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Intregrated Farming System – A Review

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Abstract

In India 82 percent of farmer are small and marginal farmer these farmer play a pivotal role in Indian economy. Mainly these farmer practicing mono crop cultivation. Integrated farming system is an environmentally beneficial strategy in which waste from one sector is used as an input in another, allowing for more effective use of agricultural resources. As a mixed farming system, Integrated Farming System is a system made up of at least two distinct but conceptually is related components of an agriculture and livestock enterprise that are related to each other. Intregated Farming System aids in soil health, weed control, and pest control, improves water efficiency, and keeps water clean quality. The use of toxic chemicals in an integrated farming system is proscribing. Pesticides, weed killers, and chemical fertilizers should all be avoided. Small and marginal farmers' economic conditions improve as a result of the integrated farming system, which enhances their education, health, and social obligations, as well as their overall livelihood security. Chemical use (fertilizers and pesticides) can be minimized using the Intregated farming system technique, resulting in chemical-free, healthy food for society.

Keyword – IFS, productivity, concept, Local feed resources, recycling, women, poverty, and livestock , advantages, disadvantages

Introduction:

Farming systems and thinking about farming change continuously. These processes can be called the evolution of farming systems and system philosophy, if change is called evolution and if thinking about systems is called philosophy. Rapid change took place in the last two decades in both temperate and tropical regions in terms of yield per animal or plot, and in terms of input use.

All over the world the grain yields went up at spectacular rates during the green revolution and individual levels of production in animals followed a similar trend . Ensuring food security for a fast growing global population estimated at 9.1 billion in 2050 and over 10 billion by the end of the twenty first century is a mammoth challenge for the present agricultural production system. Shrinking average farm size in India and financial

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constraints for higher investment in agriculture due to 80% farm families belonging to small and marginal farmer categories further heighten the challenge. For securing food and nutrition security for sizable population, productivity enhancement may provide a vital solution. This involves the adoption of scientific agronomic practices and technologies which promise an augmentation of the productive capacity of traditional agricultural systems. Integrated Farming System (IFS) is defined as a biologically integrated farming system that integrates natural resources and regulation mechanisms into farming activities to achieve maximum replacement of off-farm inputs, secures sustainable production of high quality food and other products through ecologically preferred technologies, sustain farm income, eliminates or reduces sources of present environment pollutions generated by agriculture and sustains the multiple functions of agriculture. Integration of two or more appropriate combinations of enterprises like crop, dairy, piggery, fishery, poultry, beekeeping, etc., for each farm according to the availability of resources to sustain and satisfy the necessities of the farmer. An integrated farming system (IFS) approach is not only a reliable way of obtaining fairly high productivity with a substantial fertilizer economy but also a concept of ecological soundness, leading to sustainable agriculture (Swaminathan, 1987).

During the twentieth century, agronomic practices such as the authorized use of inorganic fertilizers and pesticides increased productivity. Environmental degradation that is significant but unfavourable agriculture's operational costs have soared as a result raised doubts about the feasibility and long-term viability of the project (FAO, 2010; IAASTD, 2009) [106, 107]. Animals were once used as a source of food utilized to give direct meals or other services such as horses provide either power (draught animals) or transportation (horses) farming systems that are integrated animals were also involved engaged in an indirect capacity to perform

Weed and pest control services.Animals could also provide resources like dung or leather, which could be sold directly or transformed into a value-added product, bringing money back into the business (Devendra and Thomas 2002)[105]. Unsustainable farming pollutes the environment, endangering the livelihoods of millions of small-scale farmers and their families. Increasing agricultural production systems for improved sustainability and economic returns is a vital strategy for developing countries to increase income, food, and nutrition security (Ravallion, 2007) [5].

IFS is a whole-farm integrative method that is successful in solving difficulties for small and marginal farmers. The goal of IFS is to increase small-scale farm employment and revenue by integrating multiple farm enterprises and recycling crop leftovers and byproducts on the farm. Farmers must have a steady source of income in order to live comfortably above the poverty level. To meet the challenges given by the current economic, political, and technical environment, progress in production or sustained growth in output is required.

- Amelioration of system productivity and achieve agro-ecological equibrium.
- Avoid build-up of insect- pest, diseases and weed population through natural cropping system management and keep them at low level of intensity.
- Reducing the use of chemicals (fertilizers and pesticides) to provide chemical free healthy produce and environment to the society.

Components of Intregated farming system (IFS)

- Agriculture

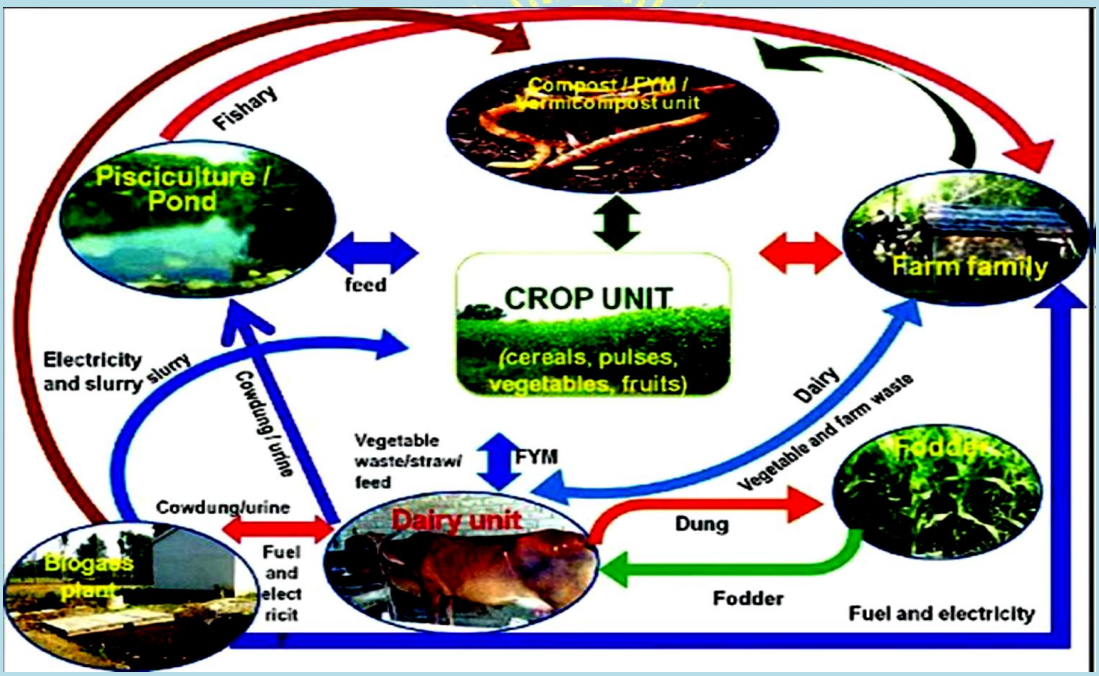

Fig. 1: Intregated farming system

Goals of Intregated Farming System

The four primary goals of IFS are –

- Maximization of yield of all component enterprises to provide steady and stable income.
- Horticulture
- Forestry
- Dairy
- Poultry
- Fish farming

- Sheep rearing
- Goat rearing
- Vermiculture
- Sericulture
- Mushroom cultivation
- Fodder production
- Kichen gardening

Advantages and disadvantages of IFS

Advantages of Integrated Farming System

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 ratiois increased.

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

Balanced Food: We link components of varied nature enabling to produce different sources of nutrition.

Environmental Safety: In IFFS waste materials are effectively recycled by linking appropriate components, thus minimize environment pollution.

Recycling: Effective recycling of waste material in IFFS.

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.

Disadvantages of Integrated Farming System

- Farmers have to rely on costly modern technologies in some farming activities. For instance, biogas production and snail farming require one to invest in new knowledge, resources, and machinery.
- Not all plants, animals, or poultry can be mixed. For instance, you cannot grow certain plants to use as feed for specific animals, poultry, or fish because they are harmful.
- Combining birds, pigs, and fish on one farm can cause an outbreak of diseases like influenza. Human beings can contract some of these diseases, and the mutilation of viruses creates deadly and incurable diseases.
- Beekeeping can be harmful to human beings, livestock, and poultry. A farmer is advised to keep harmless bee species and not let livestock and poultry near beehives if they are harmful bee species.

Conclusion

In a nutshell, an integrated farming system fulfils the multiple objectives of making farmers self-sufficient by ensuring the family members a balance diet, improving the standard of living through maximizing the

total net returns and provide more employment, minimizing the risk and uncertainties and keeping harmony with environment. India has the rich diversity of livestock, poultry, crops and horticulture. Utilization of our national resources efficiently is very much important for sustainable development. Thus, this system of farming is very promising for improving overall farm productivity, profitability, generating employment opportunities, conserving natural resources and maintain the sustainability of agroecosystem by effective recycling the farm by-products and efficient utilization of available resources. Integrating Farming System is the unique approach for overall upliftment of rural community and conserving the natural resources and crop diversity.

References

1. Anuraj Singh.,Sangamsingh P Bainade, Cheenu Kashyap and Vivek Kumar integrated farming system *The Pharma Innovation Journal* 2022; SP-11(5): 1488-1496.
2. Meena, l. R., kochewad, s. A., prusty, a. K., bhanu, c., kumar, s., meena, a. L., meena, l. K., raghavendra, k. J., kumar, d., subash, n., & singh, s. P. (2022). Sustainable integrated farming system model for small farm holders of Uttar Pradesh. *The Indian Journal of Agricultural Sciences*, 92(9), 1080–1085.
3. Shweta Khobragade., Sanghamitra Mohapatra, M. Mahananda, Aarti Singh and Anita Singh Integrated Farming System (IFS): *International Journal of Economic Plants* 2021, 8(3):181-187.
4. S. S. Walia., and Navdeep Kaur., (2013) Integrated Farming System - An Ecofriendly Approach for Sustainable Agricultural Environment – A Review Greener Journal of Agronomy, Forestry and Horticulture Vol. 1 (1), pp. 001-011, September.