AGRIALLIS
Science for Agriculture and Allied Sector: A Monthly e Newsletter
Volume 1 – Issue 5
Online ISSN: 2582-368X
www.agriallis.com

INTEGRATED FARMING SYSTEM

Article Id: AL201930

S.Senthamilan [1]*, Prasanna Pal [2], S. Praveen [3] and Pravasini Das [1]

[1] M.V.Sc Scholar, Animal Physiology Division, ICAR-National Dairy Research Institute, Karnal, Haryana- 132001, India

[2]Ph.D. Scholar, Animal Physiology Division, ICAR-National Dairy Research Institute, Karnal, Haryana- 132001, India

[3] M.V.Sc Scholar, Livestock Production Management Section, ICAR-National Dairy Research Institute, Karnal, Haryana- 132001, India

E-mail: senthamilan1995@gmail.com

Nowadays, farmers are subjected to a high degree of uncertainty in their income due to their dependence majorly on a single enterprise. India needs to adopt a "well designed" Integrated Farming System (IFS) to overcome this problem. So, farmers have to diversify their farming to get a more sustainable income as if one fails, another one can provide income. The integration of various agricultural enterprises such as cropping, animal husbandry, fishery, poultry, etc. have great potential in the farming economy. This also helps in reducing wastage of output from one enterprise as it can be used as an input for another one.

Problems of present-day agriculture systems

- The decline in agriculture growth rate
- Decline in productivity
- Shrinkage in the net cultivable area
- Increasing environmental pollution
- Depleting groundwater table
- The increasing cost of production
- Low farm income
- Problems of farm labours due to large scale migration
- Climate change and decrease in average rainfall

Integrated Farming System

In recent years, food security, livelihood security, water security as well as natural resources conservation and environmental protection have emerged as major issues

Volume 1 – Issue 5
Online ISSN: 2582-368X
www.agriallis.com

worldwide. Developing countries are struggling to deal with the dual burden of climate change and globalization. It has been accepted that sustainable development is the only way to promote proper utilization of resources and environmental protection without affecting economic growth. Developing countries around the world are promoting sustainable development through newer agricultural practices which will help them in addressing socio-economic as well as environmental issues simultaneously. Within the broad concept of sustainable agriculture "Integrated Farming System" hold a special position.

It refers to an agriculture system that integrates livestock and crop production. Moreover, the system will help poor small farmers, who have very small landholding for crop production and few heads of livestock to diversify farm production, increase cash income, improve the quality and quantity of food produced and exploitation of unutilized resources.

Elements of Integrated farming system

- Farm ponds
- Bio-pesticides
- Bio-gas
- Bio-fertilizers
- Solar energy
- Vermicompost making
- Green manuring
- Rainwater harvesting
- Watershed management

Advantages of Integrated farming system

1. Increase in crop production to supply the exploding population of our country.
2. Increase in farm income due to proper utilization and recycling of residues and byproducts.
3. Organic farming can be practiced for sustainable soil fertility and productivity.
4. Environmental pollution can be reduced by the effective recycling of wastes from animal activities like dairy, piggery, poultry etc.
5. Decreased input cost through recycling from the byproducts of allied activities.
6. Stable income can be obtained through products like eggs, meat, milk, vegetables, silkworm cocoons from integrated farming.
7. Cultivation of fodder crops such as intercropping, and border cropping will result in the availability of nutritious fodder for animals.

Volume 1 – Issue 5
Online ISSN: 2582-368X
www.agriallis.com

8. Generation of consistent employment for labours depending on farming.

Types of Integrated farming system

- Crop - livestock - farming system
- Crop - livestock - fishery farming system
- Crop - livestock - poultry - fishery farming system
- Crop - poultry - fishery - mushroom farming system
- Crop - fishery - duckery farming system
- Crop - livestock - fishery - vermicomposting farming system

Limitations of the integrated farming system

1. Lack of awareness about sustainable farming systems.
2. Unavailability of varied farming system models.
3. Lack of credit facilities at easy and reasonable interest rates.
4. Non-availability of ensured marketing facilities especially for perishable products.
5. Lack of deep freezing and storage facilities.
6. Lack of timely availabilities of inputs.
7. Lack of education/knowledge among farming community especially of rural youth.

Fig 1: Goat-Fish Integration

Fig 2: Biogas plant

Fig 3: Chicken-Fish Integration

Fig 4: Tree Intercropping

Volume 1 – Issue 5
Online ISSN: 2582-368X
www.agriallis.com

What to improve?

- There is a need to create a database related to the farming system in relation to the type of farming, infrastructure, economics, sustainability etc. under different farming conditions.
- The assessment and refinement of the technologies developed at the research station at the cultivator's field.
- Need to prepare contingent planning to counteract the weather/climate threats under different farming conditions.
- Need to prepare research models for different holding sizes and various types of farming system.

Conclusion

Sustainable development is the only way to promote rational utilization of resources and environmental protection without affecting economic growth and Integrated Farming Systems hold a special position as in this system nothing is wasted, the by-product of one system becomes the input for others. India has considerable livestock, poultry and crop wastes. IFS is a promising approach for increasing overall productivity and profitability through recycling the farm by-products and efficient utilization of available resources. About 95% of the nutritional requirement of the system is self-sustained through resource recycling. As the number of enterprises is increased, the profit margin also increases. It could further generate employment opportunities to the farming communities round the year and provide better economic and nutritional security. This can go a long way uplift rural life through increased income.

References

Desai, B. K., Rao, S. and Chittapur, B. M. (2014). A Strategy for Sustainable Farm Production and Livelihood Security, Udaipur: Agrotech Publishing Academy

Manjunatha (2014). Integrated Farming System – An Holistic Approach. J. Agric and Allied Sci. 3(4)

Saravanan et al, (2015). A Review on Integrated Farming Systems. Journal of International Academic Research for Multidisciplinary 3(7):319-328

Tamilnadu Agricultural University – Agritech Portal.