



# CDB promotes Coconut Based Integrated Farming to boost coconut production

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**C**oconut Based Integrated Farming System (CBIFS) is an economically sustainable system recommended by research which supports farmers to realize more income from coconut holdings. In CBIFS coconut recorded higher yield. Coconut mono-cropping is an inefficient land management system of low productivity and poor economic returns. There is ample scope for integration of companion crops and other animals in coconut garden for increasing income and providing employment generation under the CBIFS. Intercropping has proven to be the best option for maximizing land use in coconut plantation. Coconut Palms maintained under CBIFS receives Integrated Nutrient Management (INM) ie, combined application of the organic manures and inorganic fertilizers, Integrated Pests and Disease Management so as to extract potential yield from the crops. The annual labour requirement can also be enhanced to a maximum of about 780 - 830 man days in one hectare CBIFS coconut plantation per year whereas the man days required for mono-cropped coconut garden is 150 man days. In CBIFS, not only the farm family is getting employment round the year but also it provides man days for outside labour.

With the above cited scientific background of CBIFS the Coconut Development Board (CDB) has been implementing a massive programme Integrated farming in coconut holdings for productivity improvement. It is one of the major programmes of CDB now being implemented in 17 States and 3 Union Territories in the country. The programme aims to promote adoption of INM/IPM practices and coconut based farming system in coconut garden so as to reduce the gap between the potential expected income and the present income farmers are getting from their coconut holdings.

Main component of the scheme integrated farming in coconut holdings for productivity improvement implemented by the Board 'Laying out of

Demonstration Plots' (LoDP) is a farmer participatory technology transfer programme implemented on cluster basis with the active participation of farmers. Besides considering the importance of use of organic manures in coconut garden financial support is also extended for establishing organic manure production units (vermi compost/coir pit compost units) in coconut garden Financial assistance @ Rs.35,000/- per hectare is extended under the scheme Laying out of Demonstration Plots for adoption of INM/IPM/Coconut based farming system for a period of two years. A major portion of grant in aid received by the Board from the Govt. of India is being utilized by the Board under this scheme to supply critical inputs to the farmers for adoption of INM/IPM/CBIFS. Major components of LoDP scheme are:

1. Demonstration of balanced fertilizer application including green manure application.
2. Location specific inter/mixed cropping.
3. Community based Plant protection.
4. Use of Agricultural implements/machineries for Community Based Operations (CBO).

## **1. Demonstration of balanced fertilizer application including green manure application.**

Coconut is a perennial crop that removes large quantity of nutrient to the above ground parts continuously from a limited volume of soil around the palm throughout its existence. Studies conducted by research stations recommend that most of the soils where coconut is growing continuously shows deficiency of nutrients and affect the crop yield unless regular manuring is carried out every year for replacing the nutrients removed. Once the seedlings are planted in the main field manures and fertilizers are to be applied regularly to get sustainable supply of nutrients to the growing palm. Integrated nutrient management involving application of organic and

inorganic manures is the best method recommended for giving balance dose of nutrients to the palm. The coconut palm at a production level of 50 nuts per year removes 500 g Nitrogen, 340 g Phosphorus, 1000 g Potash and 180 g Magnesium from the soil every year. In addition to the removal by coconut palm, soil nutrients also can be lost by runoff, leaching erosion and uptakes by weeds. This causes gradual decline of nutrients in the soil and in turn results in low yield. Therefore soil in coconut plantation should be enriched with nutrients by regular application of recommended dose of fertilizers and manures. Coconut Development Board under the LoDP programme provides the inorganic fertilizers or organic manures to the farmers to supplement the adoption of INM for a period of two years. Inorganic fertilizers such as Urea @ 1Kg per palm, Rock Phosphate or Super phosphate @ 1.5 Kg per palm, Murate of Potash @ 2 Kg per palm, Magnesium Sulphate @ 0.5 to 1 Kg per palm and Borax @ 50 – 100 g per palm annually as a part of adoption of INM practices. Besides in areas where soil acidity is a major problem lime/Dolomite @ 1.0 Kg/ palm is also supplied to the farmers free of cost under the scheme. Major portion of subsidy (60%) under LoDP component is utilized for supply of these critical inputs to the farmers. In areas where farmers prefers organic farming, good quality organic manure is supplied to the farmers utilizing the financial support under the scheme. In order to improve the organic matter content of soil, green manure seeds are also supplied to farmers under the scheme.

## 2. Promoting Location specific inter/mixed cropping

Optimum method of inter/mixed cropping in coconut garden is popularized under this component. Suitable crop combinations are suggested depending on the farmer groups preference, his resource endowment and prevailing agro ecological features of the locality. Intercrop planting material suitable for a location is arranged for supply to the farmers for raising on cluster basis under the LoDP programme. This would help to increase the income and profit from coconut garden, increases sunlight use efficiency, maximize resource utilization, improves soil fertility, suppress weed growth and reduces risk of depending on crop(coconut) for income and also provides food security to the farming community.

## 3. Promoting Integrated Pest and Disease Management

Need based integrated pest management by adoption of cultural, biological and chemical methods

are essential in coconut gardens to maintain the productivity. In many cases parasites and predators are helpful in managing the pest. Promoting Integrated Pest and Disease Management on community basis is another major component programme under LoDP in pest/disease affected areas. Support is extended by way of supplying Plant Protection (PP) Chemicals, Bio-control agents for adoption of IPM practices for management of pest and diseases. Community based successful bio-control of the pest, coconut black headed caterpillar outbreak in East Godavari District of Andhra Pradesh is one of the success stories under LoDP. Combined and collaborative extension efforts of CDB, Department of Horticulture and Coconut Producer Societies technically supported by Horticultural Research Station, Ambajipeta, Dr. YSRHU led to successful suppression of outbreak of black headed caterpillar in the LoDP villages of Allavaram Mandal of East Godavari district of Andhra Pradesh.

## 4. Community Based Operations

Financial support is extended for purchase of agricultural machineries and equipments for use on community basis under the scheme. Pump sets for use on community basis is also supplied with financial support under the scheme for promotion of irrigation during summer months. Equipments needed for plant protection operations, cultural practices and agricultural operations are considered under the scheme for extending the financial support on community basis. The ownership of the machineries/equipments purchased shall be vested with the cluster/society and made available to the members on need basis.

CDB has been implementing the integrated farming scheme since the last ten years. The scheme is implemented directly by the Board on cluster basis through FPOs and also through the Department of Agri./Horti. of the concerned State Governments. Unlike other development programmes, the scheme is implemented with the active participation of farmers, development officers and students of nearby research stations of SAUs/ICAR Institutes. Implementation of scheme would help to improve the nutritional status and health of coconut palm which was reflected in the production and productivity of coconut in the country. Implementation of this scheme would help the coconut sector not only in terms of increase in income from unit area but also by way of sustained employment. Finally the scheme also would help to improve the livelihood of a vast majority of small and marginal coconut farmers in the country. ■