

Enhancing planting material production in coconut through decentralised community nurseries -

Successful experiences of Farmer Producer Organisations

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Introduction

Rejuvenation of coconut orchards by large scale removal of senile and unproductive palms and replanting with quality seedlings of improved varieties is an important strategy suggested for making coconut farming profitable. Even though a substantial number of improved coconut varieties having high yield potential and other desirable attributes have been released by coconut research institutions in the country, lack of availability of quality seedlings is a major constraint experienced by coconut growers to adopt these varieties. It is estimated that about 14.5 million seedlings are required annually to meet the planting material demand in coconut in India. Coconut seedlings are produced and distributed by ICAR-Central Plantation Crops Research Institute (CPCRI), Coconut Development Board (CDB), State Agriculture/Horticulture Universities and State Agriculture/Horticulture Departments from public sector, and a few nurseries from private sector. Public sector contribution is about 4.2 million seedlings only. It is projected that another four million seedlings comes from private nurseries and farmers. Thus, there is a huge gap between demand and supply of coconut seedlings and many unscrupulous elements exploit

the situation and cheat the coconut growers in the country by selling inferior quality seedlings which would adversely affect production and productivity of coconut in the long run.

Facilitating decentralised coconut nurseries managed by FPOs

Promoting decentralised coconut nurseries by utilising superior coconut genetic resources available in farmers' gardens is one of the important short term strategies suggested to enhance seedling production to meet the demand for quality coconut seedlings. Decentralised coconut nurseries can be established and managed by Farmer Producer Organisations (FPOs) to produce coconut seedlings by utilising mother palms of locally adapted coconut varieties available in farmers' gardens and seedlings can be made available locally with the active participation of coconut farmers. Technical support is needed to locate and identify mother palms, collect seed nuts, raise nursery and select quality seedlings for supply to the coconut farmers.

Successful experiences under the novel initiative implemented by ICAR-CPCRI with the support of State Department of Agriculture and Farmers' Welfare, Government of Kerala, since the year 2018

clearly indicate that FPOs in coconut sector can be empowered to establish and manage decentralised coconut nurseries to produce coconut seedlings by utilising mother palms of locally adapted coconut varieties available in farmers' gardens so that seedlings can be made available locally with the active participation of coconut farmers.

Awards were given to the best performing decentralised coconut nurseries managed by Farmer Producer Organisations under the project on decentralised coconut nurseries implemented by CPCRI with the financial support of State Department of Agriculture Development & Farmers' Welfare in the programme organised as part of World Coconut Day celebration conducted online on 8th October 2020. The successful experiences of award winning FPOs viz., Kunnamangalam Federation of Coconut Producers Society and Changaroth Federation of Coconut Producers Society from Kozhikode District and Bharanikkavu Panchayat Federation of Coconut Producers Society, from Alappuzha District in managing decentralised coconut nurseries with the active participation of coconut farmers are narrated below.

Kunnamangalam Federation of Coconut Producers Societies

Based on the activities and achievements in production and marketing of coconut seedlings through decentralised coconut nursery, Kunnamangalam Federation of Coconut Producers Societies from Kozhikode district secured first prize and a cash award of Rs 30,000/- sponsored by CDB in the competition conducted as part of World Coconut Day celebration among the decentralised community coconut nurseries established with the support of ICAR-CPCRI and State Department of Agriculture Development & Farmers' Welfare.



Kunnamangalam CPF was formed in the year 2013 and it covers 20 Coconut Producers Societies spread over three gramapanchayats viz., Kunnamangalam, Chathamangalam and Kuruvattur in Kunnamangalam block of Kozhikode district with a total of 2100 coconut growers as members having a total of 95000 coconut palms.

Production and distribution of quality coconut seedlings has been an important activity of Kunnamangalam CPF ever since it started functioning. During the last five years the federation produced and distributed a total of 55,000 seedlings of WCT and 20,000 seedlings of dwarf varieties. For carrying out planting material production and distribution in the initial four years from 2013 to 2017 the CPF availed financial incentives from CDB under the scheme for promotion of coconut nurseries.



The coconut nursery under Kunnamangalam Federation is located at Pilasseri in Kunnamangalam grama panchayat. The CPF very actively participated in the implementation of decentralised coconut nursery project implemented by ICAR-CPCRI. As part of the project they are maintaining about 400 mother palms in farmer's field for seed nut collection and during the period 2018-20, they collected 13600 and 4302 seed nuts of tall and dwarf varieties respectively. During 2019-20 the Federation distributed 4600 WCT seedlings, 1551 COD seedlings and 621 CGD seedlings to the farmers.

During the current year ie 2020-21, Kunnamangalam CPF could collect 10,000 seed nuts of WCT, 3,000 seed nuts of COD and 2,500 seed nuts of CGD varieties of coconut which are sown in the nursery. They have undertaken pollination in 100 WCT palms using COD pollens for the production of Kersankara hybrids. So far, they have harvested 1530 hybrid nuts and sown in the nursery. Through the



planting material production activity, the federation could generate profit of Rs. three lakhs. Members of the federation attended training on coconut planting material production conducted by ICAR-CPCRI. The Federation organized seminars/ workshops in the locality for creating awareness among farmers on the necessity of using quality planting material for coconut cultivation. The office bearers of CPF indicated that through the decentralised nursery activities the Federation was able to make available quality coconut seedlings to the farmers near to their locality besides generating employment opportunities benefitting many rural households.



Office bearers of Kunnamangalam CPF opined that the concept and practice of decentralised coconut nursery is highly beneficial to the coconut growers. After gaining experience from successfully managing the nursery established at Pilasseri and based on the demand from coconut farmers during this year, the CPF has initiated three more coconut nurseries at Kunnamangalam, Kuruvattur and Vadakara in Kozhikode district. Services of two technical personnel who were trained at CPCRI, Kasaragod on hybridization technique in coconut are being utilized by CPF for the maintenance of the

newly started three nurseries. For the production of seed nuts of hybrid varieties pollination work is being carried out in 110 selected mother palms of coconut.



It has been observed that success of Kunnamangalam CPF in effectively managing decentralised coconut nursery is mainly due to their efforts to establish and maintain functional linkages with State Department of Agriculture through the local Krishibhavans and also with the Local Self Government Institutions. These agencies helped in marketing of coconut seedlings produced by CPF by linking with the implementation of coconut development schemes. During last year 2000 WCT seedlings, 957 COD seedlings and 621 CGD seedlings were distributed to farmers through Krishibhavans. Under the schemes implemented by LSGIs about 4000 WCT seedlings were distributed to farmers.

The CPF give wide publicity through newspapers and other media about availability of quality seedlings in their nursery. The unique feature about the CPF is that they arrange to supply the seedlings in the farmer's garden if the farmer gives indent for bulk quantity of seedlings. Similarly, the federation facilitate the coconut farmers who purchase seedlings from their nursery to avail financial incentives from CDB under the scheme for rejuvenation of coconut.

Kunnamangalam CPF is implementing various activities to benefit coconut farmers besides planting material production through decentralised nurseries. As a market intervention initiative, the CPF has been procuring coconut from farmers since the last two years through the procurement centres at Kunnamangalam grama panchayat and Perumanna grama panchayat. The federation is also having licence for neera production and marketing. However, neera production has been discontinued due to various constraints. The federation facilitates effective implementation of schemes for distribution of fertilizers to coconut farmers implemented by the

State Department of Agriculture and LSGIs through the CPSs. The federation is actively involved in marketing of coconut oil produced by Kozhikode Coconut Producer Company, in which many coconut farmers under the federation are shareholders, through the CPSs. Kunnammangalam CPF has been organizing various transfer of technology programmes on scientific coconut farming in collaboration with CDB, State Department of Agriculture and ICAR-CPCRI for the benefit of coconut growers.

An executive committee with Shri Chandran Thiruvallath as President, Shri P.P.Rajan as Secretary and Shri Venu Koduvangot as Treasurer provides efficient leadership for all the activities of the federation.

Changaroth Federation of Coconut Producers Societies

Changaroth Federation of Coconut Producers Societies from Kozhikode district secured second prize and a cash award of Rs 20,000/- sponsored by CDB in the competition conducted as part of World Coconut Day celebration among the decentralised community coconut nurseries established with the support of ICAR-CPCRI and State Department of Agriculture Development & Farmers' Welfare. Changaroth CPF started functioning in the year 2014. The federation covers 19 Coconut Producers Societies with a total of 2300 coconut growers as members.



In the year of establishment itself the federation started production and distribution of coconut seedlings under the nursery scheme of CDB. 10000 seednuts of dwarf varieties of coconut were procured from Pollachi and Udumalpet in Tamil Nadu and about 7000 quality seedlings were raised and the federation could gain a net income of two lakh rupees through the nursery activities. In the

next year also Changaroth CPF continued nursery activities. However, since demand for seedlings of dwarf varieties was on the decline among the coconut growers in the locality, the federation did not produce any seedlings during 2016-17. But with the support from CDB and demand from coconut growers the nursery activities were restarted in 2017-18. Changaroth CPF very actively participated in the implementation of decentralised coconut nursery project implemented by ICAR-CPCRI. Changaroth is located in the eastern hilly terrain of Kozhikode district where palms of the popular 'Kuttyadi' ecotype of WCT cultivar of coconut are in abundant and procurement of seed nuts of tall variety from farmers' gardens is quite feasible for the federation. State Department of Agriculture also regularly procures coconut seed nuts from the locality.

The federation has identified and geo-tagged



mother palms of dwarf coconut varieties such as Chowghat Orange Dwarf (COD) and Chowghat Green Dwarf (CGD) in farmers' gardens. These mother palms are used for collecting seed nuts for raising seedlings of dwarf varieties and also for pollination to produce seed nuts of hybrid varieties. They are maintaining about 390 mother palms in farmer's field for seed nut collection. During the period 2018-20, they collected 13400 and 4355 seed nuts of tall and dwarf varieties respectively. The federation distributed more than 4600 seedlings of various coconut varieties to the farmers during the period. They have undertaken pollination in 95 WCT palms using COD pollens for the production of Kersankara hybrids. So far, they have harvested 3000 hybrid nuts and sown in the nursery. Through the planting material production activity, the federation could generate income of Rs. five lakhs. Members of the federation attended training on coconut planting material production conducted by ICAR-CPCRI.



Office bearers of the CPF indicated that they get tremendous support from the coconut farmers of the locality and they have already received indent from farmers for the supply of seedlings in the nursery which would be ready in the coming planting season. The federation is planning to utilise about 300 palms for the production of hybrid seed nuts. Identification and geo-tagging of the palms would be done in December.

The community decentralised nursery of CPF is located at Changaroth in 60 cents of leased in land. The office bearers of the federation opined that efforts are to be made by the concerned for the distribution of quality seedlings raised in decentralised nurseries under the coconut development schemes implemented by government departments and Local Self Government Institutions (LSGIs). It would prevent the sales of inferior quality seedlings to coconut growers by the unscrupulous elements which are happening widely throughout the state. It is also important that awareness programmes are organised by agencies such as CDB, state Department of Agriculture and ICAR-CPCRI.

According to the CPF representatives, another area of concern is the lack of availability of skilled workers for pollination in coconut palms required for the production of hybrid seed nuts. Available skilled climbers demand exorbitant amount as wages which the CPF is unable to manage. Two trained pollination workers are there under the Changaroth CPF.

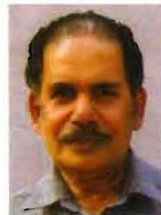
Apart from planting material production Changaroth CPF implements a variety of other coconut development and extension programmes. The CPF is having a copra dryer of capacity 10,000 nuts per day. With the support of CDB the CPF has established the 'Coconut Point' as a sales outlet for coconut products at Paleri town besides creating facilities for the production of value added coconut products. The CPF was procuring coconuts from

farmers earlier. But due to paucity of working funds coconut procurement activities have been stopped since the last few months. Changaroth CPF was the leading producer of neera in Kozhikode district. In the beginning even few palm climbers from Assam and Chhattisgarh were employed by the federation in the neera production enterprise. However, due to the huge loss incurred they have discontinued neera production and marketing.

The federation organized seminars/ workshops in the locality for creating awareness among farmers on the necessity of using quality planting material for coconut cultivation and on the disease & pest management.



Changaroth CPF representatives are of the opinion that the decentralised coconut nursery project implemented with the technical support of ICAR-CPCRI and funding support from Department of Agriculture Development and Farmers' Welfare, Govt. of Kerala should continue for at least five years to benefit the coconut growers. During the online programme conducted by CPCRI in connection



President of Changaroth CPF Shri Rajan Master

with the World Coconut Day celebration the CPF representatives raised this demand. An executive committee of nine members including Shri O.T.Rajan Master as President, Shri. M. Aravindakshan as secretary and Shri Santhosh Koshy as treasurer leads the activities of the Changaroth CPF. A separate sub-committee with three members is constituted to oversee the coconut nursery activities.

Office bearers of Changaroth CPF are optimistic that the activities of the federation can be further strengthened to better serve the coconut growers

ensuring the active participation of coconut farmers and support from various coconut development agencies.

Bharanickavu Panchayat Federation of Coconut Producers Society

Bharanickavu Panchayat Federation of Coconut Producers Society very actively implemented various interventions for establishing and maintenance of the decentralised coconut nursery and they secured third prize and a cash award of Rs 10,000/- sponsored by CDB in the competition conducted as part of World Coconut Day celebration among the decentralised community coconut nurseries established with the support of ICAR-CPCRI and State Department of Agriculture Development & Farmers' Welfare.

Bharanickavu CPF started functioning in the year 2012. The federation covers 15 Coconut Producers



Societies with a total of 1502 coconut growers as members covering 398 ha. The CPF produced and distributed about 570 coconut seedlings in 2017 under the 'Amma thengu' scheme implemented by ICAR-CPCRI Regional Station, Kayangulam.

Bharanickavu CPF very actively participated in the implementation of decentralised coconut nursery project implemented by ICAR-CPCRI. The federation has identified and geo-tagged 98 mother palms of dwarf coconut varieties in farmers' gardens and



these mother palms are used for collecting seed nuts for raising seedlings of dwarf varieties.

During the period up to May 2018 the CPF

collected 570 seed nuts of tall varieties and 6700 seed nuts of dwarf varieties. The federation has so far distributed about 5800 seedlings of dwarf varieties and 570 seedlings of tall varieties. Bharanickavu federation could realise a net income of 4.5 lakh rupees through the nursery activities which they plan to utilise to strengthen planting material production programme in the coming years.

A public meeting was convened by CPF in connection with the first sales of coconut seedlings on 13.12.2018. CPCRI Regional Station, Kayangulam supported the CPF for the marketing of seedlings by giving information to coconut farmers about seedling availability with the CPF nursery. The CPSs under the federation were motivated to distribute coconut seedlings to farmers utilising available funds with them. The CPF participated in the Farm Festival organised by a nearby Farmers' Club and arranged for sales of coconut seedlings to farmers through its pavilion. Local Krishi bhavans also were contacted for support in the sales of coconut seedlings. Federation also supported coconut growers by selling the seedlings at subsidised rate.

According to the leaders of Bharanickavu CPF a major problem in the management of decentralised



coconut nursery is lack of availability of skilled palm climbers and the difficulty due to the fact that the mother palms are identified in farmers' gardens which are located in a scattered manner. They also experienced difficulties for seed nut procurement due to the flood and also due to the present COVID-19 pandemic. Limitations to provide continuous employment to labourers engaged in nursery related activities is also another problem.

The CPF representatives suggests that to sustain the activities of decentralised coconut nurseries efforts need to be made to retain the service of experienced palm climbers of the locality who are quite familiar with the locations of mother palms identified in farmers' gardens. It is also necessary to constantly in touch with the coconut farmers in whose plot mother palms are identified so that seed nut procurement is made easy. Technical support



is required for the CPF for identifying the naturally crossed dwarf seedlings in the nursery and also for locating disease tolerant WCT palms in farmers' gardens. Members of the federation attended training on coconut planting material production conducted by ICAR-CPCRI.

The CPF regularly conducts meetings of the members and discuss about various activities to be implemented besides taking necessary steps for renewal of registration of CPSs with the CDB. The federation also facilitate marketing of coconut oil produced by the Onattukara Coconut Producer Company and also for the procurement of coconut from the farmers for the CPC coconut oil processing unit.

Various activities of Bharanickavu CPF are carried out under the leadership of Shri Thomas M Mathewkutty as President, who is also a member of the Director Board of Onattukara Coconut Producer Company, Shri Augustin Manoharan as the Secretary, Shri Omanakuttan as the Treasurer Shri Hareesh Kumar, Shri K.K.Sivadasan, Shri Hariharan Nair and Shri Gangadharan Nair as members of the executive committee.

Conclusion

The successful experiences under the project on decentralised coconut nurseries implemented by CPCRI with the support of State Department of Agriculture, Government of Kerala, clearly indicate that there is great potential for empowering the FPOs for enhancing planting material production in coconut sector through decentralised community nurseries. Continued support from research institutions, development agencies and Local Self Government Institutions is essential for sustaining the activities of decentralised nurseries managed by FPOs. ■

Advertisement Tariff of Coconut Journals

Indian Coconut Journal (English monthly), Indian Naliker Journal (Malayalam monthly), Bharatiya Nariyal Patrika (Hindi quarterly), Bharatiya Thengu Patrike (Kannada quarterly) and Indhia Thennai Idazh (Tamil quarterly) are the periodicals of the Coconut Development Board. These journals regularly feature popular articles on scientific cultivation and other aspects of coconut industry. The journals are subscribed by farmers, researchers, policy makers, industrialists, traders, libraries, etc.



Position	Indian Coconut Journal (English monthly) (Rs.)	Indian Naliker Journal (Malayalam monthly) (Rs.)	Indhia Thennai Idhazh (Tamil quarterly) (Rs.)	Bharatiya Nariyal Patrika (Marathi Bi-annual) (Rs.)	Bharatiya Kobbari Patrika (Telugu Bi-annual) (Rs.)	Bharatiya Thengu Patrike (Kannada quarterly) (Rs.)	Bharatiya Nariyal Patrika (Hindi quarterly) (Rs.)
Full page - B & W	No B&W pages	No B&W pages	5000	5000	5000	5000	No B&W pages
Full page - Colour	20000	20000	10000	10000	10000	10000	5000
Half page - B & W	No B&W pages	No B&W pages	3000	3000	3000	3000	No B&W pages
Quarter page - B & W	No B&W pages	No B&W pages	1500	1500	1500	1500	No B&W pages
Back inner cover - Colour	25000	25000	10000	10000	10000	10000	8000
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