

# A Karshakamithra to serve the coconut farming community

Thamban C, Principal Scientist, CPCRI, Kasaragod

Members of Souhruda Farmers' Club, Kattamkavala, a remote village in West Eleri grama panchayat of Kasaragod district in Kerala state are all elated as the 'Karshakamithra' award for the year 2013-14 has been bestowed on Shri. Joji. P. Daniel, an enterprising young farmer who is the co-ordinator of the farmers' club. Karshakamithra award is instituted by the Department of Agriculture, Government of Kerala, for honoring the individual other than officials for his achievements in agricultural extension activities to disseminate innovative practices in agriculture and allied sectors for sustainable agricultural development. For Shri. Joji it is the recognition for his untiring efforts in organizing small and marginal farmers, especially coconut growers, of his locality and empowering them to effectively make use of sustainable farm innovations for enhancing income. He received the award from Shri. Oommen Chandy, Hon'ble Chief Minister of Kerala in a function organized by State Department of Agriculture at Kozhikode recently.

Shri. Joji turned towards farming as his full time occupation at 28 years of age when his father, Shri. Daniel, died in 2002. He took up the responsibility of managing the coconut oil mill and the nine acre farm belonging to his family. Coconut was the major crop cultivated in his village and coconut growers were facing myriad of challenges to make farming remunerative. As a keen observer of the struggle the farming community of his locality in the hilly terrain made to overcome various



*Nutmeg intercropped in Joji's garden*

constraints like price crash of the farm produce, crop loss due to pest and diseases incidence etc Joji realized the need to organize the farmers and to facilitate utilization of modern farm techniques for enhancing farm income. He took the initiative to organise Souhruda Farmers' Club, Kattamkavala under the NABARD scheme with the support of the nearby branch of Canara Bank at Chittarikkal. He was elected as the co-ordinator of the club with 20 members. Many educational programmes including training, demonstrations, study tours etc were organized by the club to benefit farmers.

With a view to support the coconut growers, a coconut cluster was formed in his locality under the Coconut Development Board scheme in the year 2006. It was the first cluster of coconut growers under CDB formed in Kasaragod district. Various components of the scheme such as application of balanced fertilizers, cultivation of intercrops,

organizing awareness programmes on scientific coconut cultivation etc were successfully implemented with the active participation of farmers. Inspired by the successful functioning of coconut cluster led by Shri. Joji, 20 more coconut clusters were formed in the hilly areas of the district.

Crop loss due to the widespread incidence of bud rot disease was a major setback for the coconut growers of the locality who were already suffering due to the low market price of coconut. Integrated disease management practices against bud rot disease developed by Central Plantation Crops Research Institute (CPCRI), Kasaragod were demonstrated in farmers' garden under the CDB funded research project and Joji took the initiative to organize awareness programmes on crop protection in coconut. The effective IDM technologies against bud rot disease could be implemented on a wider scale covering three gramapanchayats

with the support of CDB. Integrated disease management practices such as cutting and removal of dead palms, placing polythene sachet containing fungicide in the innermost two leaf axils as a prophylactic measure, curative treatment with fungicide and integrated nutrient management of coconut palms were effectively implemented in farmers' gardens through a farmer participatory approach. Joji played a key role in sensitizing the district administration and Department of Agriculture to prepare the proposal for the scaling up of bud rot management scheme with technical support of CPCRI and funding from CDB.

Souhruda Farmers' Club, under the leadership of Joji was selected as the facilitating agency for implementing the watershed development project funded by NABARD. He coordinated various activities for conducting awareness programme on soil and water conservation and innovative farming practices, providing credit for livelihood activities, production and distribution of planting materials and creation of market facilities. About 800 farmers were benefitted by the scheme with an outlay of about Rs. one crore. Shri. Joji was honored by NABARD as the Lead Coconut Farmer.

As the coordinator of farmers' club Joji actively supported the implementation of Farmers Participatory Action Research Programme (FPARP) on soil and water conservation sponsored by Ministry of Water Resources and implemented by CPCRI Kasargod in selected farmers' gardens. Various technological interventions for soil and water conservation and low cost water harvesting were successfully demonstrated in farmers' garden, especially in coconut holdings. Soil and water conservation measures

such as mulching coconut basins with leaves, coir pith etc., coconut husk burial in the interspaces of coconut garden, half-moon bund around coconut basin reinforced with pineapple, contour trench filled with coconut husk, catch pits with pineapple border and cover crops as green manure and to reduce soil erosion and low cost water harvesting structures such as roof water harvesting in storage tanks using ferro-cement technology, run off collection in storage tanks, percolation tank and recharging wells were the interventions demonstrated under the project.

Under the National Agricultural Innovation Project (NAIP) on 'Value chain in coconut' sponsored by ICAR and implemented by CPCRI, Community Based Organisations (CBOs) involving coconut farmers were organized in 10 locations in Kasargod district covering 532 coconut farmers with the main objective of technology integration for enhancing production and community level processing of coconut facilitated through stakeholder participation for

strengthening the value chain. One of the CBOs under the project was formed at Kattamkavala with the active involvement of Souhruda Farmers' Club. Technology interventions such as cultivation of intercrops in coconut garden including cool season vegetable crops like cabbage, tuber crop like elephant foot yam, spices like turmeric and ginger, basin management of coconut with green manure legumes, integrated nutrient management, organic recycling through vermicomposting of coconut leaves soil and water conservation measures, integrated disease management practices against bud rot etc were demonstrated in farmers' gardens under the project. As a farmer representative, Joji got the opportunity to make presentations on the farmer participatory approach successfully employed for better technology integration in coconut to realize higher productivity and income in interaction sessions organized as part of NAIP in various parts of the country including New Delhi, Hyderabad and Thiruvananthapuram.



*Cabbage intercropping in coconut*

Souhruda Farmers' Club under the leadership of Joji has been very actively involved in organizing farmers, especially coconut farmers, for the effective implementation of various development schemes of the Department of Agriculture through the local Krishibhavan located at Bheemanadi. Club played an active role in providing feed back to the department officials on the constraints experienced by the farmers and the necessity to formulate and implement appropriate schemes for promoting sustainable farming with the active participation of farmers. Club facilitated the formation of many job clubs involving rural youths with the support of District Employment Office, Kasaragod to take up enterprises for self employment. Farmers who were involved in vegetable cultivation in the locality were experiencing great difficulties due to low market price. Taking into cognizance the problems faced by farmers Joji took initiative on behalf of the farmers club for establishing a farmers' market for vegetables with the support of Vegetable and Fruit Promotion Council Keralam (VFPCCK). Farmers of two panchayats were benefitted by the initiative. Besides agriculture, farmers' club has been actively involved in other rural development initiatives also. Club facilitated effective implementation of various schemes for electrification of houses of scheduled caste families in the panchayat, strengthening facilities for the education of children from downtrodden communities, construction of roads, creation of facilities for promoting cultural and recreational activities by different government agencies.

Joji has been successful in developing his nine acre land holding into a model farm by adopting scientific cultivation

practices. His farm comprises 240 coconut palms, 110 nutmeg plants mixed cropped in coconut garden, cocoa mixed cropped in two acre arecanut garden, besides rubber cultivation in 3 acre land. Vegetables, banana and elephant foot yam were intercropped in coconut garden depending upon the growth stage of nutmeg being cultivated as mixed crop in the coconut garden. He also maintains two cows in his farm which provide sufficient quantity of cowdung for producing organic manure. Joji has adopted various soil and water conservation measures in his coconut garden. Scientific cultivation practices including nutrient management, intercropping, soil and water conservation measures and integrated pest and disease management have enhanced yield of coconut palms in Joji's farm to 130 nuts per tree per year. Joji also supply good quality nutmeg seedlings to farmers for raising as mixed crop in coconut garden for enhancing income. Joji received various awards for his achievements in farming; 'Kathir karshakasree award' presented during the Agricultural Fair organized at

Vellarikundu during 2013, Best coconut farmer award presented by National Agricultural Research Station, Pilicode during 2013 and Best coconut farmer award presented by Parappa block panchayat during 2011 are important among them.

Joji maintains very active link with various agricultural research and development agencies. He attributes the success of extension interventions by his farmers club for improving coconut farming in his locality to the technical support he received from CPCRI, Kasaragod. Coconut growers in his locality were highly benefitted by the Front Line Extension programmes of CPCRI for popularizing various production, protection and processing technologies of coconut. He was a member of the Scientific Advisory Committee of Krishi Vigyan Kendra (KVK), Kasaragod functioning under CPCRI. Coconut growers and other farmers in his locality were highly benefitted by the training programmes and other extension activities conducted by the KVK. He acted as the Project Manager of the Pathayappurachal Watershed



*Dr. George V. Thomas, Director and Dr. C. Thamban, Principal Scientist, CPCRI in Joji's garden*

development Project sponsored by NABARD. He was also selected as a contact farmer for disseminating the weather forecast details among the farmers of his locality as part of a project of RARS, Pilicode.

Joji is a member of district level advisory committee of Agricultural Technology Management Agency (ATMA) Kasaragod functioning as part of Department of Agriculture. Besides, he is serving the farming community as the President of the West Eleri Coconut Producers Federation and as the President of the Farmers' Market sponsored by VFPC at Kattamkavala. Joji is keen to participate in agricultural seminars, workshops and other interface programmes organized by various agencies and make use of such occasions to share his experiences in facilitating the implementation of extension/development programmes for sustainable agricultural development and also to highlight the constraints experienced by

farmers in adopting farm innovations. He participated in the National workshop on farmers' experiences in soil and water conservation conducted at Bangalore during 2013 and presented the success story of implementing the watershed development project and other NRM schemes in his locality.

In the ICAR Regional Committee meeting held at CTCRI, Thiruvananthapuram during 2014 Joji made presentation on the successful experiences of implementing technological interventions related to coconut production technologies especially bud rot disease management as part of NAIP project of CPCRI, Kasaragod through a farmer participatory approach.

Joji is always happy to share his experiences in farming to other farmers. Many farmers from nearby places and other localities visit his farm. Students from College of Agriculture, Padannakkad regularly visit his farm and interact with him.

Joji and other members of Farmers Club always are keen to support research, extension and development agencies by facilitating the implementation of various projects aimed at sustainable development of agriculture. Farmers of West Eleri panchayat and nearby localities are highly appreciative of Joji and his team for their efforts in coordinating various development schemes and agricultural extension initiatives and thereby contributing to agricultural prosperity in the locality. In turn Joji is grateful to the support he receives from agencies such as CPCRI, CDB, Department of Agriculture, NABARD, VFPC etc. Support from the members of farmers' club and his own family members including his mother Mrs. Kunhamma, wife Mrs. Jincy and children Dany, Elizabeth and Jewel keeps him going strong with innovative ideas for organizing farmers and linking various agencies for bringing prosperity through sustainable farming.

## Influence of virgin coconut oil on blood coagulation factors, lipid levels and LDL oxidation

Experimental and epidemiological studies indicate an association between dietary saturated fatty acids and thrombosis, but the effects of individual fatty acids on haemostasis are still controversial. The purpose of the research is to evaluate the effect of feeding virgin coconut oil (VCO) on blood coagulation factors, lipid levels and in vitro oxidation of LDL in comparison with copra oil (CO) and sunflower oil (SFO) in cholesterol (1%) and oil (10% w/w) fed rats. Rats were given the test oils along with cholesterol for 45 days. After the experimental period, serum cholesterol and triglyceride levels, thrombotic risk factor levels viz. fibrin, fibrinogen, factor V, 6-ketoPGF1 $\alpha$  and prothrombin time were measured. In vitro Cu<sup>2+</sup> induced oxidation of LDL, erythrocyte membrane and LDL TBARS content and plasma antioxidant vitamins (A and E) were also evaluated. Administration of VCO showed significant

antithrombotic effect compared to copra oil and the effects were comparable with sunflower oil fed animals. The antioxidant vitamin levels were found to be higher in VCO fed animals than other groups. LDL isolated from VCO fed animals when subjected to oxidant (Cu<sup>2+</sup>) in vitro showed significant resistance to oxidation as compared to the LDL isolated from other two groups. Dietary administration of VCO reduced the cholesterol and triglyceride levels and maintained the levels of blood coagulation factors. Results also indicate that VCO feeding can prevent the oxidation of LDL from oxidants. These properties of VCO may be attributed to the presence of biologically active unsaponifiable components viz. vitamin E, provitamin A, polyphenols and phytosterols.

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