CONCEPT NOTE ON INTEGRATED FARMING SYSTEM MODEL UNDER THE INTEGRATED BASIN DEVELOPMENT AND LIVELIHOOD PROGRAMME (IBDLiP)

BACKGROUND

In Meghalaya, where majority of the farmers are either small or marginal, the income from agriculture sector in their farm is not at all sufficient to run their families. Due to fragmentation of land – holdings, even after adoption of improved agricultural technology and practices, their economy condition has not improved.

For the last few decades, agricultural scientists in the developing and under-developed countries were looking for an alternate agriculture system to increase the net income of these farmers so that the economic condition of these small and marginal farmers could be improved. Integrated Farming System provides opportunity which would considerably improve the economic condition of the marginal and small farmers as an appropriate alternative innovation in this sphere.

Integrated Farming System may be defined as a set of agricultural activities organized into a functional unit to profitably harness the solar energy while preserving land productivity, environmental quality and maintaining the desirable level of biological diversity and ecological stability. Integration of different agricultural allied enterprises with crop activity as base would provide ways to reuse and recycle produce/waste material of one component as input in the other linked component and to reduce the cost of production of the economic produce of the component two and finally to enhance the net-income of the farm as a whole.
**Objectives**

1. To integrate different production systems like dairy, poultry, livestock, fishery, floriculture, horticulture, apiculture, etc with agricultural crops production as the base.

2. To increase farm resource use efficiency (land, labour and production/by-products) so as to increase farm income and gainful employment opportunity.

3. To promote multi-cropping (out of the total cropped areas of 265816 Ha, only 46697 Ha (18%) is sown more than once), for multi-layered crops of economic value so as to sustain land productivity.

4. To maintain environmental quality and ecological stability

**Opportunities**

1. **Productivity**: Increase economic yield per unit area - per unit time by virtue of intensification of crops canopy, agricultural crop rotation and allied enterprise.

2. **Profitability**: The system, as a whole provides opportunity to make use of produce/ waste material of one component as input on the other component at the least cost.

3. **Potentiality/Sustainability**: In Integrated Farming System, organic supplementation through effective utilisation of by-products of linked components as a measure is possible and this will certainly provide opportunity to promote soil health and to sustain the potentiality of the soil which is the production base.
4. **Balanced food:** In Integrated Farming System, we link components of different nature enabling to produce different sources of nutrition, namely, protein, carbohydrates, fats, minerals, vitamins, etc from the same unit area. It will provide opportunity to mitigate malnutrition problem of the farmers.

5. **Pollution:** In crop based activity, some of the organics are left as waste materials which in turn pollute the environment on decomposition. Application of huge quantity of fertilizers, pesticides, weedicides, insecticides, etc pollute soil, water and air. Much of the wastes could be converted/recycled to some other forms of economic/ ecological/social value, under the Integrated Farming System.

6. Integrated Farming System provide opportunities as crop insurance cover as money round the year are obtained from different farm produces.

7. Technology Infusion (R&D) integrated with indigenous/Traditional knowledge.

8. Mitigating energy crisis.

9. Climate change Programme from the perspective of adaptive & mitigation

10. Mitigating the wood, Fodder crisis, etc

11. Avoid degradation of land resources.

12. Provide opportunities for Agri-oriented industries, tourism and related tourism based activities, etc

13. Mitigating rural- urban exodus
COMPONENTS OF INTEGRATED FARMING SYSTEM

1. Agriculture
2. Livestock
3. Fishery
4. Sericulture
5. Silviculture
6. Horticulture
7. Mushroom culture
8. Bio-Gas
9. Apiculture

10. Tourism
11. Fish/Bird/Wildlife-Sanctuary Development, etc.

About Integrated Farming System Model

While the integrated farming system appears to be a very alternative innovation, its innovation is not as easy as it looks like. It is not merely addition of one or more components to the farmer’s existing system, but, an entirely new farming system which requires a new set of technological management practices.

Different enterprises will have to be involved in this system. The need for keeping all the systems in balance as per requirement of the system because over concentration in one will add to the detriment of the other Eg:
For manuring a fish pond of 1 Ha water area we require:

- 300-400 adult chickens
- 200-300 ducks
- 30-40 pigs
- 5-6 cattle

Thus, for integration, the following points must be considered:

1. Productivity and profitability.
2. Technical feasibility and economic viability
3. Socio-cultural adaptability.
4. Sustainability with existing resource and infrastructure

**CONCLUSION:**

Our farming community is used to farming system approach as evidently seen in management of household gardens, etc happening around us. So, what is required for farming at present is how we could improve the productivity of the existing farming system with technological intervention and integration of tradition knowledge etc so as to trigger of some kind of economic activity there-from with ecological concerns.