

Eco-Farming And Sustainable Development In the Indian Context

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Though green revolution has pushed up agricultural productivity in the country, still the situation on the food front is far from satisfactory. It is estimated that India may have to import more than 400 million tonnes of grains annually to balance its food budget by the year 2030 as the population will soon exceed 100 crores. Added to the above problem, the per capita land and water availability is going down with ground water drying up because it has been over exploited to feed cash crops. Also the area under the forests is dwindling with the consequent loss of bio-diversity. Biotic and abiotic stresses are expanding and prime farm land is being diverted all the time for non-farm uses (Swaminathan:1995). The efficiency of on-farm water management is still low and in many areas the ground water is being exploited in an unsustainable manner leading to reduced inflows of fresh water-sea balance and leading to salinity ingress and sea erosion. Moreover the increased use of synthetic fertilizers and pesticides in states like Andhra Pradesh, Uttar Pradesh and Tamil Nadu in India in the last few decades is leading to nitrate pollution of water resources which in turn has led not only to the pollution of marine coastal eco-system but also to general environmental degradation.

As a result, in most of the major states in India including Tamil Nadu, many villages are facing water scarcity created by distorted priorities in the name of development.

In view of the demographic compulsions and declining per capita natural resources it is clear that India, at the macro level, will have to produce more and more farm products from less land and water in the next century. Ecologically it is imperative that higher production has to come from technologies that are environmentally sustainable. More over to improve sea water consequently preserving and sustainably use marine re-

water consequently preserving and sustainably use marine resources action has to be taken on land.

Keeping in view the above socio-economic and ecological compulsions it is imperative to produce from the farm sector not only more food but also more income and livelihood opportunities. This would imply more income-generation work through multiple channels of livelihood and value addition to primary products. Crop-livestock, crop-fish, agro-forestry and other forms of integrated farming systems can help to provide both additional channels of house-hold income and opportunities for value addition. It is here that **Eco-Farming** as an effective contribution of efficiency of inputs and maximization of the yield is attempted as it helps to optimize returns from the available land, water, labour and capital resources. Moreover in eco-farming environmental benign technologies which are knowledge-intensive rather than capital intensive are advocated which prevents the misuse of natural resources as the best option. Also eco-farming which is the route to production improvement through higher productivity is essential to prevent the diversion of forest lands for food production.

With this as a back drop, an empirical study was done in a rice fish based low land system with a variety of enterprises such as duckery, poultry, apiary, dairy, goat and rabbit rearing in a farm located in village in Pudukottai district in Tamil Nadu. This paper attempts to evaluate both the positive and negative aspects of eco-farming rooted in the principles of ecology, equity and sustainability. The eco-farming with its components such as irrigated rice along with fish, other crops in mixed or rotational practices, vegetables, fruit trees, poultry, livestock and apiary in appropriate combinations in different types of land holdings is a viable option that can provide both food security and livelihood security to the rural workforce on an ecologically sustainable basis. Also the above type farming system backed by environment-friendly green technology has the potential to meet not only the aspirations

population, but also rests largely on efficient ways of recycling organic residues and is highly energy efficient.

In spite of the fact that eco-farming besides being economically viable and ecologically sustainable as it supports higher levels of biological production without depleting the natural resource base it has been adopted as an effective alternative only by few enterprising farmers. The reason may be because the adoption of ecological farming is not as simple as one may presume (Venkataramani:1995). Since it is a highly knowledge intensive, labour-oriented and complex system integrating several organic recycling processes, a high degree of motivation is needed along with commitment and conviction, and innovative ability to make successful organic farmers.

And those organic farmers who have switched over to eco-farming are highly satisfied as not only the basic food requirements for their subsistence and maximum use efficiency of inputs such as water, fertilizers and energy but their food security is also assured as multiple cropping pattern is followed in this type of farming. With regard to meeting the needs of the market economy though they are able to supply now in a limited way yet it is evident from the case study that the farmer engaged in eco-farming would be able to meet the requirements of the market once it is undertaken on an extensive scale.

References:

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