

## INTEGRATED FARMING SYSTEM: A SOLUTION FOR SUSTAINABILITY

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At present, the farmers focus mainly on crop production which is subjected to a high degree of uncertainty in income and employment to the farmers. In this context, it is necessary to develop appropriate tactic for augmenting the income of a farm.

Integrated farming is a frequently and mostly used word to explain a more integrated approach to farming as compared to on hand monoculture approaches. It refers to agricultural systems that integrate crop production and livestock. Integrated farming system has revolutionized conventional farming of livestock, aquaculture, horticulture, agro-industry and allied activities. It could be crop-fish integration, livestock-fish integration, crop-fish-livestock integration or combinations of crop, livestock, fish and other enterprises.

The integrated farming system come up to introduces a change in the farming techniques for maximum production in the cropping pattern and takes care of optimal utilization of resources. The farm wastes are better recycled for productive purposes in the integrated system. A judicious mix of agricultural enterprises like dairy, poultry, piggery, fishery, sericulture etc. suited to the given agro-climatic conditions and socio-economic status of the farmers would bring prosperity in the farming. An integrated farming system allows us to use some of the advantages of nature, and ecology, as opposed to relying on chemistry to solve all our production issues.

### Components of Integrated Farming System

Crops, livestock, birds and trees are the major components of any Integrated Farming System.

1. **Crops:** It may have subsystem like monocrop, mixed/intercrop, multi-tier crops of cereals, legumes (pulses), oilseeds, forage etc.
2. **Livestock:** These components may be milch cow, goat, sheep, poultry and bees.
3. **Trees:** These components may include timber, fuel, fodder and fruit trees.



### **Basic Features of the Ideal Integrated Farming System**

1. There are simultaneous cultivation of diverse crops and rising of animals in a given piece of land within a period.
2. In this system, some minor components are integrated to major components to save labor and use excess nutrients.
3. The Integrated Farming System is designed to use energy and nutrients in the most efficient manner.
4. Animals are designed into the system to utilize their wastes and by-products man cannot use.
5. The system exhibits redundancy. Each function meets more than one need and each need is met more than one function.
6. Integrated farming system starts simply but through careful observation and analysis of areas resources evolves into a more complex, stable system because the waste of one component are utilize for another components.
7. The caretaker's house is constructed near the component that requires the highest level of management.
8. Integrated Farming System assures a more even use of labor throughout the year since several farm activities are being undertaken.
9. In the system, diversification of production can be done through growing high-valued, off-season crops, crop rotation, and increased fodder production for livestock.
10. Integrated Farming System adopts the bio-intensive gardening approach.

### **Advantages of Integrated Farming System**

**1) Productivity:** Integrated Farming System provides an opportunity to increase economic yield per unit area per unit time by virtue of intensification of crop and allied enterprises. In an integrated system, livestock and crops are produced within a coordinated framework. The waste products of one component serve as a resource for the other. For example, manure is used to enhance crop production; crop residues and by-products feed the animals, supplementing often inadequate feed supplies, thus contributing to improved animal nutrition and productivity

**2) Profitability:** Use waste material of one component at the least cost. Thus reduction of cost of production and form the linkage of utilization of waste material, elimination of middleman interference in most input used. Working out net profit B/ C ratio is increased.

**3) Potentiality or Sustainability:** Organic supplementation through effective utilization of byproducts of linked component is done thus providing an opportunity to sustain the potentiality of production base for much longer periods.

**4) Balanced Food:** Integration of allied activities will result in the availability of nutritious food enriched with protein, carbohydrate, fat, minerals and vitamins. We link components of varied nature enabling to produce different sources of nutrition.

**5) Environmental Safety:** In IFS waste materials are effectively recycled by linking appropriate components, thus minimize environment pollution.

**6) Recycling:** Integrated farming will help in environmental protection through effective recycling of waste from animal activities like piggery, poultry and pigeon rearing.

**7) Income Rounds the year:** Due to interaction of enterprises with crops, eggs, milk, mushroom, honey, cocoons silkworm provides flow of money to the farmer round the year.

**8) Adoption of New Technology:** Resources farmer (big farmer) fully utilizes technology. Farmer's linkage to dairy / mushroom / sericulture / vegetable through Integrated Farming System. Money flow round the year gives an inducement to the small/ marginal farmers to go for the adoption technologies.

**9) Saving Energy:** To identify an alternative source to reduce our dependence on fossil energy source within short time. Effective recycling technique the organic wastes available in the system can be utilized to generate biogas. Energy crisis can be postponed to the later period. Animals transform plant energy into useful work: animal power is used for ploughing, transport and in activities such as milling, logging, road construction, marketing, and water lifting for irrigation.

**10) Meeting Fodder crisis:** Every piece of land area is effectively utilized. Plantation of perennial legume fodder trees on field borders and also fixing the atmospheric nitrogen. These practices will greatly relieve the problem of non – availability of quality fodder to the animal component linked.

**11) Solving Fuel and Timber Crisis:** Linking agro- forestry suitably the production level of fuel and industrial wood can be improved without determining effect on crop. This will also greatly reduce deforestation, preserving our natural ecosystem.

**12) Employment Generation:** Combing crop with livestock enterprises would increase the labour requirement significantly and would help in reducing the problems of under employment to a great extent IFS provide enough scope to employ family labour round the year.

**13) Agro – industries:** When one of produce linked in Integrated Farming System are increased to commercial level there is over significance acceptance leading to development of allied agro – industries.

**14) Increasing Input Efficiency:** Animals play key and multiple roles in the functioning of the farm, because they provide livestock products (meat, milk, eggs, wool, and hides) or can be converted into prompt cash in times of need. IFS provide good scope to use inputs in different component greater efficiency and benefit cost ratio.

#### **References**

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