

Coconut based farming system for higher income : Success story of a 'Kerakesari'

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Mr. Dominic M.M. hailing from the remote village of Anakkampoyil in Kozhikode district in Kerala is an innovative farmer who always reposed good faith in coconut. Five years ago when Mr. Dominic converted the three acre rubber plantation after slaughter tapping to coconut garden most of the fellow farmers and his relatives were wondering why such a decision especially when coconut price was not at all encouraging. But he was of the opinion that coconut as a crop has tremendous opportunities for earning income and it would never put him into difficulties. The general trend is that whenever there is a sudden price crash for an agricultural produce or price stagnates at a low level farmers start neglecting the crop by not adopting any crop management practices resulting in low productivity and finally low income from farming. According to Mr. Dominic, adopting multiple cropping and integrated farming is the effective strategy to overcome the difficulties due to low market price for the crops. Coconut offers excellent opportunities for the adoption of multiple cropping and integrated farming. His motto is very simple- 'don't leave any piece of land in the farm unused and conserve the basic resources of soil and moisture'. True to his motto he has been maintaining coconut based farming system by effectively utilizing interspace in his coconut garden for



growing different inter/mixed crops and integrating animal husbandry in a sustainable and profitable manner.

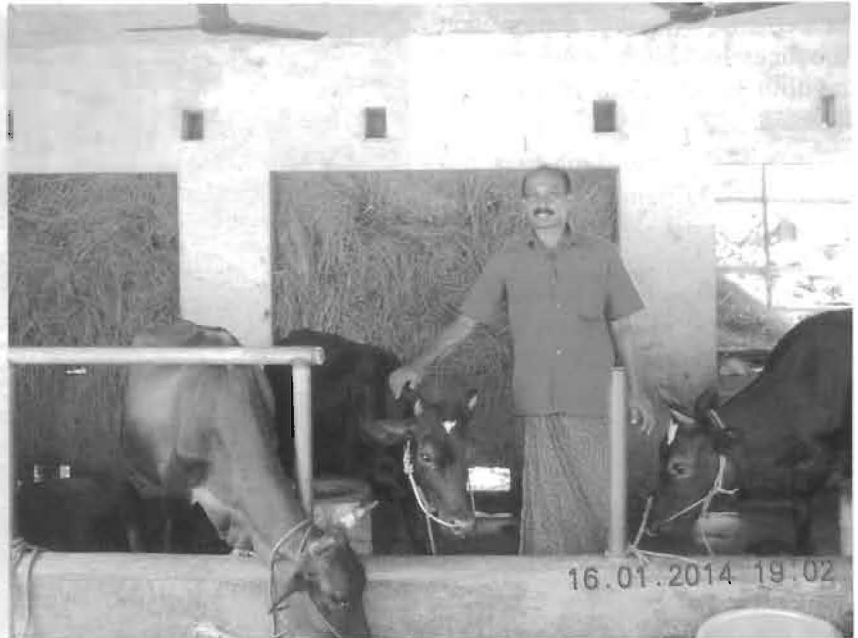
Mr. Dominic maintains 15 acre coconut farm in the slopy undulating terrain with 600 coconut trees of West Coast Tall variety, out of which eight

acres are irrigated and seven acres rainfed. Nutmeg and cocoa are planted as mixed crops in the irrigated coconut garden; 225 nutmeg trees in three acres and about 1000 cocoa trees in five acres. Nutmeg has been planted in the centre of four palms.

Few clove trees are also there in the coconut garden. But Mr. Dominic is not happy with clove as a mixed crop in coconut garden because of the difficulty in harvesting clove. Besides these perennial crops, banana, elephant foot yam, colocassia, cow pea, bittergourd, snake gourd, turmeric and ginger are also cultivated as intercrops in a small scale. About 1000 arecanut palms are mixed cropped in the rainfed coconut garden in seven acres. The animal husbandry component of his coconut based farming system includes five cows, nine goats, two buffaloes, ducks and few poultry birds in backyard rearing mode.

A perennial stream flows through the farm which provides assured water for irrigating half of his farm where inter/mixed cropping is practiced. Irrigation is done through sprinkler system. Stone pitched bunds are constructed throughout the farm in the slopy terrain for soil and water conservation which are repaired/reinforced as and when required. A unique feature of agrotechniques adopted by Mr Dominic is maintenance of wide basin for coconut and other component tree crops viz., nutmeg and cocoa. According to him providing wide basin is important for effective irrigation and moisture conservation. Coconut leaves and husks are used for mulching the basins.

Vermicomposting is adopted for recycling the biowastes available from his farm. During the month of April mulch materials spread in the basin are drawn back to the periphery to avoid surface root proliferation then open the basin and apply cow dung @ 40 kg per palm and vermicompost @ 20 kg per palm. During September-October lime is applied @ 1kg/palm. After two weeks muriate of potash is applied @ 2 kg per palm. Whenever



yellowing of coconut leaves is observed he applies Magnesium sulphate @ 500 g per palm. No chemical fertilizer is given for nutmeg; only bone meal @ 8 kg per tree and cowdung @ 25 kg per tree are applied. Similarly for cocoa only dried cow dung @ 5kg per tree is applied. For arecanut palms cowdung @ 25 kg and muriate of potash @ 200 g per palm is applied.

In Dominic's farm pest and disease incidence is very low in nutmeg except for the fruit rot and fruit drop and drying of branches from tip downwards due to fungal infection. Application of 1% Bordeaux Mixture is effective against these problems. According to Mr. Dominic nutmeg is the most suitable mixed crop for planting in coconut garden, because of its long economic life, low incidence of pests and diseases, low cost of cultivation and increasing yield and income every year. Soil is not disturbed in the basin of nutmeg tree. Manures and fertilizers are applied in the basin and just forked in. If root proliferation is observed in the surface of the basin

soil is brought from outside and spread in the basin.

The advantages of cocoa as a mixed crop, according to Mr. Dominic is that it is shade tolerant and provides income during rainy season. Further, if cocoa processing is done to prepare dry beans income will be more when compared to selling of wet beans because 1 kg dry beans can be obtained from 3 kg wet beans while price per kg wet beans is only Rs 35 while that of dry beans is Rs 140/-. Eventhough arecanut is not commonly recommended as a mixed crop in coconut garden, according to Dominic it will be a profitable mixed crop if coconut is planted with sufficient spacing ie eight metres or more. However, if coconut is planted with less spacing yield of both coconut and arecanut will be adversely affected as experienced by many farmers. Since coconut is planted with more than eight metres spacing he is able to get good yield from both coconut and arecanut. In the sloppy terrain of the rainfed coconut garden where mixed cropping of arecanut is practiced

proper soil and moisture conservation practices including stone pitched contour bunds, mulching etc are adopted.

Part of the cow dung from the animals in the farm is recycled as vermicompost and applied to coconut and component crops. Some quantity of cowdung is used for making biogas. Biogas slurry is given back as manure. Animals are fed with green grass available from the farm and also homemade animal feed thus reducing the cost of maintenance of animals.

On an average Mr. Dominic is able to harvest 150 coconuts per palm annually. Average yield obtained from nutmeg is 4 kg nuts and 500 g mace per tree. From cocoa the average yield is about 800 g dried beans. From arecanut as mixed crop he is getting an average yield of two kg chali per palm per year. Banana is also a very remunerative intercrop in coconut garden. On an average Rs 250/- per plant is the net income from banana raised as an intercrop. On an average 15 lit milk is obtained per cow. Net income from the coconut based



integrated farm is about Rs.12 lakhs per annum. If he was following coconut monocropping, the income from his farm would have been just 40 per cent of what is realized now.

An important factor for his success in farming is his and family members' active involvement in all the farming activities. He is not merely acting as manager and giving instructions to the

labourers in the farm but himself work along with them, which he says, is instrumental for ensuring a sincere commitment from the labourers. His mother Mrs Eliamma, aged 74 years, also actively involves in farming related activities in whichever possible ways. Mrs.Elsy, Dominic's wife, is also a support in farming.

Mr. Dominic has received various awards/recognition for his achievements in farming. He was selected as the best farmer at gramapanchayat, block and district level. In the year 2011, he was bestowed with the prestigious 'Kerakesari' award instituted by Department of Agriculture, Kerala for his achievements in the scientific management of coconut. Mr. Dominic maintains regular contact with research and extension agencies. He also subscribes to most of the farm journals to keep abreast with latest farm techniques. He is a member of the Block Technology Team under ATMA project and a much sought after resource person. He is always happy to share his experiences and expertise with other farmers.

