INTEGRATED FARMING SYSTEM FOR A SUSTAINABLE LIVELIHOOD

ABSTRACT

This section is well written according to the journal format, abstract writing rules and the purpose of the research.

This paper discusses about the success story of farmer practicing Integrated Farming System (IFS) for sustainable livelihood. Present study was conducted during 2018-19 in Bayyaram village of Bayyaram mandal in Khammam district of Telangana State. A case study approach was followed to document the success of IFS farmer. Mr. Vidyasagar hails from Bayyaram village of Bayyaram mandal in Khammam district of Telangana State. He adopted different IFS components such as Horticulture, Dairy, Poultry, Piggery and Fishery units. He is hardworking nature, an innovator and motivated young farmers. He closely supervised multiple enterprise units and followed new technologies in IFS to get sustainable livelihood. He used new methods of cultivation in IFS and believed that diversification with various components of farming systems results in desired profitability for IFS farmers. Hence, integration of different components with higher input recycling increased farm productivity of different components and also he was able to provide employment opportunities to other farmers through IFS.

Key words: Integrated Farming System, input recycling, higher income, success

INTRODUCTION

Well organized according to the purpose of the research and the literature summary. However, it can be supported by new literature information in the world.

India having 2.4 per cent of global geographical area and it supports more than 17 per cent of the total world population. Indian economy is mainly agriculture oriented where small and marginal farmers are the core of the Indian rural economy constituting 82% of the total farming community but possessing only 44% of the total operational land (GOI, 2018). This reduction in cultivable land is mainly due to urbanization and industrialization where the average size of land holding decreased. The change in food consumption pattern had dominated the grain crops and moving towards the non-grain crops and animal products resulting in an efficient utilization of resources to develop and to meet the food and nutritional demand of the growing population.

Due to weather aberrations and depleting natural resources farmers were shifted towards a diversified agricultural enterprise like dairy, poultry, pigeon, fishery, sericulture, apiculture *etc.*, which are best suited to their agro-climatic and socio-economic condition. Hence, Integrated Farming System was adopted and represents an appropriate combination of farm enterprises

(cropping systems, horticulture, livestock, fishery, forestry, poultry) available to the farmer to raise them for profitability. IFS interact adequately with environment without disrupting the ecological and socioeconomic balance on one hand and attempts were made to meet the national goals on the other (Jayanthi *et al.* 2002). Diversification with various components of farming systems had resulted in a desirable profitability by which young farmers were motivated towards IFS.

Integrated farming systems seems to be the answer by solving the problem of increasing food production, increasing income and improving nutrition of the small scale farmer with limited assets and without other impact effects on a agro-ecosystem. Thus, this has an impact on cropping system, where the amount of by product can be as higher than marketable produce. A well designed capacity building, development of new technologies and financial institutions have to be strengthened on farming systems to motivate the farmers towards IFS. A number of success stories on Integrated Farming System in different parts of the countries were documented by scientists, agriculture officers, NGOs and private agencies. Some of the success stories related to IFS in India were reviewed for further strengthening of adoption on IFS for increasing farmer income to gain more net profits.

A farmer from Vagarahalli village of Channarayapatna taluk in Hassan district of Karnataka state. He is a great example of how adopting integrated farming practices could be the way forward for farmers. He got the Best Taluk-level Youth farmer award from UAS, Bangaluru. By adopting IFS farmer earned net annual income of Rs. 7.28 lakh from his 1.69 ha land area. This could be achieved by the farmer by integration of different enterprises, efficient utilization of land and resources, high rate of recycling. Farmer also motivates neighboring farmer by sharing his sharing experiences on IFS (Pankaja *et al.*, 2018).

A farmer hails from Hasanapur village, in Gulbarga district of Karnataka state. He got Rs. 4 to 5 lakhs net profit from his 8 acres of land. Apart from agriculture, he rears goats, cattle and fish. He plans and makes proper strategy on convergence of each component for effective implementation at a farm level in order to increase production and productivity. In future, Mr. Pujari plans to start commercial goat, poultry and fish farming in partnership in order to increase his net income. He stated that farming with interest and zeal and also courage to take calculated risk is required in order to make the best profits (Muttanna, 2018).

MATERIAL AND METHODS:

The variables and methods discussed in this section should be explained. According to which variables the results of the study were given or explained, whether the method is suitable for this study, it would be more appropriate to reconsider the material and method in order to understand this.

To document the success story of IFS farmer case study method was followed. Case study is a in-depth study of a particular situation. Case study is a method and it is used to narrow down a very broad field of research into easily researchable topic.

RESULTS AND DISCUSSION

The research results given in this section have not been adequately discussed with the literature. The literature in this section is insufficient.

A farmer belongs to Bayyaram village of Bayyaram mandal in Khammam district of Telangana State. He studied upto 10th class, due to poor economic conditions he was not able to continue studies further. He is hard working farmer and doing farming from young age. Due to lack of resources and technical guidance he did not get the desirable output even though he has sufficient land holding for cultivation. Farmer has 12 acres of land where he cultivated only mango at the initial stage of farming. Due to climate variability he got less profit though he invested more. He does not satisfy with the market prices of produce therefore he developed interest and started thinking to do innovative methods of farming with multiple enterprise units in 12 acres of mango orchard. In order to make effective use of the space between the units in orchard farmer adopted multiple enterprises to gain high returns with low investment.

Farmer adopted multiple enterprises *i.e.*, Horticulture, Dairy, Poultry and Piggery units. From mango orchard farmer got 118 tonnes of yield from 12 acres mango orchard. He got 12 lakhs income by selling of 118 tonnes of mangoes. Cost of cultivation of mango was 3 lakhs. Finally, he got net income of 9 lakhs from 12 acres of mango orchard. Farmer had a regular contact with horticulture officers and scientists and got technical guidance from them. The technical guidance such as pruning, optimum application of fertilizers and timely application of fertilizer helped him to reduce cost of cultivation.

Farmer in his dairy unit having 4 cows and from the unit he gets continuous income throughout the year. He is feeding cattle with homemade concentrate and mineral mixture. Giving timely vaccination to the cattle helped him to maintain sound health of animals which results in quality milk production.

He started poultry farming enterprise with rearing of 15 birds. He developed Incubator for egg hatching in his poultry unit. He has incubator capacity of hatching 700 eggs and selling chicks to the farmers and nearby local market. From piggery units, farmer selling piglets to the farmers and market to fetch good price. Since he gets good price, farmer interested to expand the unit with little more number of piglets. From the piggery unit after 1 year of rearing of pigs, he got net income of 3 lakhs.

Farmer and his son both are involved in IFS and started attending different meetings conducted by scientists to improve their knowledge and to implement technologies in their farm. Farmer recycled wastage of one enterprise output as input for other enterprise unit. This is one of the success model adopted by him in the integrated farming system where all the byproducts are converted from one form to another form and used as fertilizer for plants, pesticides for pest control and as nutrients for increasing the growth and yield of plants by natural organic methods of farming in agriculture. Hence, farmer was able to reduce cost of cultivation and increased his income over a period of 3 years by maintaining multiple enterprises in his farm.

Table 1 : Resource recycling of farm enterprises

Output of one enterprise unit	Input for other enterprise unit
Dairy – Dung	Dung used in field as FYM
Poultry – Excreta	Used for fish feeding
In Mango orchard- fallen fruits of mango and leaves of mango	Used for feeding of pigs
In farmer field – Grasses and insects	Eaten by hens. Hence, case able to reduce cost of cultivation recycling of different enterprise units.

Farmer having regular contacts with Agricultural Officers, scientists and progressive farmers and got farm information regularly from AO, scientists, agricultural magazines and Vyavasaya panchangam. Becoming a member in some of the associations he had developed network and learnt new ways of farming. Farmer regularly attended trainings conducted by different agriculture and allied sectors officials. Hence, farmer knowledge on different enterprises was increased. He got many awards and medals. Finally, farmer aim is to maintain IFS unit with sustainable way by gaining income throughout the year. He has 20 years of farming experience and shared his experience with fellow farmers and motivating them. He encourages the youth to take up agriculture and allied activities such as poultry, piggery, goat and sheep rearing, apiculture, horticulture, fishery and value addition in millets for increasing profit at the farm gate. His novel approach of progressive farming has pushed him on the path of economic progress. He has achieved success due to hardworking nature, close supervision of different enterprise units and innovative nature in doing different farm activities.

CONCLUSION:

Integration of various enterprises with location specific combinations had increased his productivity of different farm enterprises. Better understanding nature and capacity of the interaction among various farm enterprises, higher rate of input recycling helped to farmer to gain more profits. Farmer obtained economic benefits by adoption of IFS and also it provided sustainable income. Farmer achieved success through IFS unit and he became role model for other farmers to take up IFS in farming.

REFERENCES:

Current literature on the subject can be added.

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