

Strengthening coconut sector in Lakshadweep Islands

Status and strategies for value addition and marketing

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Background

Though tremendous opportunities exist in the Lakshadweep islands for enhancing income from coconut farming through production and marketing of value added products, there are only very few coconut based processing units functioning in the islands. The opportunity to market value added coconut products from the islands as 'Lakshadweep organic brand' is also yet to be properly utilised. Inadequacy of entrepreneurship among the islanders for exploring the potential for income generation through coconut based value addition enterprises is quite evident. Few entrepreneurs who have ventured to market organic coconut oil are encountered with

many problems especially those related to marketing. Copra, coconut oil, coir and coir products, neera (coconut inflorescence sap) and coconut jaggery are the major traditional coconut based enterprises available in the islands. Enterprises for value addition using advanced processing machineries and infrastructure are yet to be established. Problems due to limited transportation and marketing facilities, lack of difficulty in repair and maintenance of the existing old machinery in the coconut processing units functioning under government agencies, lack of efforts for facilitating farmer collectives to take up value addition enterprises, lack of proper guidance for individual private entrepreneurs in the islands



for the production and marketing of coconut value added products, lack of labour and high wage rate etc. adversely affect the sector.

A team of scientists from ICAR-CPCRI recently visited different islands as part of the expert team constituted by National Horticulture Board for survey and selection of young farmers/entrepreneurs from Lakshadweep islands for Horticulture Entrepreneurship Development Programme. The team interacted with officials of Departments of Agriculture, Industries and Co-operation, people's representatives, entrepreneurs and farmers and visited coconut based processing units in different islands to assess the scenario of value addition and marketing of coconut. Based on the stakeholder interaction and visit to the processing units the team made suggestions on strategies for strengthening the coconut sector in the islands through value addition.

► i. Coconut consumption pattern

A substantial quantity, roughly one-fourth, of nuts produced in the islands are used for domestic consumption. Coconut is the key ingredient in all the culinary preparations of the islands. There are a number of recipes using fresh matured kernel, half matured kernel and tender kernel. Major share, nearly two-third, of coconuts produced are used for copra preparation. Tendernut consumption is very limited; about less than five per cent of total production of nuts. Islanders use tendernut mostly during 'Eid', the festival season. Tendernuts are also harvested for the tourists visiting the islands. Limited quantity, less than five per cent, of nuts are used for making coconut oil for domestic consumption. A small quantity of nuts are sold by farmers to desiccated coconut factories in Kadmat, Amini, Androth, Kalpeni and Agatti islands under Laccadive Development Corporation Limited (LDCL). The consumption pattern of coconuts in Lakshadweep islands clearly indicate the unutilised potential for value addition through product diversification for higher income.

► ii. Marketing of coconut

In the olden days marketable surplus of nuts were converted to copra and sold. But of late the trend is changing. Many farmers do not show any interest in copra preparation, instead they directly sell fresh mature nuts to the local traders. This trend is prevalent more in islands like Andrott, Minicoy and Kavaratti which have more transport facilities for shipping nuts to the markets in the mainland, mainly in Kozhikode. In Andrott island it is observed that

about 90% of the produce is sold as nuts and only 10% of nuts are made into copra. Lack of interest among the new generation for the traditional activities like copra making, shortage of skilled labour and high wage rate are some of the reasons attributed for the shift towards selling as nuts.

► iii. Production and marketing of copra

Traditional method of copra making and marketing is the major economic activity in the farm sector in the islands. Copra is made by sun drying in the traditional way. Every thing related to copra making is done manually. Modern copra dryers are used by only few entrepreneurs in islands like Andrott who are in to production and marketing of coconut oil. The season for copra making is from December to May. By December-January farmers and entrepreneurs prepare temporary drying yards in the open space near the sea shore. Each square shaped drying unit is demarcated using thatched coconut leaves. Dehusked nuts are transported to these drying yards, cut and spread for drying, deshelling done and packed in gunny bags after proper drying for sending to markets. Drying time usually taken is seven days. Farmers assess the proper drying of nuts by test breaking the dried copra cup and listening to the sound while breaking by hand. Due to the inadequacies of the traditional method of sun drying, farmers often find it difficult to produce copra meeting the minimum standards specified by the procuring agencies and thus realising less income. During rainy season after May farmers store the harvested nuts.

There are two predominant marketing channels for copra in the islands: i. Farmers sell copra to private local trader (who can be the agent of main land trader also) who in turn transport it to mainland and sell to big traders in the mainland. ii. Farmers sell copra to co-operative society in the island. The volume of copra transaction through these two channels differ from island to island. For example, in Kiltan island about 80% of copra is sold to the society by farmers and only the remaining is traded through the private traders. But in some islands societies do not procure copra to that extent mainly due to lack of fund allocation in time by Lakshadweep Cooperative marketing Federation.

There is a third marketing channel also in which big farmers or group of farmers who are close relatives or neighbours transport their copra to mainland and sell copra to private traders in the mainland. Only a small quantity of copra is traded through that



type of channel. Motor Sailing Vessels (MSV) locally called 'Manchu' transport copra every fortnight from the islands to the mainland markets. During earlier days group of 3-4 farmers used to transport copra in sailing boats (locally called as "uru") to the mainland markets located at Mangalore, Kozhikode and Kochi to directly sell to traders.

Using the money obtained by selling copra all household items required for the next season are purchased and brought to the islands.

Co-operative Supply and Marketing Society in the islands functioning under the Department of Co-operation procure copra from farmers during the season from January to May. The society will issue a slip to the farmer when the copra is procured and a part of the market price will be paid next day at the Kozhikode market rate published in the newspaper (Kozhikode edition) on the date of procurement in the island. The balance amount will be settled only after disposal of copra in the mainland market. While procuring copra the societies ensure good quality of the copra as per the specification; ensuring that copra procured conform to the standards for the maximum limits of tolerance for fungal infected copra (5% by count), wrinkled kernels rubbery copra (5% by count), smoky kernels (5% by count), moisture (5%) and insect infestation (nil). Island farmers often experience difficulties due to the delay in payment for the copra sold and insistence for the quality standards by the co-operative societies. Societies will send the copra to the apex body viz., The Lakshadweep Co-operative Marketing Federation at Beypore, Kozhikode. The federation in turn sell the copra from Kozhikode to NAFED or big private enterprises like MARICO or other big private traders in the mainland; usually within two days. Farmers in the islands will be paid the balance amount by the

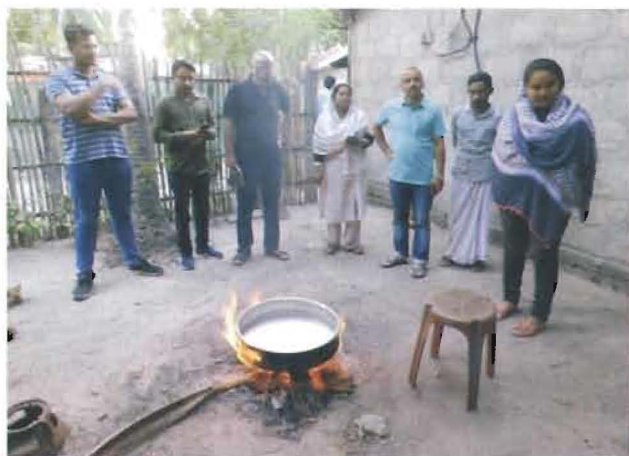
society in the next day after the copra is sold in the mainland market by the federation. Though societies most of the times offer higher market rate for copra compared to the private traders, delay in payment is a problem experienced by farmers and hence many of the farmers transact with private traders.

► *iv. Coconut oil*

Earlier days people of Lakshadweep prepared coconut oil for their domestic consumption through the indigenous copra milling method using 'chakku'. Currently a few modern small scale copra milling units are functioning in the islands in private sector to meet the demand for coconut oil. Few of them export the oil to mainland and one private entrepreneur from Andrott island has started exporting coconut oil to the Middle East countries.

The commercial enterprises in the private sector are trying to sell coconut oil as 'Lakshadweep organic' making use of the government programme to get organic certification for the farm holdings in





the islands. However, the coconut oil production units experience various constraints which include problems in marketing, lack of sufficient funds for procurement of nuts, lack of labour, high cost of transportation of oil to mainland and difficulty in transportation during the adverse climatic condition of monsoon period etc.

The entrepreneurs also perceived that more support is required from governmental agencies including the Department of Industries for successfully running the enterprises. They further opined that public sector agencies under the UT administration like LDCL, SPORTS (Society for Promotion of Nature Tourism and Sports) etc. can procure coconut oil from them for supply/use and sales through their outlets. Another difficulty experienced by the coconut oil enterprises in the islands is that there is no technical expertise available in the islands in the event of any damage or malfunctioning of equipments and machineries.

► v. Virgin Coconut Oil (VCO)

Home scale processing of Virgin Coconut Oil has been a traditional practice in the households of Lakshadweep islands. The traditional method of VCO preparation involves grating the kernel of mature coconuts, extraction of milk from the gratings, keeping the milk thus extracted for cooling overnight, boiling the milk next day for about two and half hours and separating the VCO.

Women folks of the islands are the skilled work force involved in VCO preparation and marketing. VCO thus produced is sold locally and is used as hair oil, baby oil, massage oil etc. Village Dweep panchayat supports VCO production through interventions under which coconuts are supplied to women and VCO produced by them is collected back and sold.

Though VCO is attracting attention worldwide as a value added coconut product having a number of medicinal and nutraceutical properties there are not many commercial VCO production units in the islands employing modern methods and machineries. We could meet Mr Mohmmmed Iqbal, an entrepreneur in Andrott island who is manufacturing VCO through Direct Micro Expelling (DME) technology in his enterprise 'Dweep Fibres and Traders'. Mr. Iqbal is not aware much about the advanced and efficient



methods for production of VCO. His unit processes about 350 kg coconuts a day and produces about 35 kg VCO which is sold in the mainland, mainly in Kozhikode market. Major problem experienced by him in successfully managing the VCO production unit is related to transportation and marketing. The mature coconut water, the by product obtained during the processing is presently has no use and is disposed as such. The technology for vinegar, mature coconut based unfermented beverages such as squashes, Ready- To-Serve etc. can be included in his unit to get more income and to solve the problem of waste disposal.

Conventional hot processing of VCO is practiced in many units. The by-products such as mature coconut water, coconut milk residue, VCO cake are presently under utilized. Coconut water based value added products, coconut milk residue based snacks, bakery and confectionary products, VCO cake based confectionary products. There is potential for commercial production and marketing of VCO as a value added coconut product under the 'Lakshadweep organic brand' which is not presently utilised/ explored. Interventions are required for facilitating FPOs and women SHGs for tapping the potential for production and marketing VCO.

▶ vi. Neera

'Neera' (coconut inflorescence sap) tapping and utilization of the sap for consumption and preparation of spread/ sugar and vinegar is a traditional practice in all the Lakshadweep islands. The conventional method of neera (locally known as 'meera') tapping involves cutting the unopened spadix for about 15 cm from the tip of spathe. After a week, the entire spathe will be removed. The inflorescence sap oozing out is collected twice in a day in plastic can/ bottle kept close to the cut end of the spadix. Tapping is done for about 45 days.

Department of Agriculture has been implementing a major scheme for promoting neera tapping and jaggery preparation in the islands. As part of the scheme, Department of Agriculture lease in coconut palms from farmers for neera tapping and pay them lease amount @ Rs 1000/palm/year. Experienced and skilled casual labourers are engaged as neera tappers through the village Dweep Panchayat and the department pays them wages. During 2018-19, 25 neera tappers are engaged in tapping in Andrott island who tap coconut palms in 21 selected coconut



gardens of farmers. Neera thus collected is sold to the public in the form of neera, vinegar and jaggery. About 80% of vinegar and jaggery requirements of the Androth island is met under this scheme. In Andrott island a voluntary organisation of youth (Socio Economic Arts and Sports Empowerment Society, SEASES) is also involved in procuring neera from tappers and produce and market coconut jaggery among the islanders. The club purchase on an average 50 litres of neera from tappers @ Rs 70/- per litre, out of which they produce about 7 kg of coconut spread/jaggery which is sold @ Rs 550/- per kg. They also sell neera @80/- per litre. There is scope for improving the neera tapping method and methods of preparation of vinegar and jaggery. The



technology of neera collection and sugar production was demonstrated by CPCRI in the islands and 3-5 tappers were trained for collection of neera using "Coco-sap chiller".

▶ vii. Desiccated Coconut Powder

Desiccated Coconut Powder (DCP) is produced and marketed by LDCL through the coconut processing units located at Kadmat, Amini, Androth, Kalpeni and Agatti islands. A part (35-40%) of DCP produced are sold locally. There is good demand for DCP during the tourist season from October to March and buyers are attracted since the DCP made available is made from organically produced coconuts. The unit at Kadmat



also has an oil expelling unit for utilising the testa, the co-product of DCP. Presently LDCL, Kochi is the main outlet for marketing DCP. However, outlets available for marketing the product in other localities can also be explored, especially by highlighting the special feature of 'DC processed from organically grown coconuts from the islands'. There is a huge scope for improving the functioning of the coconut processing units under LDCL. The old buildings and infrastructure need to be renovated and advanced equipments and machineries can be introduced. More attention needs to be paid for maintaining quality standards for the value added coconut products and for introducing



improved packaging system such as Form Fill Seal (FFS) machines. In the DCP factory the process chain can be completely mechanized for producing export quality DC powder

from Lakshadweep. In addition, a small quality control laboratory needs to be set up along with the existing plant.

► *viii. Coir and coir products*

Five coir fibre factories, five production demonstration centres and seven fibre curling units are functioning in Lakshadweep islands under the

Department of Industries, U.T of Lakshadweep. These units produce coir fibre, coir yarn, and curled fibre and coir mats. In the coir fibre factory in Kadmat island about 1200 coconut husks are processed per day for coir fibre using the retting method. The yield of fibre obtained is about 70-75 kg. Coir pith, the by product, is unutilised. Women labourers (10 women workers) are engaged for coir spinning. The conveyer belt is not in working condition. The existing machineries can be replaced with improved alternatives. Setting up of facility with improved machineries will result in drudgery reduction and improving the output. Sales of the mat produced is confined only to the factory outlet. Collaboration with Institutes/ agencies like Coir Board should be made useful for marketing these coir based products. The Coir Production Centre in Andrott island engage 12 workers; 11 women and one male. There are eight spinning machines in the centre, two are damaged and need to be repaired. The centre experience difficulties such as lack of availability sufficient quantity of coir fibre, delay in getting spare parts of machineries. Once the machines are damaged there is huge delay in getting the same repaired. The efficiency of coir fibre and spinning units can be enhanced by improving infrastructure, introducing new machineries and equipments, timely repair of machineries, product diversification etc.

Coconut fibre based jewellery making and handicrafts: During 2009 five women from Andrott island were trained on Coconut fibre based jewellery making and handicrafts at National Coir Training & Design Centre (NCT&DC) functioning under the Central Coir Research Institute of Coir Board, Kalavoor, Alappuzha in Kerala state. On their return after training, these women started making coconut fibre based jewellery items and once they had sent the prepared items to NCT&DC. In 2016, these master trainers started imparting training to selected women from the island. Presently the unit is having 40 trainees in two shifts. The trained women make very attractive jewellery items using coir fibre. Minimum two days are required to finish a product. However, they find it difficult to market the items and there are no schemes by the concerned governmental agencies to support these trained women. Interventions are needed for facilitating the formation of a women SHG on coconut fibre based jewellery making and handicrafts in the islands along with support for arranging exhibition and sales of items, especially in islands which are visited by more number of tourists. Presently the coir jewellery



making unit is located adjacent to the fish market which, according to the women workers, is not at all a conducive working environment. There is scope for starting a coir fibre jewellery unit –cum- incubation centre as part of the coir factory for which financial assistance can be made available from Coir Board or CDB.

► **ix. Scope for production and marketing of value added coconut products**

Apart from the value added products discussed above, there is scope for initiating interventions to facilitate establishing enterprises for the production and marketing of other value added coconut products such as coconut ice cream, coconut chips, etc. FPOs and women SHGs can be formed and facilitated in selected islands for managing such enterprises.

► **x. Credit support**

Individual entrepreneurs involved in coconut based enterprises in the islands perceived that norms related to collateral security for availing credit for making investment to manage their enterprises often are not quite supportive. This has caused difficulty for the entrepreneurs to avail credit and also incentives/subsidy from various governmental agencies. Credit support to the entrepreneurs is to be made more effective by evolving appropriate norms for sanctioning credit by taking into account the prevailing socio-economic situation in the islands.

► **xi. Transportation**

Transportation channels for the products to find markets in main land and other countries are not very conducive for the entrepreneurial development. Exclusive channel for cargo movement for island produces is essential for the successful ventures from islanders.

► **xii. Farmer Producer Organizations (FPOs)**

The average land holding size in the islands is

only 0.27 hector. Hence, it imperative that group approach is facilitated among the small and marginal farmers of the island to enable them to overcome the resource limitations and to effectively make use of technologies for higher productivity and income from coconut farming. As has been already mentioned, individual entrepreneurs involved in production and marketing of coconut based products in the islands are facing challenges, especially problems related to marketing, to effectively manage their enterprises. Department of Agriculture, UT of Lakshadweep has facilitated formation of coconut farmers’ societies in the islands in connection with organic certification programme. However, these societies are almost defunct and are not active enough to take up various interventions to strengthen the coconut sector. It is necessary that in all the islands the existing FPOs are revitalised and new farmer collectives facilitated to take up coconut production, processing and marketing initiatives. Self help groups of women also need to be facilitated and support given to take up coconut based microenterprises.

► **xiii. Capacity building and Co-ordination**

Individual entrepreneurs, Farmer Producer Organisations and women SHGs in the Lakshadweep islands need to be supported through capacity development initiatives for production and marketing of coconut value added products. Institutions such as ICAR-CPCRI and ICAR-KVK Lakshadweep, can organise training programmes on value addition in coconut as part of entrepreneurship development programmes on value chain management in coconut.

Entrepreneurship development programmes for selected young farmers/ entrepreneurs from different islands have already been scheduled to be conducted at ICAR-CPCRI Kasargod and KVK Baramathi with the support of National Horticulture Board. Interventions for enhancing efficiency of coconut sector in Lakshadweep islands to be effective, need concerted and coordinated efforts of various stakeholders including research institutions like ICAR-CPCRI, ICAR-CIARI, KAU, development agencies such as Department of Agriculture, Department of Industries, Department of Rural Development and Department of Co-operation, Lakshadweep Development Corporation Ltd.(LDCL) under UT administration, ICAR- KVK Lakshadweep, Coconut Development Board, Local self Governments (village Dweep Panchayats and Lakshadweep District Panchayat), coconut Farmer Producer Organizations, Women Self Help Groups and private entrepreneurs.



► Conclusion

Coconut is very closely associated with the socio-economic and cultural life of the people of Lakshadweep islands. The potential for achieving

higher productivity and income from coconut farming has not been fully realized in these islands due to various reasons. Crop management technologies and technologies available for value addition through product diversification in coconut can be effectively utilised for enhancing income and improve livelihood of people of Lakshadweep islands. Hence, it is highly relevant and significant to formulate and conduct entrepreneurship development programmes on coconut production and processing of coconut and subsidiary crops to benefit farmers and youth from the islands. Taking into cognizance the resource limitations including the fragmented holdings, FPOs and women SHGs are to be facilitated among growers of the islands to make the coconut based interventions effective. Co-ordinated efforts of various agencies are also essential for effectively implementing the interventions for sustainable development of farm sector in Lakshadweep islands. ■

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