

# Shift from homestead to systematic planting

## success story from Assam

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Shri. Umesh Bora, a 42 year old farmer is an educated youth from Lapatul village from Kamrup district of Assam. He started cultivation of vegetables mainly, cabbage, cauliflower and some leafy vegetables during 2010 in his 1.5 acre of land in the rabi season. During those period he could hardly make both ends meet with his little income of Rs. 25,000-30,000/ per annum from his garden. During the visit of Project Coordinator on Palms in 2012, he was advised to grow coconut in his farm and to follow suitable coconut based intercropping system developed by AICRP on Palms, Kahikuchi centre. With the help of the scientists of AICRP on Palms, this technology was transferred to his farm through FLD programmes. To start the FLD, he has planted 60 coconut seedlings of Kamrupa variety during 2013 supplied from the AICRP centre. Banana, turmeric, Assam lemon and vegetables (rabi & kharif) were also planted as intercrops in a systematic manner in his coconut plantation. At present, he has 150 bearing banana plants (var. Nendran), 50 Assam lemon plants, 125 pumpkins (var. Arjuna) and is growing turmeric (var. Megha), rabi and kharif vegetables every year under coconut plantation. Umesh is now earning a gross income of Rs. 2, 50,000/- annually with a net profit of Rs. 1, 75,000/- by selling the agricultural produces. His earning will be increased more in near future when he starts harvesting his coconut palms. He had participated in trainings on improved cultivation practices of coconut organized by the AICRP on Palms, Kahikuchi centre. His garden was visited and appreciated by the Director of Horticulture, Government of Assam. This transfer of technology



has certainly its impact on the agriculture production as the farm productivity of the beneficiary has been increased by two to three folds besides increasing the annual income. This in turn would facilitate the farmer in providing better education facility to his children and also in acquiring more purchasing power.

Another young and energetic youth, Shri. Milan Boro(40) from Rajapanichanda village of Kamrup district, who was very interested in adopting the coconut based integrated cropping system model in his farm after visiting the model developed at AICRP on Palms, Kahikuchi centre. Hence, through FLD, the scientists tried to transfer the technology in his farm. In the year 2013, he planted 50 coconut seedlings (Var. Kamrupa and Tall x Tall coconut hybrid) in his 0.5 acre of land and the seedlings were supplied by the AICRP on Palms centre, Kahikuchi. Subsequently, he was supplied with turmeric rhizomes (var. Megha) which he has grown as an intercrop under coconut plantation. He got a bumper harvest of 65 quintal of fresh rhizomes from the plot under coconut cultivation and earned Rs. 97,500/- by selling the same in the local market. In the following year, he used to grow the same crop under his new coconut plantation and every year he got good harvest and



income. Besides getting a handsome income from turmeric cultivation, he earns additional income of Rs. 60,000-70,000/- also from his fishery and piggery unit. The Project Coordinator on Palms visited his farm and was pleased with his works. He had undergone training regularly on scientific coconut cultivation and a special training on farm machineries organized by AICRP on Palms and KVK, Kamrup, respectively. Now, he is getting good income by rendering his service in repairing farm machinery (power tiller, power pump etc.). As per records, now he earns nearly Rs. 2,00,000/- annually by selling various produces from his different units of the farm. Moreover, his profits from the farm will be more in near future when he will get the harvest from coconut palms.

The ICAR- All India Coordinated Research Project on Palms started functioning with the objective of conducting location specific research on mandate crops. For the purpose, the coordinating cell with its headquarters at ICAR-CPCRI, Kasaragod, coordinates research in 30 centres including 13 SAUs/SHUs, two CAUs and four ICAR institutes representing fourteen states and one union territory. In Assam, research on coconut crop improvement and crop production is being carried out through AICRP on palms centre functioning in Horticultural Research Station, Assam Agricultural University, Kahikuchi, Guwahati. The centre started functioning under AICRP on Palms from 1985.

## Crop Improvement

**Variety released:** A high yielding coconut variety Kamrupa has been selected and released and recommended for cultivation in Assam. The variety recorded more than 100 nuts/palm/year, tolerant to low temperature and semi-waterlogged condition, tolerant to stem bleeding, red palm weevil, crown choking and grey leaf spot. Better nut quality with 253 ml of tender nut water, copra yield: 2.86 tonnes/

ha and oil content: 64.5%. Adaptable to wide range of soil and highly accepted by the farmers.

## Crop Production

### *Coconut based high density multispecies cropping system:*

A suitable model of coconut based high density multi-species cropping system has been established. The

model comprised of coconut (16 adult palms) + black pepper (var. panniyur-1) + ginger (var. nadia) + Assam lemon + banana (var. chenichampa) + pineapple (var. Kew). The model was found to be profitable and highly sustainable with an annual income of Rs.3 to 4,5 lakh/- per ha.

### *Coconut based medicinal and aromatic cropping system:*

Out of the five medicinal and aromatic plants tried under coconut, the intercropping system of coconut + patchouli proved to be the best with net return of Rs. 1,78,089/ha and benefit cost ratio of 3.26 as against Rs. 52,750/ha and B:C ratio of 1.85 under coconut alone.

**Intercropping of flower crops in coconut garden:** The suitable flower crops identified under coconut are gerbera, tuberose, gladiolus and marigold at Kahikuchi which enhanced the net income to the tune of Rs. 2.00 to Rs. 4.00 lakhs/ha.

### *Nutritional requirement of high yielding/hybrid coconut:*

For the hybrid COD x WCT, a fertilizer dose of 500 g N: 500 g P<sub>2</sub>O<sub>5</sub>: 2000g K<sub>2</sub>O has been proved to be the best by recording the highest yield of 114.8 nuts/palm/year and benefit cost ratio of 3.45.

- **By adopting integrated nutrient practice:** Application of 50% N by urea + 50% N by vermicompost, P<sub>2</sub>O<sub>5</sub> = 500 g/palm/year and K<sub>2</sub>O=2000 g/palm/year, the total nitrogen can be supplied through vermicompost (50 %) and organic fertilizer.

- **Fertilizer application through micro-irrigation technique for coconut:** Application of 75 % recommended dose of fertilizer through drip irrigation recorded the highest nut yield.

In Assam, coconut is being grown as a component crop in the homestead garden, however, efforts were made to plant in a systematic way in a block with Shri. Umesh Bora and Shri. Milan Boro as model farmers. ■