

Integrated Farming System

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Currently, farmers focus mostly on agricultural production, which carries a significant amount of risk for their income and job. In this competition, developing an appropriate plan is essential to increasing a farm's revenue. The agricultural economy can greatly benefit from the amalgamation of various agricultural enterprises, such as farming, animal husbandry, fisheries, forestry, etc. These businesses aid in growing the number of family labor jobs while also supplementing the earnings of the farmers. In order to maximize crop production, the integrated farming system method modifies farming practices and ensures that resources are used as efficiently as possible. In the integrated system, farm wastes are more effectively recycled for useful uses. Prosperity in farming would result from a well chosen combination of agricultural businesses, such as dairy, poultry, piggery, fisheries, and sericulture, that are appropriate for the specific agro-climatic conditions and socioeconomic position of the farmers.

IFS aims to

- Identify current farming systems in particular regions and assess their relative viability.
- To create a model of the farming system that includes the primary and allied businesses for various farming scenarios.
- To maintain a profitable production system without endangering the environment or resources;
- To guarantee the best possible use, protection, and recycling of farm leftovers within the system.
- To boost a farm household's total productivity through the implementation of major cooperative enterprises.
- To sustain ecological stability and superior environmental quality.

Components of IFS

Crop component- cereals, pulses, oilseeds etc

Animal component- Cattle, goat, sheep etc.

Homestead farming- Bio-gas, grinding and splitting of pulses etc.

Agriculture, Kitchen garden, Fish farming, Poultry, Horticulture, Fodder production, Duck rearing, Goat rearing, Forestry, Nursery, Pigeon rearing, Sheep rearing, Mushroom cultivation, Seed production, Sericulture, Piggery, Azolla rearing, Vermiculture, Dairy, Bio-gas. Few examples are-

Crop-livestock farming system

Crop-livestock-fish farming system

Crop-livestock-poultry-fish farming system

Crop-poultry-fish-mushroom farming system
Crop-fish-poultry farming system
Crop-livestock-fish-vermicomposting farming system
Crop-livestock-forestry farming system
Agri-silvi-horticulture system

Factors to take into account while choosing an enterprise

Soil and climatic features of an area
Social status of the family and social customs in the locality
Economical condition of farmer
Economics of proposed IFS and credit facilities
Farmer's managerial skills
Household demand
Institutional infrastructure and technological know how
Market facilities

Goal of IFS

Provide a consistent and stable income, improve the productivity of the system, rejuvenate or enhance it, and achieve agro-ecological equilibrium by reducing the accumulation of pests and diseases, managing the cropping system naturally, and using fewer chemicals (pesticides and inorganic fertilizers).

Main objectives of IFS

1. Reusing agricultural and animal wastes effectively
2. Reducing the amount of nutrients lost
3. Optimizing the use of nutrients
4. Implementing crop rotation and efficient farming techniques
5. Complementary mix of agricultural businesses.

Fundamentals of IFS

- The farming system is essentially cyclical (livestock, crops, and organic resources). Decisions made by management on one component may therefore have an impact on the others.
- One key to escaping poverty is to make better use of crop wastes. Sustainable production for farm families with limited resources is achieved through proper handling of agricultural leftovers and efficient use of limited resources.
- By balancing economic and ecological sustainability, the integrated livestock-farming system both protects and enhances agricultural productivity and lessens adverse environmental effects.

Advantages of IFS

- Increased food production to meet the needs of our country's rapidly growing population

- Increased farm revenue via appropriate recycling of leftovers and related materials
- Reusing organic waste promotes productivity and soil fertility over time.
- When related activities are integrated, nutrient-dense food that is enhanced with protein, carbohydrates, fat, minerals, and vitamins will become available.
- Because integrated farming effectively recycles waste from animal operations such as raising chickens, pigeons, and pigs, it will contribute to environmental conservation.
- Decreased component production costs by reusing inputs made from affiliated businesses' leftovers
- Consistently high revenue from integrated farming's related goods, such as eggs, milk, mushrooms, vegetables, honey, and silkworm cocoons
- The predicted energy issue will be resolved by integrating biogas and agroforestry into an integrated farming system.
- The production of fodder crops such as border crops and intercropping will ensure that animal components such milch cows, goats, sheep, pigs, and rabbits have access to enough nutrient-rich fodder.
- The agroforestry system might provide construction and firewood needs without negatively impacting the natural forest.
- Agroforestry to prevent soil erosion and integrated farming to properly cultivate every part of the land
- Creation of stable jobs for those from small and marginal farmers' families.

Drawbacks of IFS

Crop wastes often have low digestibility and protein contents when it comes to nutrition. Although it is technically conceivable, poor small farmers cannot afford the technology and chemicals needed to improve the absorption and digestibility of crop residues through physical and chemical treatments because they are expensive or difficult to get. Investing resources is necessary to increase agricultural residue uptake and digestibility. Manure usage in mixed farms is typically higher than that of crop farms. The utilization of manure is significantly impacted by the transportation of manure. Losses of nutrients can result from intensive recycling. Farmers prefer to use chemical fertilizer because it acts faster and is easier to use, but if manure nutrient use efficiencies are not improved or properly applied, the import of nutrients in feeds and fertilizers, as well as the costs and energy needs for production and transportation, and the surpluses lost in the environment, will remain high.

Conclusion

A viable strategy for raising output and profitability through resource efficiency and the recycling of farm byproducts is the integrated farming system. Additionally, it creates year-round work options for farming communities and improves their nutritional and economic security. It also preserves ecological stability and the quality of the environment. Its foundation is the idea that "waste is only a misplaced resource" and "there is no waste," meaning that waste from one system component can be used as an input for another.