items last a relatively long time.

- ✓ They gradually lose their services through wear and tear till they economically become unfit for use.

Working capital: it includes such items of capital as ***seed, feed, fuel, fertilizers, pesticides, herbicides, custom charges paid for hiring machinery, irrigation water, etc.***

- ✓ They comprise variable costs on the farm.
- ✓ These working capital items are used all at once in one production cycle.

Estimation of capital requirements on farm

- The estimate of short term capital requirements in both physical and monetary value for implementing a particular plan can be made by using ***enterprise budgeting***.

Factors affecting capital requirement of a farm

- Capital requirement varies with the ***types of farm business.***
- For instance a farmer starting an orchard will face a situation different from a farmer who grows up vegetable farming.
- Orchard business is of slow capital turnover in comparison to vegetable farming; hence their capital needs are different.
- Similar to livestock and small ruminates houses

- The capital requirement of a farm is affected by the following factors:
  - ***Price of land***
  - ***The number, quality and variety of farm equipment, buildings, livestock, fences, machinery, implements, etc.***
  - ***Size of operating expenses***
  - ***Personal factors such as family size and living standards***
  - ***Climatic factors in relation to types of farming***

Sources of acquiring capital by farmers

  - ***By saving***
  - ***By borrowing***
  - ***By inheritance or gift***
  - ***By marriage***

- Capital acquired by inheritance and marriage does not provide experience for farm management.