



Facilitating decentralized coconut nurseries for production and distribution of quality seedlings –

Experiences from the pilot project in Kerala

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Coconut production in Kerala state, the land of coconut, is adversely affected by various constraints and its share to the total coconut production in the country is on the decline compared to other major coconut producing states. Low productivity of coconut in the state is mainly attributed to the predominance of senile and unproductive palms. Rejuvenation of coconut orchards by large scale removal of unproductive palms and replanting with quality seedlings of improved varieties is an important strategy suggested for making coconut farming profitable in the state. A substantial number of improved coconut varieties including tall, dwarf and hybrids having high yield potential and other desirable attributes have been released by coconut research institutions in the country. Central Plantation Crops Research Institute (ICAR-CPCRI) has so far released 21 coconut varieties which include 10 tall, five dwarf and six hybrid varieties. Lack of availability of quality seedlings is a major constraint experienced by coconut growers

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to adopt improved coconut varieties. In Kerala state it is estimated that on an average about 30 lakh coconut seedlings are required every year. However, the coconut nursery infrastructure available with public sector agencies including State Department of Agriculture and Farmers' Welfare, ICAR-CPCRI, Kerala Agricultural University and Coconut Development Board and a few private nurseries put together are able to produce and distribute annually only about 10 lakh coconut seedlings in the state. 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 state by selling inferior quality seedlings which would adversely affect production and productivity of coconut in the long run.

Enhancing coconut seedling production- Long term strategies

Establishing new coconut seed gardens in suitable locations, improving infrastructure facilities in the existing coconut nurseries managed by public sector agencies for enhancing coconut seedling production, developing coconut mother palm blocks by planting seedlings of different varieties suitable for producing seednuts/seedlings of varieties recommended for the state in the coconut nurseries and farms under the State Department of Agriculture and Farmers' Welfare, promoting nucleus seed gardens in farmers' plots etc are suggested as long term strategies to enhance coconut seedling production.

Promoting decentralised coconut nurseries

Utilisation of superior coconut genetic resources available in farmers' gardens is the most important short term strategy to enhance seedling production to meet the demand for quality coconut seedlings. Superior coconut genetic resources available in farmers' gardens have been utilised for coconut seedling production including seedlings of hybrid varieties by the State Department of Agriculture and

Farmers' Welfare. The seed nuts procured from the selected mother palms in farmers' gardens in few localities in the state are raised in coconut nurseries under the Department in different locations and distributed to coconut growers in the state through the offices of the department. In this approach extent of participation of coconut growers in the seedling production programme is almost nil except for receiving the cost of seed nuts and the entire programme is managed by the personnel of the State Department of Agriculture.

Decentralised coconut nurseries can be established and managed by Farmer Producer Organisations 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, pollinate, collect seed nuts, raise nursery and select quality seedlings for supply to the coconut farmers.

A novel farmer participatory initiative to facilitate decentralised coconut nurseries

ICAR-CPCRI with the support of State Department of Agriculture and Farmers' Welfare, Government of Kerala, has been implementing a novel initiative to facilitate decentralised coconut nurseries in Kerala state since the year 2018. The initiative aims to provide technology support to identify mother palms, establish decentralised community nurseries and produce quality planting material in a farmer participatory mode and to make available locally, quality planting material of dwarf /semi tall/hybrid coconut varieties to benefit coconut growers.

The methodology for implementing the initiative includes identification of locally adapted genotypes (tall and dwarf) with desirable traits, production of seedlings of hybrids and improved dwarf varieties, establishment of community nurseries for seedling production in selected farmers plots in different localities, distribution of quality planting material at an affordable price, develop network of community nurseries and distribution channels to facilitate sustainable production of quality seedlings, continued technical support and guidance from ICAR-CPCRI and Department of Agriculture Development and Farmers' Welfare to facilitate production and supply of quality planting material. Expenditure on initial seed nut collection and seedling production is provided under the project.





The initiative is funded by the State Department of Agriculture under 'Coconut Development Scheme 2017-18'. All the districts in Kerala except Wayanad and Idukki are covered under the initiative through two projects entitled "Technology support for coconut hybridization/ production of semi tall varieties programme" and "Production and distribution of quality planting material of dwarf/ semi tall varieties programme". The project is being implemented with Principal Agricultural Officers (PAOs) as the Co-Principal Investigators and Deputy Directors of Agriculture (YP) as co-ordinators for respective districts for facilitating project interventions.

A state level project planning workshop was held at ICAR-CPCRI, Kasaragod on 26th February 2018. Farmers, representatives of farmer organizations, Scientists from ICAR-CPCRI, Officials from the State Department of Agriculture Development and Farmers Welfare and Project Staff attended the meeting. District level meetings were conducted in all districts during March 2018. Focused group discussions on the project implementation were held at grass root level in each of the districts in which project technical staff, officials of Department of Agriculture, coconut farmers and representatives of producer organisations in coconut sector participated.

Training programmes were conducted to empower the technical staff under the project and Coconut Producer Federations involved in the implementation of the project on various aspects of mother palm selection, hybrid production, seed nut collection, nursery management, seedling selection etc were conducted at different locations. Besides, capacity development programmes for the coconut climbers were also organised on hybridization techniques in coconut for the production of seedlings of hybrid varieties.

Subsequently, Coconut Producer Federations (the second tier in the three-tier FPO structure in coconut sector facilitated by CDB) in each district were

selected for managing the decentralised coconut nurseries. With the active participation of the stakeholders including coconut farmers, CPFs and extension personnel of Department of Agriculture various interventions such as selection of ideal locations for establishing the decentralised coconut nurseries, identification of mother palms in farmers' plots, collection of seed nuts, establishing coconut nurseries and scientific management of nurseries were carried out in all the twelve districts.

So far 32 decentralised nurseries have been established. (Table: 1)

These decentralised coconut nurseries have started selling seedlings to coconut farmers. However, some of the nurseries are facing difficulties in marketing of seedlings. Hence, it is important that necessary support is provided to the decentralised coconut nurseries by developmental agencies like State Department of Agriculture and Local Self Governments to sustain their activities, especially marketing of seedlings. Continued technical support is also necessary to effectively carry out activities such as mother palm selection, nursery management, seedling selection, artificial pollination for hybrid seed nut production etc.

Way forward

The potential for utilising superior coconut genetic resources available in farmers' gardens needs to be effectively utilised to enhance the availability of coconut seedlings. Farmer Producer Organisations in coconut sector are to 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. This has been amply demonstrated under the project being implemented by ICAR-CPCRI with the support of State Department of Agriculture and Farmers' Welfare, Government of Kerala. Trained manpower is essential to the success of planting material production in coconut. Skill upgradation of local climbers was part of the initiative. This has to be taken forward to larger scale to develop a team of skilled pollinators. Suitable support mechanism needs to be ensured for the sustenance of such decentralised initiatives besides the coordinated activities of various agencies involved in implementing interventions for sustainable coconut development. ■

Table 1: Decentralized coconut nurseries established under the project implemented by ICAR-CPCRI funded by Department of Agriculture Development and Farmers' Welfare, Govt. of Kerala

Sl. No.	Farmers Producer Organization managing the coconut nursery	Location of the coconut nursery	Contact Number
KASARAGOD DISTRICT			
1.	Parappa Block Federation of Coconut Producers Societies, Parappa P.O., Kasaragod Kerala-671533. Reg. No. CPF/KSD/2015-16/016	Parappa, Parappa P.O., Kasaragod- 671533	9447474464
2.	Nileshwaram Nalikeru Uthpadaka Sangam, Nileshwar P.O., Kasaragod, Kerala – 671314. Reg. No. KSR/CA/357/2014	Karuvacheri, Nileshwara P.O., Kasaragod- 671314	9447711648
3.	Sowparnika Nalikeru Uthpadaka Sangham Beripadavu Ballur (Via) Uppala, Kasaragod, Kerala -671322. Reg. No. CPS/KSD/2012-13/217	Beripadavu, Beripadavu P.O., Bayar, Kasaragod-671322	9480055943
KANNUR DISTRICT			
4.	Kalpavruksha Coconut Federation, Aralam North, P.O., Keezhpally, Kannur, Kerala -670704. Reg. No. CPO/KNR/2014-15/015	Keezhpally, Aralam North P.O., Kannur-670704	9747272140, 9447872940
5.	Navajyothi Infarm Coconut Producers Society, Chemperi, P.O., Kannur, Kerala -670632. Reg. No. 113/2010	Chemperi, Chemperi, P.O., Kannur- 670632	9447458674
6.	Verginvalley Coconut Producers Federation, Kelakam P.O., Kannur, Kerala- 670674. Reg. No. CPF/KNR/2015-16/24, KNR/CA/794/2014	Adakkathode, Adakkathode P.O., via Kelakam, Kannur-670674	9495314874
KOZHIKODE DISTRICT			
7.	Korapuzha Coconut Producers Federation, Eranhikkal P.O., Kozhikode, Kerala – 673303. Reg. No. KKD/CA/357/2013	CPF/KKD/2013-14/018 Eranhikkal, Eranhikkal P.O., Kozhikode- 673303	9744467135
8.	Kunnamangalam Federation of Coconut Producers Society, Kunnamangalam P.O., Kozhikode Kerala-673571. Reg. No. KKD/CA/474/2013,	Pilasseri, Pilasseri P.O., Kozhikode-673571 CDB No. CPF/KKD/2012-13/014	9446354662
9.	Changaroath Federation of Coconut producers societies, Paleri Town P.O., Kozhikode Kerala-673508. Reg. No. CPF/KKD/2013-14/034	Changaroath, Paleri Town P.O., Kozhikode- 673508	9961487913,9495411805
MALAPPURAM DISTRICT			
10.	Purathur Kerakarshaka Federation of Coconut Producer's Society, Muttanoor P.O., Purathur, Tirur, Malappuram, Kerala- 676561. Reg. No. CDB/016/13-14	Mammante parambu, Millumpadi, Muttanoor P.O., Purathur, Tirur, Malappuram-676561	0494-2563366, 9747051504, 9605809945
11.	Kera Suraksha Federation of Coconut Producers Societies, Maranchery P.O., Malappuram, Kerala- 679581. Reg. No. 563/2012	Avindithira, Maranchery P.O., Maranchery, Malappuram- 679581	9995118821, 9846454779
12.	Vettom North Kera Karshaka Federation of Coconut Producers Societies, Pariyapuram, Pachattiri P.O., Tirur Malappuram Kerala -676105. Reg. No. CPF/MPM/2012-13/003	Kanoor, Pariyapuram, Vakkad P.O., Tirur, Malappuram- 676502	9072259775,9495511838
PALAKKAD DISTRICT			
13.	C P Challa Nalikeru Uthpadaka Sangam, C P Challa, Nattukal P.O., Palakkad, Kerala-678554. Reg. No. PKD/TC 64/2013	5 th mile, Nattukal P.O., Chittur, Palakkad-678554	9388410814
14.	Palakkad Block Federation of Coconut Producers Society, Velikkad P.O., Mundur, Palakkad, Kerala – 678592. Reg. No. PKD/CA/73/2014	Ezhakkad P.O., Mundur, Palakkad- 678600	9446800529, 7012745582
15.	Malleeswara Federation of Coconut Producers Societies, Kottathara P. O., Agali, Palakkad-678581. Reg. No. CPF/PKD/2016-17/027	Sambarkod, Agali P.O., Palakkad- 678581	9020654721
THRISSUR DISTRICT			
16.	Ollur Federation of Coconut Producer Societies, Surabhi Road, Kuttanellur P. O., Thrissur, Kerala-680014. Reg. No. TSR/TC/638/2014 PF/TCR/2014-15/02.	Illanthuruthi, Ollur, Thrissur	8848543385

17.	Arthat Kunnankulam Federation of Coconut Producers Societies, Chittanjur P.O., Kunnankulam, Thrissur, Kerala -680523. Reg. No. TSR/TC/583/2014 CDB Reg. No. CPF/TCR/2014-15/022	Ullisseri, Nhanangahat (P.O.), Thrissur- 679563	8593839677, 9847698006
ERNAKULAM DISTRICT			
18.	Mookkannoor Federation of Coconut Producers Societies, Mookkannoor P.O., Ernakulam, Kerala- 683577. Reg. No. CPF/EKM/2013-14/006	Mookkannoor, Mookkannoor P.O., Ernakulam-683577	9745813439
19.	Vadel Nalikerla Ulpadaka Sangam, Nayarambalam P. O., Ernakulam, Kerala - 682509. Reg. No. CDB-SPS/KL/EKM/2013-14/0143 (Societies Reg. No. EKM/TC/478/2013)	Njarakkal, Nayarambalam P.O., Ernakulam-682509	9446094383, 9656464383
KOTTAYAM DISTRICT			
20.	Kairali Nalikerla Ulpadaka Sangham, Perumpanachy P. O., Changanacherry, Kottayam, Kerala-686536. Reg. No: KTM/TC/534/2014	Perumpanachy, Perumpanachy P.O., Changanacherry, Kottayam-686536	9495664580
21.	Keragramam Apex Body, Thiruvarpur, Kottayam, Kerala-686020. Reg. No: KTM/TC/414/2017	Thiruvarpur, Kottayam	9249338916
22.	Kallara Nalikerla Ulpadaka Sangham, Kallara, South P.O., Kottayam-686611. Reg. No. KTM/TC/581/2015;CPF/KTM/2015-16/020	Kallara, South P.O., Kottayam	9446378893
ALAPPUZHA DISTRICT			
23.	Kerasree Thekkekara, Thekkekara P.O., Alappuzha Kerala-690107	Pallarimangalam, Thekkekara, Alappuzha	09539851155
24.	Bharanikkavu Panchayath Federation of Coconut Producers Society, Pallickal P.O., Alappuzha, Kerala-690503. Reg. No: ALP/TC/630/2012	Koical- Kattachira, Bharanikkavu, Alappuzha-690503	9495018884
PATHANAMTHITTA DISTRICT			
25.	Pannivelikkal Padasekhara Samithi, Melood P. O., Adoor, Pathanamthitta, Kerala -689501. Reg. No: PTM/TC/32/2018	Pannivelikkal, Melood P.O., Adoor, Pathanamthitta	9446467066
26.	Kadapra Naleekera Ulpadaka Sangham, Niranam P. O., Thiruvalla, Pathanamthitta Kerala -689621. Reg. No: CDB/KL/PTA/2013-14/005	Kadapra, Niranam P. O., Thiruvalla, Pathanamthitta	9496325869
KOLLAM DISTRICT			
27.	Oachira Farmers Extension Organisation (OFEO), P.O., Oachira, Kollam Kerala -690526. Reg. No. KLM./TC./95/2014	Neelikulam, Ward 12, Kulashekarapuram, 690518, Oachira, Kollam	9037533559
28.	Kallada Federation of Coconut Producers Societies, Padinjare Kallada, P.O., Kollam Kerala-691500. Reg. No. KLM/TC/1074/2012	Kallada nursery, Kadapanath, Peruvilakara P.O., 691500, West kallada, Sasthamcotta Block, Kollam	9544656589
29.	Harithalakshmi Karshaka Sangam, Medayilmukku P.O., Kollam-691001. Reg. No. KLM/EPM/KLM/05-01-2015-06	Perinad nursery, Alavila Puthanveedu, Vellimon West P.O., Vellimon-, 691511 Kollam District Pullyath mukku, Vadakevila P.O., Kollam	9895462314
THIRUVANANTHAPURAM DISTRICT			
31.	Valiyara Coconut Producers Society, Vellanad P.O., Trivandrum-695543. Reg. No. T 12/10	Valiyara Coconut Producers Society, Meppatumala, Valiyara, Vellanad, 695545, Trivandrum	9447111934
32.	Peoples Federation of Coconut Producers Societies, Kazhivoor P.O., Trivandrum, Kerala-695526. Reg. No. CDB/TVM/12-13/005	Kanjiramkulam, Karichal, Kazhivoor P.O., 695526, Trivandrum	9497163838