

Improving Livelihood Through Adoption Of IFS-A Farmer's Success Story

Inayat M Khan¹, Asma Shakeel¹

¹*Division of Soil Science & Agric. Chemistry, FoA, Wadura, SKUAST-K, India*

Corresponding Author: khan_inayat@rediffmail.com

Abstract— Economic wellbeing of the farmers has necessitated the successful technological interventions and adoption of refined technologies leads to enhanced outputs. There is need to improve the efficiency of farming systems for more yield per unit area to feed the burgeoning population as there is no scope for horizontal expansion of the land area due to change in land use and urbanization. For enhancing productivity Integrated farming system is one such approach towards intensification of small holder farm income to ensure sustainable livelihood. Integration of resources is made through a combination of land, water and animal resources of a farm through careful planning including recycling of bio-resources. The current study was undertaken to ascertain the change in farm income of a farmer from district shopian who adopted integrating farming system by utilizing the resources from his farm which helped him include poultry, vegetable, fish farming Sheep rearing and vermicompost units. The converted his mono farming fruit orchard into multi enterprise which changed his livelihood besides generating employment opportunities for the rural youth of nearby areas.

Index Terms— Farming systems, urbanization, bio-resources, fish farming.

1. Introduction

An agricultural system is a man-made system, embedded in the natural and social systems. It is defined as “an assemblage of components which are united by some form of interaction and interdependence” [3]. Farming System research is an approach to agricultural research and development that view the whole farm as a system and focus on the interdependencies between the components and how these components interact with each other in respect of physical, biological and socioeconomic factors. 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 [4]. 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. Unsustainable farming leads to environmental pollution and threatens the livelihood of millions of small farm holders. Strengthening agricultural production systems for greater sustainability and higher economic returns is a vital process for increasing income and food and nutrition security in developing countries. Monocropping is risky due to climate uncertainty as farmers invest heavily in single crop to get maximum return. The weather vagaries and other farm risks limits the production of monocropping system therefore an integrated approach can maximize the farm returns on sustainable basis.

Integrated farming system (or integrated agriculture) is a commonly and broadly used word to explain a more integrated approach to farming as compared to monoculture approaches. It refers to agricultural systems that integrate livestock and crop production or integrate fish and livestock and may sometimes be known as Integrated Biosystems. In this system an inter-related set of enterprises used so that the “waste” from one component becomes an input for another part of the system, which reduces cost and improves production and/or income. IFS works as a system of systems. IFS ensure that wastes from one form of agriculture become a resource for another form. Since it utilizes wastes as resources, we not only eliminate wastes but we also ensure overall increase in productivity for the whole agricultural systems [1].

2. Objectives of integrated farming

The main objective of integrated farming systems is to develop technically possible and economically successful farming system models for irrigated, rainfed, hilly, and coastal locations by integrating cropping to produce income and employment from small and marginal farmland. Some main objectives are listed below [2]

- Improve efficiency
- Increase on-farm biodiversity by regulating nutrient and material flows.
- Eliminate the odors associated with some animal operations.
- Through natural cropping system management, we may control insect pests, illnesses, and weed

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populations under control and at a low level of intensity.

- Reduces the use of chemical and harmful fertilizers, as well as some other dangerous agrochemicals and insecticides, to offer society pollution-free, hale crop production, and a pollution-free environment.
- Maximizing the productivity of all component firms to give a more consistent and predictable income

3. Material and Methods

The current study was undertaken to document the Success’s story of a farmer from village Mool Chitragam from District Shopian of J&K. The farmer was in close association with KVK Shopian for regular advisories for his Apple orchard. After attending several training/Awareness programmes regarding the Integrated Farming System the farmer showed keen interest in establishing his Farm as an integrated Farm. The KVK team paid several visits to his Farm and realised the scope of a successive integrated approach for the sustainable farm. The farmer was able to include Fish farm, vegetable cultivation, vermicompost, poultry and sheep rearing in addition to his conventional apple orchard. The study included the farmers history, cost of cultivation and benefits from conventional and Integrated farming. The benefits from the change to integrated farming were assessed to evaluate the success of farmer and document the success story of the farmer.

4. Results and Discussion

This successful IFS approach was adopted by a progressive farmer namely Mr. Ghulam Mohmad mir of Mool chitragam, Shopian through intervention of KVK Shopian. The interventions tried included several extensions approaches like Training Programmes, Demonstrations, awareness programmes. The farmer was in possession of 32 kanals of land wherein on 28 kanals he was in cultivation of fruits which included apple and pear. The farmer got motivated to include poultry farm and sheep rearing as an additional enterprise as presented un table1. The poultry manure and sheep manure was utilised for manuring the vegetable and fruit crop which additionally improved the yield and lowered the input cost of inorganic farm.

Table.1.

Components of IFS

[1]	[2] Components of Farming	[3] Area/Capacity
[4] 1.	[5] Vegetables [6] Cauliflower, Tomato, Potato, Brinjal, cucumber, Knol Khol, Kale, Carrot, Turnip, Radish	[7] 09 kanals
[8] 2.	[9] Fruits [10] Apple [11] Pear	[12] [13] 24 kanals [14] 04 kanals
[15] 3.	[16] Poultry farm	[17] 4000 chicks/crop
[18] 4.	[19] Sheep Rearing	[20] 30 Sheep

5. Conclusion

The economic analysis after two years of adoption of this IFS as presented in table 2 revealed that the IFS yielded yearly net benefit of Rs.16,40,000 whereas the conventional farming earlier practised earlier by the farmer provided him only Rs10,83,000 besides providing employment to 7 persons @ Rs 8000 per month for a period of 8 months. The adopted IFS had an horizontal expansion to the nearby farmers which started working on the new farming model.

References

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Table 2
Economic Impact

[1] Conventional Farming				[2] Integrated Farming		
[3] S.No	[4] Crop	[5] Production	[6] Net return (Rs)	[7] Crop	[8] Production	[9] Net return (Rs)
[10] 1	[11] Apple	[12] 2500 boxes	[13] 687000	[14] Apple	[15] 2850 boxes	[16] 7,69,000
[17] 2	[18] Pear	[19] 325boxes	[20] 98000	[21] Pear	[22] 380 boxes	[23] 1,21,000
[24] 3	[25] Vegetables	[26]	[27] 298000	[28] Vegetables	[29] -	[30] 3,18,000
[31] 4	[32]	[33]	[34]	[35] Poultry farming	[36] 15000 birds/yr	[37] 322000
[38] 5	[39]	[40]	[41]	[42] Sheep rearing	[43] 30	[44] 1,10,000
[45]	[46] Total	[47]	[48] 10,83,000	[49]	[50]	[51] 16,40,000