Community Nurseries for producing quality coconut seedlings

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Coconut has a huge market potential both internationally and in domestic market. India is the third leading country in coconut production and it is the largest consumer. Kerala being one of the leading Indian states in production and consumption of coconuts, has shown a gradual decline in productivity. One of the main reasons cited for such decline is the root (wilt) disease which has adversely affected the coconut production especially in the southern districts of Kerala.

A recommended way to revive the coconut cultivation in Kerala especially in root (wilt) disease affected areas is to uproot the affected palms and replant it with quality coconut seedlings. At present the recommended ratio for replanting of coconut is 60:20:20 with talls: dwarfs: hybrids. In places where dwarfs are to be planted, it is suggested to replant with resistant dwarf varieties. ICAR-Central Plantation Crops Research Institute (CPCRI) has released two dwarf varieties (viz; Kalpasree and Kalparaksha) for the root (wilt) disease prevalent tracts. Along with the increased resistance to root (wilt) disease, dwarf varieties also have the advantage of coming into bearing in 3 to 4 years while the tall varieties could take anywhere between 7 to 10 years. Although their nuts are comparatively small with a much lower copra content, they are best suited for tender nut water and these varieties are in great demand all over the state especially now, when there is a shortage of coconut climbers for harvesting the tall palms.

Farmers have started cultivating these dwarf varieties owing to their early bearing habit and suitability for tender nut water. Its short stature is an added advantage where harvesting is concerned. In addition to the listed dwarf varieties, Chowghat Orange Dwarf (COD) is also popular in Kerala for its sweet tender water. But here lies the conundrum that there are not enough quality dwarf seedlings accessible to a farmer. ICAR-CPCRI Regional Station, Kayamkulam itself is able to meet only partially the demand of seedlings of dwarf varieties of coconut. Over the past ten years, 85% of the farmers approaching CPCRI Regional Station, Kayamkulam demand for seedlings of dwarf varieties of coconut as they are unable to identify genuine and trustworthy nurseries producing seedlings of dwarf varieties. Therefore, to combat this shortage of quality seedlings of dwarf varieties, Department of Agriculture Development & Farmers Welfare (Govt. of Kerala) has joined hands with the ICAR-CPCRI to execute a project titled 'Production and distribution of quality planting materials of dwarf and semi-tall varieties of coconut' during the year 2018-19 in 12 districts of Kerala excluding Idukki and Wayanad. As proposed, identification of dwarf mother palms (CGD, MGD & COD) are being done in the farmers' field and seed nuts are being harvested to be sown in a community nursery. The dwarf palms thus identified are being geo-tagged to ensure transparency and increased accessibility for future projects and surveys.

Criteria for identification of dwarf mother palms

- Palm should be older than 20 years.
- Palm should be true to type and show typical characters of that variety.

Characteristic features and identifiable traits of CGD, MGD and COD palms			
Characters	CGD	MGD	COD
Trunk/Stem	Uniform circumference	Uniform circumference	Uniform circumference
Leaf scars in 1n	> 35	20-25	>25
Male and female flowers	95% overlapping of male and female phase	60% overlapping of male and female phase	90% overlapping of of male and female phase
Nut colour	Green	Green	Orange
Nut shape	Oblong shaped (with a distinct ring)	Oval shaped	Round

- Average annual yield should be more than 100 nuts/year and should show consistency in productivity.
- Palm should be free from pest and diseases
- Palms should have cylindrical stems, closely spaced leaf scars and absence of bole.

Community nurseries for raising dwarf coconut seedlings

Community nursery is perceived as an ideal solution to improve upon the large-scale production of coconut seedlings in Kerala to meet the rising demand for quality planting material. In a community nursery set up, a local farmer/group would be identified to undertake the responsibility of managing the nursery with locally procured planting materials. This nursery set-up ensures enhanced involvement of the farmers and local community in the seedling production and distribution with timely, appropriate scientific interventions.

As part of the project (Production and distribution of quality planting materials of dwarf and semi-tall varieties of coconut) undertaken by ICAR-CPCRI, community nurseries have been identified to produce quality dwarf planting materials from the selected dwarf parental palms. The project aims to have at least three-four coconut nurseries in a district that would cater to the demand of the local farmers with the involvement of coconut farmer groups. The target of this project is to establish four coconut nurseries in four different blocks of each district. A Coconut Producers Society (CPS) / Coconut Producers Federation (CPF)/ Registered Farmer Group/ Non Governmental Organization (NGO) would be identified locally to handle this responsibility and an active farmer within that group with adequate land and experience in coconut farming is selected jointly on the recommendation of the Department of Agriculture to raise the community nursery. The selected farmer(s), groups nominated by CPS/ CPF/NGO would be trained in establishing coconut nursery and a Memorandum of Understanding (MoU) would be signed to seal the contract.

Selected parental palms of dwarf varieties identified and geo-tagged by ICAR-CPCRI would be utilized for collection of mature seed nuts so as to ensure proper germination. Precaution would be taken to harvest only typical seed nuts from the selected parental palms and action for discarding deformed or poor quality nuts would be ensured. Although the seed nuts can be harvested every month, it is recommended that the months leading from January to May are best suited for sowing purposes. The support extended by the ICAR-CPCRI to raise the community nursery would include identification of mother palms and geo-tagging, scientific interventions, meeting transportation charges and initial labour charges for bed preparation and sowing of seed nuts. The selected farmer is expected to take care of the land preparation, irrigation and weeding until the seedlings are ready. The seedlings are also given a `QR code affixed label' after inspection by the ICAR-CPCRI officials to double check the quality before distribution to the farmers at a nominal rate so as to ensure coconut seedling production in the corning years.

Thus, this project aims to ensure that farmers get access to quality seedlings of dwarf varieties of coconut locally through community nurseries by providing financial and scientific assistance to an enthusiastic farmer who just needed an opportunity and support to raise such a nursery which in the long run is expected to provide a steady supply of quality planting materials of coconut for that district. ■