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CPSs moving forward to greener pastures

Dear Coconut Farmers,

Coconut cultivation in our country is characterized by the predominance of small and marginal holdings. Though productivity of coconut in India is the highest among APCC member countries, it is still very low compared to the potential. Many innovative hybrid varieties have been developed with productivity to the tune of 4-5 times of the national average. Increasing the productivity in the large number of small and marginal holdings is a herculean task and is essential to make coconut cultivation attractive and more remunerative to farmers. We must improve the existing level of productivity considerably with millions of small and marginal holdings. It is nearly impossible to do this with the present set of resources both human as well as finance. This is the context in which Coconut Development Board is trying to make farmers' collectives in the form of Coconut Producers Societies (CPSs). We had started facilitating the formation of Coconut Producers Society in a small scale on experimental basis in the state of Kerala during September 2011. As on date CPS have grown across all the districts of the State numbering to 1374. Now we are in a position to extend the farmer collectives in the form of CPS to other states also.

A typical CPS in Kerala context is having 40-100 adjoining coconut growers with yielding palms in the range of 4000-6000 per CPS. Many of the CPSs started making copra using modern dryers and availing themselves the benefit of Minimum Support Price procurement mechanism. There are large number of CPSs which have identified tender coconut as a more remunerative product than matured coconut and ventured into aggregation and sale of tender coconut. Now it is the time to further scale up CPS by joining them into the federation of CPSs. After proper brain storming and consultation with existing CPS members, and based on the evaluation during the training programme for CPS office bearers, it is decided to have federation of CPSs with membership ranging from 15 to 25 CPSs. Thus federation of CPSs will contain on an average one lakh yielding coconut palms, having sufficient produce for aggregation, processing and value

addition. A modern copra dryer with 10000 nuts per batch capacity, if established at a federation level can take care of atleast 20-25% of the products in their catchment area for value addition. Byproducts like coconut husk and coconut shell also add more value to the farmers.

Now at the next higher level we have to think of an entity comprising of 10 such federations. As there is wider appreciation and facilitatory support from NABARD and SFAC for Producer Companies, it would be advisable to have the next higher tier of farmers' collectives as a Producer Company comprising of 10 federations of CPSs. In such a scenario we can have around one million yielding coconut trees in the area of operations of a Producer Company. Keeping this as a future strategy for the development of coconut farmers and the sector, let us think of how we can establish Producers Companies in the coconut sector.

Now it is time to move from the experiment of Kerala to the other coconut growing states in order to facilitate formation of Producers Companies. We may not take the same route as we have experimented in Kerala for this purpose. The holding size of coconut gardens in Tamilnadu and Karnataka and to certain extent in Andhra Pradesh is comparatively bigger than that of Kerala. Hence the existing Producer Organizations / Welfare Societies of coconut farmers in Tamilnadu and Karnataka can be treated at par with CPS, provided that they are registered under either Societies Registration Act or Co-operative Societies Act. They can be further aggregated to federations to fetch a catchment area of around one lakh yielding coconut palms and thereafter an average of 10 federations can form a Producers Company. Producer Companies are expected to mobilize equity from the farmers in a participatory mode. If a Producer Company with 10 lakh coconut trees take a decision to have one coconut per tree per harvest, towards equity of the respective farmer to the Producer Company, on an average 80 lakh nuts can be collected towards equity. If we put one nut with a face value of Rs.10/-, this will mop up an equity base of Rs.8 crore over a period of one year from the farmers side alone. Keeping the

equity of 51% with farmers and if we solicit participation from the state and central Government to the remaining 49%, we can think of Producer Company with authorized share capital of Rs.16 crores! On the basis of existing area under coconut cultivation, can we think of such 20-25 Producer Companies in Kerala, 10-15 in Tamil Nadu, 15-20 in Karnataka and 5-10 in Andhra Pradesh. Let us fix the milestone of at least 10 Producer Companies in Kerala, 5 in Tamilnadu, 5 in Karnataka and 5 in Andhra Pradesh for this financial year.

Let us take up new projects in the production and processing front. Board will be with the farmers in making available the latest technologies and capital subsidy to the tune of 25% under Technology Mission on Coconut. We must work out both the short and long term strategies. As long term strategies, we must think of ensuring the quality of the seedlings. Let us think of planting atleast 25% tender coconut varieties and 25% early bearing high yielding varieties in future. Beyond copra and coconut oil, this sector have vast scope in value added products and by products which no other crop offers. Let us utilize 50% of our production for other value added products like coconut milk, desiccated coconut powder, coconut milk powder, virgin coconut oil and ball copra. The Federations and Producer Companies must shoulder this responsibility. The role of Board would be that of a catalyst and facilitator.

As short term strategies, let us think of the changes that can be made in today's production and utilization pattern of coconut. The price fall is continuously observed during the peak producing season. Let us make more procurement operations during this season and stabilize the arrival of nuts to the open market. Harvesting of tender coconut during August to December can also arrest the price fall to a great extent. Thus through the CPS and its Federations, farmers must be able to control the arrival during peak season.

The price of tender coconut has not gone down any where in India when the price of coconut, copra and coconut oil are at the rock bottom. In major cities like Chennai and Delhi tender coconut is fetching @Rs.35-45. In Tamil Nadu when the mature nut is sold @ Rs.2.50, the farmer is selling tender coconut variety of Chowghat Orange Dwarf @ Rs. 20 at the farm gate. Except copra and coconut oil no other coconut

product has witnessed a price fall during this season. Our farmers must realise this and venture into processing and value addition.

Federations must concentrate to procure copra, produce coconut oil and market branded coconut oil. CPS must formulate ideas and strategies for empowering the federations. CPS must have a databank of the number of palms, its variety and the production details. These data can be compiled by the Federations and the same can be used as the foundation for formulating future programmes.

In the wake of the frequent price fluctuations and the prevailing low price the pace of formation of CPS, Federation and Producer Companies need to be accelerated. Since the price of chemical fertilizers is going up, farmers must ensure to make regular soil testing before applying fertilizers. We must also move on to organic farming. Identifying markets for organic products is another area that can be exploited by Federations and Producer Companies.

We must identify experts and experienced persons and utilize their services for developing new products and also for identifying national and international markets. The demand of the farmers to a fair and remunerative price for their produce can be achieved only through better value chain. Thus Producer Companies are the need of the hour for acquiring the latest technical know how, for developing more high quality hybrid seedlings, dwarf varieties, Friends of Coconut Trees, mechanization and for having a direct dialogue between the producer and consumer. These avenues are expected to remove the anxiety of the farmer and would definitely make a quantum jump towards making India the world leader in coconut production, productivity, processing for value addition and export.

The 45th APCC COCOTECH meeting and Coconut Festival 2012, is held at Kochi from 2nd to 6th July 2012. I hope that the meeting would give India an opportunity to trigger the learning process and also to attract more coconut entrepreneurs to go in for value addition.

With regards,

T K Jose



Chairman



The stage is ready. The grass root level stakeholders have got together in response to the calls of CDB. The foundation is set. Now the part remaining is Go. The members are ready and daring to go. Should they take longer strides or start a run or take the giant leap? That is the only question that remains. Don't wonder, the talk is definitely about the CPS. Gaining back the past glory of coconut cultivation by enhancing production, productivity, processing and value addition of coconut is the mission before the CPS which can be ensured by making use of the synergy of CPS thereby ensuring the members an enhanced and sustained income and doubling productivity paving the way for India becoming the world leader in coconut. Long steady rapid strides are needed.

The Flashback

CDB wanted a one stop shop for the innumerable problems that crippled the coconut sector like old, senile and unproductive palms, non availability of farm workers, long gestation period, neglect of gardens, pest and disease incidence, decreased productivity, poor marketing, non-remunerative prices, lack of processing etc. Agriculture is not preferred as a profession by today's youngsters and CDB wanted the next generation to enter into agriculture. The prevalence of remunerative prices is the sole drive that will instill enthusiasm in the farmer to make investments and

Get, set and Go

Sebastian K.S.

The process of backward and forward institutional networking among the variety of stakeholders in the coconut sector including coconut farmers, coconut workers and entrepreneurs started with the formation of CPS.

engage himself in scientific cultivation. Policies had to be adopted that would encourage more entrepreneurial ventures and draw investments in the sector. With the advent of globalization and the WTO regime in agri trade, the time is crucial to adopt farming strategies to change accordingly. We have to give our farmers, specially the youth the much needed skills and training to bring in a new entrepreneurial culture to the farming sector. New ideas, new insights, institution models, business models, management skills and training programmes have to be the national priority. The gap between institutional research and farmers problems have to be bridged. The myth that farmers cannot be helped without subsidies has to be broken. The farmers have to be facilitated to find solutions to their agricultural problems through mutual discussion and enquiries rather than thrusting institutional findings on them. A holistic approach towards increasing productivity, encouraging farm level processing, linking farmers to market, product diversification, efficient processing and marketing is to be conceived and implemented. And for this CDB needed a direct reach to the grass root coconut farmer. And that dream and that drive resulted in the formation and functioning of 1158 CPS within the state of Kerala.

The process of backward and forward institutional networking among the variety of stakeholders in the coconut sector including coconut farmers, coconut workers, entrepreneurs etc started with the formation of CPS. CPS being a micro organization at the grass root level with a legal base, could be instrumental in bringing about an attitudinal change in the coconut growers who are at present just primary producers not interested in carrying out activities pertaining to

the secondary and tertiary sectors of coconut due to lack of infrastructure, knowledge support or marketing network, lack of entrepreneurial skill and talent, absence of collective bargaining power etc. CPS thus will provide opportunities for increased social interaction, increased bargaining power, improved agricultural practices, quality input procurement, improved problem solving abilities, efficient marketing, post harvest handling, value addition and processing. CPSs can emerge as basic local institutional units for introducing interventions in the coconut sector in production, processing and marketing.

Where does the CPS stand now

CPS have been formed, true, but they are a crowd now. A crowd who got together just because CDB wanted them to join or may be to get subsidies of CDB or the lack of control on the market prices putting before them a do or die situation. Once the crowd is formed the next step is to organise them as a group which stands together for common interests. And finally move on to develop the group as a team which works together for common goals. The “we feeling “ is to be created. CDB aims to inculcate this through empowerment of the CPS functionaries in liaison with Management Institutes.

CDB has succeeded in attaining this empowerment by bringing about an attitudinal change in the farmers. The CPS functionaries are facilitated to think different from the usual coconut-copra-coconut oil nexus and move on by capitalization of the multifarious uses of coconut thereby developing coconut as an

industrial raw material. The training also makes the farmers sit together and analyse the various problems that led to the crippling of the industry. This problem analysis followed by detailed discussions on the possible solutions lead the participants to an action plan. CDB takes great pains in empowering the CPS functionaries because CDB has scarce extension personnel and hence foresee the CPS officials as the torch bearers to implement the message of sustainability in coconut farming among the coconut growers.

Existing opportunities

Production: CDB foresees collaborative efforts in production to mould the CPS into a group and then a team. The group efforts can start from production aspects like quality seed nut/seedling production, group calendar of operations in cultivation, plant protection and harvest, collective purchase of inputs thereby reducing cost, campaigns for Good Agricultural Practices etc. Replanting and rejuvenating the gardens can be initiated at the CPS level from the database generated



Precision farming of Vettathraja CPS

on the coconut palms of the members. Intercropping, mixed cropping, multi storey cropping system and mixed farming can be advocated through the CPS and can be implemented on a community basis resulting in supplemented returns to the grower. The CPS can be motivated to undertake coconut farming as a business rather than the traditional system of cultivation. Mechanisatfarm activities, employing Friends of Coconut Tree for cultural practices on a specified calendar of operations, maintaining a database of the individual palms



CPS leaders in a model coconut farm

in a CPS, installing irrigation facilities in coconut gardens etc. are activities that can be undertaken by the CPS which will indirectly lead to an increase in production and productivity. Insurance of the palms can be undertaken by all the members which will cover the risk involved especially since coconut is a long duration perennial crop with long gestation period and the investment in coconut is beyond generations.

Aggregation : The solitary farmer is at the mercy of the middle man in the marketing of produce. The coconut grower is a price taker often with no power to bargain. Aggregation of produce in a CPS with a well prepared production and marketing plan will result in better bargaining power, reduced marketing expenses, reduced length of the supply chain with less intermediaries and thereby

increased returns for the produce. Aggregation also offers scope for centralised infrastructure for better post harvest handling, processing and value addition. Aggregation offers better options for small scale value addition owing to the bulk quantities like, dehusking of coconuts, sale of husk etc. and incremental income from byproducts.

Marketing : Marketing involves planned interference in the demand supply equation of the market and manipulating the same through better planning of production with the sole objective of better price realization. This can be undertaken only by a CPS. Marketing of tender coconut and mature coconut directly to the consumers or end user through a retail chain will enable steady prices and stable demand. A steady supply can be ensured through the CPS. Market

development through exploitation of newer and niche markets, marketing as tender coconut, temple coconut and mature coconut and branding of the products as “*fresh from farm*” will increase the acceptability and marketability of the products. Moving a little further through minimum value addition like dehusked mature nut, minimally processed tender nut etc. will appreciate the market value in geometrical progression. The CPS should be able to visualize the opportunities and grab them at the right moment in the right way.

Along with marketing, CPS can also undertake farm level processing of coconut. Micro, small and medium enterprises undertaking farm level processing can be initiated under the auspices of the CPS which generates additional returns, generates rural employment and also adds to the rural revenue.



A tender coconut parlour at Infopark campus, Kochi - a CPS initiative



A vermi compost unit

Production of copra can be entertained at the farm level with centralized infrastructure facilities which will ensure production of copra of Fair Average Quality (FAQ). CDB provides a support of 25% of the cost for installation of modern copra dryers by CPS for production of copra. Repeated efforts of CDB has resulted in the state Government of Kerala agreeing to a support of 50% for modern copra dryers for societies.

CPS can also undertake harvesting of tender coconut by establishing links with tender coconut retail outlets and assure regular supply by planned harvesting. Farm level processing of tender coconut water like bottling, minimal processing etc can also be undertaken by the CPS. Harvesting of a proportion of coconut as tender nuts in a planned manner will stabilize the arrivals of coconut in the market thereby preventing market glut and stabilizing prices.

Processing: Coconut is a crop which has multifaceted uses on processing. As truly called the *Kalpavriksha*, every part of coconut in every stage of development of the nut like the tender coconut water, tender kernel,

mature coconut water, kernel, coconut milk etc can be made use for the production of an array of products. Apart from this, the bye products like, shell, husk, fronds and wood also can be put to a multitude of uses. Through the CPS, CDB aims to bring to the market the different value added and processed products from coconut thereby widening the product base, promoting the consumer acceptability and thus ensuring a steady growing market for coconut and coconut products. Coconut on conversion as an industrial raw material, will be able to demand price and also exploit the immense potential that the domestic and export markets offer for coconut and its products. Initiation of processing units by the CPS can be done in an integrated manner ensuring maximum utilization of all the products and bye products each incrementally adding to the income of the farmer as a whole. CDB provides a support of 25% to units undertaking processing of coconut into various value added products. The Government of Kerala has also offered a support of 25% additional subsidy for units undertaking the production of innovative value added products from coconut.

Emerging opportunities

Federations: CDB has far sighted objective of integrating the CPS to federations which will form the base for the coconut industry. 15-25 CPS in a geographical entity can be integrated to form a federation. Thus the federation will have at least 1 lakh coconut palms under its purview. This will form the base for the development of coconut based industry. The industry can be run on a year round basis in multiple shifts on a well assured supply of good quality raw material from the different member CPS. The federation can undertake various activities related to production of good quality copra, packed tender coconut water, aerated drinks from tender coconut water and mature coconut water, snack foods in different flavours from immature kernel of coconut etc. Federations can also take the initiative for equipping all the farmer members of the CPS attached to them with Kissan Credit Card which will enable the farmers timely and easy access to credit at lower interest rates. There are thus innumerable opportunities for the federations of CPS. As an emergent requirement, owing to the falling prices, CDB is extending a support of 50% subsidy for installation of modern copra

drying facility under the auspices of a federation. CDB visualises the Federations as legal bodies registered under the Charitable Societies Act. The integrated federation of CPS will also lay the foundation on which the long standing vision of CDB, Producer Companies can take off.

Producer Company: CDB has conceptualized and implemented the concept of CPS to convert them into Producer Companies in the long run. Producer Companies in major coconut growing regions with farmer equity participation of more than 50% will result in increased level of processing of coconut into varied products. CDB has taken efforts to mobilize an equal contribution for the Central and State Governments to the equity capital. The production in the region can be mobilized to suit the demands of the Producer Companies undertaking integrated coconut processing. The Producer Companies can even undertake export of coconut and coconut products. Producer Companies can in the long run emerge as the farmer institutions through which the services can be delivered directly to the farmers. They can serve the role of procurement agencies in the Price Support Scheme of the Government and procure at MSP.

CDB visualizes the Producer Companies to evolve as business entities which are professionally managed and technically equipped. A well set integrated processing park for coconut should be the first land mark of the Producer Company. A holistic approach of apportioning the installed capacity



to suit processing of coconut kernel, water, shell and husk is to be positioned within the integrated complex. The complex should serve as an incubator for smaller enterprises of the individual CPS or federations. Export oriented units within the complex of the Producer Companies will enable the units to become part of the various market developmental activities in processing in the domestic and export market.

Branding of coconut products of Producer Companies : Once the Producer Companies are in place, the next stage should be to create an identity for the products of the Producer Companies. A brand for a product which directly comes from the farm extends a special appeal to the consumer. Developing a brand for the products of Producer Companies will distinguish it in the market. Moving further, Producer Companies have to go the organic way.

What is narrated above is the dream of CDB with regard to the CPS, Federations and Producer Companies. The dream offers

various pathways of development of the coconut sector, the doors of which have been slightly opened by CDB for a small peep. There may be other unexplored, unseen doors. To see the door, to make a try at opening the door and the guts to take a plunge requires a change in attitude and approach of the farmer, a drive in the CPS and the federations and the concentrated efforts of the Producer Company. This dream, when fulfilled will remove all anxieties in the sector, will enable the sector take leaps in processing, marketing and exports, will make the crop a high valued one, will propagate and convert to money the innumerable deliverables in various attributes in food, medicine, health, culture, tradition and religion that this God given crop can offer to mankind and finally will make India the world leader in coconut. CDB is working to make this dream come true. CDB can only facilitate the push for the leap. The leap and the flight to succeed is to be taken by the CPS, federations and Producer Companies. Its time for the next stage **Go.**

Assistant Marketing Officer, CDB,

Kochi-11

Producer Companies - an introduction

Desi Matthai

Agricultural operations in India are mainly done by small and marginal farmers who have little bargaining power in the market. The farmsteads are fragmented and the operations are below the optimum level. The operational cycle of the farmer is short in comparison with most other economic activities. But the average Indian farmer is perennially short of capital so that he is precluded from even thinking of fresh capital infusion into his activity.

The opening up of the economy during the initial years of the 1990s was helpful only to the secondary and tertiary sectors. In the primary sector (farming), only a few large scale farmers benefitted. Even these large farmers benefitted because of their inherent capacity to wait for better prices, both for output as well as for inputs. The ever increasing inflation is another evil that the poor farmers have to cope with. In short, our farmers have not been able to be part of the growth story that India is basking in for the past two decades.

The reason for this sorry state is the farmers' inability to bargain in the market place. He is compelled to sell his produce at whatever price is offered to him. The intermediaries in the market exploit his weakness and in the result, the farmer's economic position erodes year after year.

The structure of the agricultural markets as they exist today involves a number of intermediaries and therefore, the producers' share in the proceeds of his produce is small. This has been established by a field study conducted by Prof. S. Raghunath and Prof. D. Ashok of IIM Bangalore. A comparative study made in the case of a few selected vegetables was as follows:

	Tomato	Potato	Cabbage	Cauliflower	Banana
Price paid by consumer	8.20	12.00	9.00	9.50	12.00
Price recd by farmer	2.00	6.60	5.00	5.50	4.00
Realisation%	24	55	56	58	33
% mark up	310	82	80	73	200

Real value addition occurs only when the produce is processed and branded. As the farmer exits from the scene after transacting in the primary market, he has no part in the surpluses that emerge post production. Only when agriculture as an enterprise in the long term generates surpluses or the farmer perceives deriving benefit would he make efforts to put back some of the surplus generated into the agricultural enterprise, creating further capital formation in agriculture. If not, he would divert the cash flows to other activities which he perceives to be more remunerative than his present engagement. As the farming community sees the general progress and all round prosperity of the country through sustained growth of the economy at 7 to 8 per cent, they also aspire for themselves and their future generations, improvement in their standard of living.

The central and most of the state governments have been on the lookout for means to improve the lot of farmers. Some headway has been made in many parts of the country through the formation of co operative societies. But the efforts are somewhat offset by the excessive governmental controls on the functioning of societies. With a view to finding a solution for this and other woes, the central government appointed an expert committee under the leadership of Shri. Y.K. Alagh. The committee was asked to (a) to frame a legislation that would enable incorporation of co operatives as companies and conversion of existing co operatives into companies and (b) to ensure that the proposed legislation accommodated the unique elements of co operative business with a regulatory framework similar to that of companies.

The concept of 'Producer Companies' was approved on the basis of the recommendations of the committee. A new Part IX A was incorporated into the Companies Act to give legal validity to producer companies.

The Companies Act requires that a producer company shall have certain stipulations in its Memorandum and articles of Association. The important ones are:

1. Only persons who are engaged in an activity connected with or related to primary produce can participate in the ownership. The members of a producer company shall necessarily be 'primary producers'.
2. Primary produce has been defined as a produce of farmers arising from agriculture including animal husbandry, horticulture, floriculture, pisciculture, viticulture, forestry, forest products, re-vegetation, bee raising and farming plantation products; produce of persons engaged in handloom, handicrafts and other cottage industries; by-products of such products arising out of ancillary industries.

Formation

Any ten or more individuals, each of them being a producer, i.e. any person engaged in any activity connected with primary produce or any two or more producer institutions, i.e. producer companies or any other institutions having only producers or producer companies as its members or a combination of ten or more individuals and producer institutions, can get incorporated as a producer company.

The companies shall be termed as limited and the liability of the members will be limited to the amount, if any, unpaid on the shares. On registration, the producer company shall come into existence just like a private company. However, there will be major differences between a private company and a producer company in that

1. The minimum number of members in a private company is 2 (two) whereas in a producer company the minimum number shall be ten in case of individuals forming the producer company. In case the producer company is floated by other producer companies, the number of promoters may be two. A combination of individuals and producer institutions can also start a producer company.
2. The minimum paid up capital for a private company is Rs.100000 (one lakh rupees) at present. This provision does not apply to a producer company.
3. The maximum number of members in a private company is limited to 50. In a producer company, however, there is no such restriction as to the number of members.

The name of the producer company needs to be approved by the Registrar of Companies (ROC) of

the state in which the company is to be registered. Names of existing companies or names that resemble those of existing companies will not be approved. The promoters are required to make an application to the ROC concerned for approval of the name. A set of four alternate names can be given, and last words in the name shall be Producer Company Limited. The registrar's confirmation of the availability of the name will be valid for six months and if the company is not registered within six months, a fresh application will have to be made to the registrar with fees of Rs.500 as applicable at the first instance.

Registration Requirements

Within six months of confirmation from the registrar regarding availability of name, the promoters of the producer company shall produce to the registrar of the state in which the registered office will be located, the following:

1. Memorandum of Association duly signed by the subscribers and witnessed.
2. Articles of Association duly signed and witnessed as above.
3. Declaration in Form I by an advocate of the supreme court or high court, an attorney or pleader entitled to appear before high court, or a secretary or a chartered accountant, in whole time practice in India who is engaged in the formation of companies or by a person named in the Memorandum as director of the company, to the effect that all the requirements of the Act and the Rules there under have been complied with in respect of registration and the matters precedent and incidental thereto.
4. List of persons named in the Memorandum of Association as first directors and their consent on Form 29 to act as directors.
5. Form 32 in duplicate giving particulars of the said persons named as directors.
6. Form 18 in respect of the situation of the registered office.
7. Power of attorney on non judicial stamped paper, if any, executed by any subscriber authorising a person to sign the Memorandum of Association and Articles of Association on his behalf or executed by a producer institution as subscriber.
8. Power of attorney on non judicial stamped paper signed by all subscribers authorising one of the subscribers or other person authorising him to make corrections on any of the documents as may be required by the Registrar.

- Evidence of deposit of fees for incorporation of the company to be furnished.

Objects

The producer companies are to have certain objects as are specified in the Companies Act. They are:

- Production, harvesting, procurement, grading, pooling, handling, marketing, selling, export of primary produce of members or import of goods or services for their benefit.
- Processing including preserving, drying, distilling, brewing, venting, canning and packaging of produce of members.
- Manufacture, sale or supply of machinery, equipment or consumables mainly to its members.
- Rendering technical services
- Rendering consultancy services
- Insurance
- Generation, transmission and distribution of power
- Revitalisation of land and water resources
- Promoting techniques of mutuality and mutual assistance
- Welfare measures
- Providing education on mutual assistance principles

Any other objects may not be allowed by the Registrar of Companies.

Management

A producer company shall be managed by a Board of Directors whose number shall not be less than 5(five) and not more than 15(fifteen). The Board should appoint a full time chief executive and shall be an ex officio member of the Board. He is not liable to retire by rotation and shall be entrusted with substantial powers of management as determined by the Board.

How Members are benefitted

The benefits that a producer can expect by being a member of a producer company are as follows:

- Pooling of produce would enable producer members to have a volume with which they can bargain from a position of strength in the market.
- The producers can bypass intermediaries and thus save on costs and enhance their returns.
- The producer companies will help develop greater command over domain knowledge in the produce dealt with and thus enhance quality, productivity and returns to the producers.
- Producer companies will be able to aggregate demand for inputs of producer-members and thus enable them to arrange for bulk purchase/discount.

- Producer Company can ensure consistency in quality, regularity in supply to the corporate buyers and thus gain the ability to contract long term, even for exports.
- Both sellers of inputs/technology and buyers will make long term investment and build lasting relationships because of the volumes and numbers.
- Producers are given the option to partner with corporate entities to float producer companies without losing control as the rule of one member-one vote applies.
- Producer companies entertain only those who are active in the commodity deals and transact with the company on an ongoing basis. Hence, the possibility of non-active/dormant members distorting the election process as in co operative societies is overcome.
- Producer companies have distinct advantage over co-operative societies due the absence of the overbearing presence and fear of interference by the registrar of co operative societies.

The differentiating features of a producer Company from a conventional co operative Society are as follows:

Features	Co operative	Company
Registration	Co op societies Act	Companies Act
Membership	Open to individuals and co operatives	Only to those who participate in activities
Relationship with other corporate/ business houses	Transaction based	Producers and corporate entity can together float a producer company
Shares	Not tradable	Not tradable but transferable
Voting rights	One person one vote, but government and RCS hold veto powers	One person one vote, but persons who have no transactions cannot vote
Reserves	Created only if there are profits	Reserves are to be created mandatorily
Role of registering authority	Significant	Minimal
Administrative control	Overbearing	None
Borrowing power	Restricted	Greater freedom and possibilities
Dispute settlement	Through co operative mechanism	By arbitration

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Felt needs create the urge and drive to move forward

Deepthi Nair S



A view of the training programme at Palakkad

Coconut Development Board had conceptualized a three day residential training programme for the CPS leaders with an objective to bring about a change in their attitude to coconut farming, sensitize them to come together and work together and prepare them towards implementation of programmes planned for the overall development of the coconut farmers. The training for the CPS leaders in Palakkad district in Kerala thus started in the last week of May, but not on a happy note. The farmers were in the midst of a crisis. Traders were not ready to purchase coconut, not even for Rs. 2.50. Lakhs of coconut were lying in coconut gardens without sale and some had begun to sprout too. The farmers were in panic and didn't know the way out. So the only request of the farmers who assembled for the training was first to find a solution for this grave issue.

The organizers of the training programme decided to address the felt need of the farmers first and the training was reorganized to start with a discussion on the price crisis.

The discussion was steered with expertise to an analysis of the primary and secondary factors that led to the price crash and the possible ways of overcoming the same. Farmers actively took part in the discussion on the major problems of the sector and their basic reasons, at times entering into debates and heated arguments as to the real cause for the crisis. The discussion ended in a consensus as to the root cause for the price crash and the possible ways of averting the price crash.

The need to think differently and undertake farming as a business rather than as tradition was the first lesson that the farmers learnt through this initial brainstorming session. The objective of bringing in an attitudinal change towards farming was thus quickly materialized. Different thoughts in different directions flowed in. The group had to just critically analyse the thoughts and select the best option/combination of options. And the initiatives that they took during the discussion made them a group. The cohesivity of the group will get added only with time.

Farmers from areas with predominance of dwarf varieties, especially Perumatty area were more interested in undertaking tender coconut harvesting. The organizers facilitated them by explaining the merits of undertaking tender nut harvesting. On the economic side, tender coconut fetches double the price of mature coconut throughout the year and is highly profitable. On the production side, harvesting bunches at six month stage induces more emergence of inflorescences thereby contributing to incremental increase in yields. On the marketing side, the constraint is that a steady supply of tender nuts is to be assured. This is possible only through an integration of CPS since such an integration provides room for harvesting on rotation basis, providing year round availability of tender nuts in required quantities. Enabling a chain of direct marketing of tender nut by the CPS through retail kiosks, the tender coconut is directly reaching the consumer from the farmer, the farmer is assured a greater share of the consumer cost. The training faculty facilitated the farmers by

introducing the different options available for tender nut marketing like marketing as tender nuts, minimally processed tender nuts, tender coconut water packed in bottles or tetrapacks, flavoured tender coconut water, aerated tender coconut water etc and the cost involvement in these projects.

Another group of farmers from areas with predominance of the traditional tall varieties were interested in indulging in copra making itself. They had detailed discussions on how to equip themselves with infrastructure for copra making. They decided to take a dryer facility on lease and produce copra on an immediate basis and simultaneously go in for the manufacture and installation of a dryer in the CPS. The cost involved in the installation of a dryer of 10000 nuts/batch facility is around 10-12 lakhs. This necessitated the CPS in the locality to think of federating and installing a dryer which reduced the financial constraint that emerged. Forming Federations of the CPSs and doing copra procurement during the next procurement season was the idea that they wanted to put to practice. They even had thoughts of producing copra on a regular basis and identifying regular buyers. The team was taken to a traditional copra dryer unit. The farmers could get to know that the unit is meeting the expenses of copra making through the additional income they are making from the sale of coconut shell.

Farmers from Perumatty area were enthusiastic about starting a tender coconut water packing unit and have an integrated complex which produces a wide range of products from coconut. They were even willing to make investment to the tune of crores if product diversification and value addition

would solve the economic crisis that they face. Thus the objective of creating awareness among the farmers on the present status of the coconut farming and industry and prompt them to move into processing and product diversification was attained.

A discussion on the CPS and the importance of involving in group activities was discussed in detail. Farmers were of the view that even though the CPSs have been formed, they are yet to make the take off, they just function on paper. The participating farmer representatives realized the significance of working in unison. The farmers were taken to a well established coconut garden wherein every single detail of the individual palms was systematically recorded. The garden was well maintained and had a high productivity. The trainees were literally impressed and wanted to develop a systematic database for their individual CPS. Nursery rearing, production of seedlings and hybridization were also explained to the farmers. Interaction with successful entrepreneurs who have ventured into new avenues instilled enthusiasm among the participant farmers. The farmers themselves could realise the immense opportunities available for CPSs and framed the action plan themselves. The action plan formulated at the end of the training could reveal that the training could create a specific goal among the trainees.

The CPSs and their Federations decided that they should mainly coordinate their activities in the following eight areas.

1. Marketing
2. Co ordination of labourers
3. Value addition
4. Projects, Schemes and relation to other organisations

5. Productivity increase, pest and disease control, irrigation, fertilization
6. Practical training to farmers
7. Basic data collection of the members of CPS
8. High quality seedlings
Programmes to be implemented on a priority basis were identified:
 1. Installing a modern copra dryer based at Muthalamada, Palakkad having the capacity to process 10,000 nuts / batch.
 2. Installing a traditional copra dryer based at Erimayur having the capacity to process 10,000 nuts / batch.
 3. CPS Federations should initiate action for resource mobilization for the installation of modern copra dryer.

One of the major outcomes of the training was that the participant farmers agreed to form 4 Federations based at Muthalamada, Kanjirapuzha, Eramiyur and Perumatty. Farmers were also motivated to go ahead with permanent remedies to arrest the price fall and to improve the production and productivity of this crop.

The training for CPS functionaries emphasizes three major facts: First, participatory problem analysis and finding remedial measures will lead to finding solutions to almost all the problems in any sector. Secondly, seeing is believing than lectures. Whatever talked and delivered, if followed by a visit to an implementing place, will increase the confidence of the farmers to indulge in similar activities. Getting together, that too in a crisis situation, working together and moving together in output based activities will make the group of farmers emerge as a team.

Marketing Officer, CDB, Kochi-11

CPS training - an organiser's eye view

Sajeer Abdul Rehman



“We were apprehensive as to what we senior office bearers of CPSs will receive with 3 days residential training. Leaving aside our family and daily chores we were skeptical and having a negative mindset when arriving for the training. But at the end of this training we are very happy. There is considerable amount of optimism in us regarding the coconut sector and what we office bearers of each CPS could do and what CPSs could collectively achieve. We will work on our action plans and make sincere efforts towards reaching our goals. We would like to thank LEDES and CDB for providing us this opportunity”, says Balan Master, President, Bodhi Coconut Producer Society, Calicut and a trainee of the 3rd batch of CPS leadership training conducted by LEDES.

The 3 day leadership training for the office bearers of the Coconut Producer’s Society (CPS) in Calicut district is going on in full earnest with the 5th batch to undergo training by 28th June. Coconut Development Board has formed Coconut Producers Societies (CPS) in various districts of Kerala with the maximum being formed in Calicut. These CPSs are envisaged as drivers of the coconut sector in terms of farming (productivity enhancement and disease control), processing and value addition ensuring a sustainable and prospective future for the various stake holders involved in the coconut sector. As a first step the 3 day training given to the CPS office bearers is envisaged to make them aware on the potential of CPS and continue its activities in

full earnest. The training designed, organised and conducted by Local Economic Development Society (LEDES) and facilitated by Coconut Development Board (CDB) has been going on from May 22nd 2012.

LEDES is a professional management development organisation of socially committed professionals with rich and diverse experience in management and marketing functions. The talent pool within LEDES is drawn largely from rural management and development professionals from IRMA and other premier management and social development institutes. LEDES is conducting FOCT training of the Board in Ernakulam and Kottayam districts.

The training approach

Having interacted with CDB officials and CPS members and after analysing the training in Ernakulam done for CPS members, LEDES feels that the training should inspire the farmers who are the basic constituents of CPS to perceive and start working in the sector in terms of its short term immediate and actionable goals. The CPS training is given to people who are currently not optimistic about the possibilities of coconut industries and for whom who consider CPS as an extension to get subsidy from government. The CPS members are not currently into trading apart from copra. So the training is expected to motivate the participants to work towards a shared vision with regard to CPS and have strategies for farming, value addition, enterprises, policy etc.

The leadership training programme comprise of the four broad modules, viz. management and leadership skills, interactive sessions with best-in-class practitioners, field visits and plan of action.

Management and leadership skills module covers, governance and leadership, project management, administration, case studies of successful projects and sales and marketing. Leadership sessions provide the office bearers inputs that hone their leadership skills, as well as energise and enable members towards setting and achieving common goals. Leadership sessions help CPS officials to set a clear and shared vision for the CPS and work together as a team. The motivational sessions have the objective of motivating the office bearers to do better individually and as a group. The motivation to bridge the existing gap

between potential and performance as individuals and groups is instilled in them. Administrative skill sessions include society management and general administration classes. These sessions provide inputs on various aspects such as routine administration of a society, legal requirement and compliances, documentation etc. Project management sessions helps the CPSs in understanding the nuances of preparing project proposals, planning investments & cash flows, and financial management. Case studies of good proposals are made available to the officials so that they are able to envision similar ones for their own CPSs.

How small scale industries could compete in the local market by having a good product and sales network is communicated to the participants to remove the apprehensions regarding marketing of value added products. The sessions help create a marketing plan that can help CPSs reach out to a wider audience.

In the interactive session with best-in-class practitioners include interaction with successful farmers, entrepreneurs and skilled

agriculture officers. These sessions help CPSs understand how collectivization of farming activities and collaboration with agriculture offices can be achieved and also the opportunities and threats involved in coconut based enterprises. The economic gains of converting a certain percentage of coconuts into tender coconut palms and running tender coconut parlours is communicated with a successful trader in tender coconut who has also tried to procure nuts locally. These sessions also incorporates the strategy of involving local self governments in CPS activities.

In the exposure field visits session participants are exposed to good models of practices in the coconut value chain via field visits.

In the plan of action session the participants sit together to plan their 365 day action plan with regard to the activities that they plan to engage in the coconut sector with facilitation from CDB and LEDS. Within the action plan the group needs to come up with a overall vision for the CPS and then evolve a 10 year, 5 year and 1 year overall targets. Then a detailing of various areas in which CPSs will involve

and what they intend to do in each with a specific timeframe and responsibility is given. The areas are farming, nursery, copra and coconut oil, tender coconut, value added products, finance gathering, local self government intervention, policy level interventions and sector related future learning and other activities.

Observations and Suggestions

Follow up of CPS activities is a must. If more trainings on coconut sector especially on nursery, farming, value added products etc. are provided to CPSs they will remain more active. CPS office bearers are basically farmers looking for a better income. Long term strategies are communicated but to arrest the crisis of the prevailing low coconut prices in the immediate future should also be done.

Nursery is an area that CPSs are interested in and hence more emphasis could be given for that. The interest shown by CPSs in applying for the seed nut programme by the Board is a testimony of their keenness in enhancing diversification and productivity. An intercropping



The trainees during a unit visit to Subicha, Kozhikode

manual for coconut farmers with success stories of farmers will be very useful for CPSs. Manure making is something many CPSs have expressed interest in. The increasing price of manure is forcing many CPSs to think of starting organic manure units within their respective areas. Overall a farming manual for CPSs would be very beneficial.

Tender coconut is an area that CPSs will move into. More CPSs are interested in tender coconut parlours and a unique and common design for tender coconut parlours could be evolved by Coconut Development Board with the help of design institutes for the next tender coconut season starting in October.

Already trading discussions have been started between CPSs and enterprises linked during the training. CPSs intend to collectively procure and bring nuts needed for Subicha and to take back organic manure from Subicha. Sale of coconut shell charcoal is another option being tried. Sale of tender coconut in Calicut town which need nearly 12000 nuts per day during peak season is under consideration of many CPS. Setting up a coconut

oil making unit is also seriously considered by groups. A directory of enterprises existing in each area in the coconut sector and their raw material or procurement needs should be made available to CPSs which will help them trade directly with these enterprises.

Feed back of the participants

To get out of the crisis of the prevailing low price in the coconut sector can be achieved with consistent and strategic work by CPS and it also needs more help and assistance from CDB and other related institutions. CPSs should function more effectively as an agency doing regulatory work for preventing spurious coconut oil from destroying the market for local pure coconut oil. This will help in raising the price for coconut also. Strong legal action needs to be taken against those manufacturing and selling spurious coconut products. CDB should have a field office for large coconut producing districts like Calicut to work together with the Agriculture Offices of the state government so that more and consistent inputs with regard to coconut farming can be provided to farmers.

When going for enterprises, land and building is a big issue in Kerala. Efforts need to be taken for pressurizing grama panchayaths and block panchayaths to give land and building to CPSs for starting coconut related ventures. Manure, pesticides, good quality planting materials, agricultural equipments etc. can be distributed to farmers through CPSs at a fair rate. A procurement center for coconut in each Panchayath need to be started with the help of CPSs. When the price of the coconut produce is low a mechanism could be evolved where in procurement will be done at the current price and payment immediately made and produce is stored and sold when the price increases and the difference is paid to the farmer.

Many of the office bearers have been forced into their positions and hence have not taken ownership of their positions. The CPS must be led by people who takes full ownership of their positions and realizes their roles and responsibilities. More youth need to be brought into prominent roles within CPS.

*Project Manager (LEDS),
Edappally, Kochi*

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Profits/surpluses

Members will initially receive only such value for the produce or products pooled and supplied as the directors may determine. Some amount generated as surplus may be withheld for distribution in future. The withheld amount may be disbursed later either in cash or in

kind or by allotment of equity shares. Members will be eligible to receive bonus shares.

A provision is available to distribute patronage bonus. Patronage bonus is similar to dividend and is calculated after the annual accounts are finalised. Patronage bonus means payment out of surplus of income to

members in proportion to their respective patronage (not shareholding). Patronage is defined as the use of services offered by the producer company to their members by participation in their business activities.

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Equipping to excel: training to CPS leaders

Prof. Joji Alex



The training programme at Rajagiri College of Social Sciences

Coconut farmers are going through a series of challenges which has started unfolding a couple of decades before and has reached a critical phase today. These multi-faceted challenges include the absence of collective scientific farming and scale economies (due to small and marginal land holding), low labour productivity, middle man exploitation of the unorganised farmers, the absence of proper management, organisation, community leadership and in general a lack of collective goals.

Coconut Producers' Society is an initiative of the Coconut Development Board for aggregating coconut farmers of a defined locality for the development of the sector for economic social and cultural benefits. This initiative is gaining momentum now. Board in association with management institutes and NGOs have developed a training programme for the office bearers of the Coconut Producer Societies

Rajagiri Center for Business Studies, Kochi is conducting a training module for the Coconut

Producer's Societies (CPS) in Kerala. The goal of the training programme is to educate the farmers with regard to their various needs and to enable them to undertake coconut farming activities on a commercial scale in order to increase the revenue from the small, marginal and backyard land holdings of farmers and to evolve the CPS as a vibrant farming organisation which would be sustainable on its own.

The training module encompasses four major thrust areas like, scientific farming and innovation for sustainability, organization and management, issues of ASEAN agreement and its impact and knowing your necessary financials. The basic premises on which these modules were delivered was that investment in interventions or training has to generate a return on investment (ROI) which should be justifiable with farmer incomes and community benefits. A major feature of this programme was the in-built mechanism called hand-holding. After having given the farmer

leaders with intense class room exercises, opportunity for experience sharing with successful farmers, lectures and farm based simulations, they were also guided one-on-one basis with regard to their real time ground difficulties at regular intervals. The hand-holding is an ongoing process needed for a few more years until each CPS becomes self-reliant.

The success of the training programme and its benefits to the community depends on the self initiatives that each CPS undertakes. The outcome of the training activity was measured qualitatively in the given short run. The groups who have undertaken this three day fully residential programme have realized the necessity for being organised, think and act professionally. The Coconut Development Board aspires that each of these CPSs should positively transform to the emerging challenges and flourish to become Farmer Federations and Farmer Corporates.

*Rajagiri Center for Business Studies,
Kakkanad, Kochi.*

From ideas to action: a few models

K.M. Vijayan

Since the Government of Kerala has given approval to the Coconut Producer Societies to supply copra to the state level designated agencies viz. Marketfed and Kerafed, many CPSs have very actively started copra procurement and allied activities. Kakkoor, Vettilappara, Alappara, Ramankulam, Irunnakuzhi, Haritha, Pallippalam and Oomala are a few among them.

The farmers of Urugattiri, a Panchayath in Kozhikode district is fully enjoying the advantages of the price support scheme. The panchayath is having 3 copra dryers, having capacity to process 30,000 nuts, 12,000 nuts and 17,000 nuts per batch. The farmers collectively supplied more than 100 metric tonne copra during May 2012 to the state level designated agencies.

Since May 2012, eight CPS's, from Vettilappara panchayath is utilizing the copra dryer of Shri. Jose Vaniyakizhakkal, President Kakkoor CPS. So far they have supplied 39 metric tonne copra to the state level procuring agencies. This success story is a good model that can be emulated by other CPSs.

Shri. Jose who was using his copra dryer on commercial scale is now using the same for saving the farmers from the crisis of the price fall. He could have used it commercially and could have made good profit by buying the raw coconut for Rs.10 per kg and could sell copra @ Rs.39. But Jose has stopped his routine business for the time being and has come to the rescue of his fellow farmers.

Kakkoor and nearby CPSs could make 39 metric tonne FAQ copra

during the last 45 days and supplied to Kerafed. They generated an additional income of more than Rs.4 lakh during a short span of 45 days.

According to Shri. Jose, only Rs.12 lakh is required for establishing a copra dryer unit of capacity to process 12,000 nuts per batch. If the CDB or the State government is giving 50% subsidy, the CPS will have to make only Rs. 6 lakh. While electricity charges for these types of dryers will be only around Rs.3500, farmers can make an additional income of Rs.35000 from the coconut shell, they get after making copra. As this copra is having good quality, farmers will get the premium price during the off season also.

Haritha Coconut Producer's Society based at Koyilandi in Kozhikode is a good model for the whole district. Haritha having 71 coconut farmers as its members have already supplied 25 metric tonne copra to Kerafed. Eventhough they are making copra in traditional method (using kiln), the copra is having good quality, and so it fetches the support price. This proves that good quality copra as per the specifications of NAFED can be made even through traditional methods.

Pallippalam CPS is another farmers collective which has collected 9 metric tonne copra from its members and supplied to



Shri. Thomas Vettom, President Vettilappara CPS and Shri. Jose Vaniyakizhakkal, President Kakkoor CPS in front of the copra making unit.



Processing into copra



Packed copra ready for supply to Kerafed

Kerafed. Four more CPS from the nearby areas have signed agreement with Kerafed. It is expected that during the coming weeks these CPSs will be active in procurement operation.

Oomala Coconut Producer's Society in Kannur district has also started procurement activities. The society has supplied 25 tonne copra to Kerafed in May-June. The society is having 83 members and 4101 palms under their operational area. The society has taken a copra

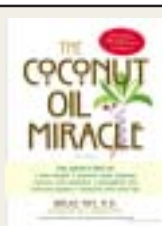
dryer on rent for making copra. Inspired by Oomala CPS, 13 CPS from the nearby areas have signed agreement with Kerafed for supplying copra.

The producers' societies of this area are in the process of forming a Federation. The federation is also society is also planning to install a copra dryer with the financial assistance of the Board having capacity to process 10,000 coconut per batch.

Kavalangad CPS, in Ernakulam district is having 80.14 hectre coconut plantations under its operational area with 5430 yielding palms. The society has started a tender coconut parlour by availing the financial assistance of the Board. The society is collecting using tender coconut from its member farmers @ Rs.15 per nut. The society is also planning to install a copra dryer for processing copra and for onward supply to the designated state level agencies under price support scheme.

Many other CPSs across the state has started the initial process for procuring coconut from their members for conversion into copra and supplying to the state level designated agencies. If more CPSs are determined to go ahead, large number of farmers would get the benefits of support price which in turn would make positive impact on the market price.

Field Officer, CDB, Kochi-11



Book on Coconut

The Coconut Oil Miracle

Bruce Fife, C N, ND

Can Saturated fat be good for you?

Yes! Natural coconut oil- as opposed to the hydrogenated version often found in processed foods- is a saturated fat, but not the kind your doctor has warned you about. Studies have shown that this uniquely curative oil actually has innumerable health benefits, ranging from disease prevention to anti aging. Now, in this revised edition of the first book to describe the therapeutic properties of coconut oil,

Bruce Fife offers a nutrition plan with dozens of tasty recipes that will allow anyone to experience the healing miracles of what he deems "the perfect food".

When taken as supplement, used in cooking, or applied directly to the skin, coconut oil has been found to:

- Promote weight loss
- Help protect against heart disease, cancer, diabetes,

arthritis and many other degenerative diseases

- Prevent premature aging of skin
- Strengthen the immune system
- Improve digestion

Jon J Kabara, Ph.D, Professor Emeritus, Chemistry and Pharmacology, Michigan State University in the Foreword for this book has written that Dr. Bruce Fife should be commended for bringing together in this very readable book the positive health benefits of coconut oil and especially monolaurin. The inquiring reader will have a new and more balanced view of the role of fat and especially saturated fats in our diet.

KERAFED & Price Support Operations

Shri. P.J. Sivakumar

Price Support Scheme (PSS) for any agricultural produce seeks to ensure remunerative prices to the growers for their produce with a view to encourage higher investment and production. It is basically a market intervention programme aimed at safeguarding the interests of the framers and to protect them against the decline in market prices of that produce. Such Price Support Operations for copra have been in force for the past several years and recently for coconut also.

The Minimum Support Price (MSP) for copra and coconut are declared by Government of India for every season. National Agricultural Cooperative Marketing Federation of India (NAFED) is the central nodal agency of the Government of India to operate the scheme and the State Level Agencies (SLAs) of NAFED are designated by the State Government. The Scheme will be operational as long as the market prices remain below the MSP. Copra and coconut will be procured under the scheme from farmers at the MSP, thereby enabling the farmers to market their produce at a better price compared to the prevailing market prices. When the market prices go above the Minimum Support Price, the Price Support Operations become irrelevant and are then discontinued.

KERAFED being the apex Cooperative Federation of the coconut farmers in Kerala has been in the forefront during the last several years in operation of the Price Support Scheme in Kerala. It is the main State Level Agent of NAFED in the State. Procurement

operations are carried out as per the guidelines issued by the State Government and in accordance with the terms & conditions stipulated by NAFED, through the Cooperative Societies / Farmers' Clusters / SHGs selected for the purpose. The district level committee with the District Collector as the Chairman and the Joint Registrar of Cooperative Societies of that district as the Convenor is the authorised body for selecting the Societies. KERAFED continues to be one of the State Level Agents of NAFED for the year 2012 also. The procurement details by KERAFED under Price Support Scheme for last ten years are given below. In those years where 'NIL' figures are shown, Price Support Scheme was not operational, as the market prices were ruling above the MSP.

Year	Quantity procured (in Metric Tons)
2003-04	Nil
2004-05	Nil
2005-06	839
2006-07	2218
2007-08	3696
2008-09	Nil
2009-10	24875
2010-11	5764
2011-12	Nil
2012-13 (till 11 th June)	1530

The Minimum Support Prices declared by Government of India for 2012 season are Rs.5,100/- per quintal for FAQ milling copra, Rs.5,350/- per quintal for FAQ ball copra and Rs.1,400/- per quintal for dehusked coconuts with water. Along with Cooperative Societies, the State Government has included the Coconut Producer Societies (CPS) of Coconut Development

Board also in the 2012 season's PSS operations, which is a welcome step. In the experience of Kerafed, the participation of Cooperative Societies is coming down over the years. Their interest is declining due to various reasons. In such a situation, the CPS are becoming more relevant for successful implementation of the PSS operations in the State.

Some drawbacks noticed in the implementation of PSS for copra are:-

(i) The FAQ parameters prescribed under PSS are very difficult to be achieved at the farmer / Society level.

(ii) Traditionally, copra conversion at farmers' level in Kerala is negligible and hence the desired benefits of copra procurement under PSS do not necessarily percolate to the farmers' level. Procurement of raw coconuts can be of much benefit to the genuine farmers. But infra-structural facilities for drying coconuts have to be made available in a wide-spread manner to facilitate the same.

(iii) As informed by the Societies engaged in the procurement of coconuts, farmers generally bring both mature & immature nuts. To produce quality copra, immature nuts have to be segregated and returned which causes difficulty for the farmers. Since the processing facilities for copra conversion are limited, quantity restrictions become necessary for avoiding spoilage of nuts due to prolonged storage.

In the given situation, if the PSS operations have to yield the desired results, the best alternative available before us is to develop a net work of copra driers at farmers' level on a group / cluster basis covering the entire state and the Coconut Producer Societies can play a vital role in this regard.

*Manager (Extension), Kerafed,
Thiruvananthapuram*

Grade specification for procurement of ball copra for edible use under price support scheme

Sl.No.	Characteristics	Maximum limits of tolerance for FAQ
1	Size(Diameter) minimum in mm	75.0
2	Foreign matter % by weight max.	0.2
3	Mouldy & black kernels % count max	2.0
4	Wrinkled kernels % by count max	10.0
5	Chips % by weight max	1.0
6	Moisture content % by weight max	7.0

Description

- I. These shall be kernels obtained intact and in the form of ball from the fruits of *cocos nucifera* linn, fam-palmae.
- II. These shall be well dried, reasonably firm and in sound merchantable condition.
- III. These may be fumigated by sulphur or other fumigants permissible under PFA Rules, 1955 and shall be free from rancid taste and objectionable odour. The testa shall be pearl white to ash white in colour and shall be sweet in taste.

Grade Specification & Definitions of Quality of Milling Copra for Procurement Under Price Support Scheme

Sl.No.	Characteristics	Maximum limits of tolerance for FAQ
1	Foreign matter % by max	1.0
2	Mouldy & black kernels %	10.0
3	Wrinkled kernels % by count max	10.0
4	Chips % by weight max	10.0
5	Moisture content % by weight max	6.0

- I. These shall be kernels obtained intact and in the form of ball from the fruits of *cocos nucifera* linn, fam-palmae.
- II. These shall be well dried, reasonably firm and in sound merchantable condition.
- III. These may be fumigated by sulphur or other fumigants permissible under PFA Rules, 1955 and shall be free from rancid taste and objectionable odour. The testa shall be pearl white to ash white in colour and shall be sweet in taste.

Note

- 1 Foreign matter includes dust, straw and shell
- 2 Mouldy & black kernels include those in which more than 5% of the inner surface is covered with mould and or dark brown to black in colour.
- 3 Wrinkled kernel includes those which are shrunk out of normal shape or are not fully matured or developed or have a structure and uneven surface. Such kernels are often discoloured.
- 4 Chips include pieces of kernels which are smaller in size.
- 5 Meat means the soft body enclosed in the shell which carries the oil.
- 6 Packing under Non-specified grade will be allowed only against a specified order from the foreign buyer indicating the quantity and quality of the produce desired.

Officers / offices designated for PSS operation KERAFED

District	Name, Address & Telephone Numbers
Kasaragod	Shri.Rathnarajan.A ,Kerafed Field Office, Durga High School, Road,Kanhangad, 94479 56044
Kannur	Shri.Krishnakumar.A.P , Kerafed Field Office, Near Training School for MenCaltex Jn, Kannur, Ph:0497-2700613, 98952 37797
Wayanad Kozhikode	Smt. Indira K.M , Kerafed Regional Office,Elathur, Kozhikode, Ph:0495-2462640, 97450 67965, 85478 24040
Malappuram	Smt.Umadevi. K.T ,Kerafed Regional Office,Elathur, Kozhikode, Ph:0495-2462640, 94468 89775
Palakkad	Dr.P.Ramaprasad , Kerafed Coconut Complex,Naduvannur, Kozhikode, Ph:0496-2653575, 0495-2462640, 98099 14239
Thrissur	Shri. V. Ajithkumar , Kerafed Field Office Cherpu, SCB Building, Perumpillissery, Cherpu. P.O, Trichur – 680 561, Ph:0487-2342225, 9446609500
Ernakulam	Smt. M. Vijayakumari , Kerafed Regional Office Building No. 26/172, Edappally Toll Junction, Kochi – 682 024, Ph:0484-2551091, 7736108065
Idukki, Kottayam, Kollam, Alappuzha Pathanamthita Kollam, Thiruvananthapuram	Shri. A. V. Mathew , Kerafed Oil Complex, K. S. Puram Puthiyakavu, Karunagappally, Ph:0476-2620627, 9446345511

MARKETFED

District	Name, Address & Telephone Numbers
Kasargod	Shri. V.P. Pradeep Kumar , Mixing Unit, Taliparamba, 9495677975, 04994-255839, Ph:0460-2203273
Kannur	Shri. V.P. Pradeep Kumar , Shehin Complex, Near Thevakkara Under bridge, Kannur – 2 Ph:9495677975, 0497-2701195
Wayanad	Shri. E. Ramanadan , Emily Road, Kalpetta, Wynad Dist., Ph:202179 / 9446155834 9446155834, 04936-202179
Kozhikode	Shri. P. Prabhakaran , Branch Manager, PB No.1116, South Beach Road, Kozhikode – 32 Ph : 0495-2766241 / 2768607, 9447633171, 0495-2768607
Malappuram	Shri. M. Devadas , C/o.The Field Officer, Kerala State Co-op. Mktg. Fedn. Ltd. BKM Complex, Calicut Road, Perinthalmanna, Ph:9447626932, 04933-227778,
Palakkad	Shri. V. Sudevan , Sales Officer, T.B. Road, Palakkad –678014,Ph: 9447620558, 0491-2527342
Thrissur	Shri. S. Balachandran , Sales Officer, 28/840, Pallam Road, Trichur Dist., Ph: 9061199005, 0487-2423978/2337076
Ernakulam	Shri. Reji Cherian , PB No. 656, Willingdon Island, Cochin-3, Ph:9446446668, 0484-2204319
Idukki	Shri. M. Avarachan , C/o. State Warehouse Bldgs., Thodupuzha East (PO), Ph:9446717154, 04862-224948
Kottayam	Shri. M. Avarachan , Ozhathil Bldg., Near Railway Goodshed, Nagampadam, Kottayam-686001, Ph:9446717154, 0481-2578801
Pathanamthitta	Shri. C. Surendran , Maryland Bldg., Opp. Head Post Office, Pathanamthitta. Ph:9495682784, 0468-2270584
Alappuzha	Smt. Elikutty Mathai , The Field Officer, PB No.3829, Near Kallupalam, 688011, Ph:8547136615, 0477-2262319
Kollam	Smt. Ushakumari , Kadappakada, Kollam -8, Ph:9447388237, 0474-2748298
Thiruvananthapuram	Smt. C.V. Thankamani , Regional Office, PB No.508, Thycaud (PO), Near Kerala Cricket Association Complex, Trivandrum – 695014, Ph : 0471-2323483 / 949726647 9497266479, 0471-2323483

TANFED

Centre	District	Address	Contact No
Pattukkottai	Tanjavur	The Special Officer, Pattukkottai Agriculture Producers Society, Muthupattai Road, OPP: Taluk Office, Pattukkottai, Thanjavur Dist.	04373-235045
Peravuranai	Tanjavur	The Special Officer, Thennankudi, Peravuranai, Thanjavur Dist.	
Vedaranyam	Nagapattinam	The Special Officer, Vedaranyam Agriculture Producers Society, West Street, Vedaranyam, Nagapattinam Dist.,	9442929307
Muthupettai	Thiruvarur	The Special Officer, Thiruthuraipoondi Agriculture Producers Society, Muthupettai, Thiruthuraipoondi, Thiruvarur Dist,	9688095561
Pollachi	Coimbatore	Pollachi APCMSPalaghat Road,Nallur , Pollachi -5	Pollachi APCMS04259 - 224983
Negamam	Coimbatore	Regulated Market Committee, Negamam, Pollachi Taluk	
Kinathukkadavu	Coimbatore	Regulated Market Committee, Kinathukkadavu, Pollachi Taluk.	
Anaimalai	Coimbatore	Regulated Market committee, Pollach Road, Anaimalai, Pollachi Taluk.	
Thimmanguthu	Coimbatore	Agri.Business Center, (IAMWARM)Thimmanguthu, Pollachi Taluk,	
Senjeri	Coimbatore	Regulated Market Committee,Senjeri, Suler Taluk, Coimbatore Dist	Suler APCMS 0422 - 2687237
Thelungupalayam	Thirupur	Coimbatore APCMSSiruvani Road, Telungupalayam (Post)Coimbatore – 641039	Coimbatore APCMS 0422 – 2341626
Udumalpet	Thirupur	Regulated Market Committee, Pollachi Road,Udumalpet.	Udumalpet APCMS 04252 – 224773
Modakupatti	Thirupur	IAMWARM Drying yard, Modakkupatty, Udumalpet Taluk	
Vavipalayam	Thirupur	Regulated Market Committee, Mangalam Road, Palladam, Tiruppur Dist.	Palladam APCMS 04255 – 253103
Vavipalayam	Thirupur	IAMWARM Drying Yard,Muthur, Vavipalayam, Palladam Taluk, Tiruppur Dist	
Nizhali	Thirupur	Regulated Market Committee,Palani RoadAlangiyam, Dharapuram Taluk	Dharapuram APCMS 04258 - 220605
Nizhali	Thirupur	Agri.Business Center (IAMWARM)Nizhali Village, Ellappalayam pudur, (Post)Kangeyam Taluk, Tiruppur Dist	
Avalpoonthurai	Avalpoonthurai	The Superdent, Agriculture Regulated Market Committee, Avalpoonthurai, Erode Dist.,	0424-2331279
Aranthangi	Pudukottai	The Special Officer, Aranthangi Taluk Agriculture Producers Society, Aranthanki, Pudukottai Dist.,	04371-270593
Mallasamuthiram	Nammakal	Thirusengode Taluk Agriculture Producers Society, Sooriyagoundanpalayam, Mallasamuthiram Branch, Thirusengode, Namakkal Dist.	04288-252359

Coconut Oil Benefits: When Fat is Good For You

Dr. Joseph Mercola

The truth about coconut oil is obvious to anyone who has studied the health of those who live in native tropical cultures, where coconut has been a primary dietary staple for thousands of years.

Back in the 1930s, Dr. Weston Price found South Pacific Islanders whose diets were high in coconut to be healthy and trim, despite high dietary fat, and heart disease was virtually non-existent. Similarly, in 1981, researchers studying two Polynesian communities for whom coconut was the primary caloric energy source found them to have excellent cardiovascular health and fitness.

Where were all the clogged arteries and heart attacks from eating all of this "evil" saturated fat?

Obviously, coconut oil was doing nothing to harm the health of these islanders.

The naturally occurring saturated fat in coconut oil is actually good for you and provides a number of profound health benefits in improving your heart, health, boosting your thyroid, increasing your metabolism, promoting a lean body and weight loss if needed and supporting your immune system. Coconut oil even benefits your skin when applied topically and has been found to have anti-aging, regenerative effects.

Nearly 50 percent of the fat in coconut oil is of a type rarely found in nature called lauric acid, a "miracle" compound because of its

unique health promoting properties. Your body converts lauric acid into monolaurin, which has anti-viral, anti-bacterial and anti-protozoa properties.

Coconut oil is also nature's



richest source of medium-chain fatty acids (MCFAs), also called medium-chain triglycerides or MCTs. By contrast, most common vegetable or seed oils are comprised of long chain fatty acids (LCFAs) also known as long-chain triglycerides or LCTs.

LCTs are large molecules, so they are difficult for the body to break down and are predominantly stored as fat. But MCTs, being smaller, are easily digested and immediately burned by the liver for energy - like carbohydrates, but without the insulin spike. MCTs actually boost the metabolism and help the body use fat for energy, as opposed to storing it, so it can

actually help in becoming leaner.

Back in the 1940s, farmers discovered this effect accidentally when they tried using inexpensive coconut oil to fatten their livestock but it didn't work. Instead, coconut

oil made the animals lean, active and hungry. Coconut oil has actually been shown to help optimize body weight, which can dramatically reduce the risk of developing Type 2 diabetes. Besides weight loss, boosting the metabolic rate will improve your energy, accelerate healing and improve the overall immune function. Several studies have now shown that MCTs can enhance physical or athletic performance. Finally, coconut oil is incredibly good for heart. It is unsaturated fats that are primarily involved in heart disease and too much sugar and processed foods, not the naturally occurring saturated fats.

Source: www.huffingtonpost.com

Scenario of Coconut eriophyid mite infestation in Andhra Pradesh

P. Rajan#, Chandrika Mohan##, N.B.V. Chalapathy Rao* and George V. Thomas**

Introduction

The coconut eriophyid mite, *Aceria guerreronis* Keifer is the most destructive pest among various species of eriophyid mites on coconut palms in 30 countries of tropical America, Africa and Asia. In India, the coconut eriophyid mite was first reported in Ernakulam district of Kerala during 1998. Within a short span of time, the mite had spread to all major coconut growing regions of the country in the East and West coast of India and Lakshadweep Islands. Entry of the mite into the developing nuts takes place during the early phase of development immediately after the pollination. Active colonies of mite are formed by the egg laying female mites gaining entry into the developing nuts. Various developmental stages of the pest viz., eggs, nymphs and adults can be seen in colonies on the meristematic areas under the perianth of developing nuts. Biology of the mite takes 7-10 days and average fecundity of the female mite is 80 eggs. Under favourable conditions this high fecundity and the shorter life cycle help in the enormous multiplication of the colonies. Appearance of triangular yellow patches below the perianth is the first external manifestation of mite infestation on young buttons. Drainage of sap by the feeding activity of the colony results in drying of the tissues causing browning of the affected portion. As the nuts grow, warts and longitudinal fissures appear on the nut surface. Severe infestation causes drying and shedding of buttons or malformation of nuts resulting in retarded growth. Considerable reduction in the copra content (25-30%), malformation of husk fibre (42%) and reduction in oil (31%) are the major economic losses due to severe infestation by the pest. The population of the pest reaches peak during summer months and dispersal of the mite in nature occurs mainly through wind.

In Andhra Pradesh coconut is cultivated in 17 districts in a total area of 1.04 lakh ha. producing 1149 million nuts annually. Among the districts, East Godavari holds 48.06% area (50247 ha.) with a production of 527 million nuts, followed by West Godavari having 19.61% of area (20504 ha.) with a production of 289 million nuts. These two coastal districts together

contribute the major share (71%) of coconut production of the State. The major coconut variety grown in these two Districts is East Coast tall (ECT) which is a tall variety with heavy bearing of small to medium size nuts. Other varieties including dwarfs and hybrids were also cultivated in a limited scale in the state. The productivity of coconut in Andhra Pradesh is found to be very high i.e. 10994 nuts/ha. Eriophyid mite incidence in coconut was first reported from Chittoor area of the state during 1999 and subsequently by 2000 the pest had spread to all the major coconut growing districts of the State. The increased invasion by the pest in all coconut growing tracts and persistent damage symptoms on most of the nuts in recent years warranted an intensified study to assess the status of mite incidence in the State. Accordingly a survey was undertaken during November 2011 to assess the level of mite incidence in the state.

Survey area

The survey for assessing the intensity of mite infestation was conducted in two districts of Andhra Pradesh, viz., East Godavari and West Godavari which form the major coconut growing tract of the State. The climate in these districts is warm and humid almost throughout the year. Average rainfall in the tract was found to range from 800-1100 mm. The soil type is sandy loam along the Coast of Godavari River and clay loam in other areas. From East Godavari district eight mandals and from West Godavari District five mandals were selected for the survey. The locations of survey are furnished in Table -1.

Methodology

A pre-tested pro-forma was used for collecting data. In the survey, one garden from each mandal was selected for recording observation. From Pedavegi mandal two gardens were selected. In each garden the observations were recorded from all the available varieties by selecting 6 sample palms continuously and detailed observations on incidence and intensity of mite were observed with the help of a binocular from the ground. Total number of nuts and number of mite infested nuts in all the bunches that were visible from

Table 1. Surveyed areas in East and West Godavari Districts

East Godavari	West Godavari
Ambajipeta	Tadepalligudem
Ainavilli	Kovvur
Gannavaram	Nidadavole
Razole	Nallajerla
Malkipuram	Vegiwada
Sakhinetipalli	Pedavegi
Rajamundhry Rural	
Mandapeta (Dwarapudi)	

the ground were recorded. In addition, detailed observation on the pest incidence in all the bunches of one palm from each variety available in the garden was recorded with the help of a skilled climber. The observations were recorded from each bunch starting from the first pollinated bunch as number of nuts without mite infestation (healthy), nuts with less than 25% surface damage (low infestation), 25-50% nut surface damage (medium infestation) and more than 51-75% infestation (high) and >75% surface damage, malformed and puny nuts (severe) (Table-2). Data pertaining to the various parameters of the garden mainly profile of the farmer, details of variety, intercrops, soil, nutrition and irrigation status, pest and disease incidence etc were also recorded.

Sample nuts were collected from mite infested palms from eight gardens of East Godavari district and

Gannavaram, Razole, Malkipuram, Sakhinetipalli, Rajamundry rural and Mandapeta (Dwarapudi). Similarly in West Godavari, gardens from Kovvur, Nidadavole, Nallajerla, Vegiwada, Pedavegi and Thadepalligudem were surveyed for studying the mite incidence. All the gardens visited by the team were having mite incidence. The average mite incidence in East Godavari district was found to be 39.63% whereas in West Godavari district there was slight reduction and here the average incidence recorded was 29.81%. In both the districts, intensity of mite infestation was assessed by scoring the infested nuts into various grades viz., low, medium, high and severe infestation as per details given in Table -2. In East Godavari district, 70.53% of nuts were showing only less than 25% of surface damage (low), 25.65% in medium category (25-50% nut surface damage). The other two grades viz., high (51-75% damage) and severe (more than 75% and puny nuts) were negligible with 3.59% in high category and 0.25% in severe category. In West Godavari district, 81.72% of nuts were in low category, 15.88% in medium level, 2.42% nuts in high category and there were no nuts in the severe category. In both these districts, the mite infestation was categorized as low to medium level. When compared to both districts, East Godavari recorded higher incidence as well as higher infestation level on nuts than West Godavari as furnished in the Table -3.

As per earlier studies conducted in CPCRI, only nuts in the higher grade like “high” and “severe” categories were showing economic losses viz., reduction in copra, oil and fiber content and these

Table -2. Details of score showing intensity of mite damage

Infestation intensity category	Degree of damage symptom on nut
Healthy nut	Nuts without any mite damage symptom on the surface
Low	Nuts with less than 25% nut surface damage
Medium	Nuts with 25-50% nut surface damage
High	Nuts with 50-75% nut surface damage
Severe	Nuts with more than 75% nut surface damage and malformed and puny nuts

four gardens of West Godavari district for assessing the mite population as well as natural enemies of mite.

Status of eriophyid mite incidence

In East Godavari district, coconut plantations from the following mandals were assessed for incidence and infestation levels viz., Ambajipeta, Ainavilli,

categories of nuts are found to be negligible in these districts. In totality, the infestation level of nuts in these districts ranged from low to medium which do not cause any economic loss to the farmers.

In East Godavari District the mite incidence ranged from 31.29% to 54.21% with Malkipuram recording the least incidence and Sakhinetipalli the maximum. In

Table - 3. Incidence and infestation level of coconut eriophyid mite in East and West Godavari districts of Andhra Pradesh.

District	Incidence (%)	Infestation level on nuts (%)			
		Low	Medium	High	Severe
East Godavari	39.63	70.53	25.65	3.59	0.25
West Godavari	29.81	81.72	15.88	2.42	0.0

Sakhinetipalli maximum number of nuts were in medium level of infestation whereas in all other mandals in the district maximum nut infestation was under low level category. Only in one garden in Razole mandal few nuts with severe level of infestation were found. Details of the mite incidence and infestation levels of the nuts are summarized in Table 4 and 5.

Coconut palms in West Godavari district showed low level of mite incidence ranging from 18.26% to 39.52% with Thadepalligudem mandal showing the least and Nallajerla mandal recording the highest incidence. About 82% of the infested nuts recorded in the district have low level of infestation and severe level of infestation was not observed on nuts. The details of data collected from the district are furnished in Table 6 and 7.

Variety-wise incidence

During the survey, the team had recorded data on mite incidence from various coconut varieties cultivated in these two districts. The varieties include East Coast Tall (ECT) the Local Tall variety, Chowghat Orange

Dwarf (COD), Malayan Yellow Dwarf,(MYD) Ganga Bondam(GB), Malayan Green Dwarf (MGD) (Dwarf varieties) and hybrid Godavari Ganga (ECT x GB). Data on incidence of mite in different varieties are presented in Table 8.

There was significant difference observed in the percentage of mite infestation among the varieties. The highest infestation was observed in ECT variety (36.07).The infestation was comparatively low in the case of Malayan Green Dwarf and Chowghat Orange Dwarf. The variety ECT, Gangabondam, Malayan Yellow Dwarf and Godavari Ganga are statistically on par with respect to mite incidence.

Population build up of eriophyid mite

Sample nuts from third/fourth bunch were collected from infested palms from eight mandals of East Godavari and four mandals of West Godavari for assessing the mite population. Population was assessed in the laboratory and expressed in mm² area. Mite population from palms in East Godavari ranged from 0.48 to 5.29 per mm² area with a mean of 2.53 per mm² whereas in sample nuts of West Godavari the population showed a decline with values ranging from 0.75 to 2.9 with a mean of 1.64 per mm² area. The mite population details are furnished in Table-9.

Natural enemies

The sample nuts collected from these two districts were observed for presence of natural enemies. Natural enemies encountered comprise mainly

Table - 4. Mite incidence on coconuts in various mandals of East Godavari district

Mandals /area	Total nuts observed (No)	Healthy nuts (No)	Mite infested nuts (No)	% incidence	Infested nuts in different categories (%)			
					Low (<25% surface damage)	Medium (25-50% surface damage)	High (50-75% surface damage)	severe (>75% surface damage)
Ambajipeta	1544	944	600	38.86	61.67	28.83	9.50	0.00
Ainavilli	504	315	189	37.50	79.36	19.05	1.59	0.00
Gannavaram	498	312	186	37.35	69.35	23.12	7.53	0.00
Razole	391	187	204	52.17	66.18	29.45	2.45	1.96
Malkipuum	262	180	82	31.29	90.24	9.76	0.00	0.00
Sakhinetipalli	404	185	219	54.21	43.84	48.86	7.30	0.00
Rajmundry rural	420	276	144	34.29	79.17	20.83	0.00	0.00
Mandapeta (Dwarapudi)	886	608	278	31.38	74.46	25.18	0.36	0.00
Average				39.63	70.53	25.65	3.59	0.25

Table - 5. Number of nuts in various grades in different mandals of East Godavari district

Area	Number of nuts			Number of nuts in various grades			
	Total nuts observed	Healthy nuts	Mite Infested nuts	Low	Medium	High	Severe
Ambajipeta	1544	944	600	370	173	57	0
Ainavilli	504	315	189	150	36	3	0
Gannavaram	498	312	186	129	43	14	0
Razole	391	187	204	135	60	5	4
Malkipuram	262	180	82	74	8	0	0
Sakhinetipalli	404	185	219	96	107	16	0
Rajmundry rural	420	276	144	114	30	0	0
Mandapeta (Dwarapudi)	886	608	278	207	70	1	0

Table - 6. Mite incidence on coconuts in various mandals of West Godavari district

Mandals / area	Total nuts observed (No)	Healthy nuts (No)	Mite infested nuts (No)	% incidence	Infested nuts in different categories (%)			
					Low (<25% surface damage)	Medium (25-50% surface damage)	High (50-75% surface damage)	severe (>75% surface damage)
Kovvur	427	259	168	39.34	77.98	19.64	2.38	0.00
Nidadavole	420	279	141	33.57	80.85	19.15	0.00	0.00
Nallajerala	716	433	283	39.52	72.44	26.86	0.70	0.00
Vegiwada	841	594	247	29.36	85.88	13.32	0.91	0.00
Pedavegi	801	650	151	18.85	98.01	1.99	0.00	0.00
Thadepalligudem	1720	1406	314	18.26	75.16	14.33	10.51	0.00
Average				29.81	81.72	15.88	2.42	0.00

Table - 7. Number of nuts under various categories in different mandals of West Godavari district

Mandals / area	Number of nuts			Number of nuts in various grades			
	Total nuts observed	Healthy nuts	Mite infested nuts	Low	Medium	High	Severe
Kovvur	427	259	168	131	33	4	0
Nidadavole	420	279	141	114	27	0	0
Nallajerala	716	433	283	205	76	2	0
Pedavegi	801	650	151	148	3	0	0
Vegiwada ECT	841	594	247	200	44	3	0
Thadepalligudem	1720	1406	314	236	45	33	0

Table -8. Percentage of mite infestation in various coconut varieties

Variety	Percentage of infestation	
	Original	Transformed
East Coast Tall	36.065	36.384
Chowghat Orange Dwarf	16.188	20.371
Gangabondam	31.873	33.878
Malayan Yellow Dwarf	26.060	29.297
Godavari Ganga	29.480	31.790
Malayan Green Dwarf	11.062	19.314
S.E/plot		16.09
Gen.Mean		33.26
CV		48.38
Av. C.D (p=0.05)		16.34



East Coast Tall (ECT), local coconut variety in Andhra Pradesh

Chowghat Orange Dwarf (COD), coconut variety with low level of mite incidence

coconut monocropping and 9 gardens with multiple cropping with mixed/inter crops like cocoa, arecanut, banana and ornamental plants. The percentage of mite incidence in both these cropping systems was compared statistically to ascertain whether there is any increase or decrease of mite incidence in the cropping systems. The data analyzed revealed that there is no significant difference in mite incidence between the gardens following monocropping and inter/mixed cropping. The details are presented in Table -10.

Incidence of eriophyid mite in gardens with inter/mixed crops

The data on mite incidence in various gardens following multiple cropping with inter/mixed crops was analyzed to ascertain whether any of the inter/mixed crops influence the incidence of eriophyid mite. It was observed that gardens where flowering plants were intercropped with coconut, the eriophyid mite incidence was significantly low when compared to gardens with other inter/mixed crops. Gardens with arecanut, banana and cocoa as inter/mixed crops were on par in the mite incidence with highest incidence of mite recorded in gardens with arecanut as mixed crop. Details are furnished in Table -11.

predatory mites. The phytoseiid predatory mite *Neoseiulus baraki* was observed in 72.4% of the sample nuts. Other predatory mites observed in very few numbers include *Bdella* sp. and *Chelacaropsis moorei*. The predatory mite population per nut ranged from 2 to 17 in East Godavari District where as the population ranged from 2 to 10 in West Godavari. The average population in both the districts did not show any difference (7.18 to 7.62). However, presence of the potential biocontrol agent of the mite, the acaropathogenic fungus *Hirsutella thompsonii*, was not observed in the sample nuts collected.

Mite incidence levels in cropping systems

During the survey we have covered 5 gardens with

Table- 9. Eriophyid mite and predator population in sample nuts collected from various mandals

East Godavari areas	Mite population/mm ²	Average predator population/nut	West Godavari areas	Mite population/mm ²	Average predator population/nut
Ambajipeta	1.7	4.0	Nallajerla	2.9	10
Ainavilli	5.29	15.0	Nidadavole	1.3	9.5
Gannavaram	5.03	17.0	Kovvur	0.75	2.0
Dwarapudi	1.35	6.5	Pedavegi	1.6	9.0
Razole	2.54	9.0			
Malkipuram	1.3	2.0			
Sakhinetipalli	2.54	2.0			
Rajmundry rural	0.48	2.0			
Average	2. 53	7.18	Average	1. 64	7. 62



Heaped harvested nuts



Mite infestation on tender coconuts

An Integrated Pest Management (IPM) strategy blending plant protection and nutritional care is recommended for management of coconut eriophyid mite in these regions.

Summary

In Andhra Pradesh, eriophyid mite incidence was first reported on coconut from Chittoor area of the State during 1999 and infestation is prevailing in the state in varying intensities for the last 12 years due to the congenial weather factors favouring the buildup of the pest population. In the present investigation, mite incidence was recorded from two districts viz., East and West Godavari districts, which constitute the major share of coconut area (68%) and production (71%) of the State. The data collected revealed a low to medium level of mite incidence in both these districts as more than 95% of the infested nuts falling either under less than 25% of nut surface damage or 25-50% damage symptoms on nuts. In general East Godavari District recorded higher levels of mite incidence, infestation

level on nuts and population of mite in sample nuts when compared to West Godavari District. Variety wise mite incidence in the districts revealed highest incidence in local variety, East Coast Tall (ECT) and lowest in Malayan Green Dwarf (MGD). There was no significant difference in mite incidence in gardens with multicropping when compared to monocropping gardens. Among the coconut gardens having multiple cropping, mite incidence was lowest in gardens with ornamental plants as component crop. The sample nuts collected from these districts revealed the presence of predatory mite *Neoseiulus baraki* in 72% of samples suggesting buildup of this bioagent in these areas. However, the potential biocontrol agent of this mite *Hirsutella thompsonii* was not recorded probably due to higher temperature prevailing in these zones. The local variety, East Coast Tall cultivated extensively in these two districts is characterized with heavy bearing of small to medium sized nuts offering a conducive microclimate for the population build up of eriophyid mite. Nuts are oblong in shape and as such the tepals are not tightly packed giving room for mite entry during the developing stages of the nuts. The congenial weather conditions favouring the buildup of the pest are existing

Table - 10. Percentage of eriophyid mite incidence in different cropping systems

	Cropping system	
	Mono cropping	Multi cropping
Percentage of mite infestation (Sample mean)	33.0304	30.2157
Sample size	47	82
Standard Deviation	23.8731	24.3915
Calculated t value	0.6356	
	NS	

Table- 11. Influence of inter/mixed crops on eriophyid mite incidence

Inter/mixed crops with coconut	Mite incidence	
	Original	Transformed
Cocoa	31.588	33.596
Banana	37.016	36.773
Arecanut	47.434	44.192
Ornamental plants	19.300	24.239
SE /plot	15.69	
Gen. Mean	32.24	
CD (p=0.05)	12.15	



Coconut garden with cocoa intercrop



Coconut garden with banana intercrop

in these two districts. High temperature attaining more than 35°C during summer months as well as low distribution of rainfall (<1100 mm) is favouring the mite build up in these tracts. It is observed that well maintained coconut gardens with proper irrigation and nutritional care exhibited a marked reduction in mite incidence when compared to neglected gardens.

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1. Principal Scientist (Entomology), 2. Senior Scientist (Entomology), CPCRI (RS) Kayamkulam, Kerala
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45th COCOTECH meeting of APCC

The 45th COCOTECH Meeting and Coconut Exhibition 2012 organized by APCC and hosted by Coconut Development Board, on behalf of Government of India will be held at Kochi from 2nd to 6th July 2012.

The meeting on the theme “Inclusive Growth and Sustainable Development of the Coconut Industry” covers a comprehensive range of technical sessions/ topics on the success stories of model coconut farmers and small to medium-scale coconut processors/ entrepreneurs. New technologies and R&D updates on coconut crop improvement, coconut based farming systems, coconut agronomy and nutrition, coconut product development and value-addition, including developments in marketing coconut products in the domestic and export market will be discussed. Issues and topics which are related to the global financial crisis, climate change as well as the carbon credit market will also be discussed.

Experts from the scientific field and from international R & D institutions will be the resource speakers. Representatives from the private sectors will present their technologies machineries / equipments, quality control measures and their marketing strategies of coconut-based products.

During the meeting, a Coconut Exhibition will also be held. Various coconut products, posters and publications from the host country (India) and all APCC member countries will be displayed. Potential buyers and sellers of coconut products, and suppliers of coconut processing machineries and equipments can also meet and discuss during the Conference.

The meeting will be held in five sessions, viz. Policies and Programmes for Inclusive Growth and Sustainable Development of the Coconut Industry, Market Development and Health Attributes

of Coconut, Technological Developments on Coconut Crop Improvement, Coconut Agronomy/ Nutrition and Coconut-Based Farming System, Sustainable Integrated Pest and Disease Management Strategies in Coconut Farming, Value-Added Coconut Processing, Coconut Product Packaging, Quality Control Issues and Updates on Coconut Processing Equipments/ Machine-ries. A coconut farmers' interface is also arranged on the concluding day.

A meeting under the Chairmanship of Shri. K Jaykumar IAS, Chief Secretary, Kerala was held at Coconut Development Board, Kochi on 21st June 2012 to review the progress of the conduct of the COCOTECH meeting. The meeting among other things decided to have the stalls of Kerafed, State Horticulture Mission, Farm Information Bureau and Kerala Agricultural University in the Coconut Festival



A view of the meeting presided over by Shri. K. Jaykumar IAS, Chief Secretary, Kerala

110th Board meeting



A view of the Board Meeting

The 110th meeting of the Coconut Development Board was held on 30th May 2012 at Kochi under the chairmanship of Shri. T K Jose IAS, Chairman, Coconut Development Board. Shri. G S Basavaraj, MP (Lok Sabha), Dr. Charles Dias, MP (Lok Sabha), Shri. Omprakash, Additional Commissioner (Horti),

Ministry of Agriculture, Government of India, Shri. Sandeep Saxena IAS, Agriculture Production Commissioner and Secretary, Government of Tamil Nadu, Prof. G. Balachandran, Chairman, Coir Board, Shri. K Dharmarajan, Adv. Varkala B Ravikumar, Smt. K R

Netravathi, Shri. R Kaliselvan and Shri. Vasant Vishu Limaye members of the Board attended the meeting. The meeting acknowledged the long and dedicated service of Shri. M Thomas Mathew, Chief Coconut Development Officer, CDB who is retiring on 31st May 2012.

Vasant Vishnu Limaye elected as Vice Chairman of the Board



The 110th meeting of the Coconut Development Board held on 30th May 2012 at Kochi elected Shri. Vasant Vishnu Limaye as Vice Chairman of Coconut Development

Board. Shri. Limaye, is holding the post of vice chairmanship for the second time. Shri. Limaye, a native of Ratnagiri, Maharashtra is representing the coconut growers of Maharashtra. This is for the third term that Shri. Limaye is representing the state of Maharashtra in the Coconut Development Board. Shri. Limaye has been instrumental in implementing various CDB programmes especially the LODP programme and in introducing the Friends of Coconut Tree training programme in Maharashtra. It was with his genuine interest and enthusiasm that a State Centre of the Board was established at Thane, Maharashtra.

Booking started for quality coconut seedlings

Booking is started for good quality DxT hybrid and various dwarf and local varieties of coconut seedlings at the DSP farm of the Board at Neriyaamangalam, Kerala and Mandya, Karnataka. Interested Coconut Producer Societies can make advance booking. Bookings can be made at the office of the Coconut Development Board. For further information contact:

Coconut Development Board

(Phone No. 0484-2376265, 2377266, 2377267)

Deputy Director, Development (09497758363),

Farm Manager, DSP Farm, Neriyaamangalam (09446366099),

Farm Manger, DSP Farm, Mandya, (083232-234059)

Shri. B Chinnaraj, Senior Technical Officer, (8281248788)

SLMC on Replanting and Rejuvenation programme



Shri. Subrato Biswas IAS, Agriculture Production Commissioner, Kerala presiding over the 11th SLMC Meeting. Seen are Shri. T K Jose IAS, Chairman, Coconut Development Board, Shri. T Vikram IPS, M.D Marketfed, Dr. K Prathapan, MD, Kerafed and Adv. Varkala B. Ravikumar, Member, CDB

The 11th State Level Monitoring Committee (SLMC) on Replanting and Rejuvenation programme of the Board was held at Thiruvananthapuram on 15th June 2012. Shri. Subrato Biswas IAS, Agriculture Production Commissioner, Kerala presided over. He spoke on the need for evolving an action plan for the production of enough coconut seedlings for replanting in the project areas. He further directed to develop a data bank on the district wise details of the good quality dwarf mother palms and to

upload in the website of the Department of Agriculture. He further directed the Agricultural University, CPCRI and the Government Farms to conduct training programmes in hybridization. Coconut Development Board has conducted such a training at its DSP farm, Neriyanangalam. The meeting approved projects worth Rs. 16.41 crore for Thiruvananthapuram district, Rs. 8.29 crore for Kollam district and Rs. 27.24 crore for Thrissur district for the Replanting and Rejuvenation programme.

Shri. T K Jose IAS, Chairman, Coconut Development Board, Shri. K.R. Jyothilal IAS, Secretary (Agri.), Govt. of Kerala, Shri. T Vikram IPS, M.D Marketfed, Dr. K Prathapan, MD, Kerafed, Shri. S Ratnakumar, MD, Rubbermark, Shri. Ajith Kumar, Director, Agriculture, Kerala, Adv. Varkala B. Ravikumar, Member, CDB, officers of the department of Agriculture of Thiruvananthapuram, Kollam and Thrissur districts, officers of CPCRI and Coconut Development Board attended the meeting.

ACHIEVEMENT UNDER THE REPLANTING & REJUVENATION SCHEME IN KERALA

District	CUTTING & REMOVAL			REJUVENATION			REPLANTING		Total Fund Utilized (Rs In Lakhs)
	Phy (Nos)	FIN (Rs. in lakhs)	No of Farmers Benefitted	Phy (Nos)	FIN (Rs. in lakhs)	No of Farmers Benefitted	Phy (Nos)	FIN (Rs. in lakhs)	
PHASE-1									
Trivandrum	2,10,575	847.23	51,157	12,584	439.62	1,20,668	31,550	6.31	1,293.16
Kollam	2,57,970	986.30	67,024	8,927	566.49	86,016	35,055	7.01	1,559.80
Thrissur	1,99,793	757.58	33,711	14,015	617.49	75,330	-	-	1,375.07
Total	6,68,338	2591.11	1,51,892	35,526	1623.60	2,82,014	66,605	13.32	4,228.03
PHASE-2									
Trivandrum	1,30,317	520.54	29,210	28,851	410.72	74,814	-	-	9,31.26
Kollam	1,78,490	805.37	57,323	16,295	587.55	1,10,450	13,000	2.60	1,395.52
Thrissur	2,26,875	1019.96	44,739	29,830	826.69	88,027	7,500	0.15	1,846.80
Total	5,35,682	2345.87	1,31,272	74,976	1824.96	2,73,291	20,500	2.75	4,173.58
Grand Total	12,04,020	4936.98	2,83,164	10,502	3448.56	5,55,305	87,105	16.01	8,401.61

Republic of Mozambique seeks technical expertise from Coconut Development Board



The Mozambique team in meeting with CDB officials

An eight member delegation headed by His Excellency Mr. José Condugua António Pacheco, Hon'ble Minister of Agriculture, Government of Republic of Mozambique visited Coconut Development Board on 12th June 2012. The purpose of the visit was to explore the possibility of getting technical expertise from the Board in coconut cultivation and processing sector. The team held discussion with Shri. T.K. Jose, Chairman, and senior officials of CDB on possible areas of cooperation between India and the Government of Republic of Mozambique. Expertise was sought by the country for the mitigation of lethal yellowing disease (LYD) and control of rhinoceros beetle prevalent in major coconut cultivating areas in Mozambique.

Shri. T.K. Jose, Chairman made a presentation on the activities of

the Board and the areas in which India and Mozambique can exchange their ideas for mutual benefit. Chairman assured to provide all technical services and support available with the Board to the Republic of Mozambique. Shri. Sugata Ghose, Chief Coconut Development Officer, Coconut Development Board and Dr.K Muralidharan, Director replied to the technical queries of the delegation. Mr. Inacio Maposse, Director General of the Institute for Agricultural Investment of Mozambique, made a presentation on the coconut situation in Mozambique with special reference on major pests and diseases affecting coconut. He pointed out that 30% of coconut plantation in Mozambique affected by LYD disease.

The delegation consisted of Mr. Mahomed Rafik Vala, National

Director of Agricultural Services, Ministry of Agriculture, Government of the Republic of Mozambique; Mr. Inacio Maposse, Director General of the Institute for Agricultural Investment of Mozambique; Mr. Ilídio Bande, Director for Agriculture for the Province of Zambezia, Republic of Mozambique; Mrs. Maria Fatima Phumbe, Counsellor, High Commission of the Republic of Mozambique, New Delhi, India. Ms. Gertrudes Simião Muchave, Chief of Department of International Cooperation, Ministry of Agriculture, Government of the Republic of Mozambique and Ms. Inês Catine, Press Attache, Ministry of Agriculture, Government of the Republic of Mozambique. The team was impressed by the coconut value added products, handicrafts and informative posters displayed in the coconut museum of the Board.

Shri. M. Thomas Mathew, retires

Shri. M. Thomas Mathew retired from the post of Chief Coconut Development Officer of Coconut Development Board on 31st May 2012. He has been holding the post since 7th July 2004. Shri. Mathew is a postgraduate in Agriculture and M.Phil degree holder in Applied Economics from J.N.U Delhi. In the capacity of Chief Coconut Development Officer Shri. Mathew has provided unstinted support to the Chairman of the Board in the preparation and implementation of various schemes of the Board in the country.

Shri. Thomas Mathew was member of various committees constituted by Government of India to look into various issues connected with coconut cultivation and industry. He was the member-secretary of Project Approval Committee of the Centrally Sponsored Scheme "Technology Mission on Coconut" (TMO). Shri. Mathew started his career in the Department of Agriculture, Government of Kerala as Agricultural Officer in 1978. He joined the Coconut Development Board in 1984 as Assistant Director and subsequently served as Deputy Director and Director. Shri. Mathew has been instrumental in implementing various novel schemes of the Board including the scheme of National Awards, the Replanting and Rejuvenation programme etc. He served as a Member of Inter-Ministerial Central Team, representing Horticulture Division of the Ministry of Agriculture, Government of India in 2003 for the assessment of the situation in the wake of drought in the state of Karnataka. He also

served as a member in the three member Expert Committee appointed by the Department of Agriculture and Co-operation, Ministry of Agriculture, Government of India in 1996 for



assessing the nature and extent of damage due to 1996 cyclone in coconut gardens of East and West Godavari Districts of Andhra Pradesh and suggesting remedial measures to rejuvenate the affected plantations. He further acted as a member representing the Board in the Expert Team constituted by the Department of Agriculture and Co-operation, Ministry of Agriculture, Government of India to conduct a roving survey in Karnataka for the assessment of the Eriophyid mite damage in coconut in the state in January 2000.

Shri. Mathew represented India in the 38th COCOTECH Meeting organized by Asian & Pacific Coconut Community (APCC) at Ho Chi Minh City, Vietnam in 2001 and in the 43rd COCOTECH Meeting at Manado, Indonesia in 2008. Shri. Mathew represented India in the APCC Sessions held at Kiribati in October, 2004 and at

Apia, Samoa in 2010. Shri. Mathew was a nominated member to represent India in the Committee on Regional Strategy for Coconut under APCC and attended the meeting in 2005 at Jakarta, Indonesia. He participated in the International Trade Fair held at Bangkok in 2004 and the Summer Fancy Food Expo at Washington DC during July 2011.

Shri. M Thomas Mathew is engaged as a Senior Consultant of the 45th Cocotech Meeting by the Government of India.

Shri. Sugata Ghose, Director is given additional charge of the Chief Coconut Development Officer, consequent to the retirement of Shri. M Thomas Mathew.

Coconut shell grabs more price than coconut

A situation where the byproduct often considered as waste and seldom aggregated for sale now fetches higher price than the product itself. Shell of 8 coconuts make a kilogram and it fetches Rs.7/-. The hike in price of coal and the increased demand for activated carbon has led to this increased demand for coconut shell. Charcoal, when used in ornament making by goldsmith and for making iron implements is also scarce and hence is substituted by coconut shell charcoal. Hence the increased demand and higher prices for coconut shell. Coconut husk and fibre also has greater demand now. This reveals that an integrated approach to all the parts of coconut will enable better sustained returns.

Monthly operations in coconut gardens

July

Andaman & Nicobar Islands

Open basins around palms of a radius of 2m from the base of the palm. Apply 25 to 50 kg of cattle manure or compost and 10-20 kg of ash per tree and cover the basins with soil. Remove the weeds in the nursery.

Andhra Pradesh

Continue manure application if not done during June. Plant seedlings in the main field. As a prophylactic measure against the infestation of rhinoceros beetle, fill the youngest three leaf axils with a mixture of 250g powdered marotti/ neem cake with equal volume of sand or place naphthalene balls (12g/palm) and cover them with sand thrice a year. If the attack of the mite is noticed, spray neem oil - garlic – soap emulsion 2 percent (20 ml neem oil + 20 g garlic emulsion + 5g soap in 1 litre water) or commercial botanical pesticides containing azadirachtin 0.004 per cent @ 4ml per litre on bunches, especially on the perianth region of buttons and affected nuts or root feed neem formulations containing azadirachtin 5 per cent @ 7.5 ml with equal quantity of water.

Assam

Do not allow rain water to accumulate in the pits of transplanted seedlings. Clean the crowns of the palms. If stem bleeding disease is noticed, (1) remove the affected tissues of the stem and apply 5 percent calixin on the wound. When this is dry apply

warm coal tar (2) root feed the affected palm with 5 ml calixin in 100 ml water per palm at quarterly intervals (3) apply 5 kg neem cake per palm per year along with the organic manure during the post monsoon period (4) regulate field regime by providing proper drainage during rains and irrigating the palms during summer. If bud rot disease is noticed, remove and clean the infected tissues and apply bordeaux paste on the affected portion. The treated portion should be given a protective covering to prevent washing out of the paste during rains. Spray the neighbouring plants with 1 percent bordeaux mixture. Adopt plant protection measures when the weather is clear. Remove the weeds from the nursery.

Bihar/ Madhya Pradesh / Chhattisgarh

Provide proper drainage and do not allow rain water to accumulate for a long time in the pits. Transplant selected good quality seedlings in the already prepared and half filled pits. Drench the basins of transplanted seedlings with 0.05 percent chlorpyrifos twice at 20 to 25 days interval against the attack of termites. Apply 2 kg bone meal or single superphosphate in the pit before planting. Open the basins around the palm of a radius of 2m upto a depth of 15-20 cm, and apply manures and fertilizers and cover with soil. During this month apply 30-50 kg farmyard manure/compost per palm in the

basin before the application of fertilizers. In irrigated and well maintained gardens apply the fertilizers @ 275g of urea, 500g single super phosphate and 500g muriate of potash. In rain fed gardens apply the first dose (1/3 of the recommended dose) of fertilizers i.e. 250g urea, 350g single superphosphate and 400 g muriate of potash, per adult palm and cover with soil. The gaps caused by the death of seedlings (previous year's planting) should be filled up, preferably with polybag seedlings. Similarly, remove all unhealthy and defective seedlings and replant with healthy seedlings. Check the palms for bud rot disease. If bud rot is found, remove the affected parts and apply bordeaux paste. Spray the neighbouring palms/ seedlings with 1 per cent bordeaux mixture.

Karnataka

Open circular basins around the palm, of a radius of 2m. Take appropriate control measures if the attack of rhinoceros beetle and red palm weevil are noticed. Keep the garden free of weeds. Give a prophylactic spray with 1 per cent bordeaux mixture if not given during the last month. Seedlings can be planted during this month. If the attack of the mite is noticed, spray neem oil - garlic – soap emulsion 2 percent (20 ml neem oil + 20g garlic emulsion + 5g soap in 1 litre water) or commercial botanical pesticides containing azadirachtin 0.004 per cent @ 4ml per litre on bunches, especially on the perianth region of



Rhinoceros beetle

buttons and affected nuts or root feed neem formulations containing azadirachtin 5 per cent @ 7.5 ml with equal quantity of water.

Kerala/Lakshadweep

Open basins around the palms, of a radius of 2m and fill them with green manure cuttings or green leaves @ 25kg per palm or bulky organic manures like cowdung, compost, etc. @ 50kg per adult palm and close the basins partially, if not done in June. Clean the pits in which seedlings have been planted. Search the crowns of trees for rhinoceros beetle, red palm weevil and also for bud rot disease. Take steps to check them. Clean the crown of the palm. If the attack of the mite is noticed, spray neem oil - garlic - soap emulsion 2 percent (20 ml neem oil + 20g garlic emulsion + 5g soap in 1 litre water) or commercial botanical pesticides containing azadirachtin 0.004 per cent @ 4ml per litre on bunches, especially on the perianth region of buttons and affected nuts or root feed neem formulations containing azadirachtin 5 per cent @ 7.5 ml with equal quantity of water. Remove the weeds from the nursery.

Maharashtra/ Goa/ Gujarat

Bury husk in trenches between palms with concave side up. A

prophylactic spray with 1 per cent bordeaux mixture may be given against fungal diseases.

Orissa

As a prophylactic measure against the infestation of rhinoceros beetle, fill the youngest three leaf axils with a mixture of 250g powdered marotti/ neem cake with equal volume of sand or place naphthalene balls(12g/ palm) and cover them with sand thrice a year. Hook out the rhinoceros beetles. Manure vegetables and other crops. Give a prophylactic spray with 1 per cent bordeaux mixture against fungal diseases.

Tamil Nadu/ Puducherry

Open basins around the palms. Keep the garden free of weeds. Give the palms a prophylactic spray with one per cent bordeaux mixture to prevent bud rot and other fungal diseases. Apply the first dose of fertilizers i.e. 300g urea, 500g single superphosphate and 500 g muriate of potash per adult palm if not applied during last month. Search for rhinoceros beetle on the crowns of the palms with the beetle hook and kill the beetles. As a prophylactic measure against the infestation of rhinoceros beetle, fill the youngest three leaf axils with a mixture of 250g powdered marotti/

neem cake with equal volume of sand or place naphthalene balls (12g/ palm) and cover them with sand thrice a year. Planting of seedlings in the main field can be done during this month. Search palms affected by Thanjavur wilt and take appropriate management practices. If the attack of the mite is noticed, spray neem oil - garlic - soap emulsion 2 percent (20 ml neem oil + 20g garlic emulsion + 5g soap in 1 litre water) or commercial botanical pesticides containing azadirachtin 0.004 per cent @ 4ml per litre on bunches, especially on the perianth region of buttons and affected nuts or root feed neem formulations containing azadirachtin 5 per cent @ 7.5 ml with equal quantity of water.

Tripura

Basin around the palm should be cleaned by removing the weeds. Green manure crops sown in. May if any, should be ploughed and incorporated during the month. As a prophylactic measure against the infestation of rhinoceros beetle, fill the youngest three leaf axils with a mixture of 250g powdered marotti/ neem cake with equal volume of sand or place naphthalene balls(12g/ palm) and cover them with sand thrice a year. Collected seed nuts may be sown in seed beds without delay by taking advantage of the rain.

West Bengal

Apply green manure at the rate of 25 kg per palm. Keep the garden free of weeds. Start planting of seedlings in the main field. A prophylactic spray of 1 percent bordeaux mixture against fungal diseases may be given.

Market Review - May 2012

Highlights

- ◆ The price of milling copra, ball copra and coconut oil expressed a downward trend at all the major markets during the month under report.
- ◆ The international price of coconut oil expressed a downward trend during the month under report. The domestic price of coconut oil at Kochi market was 15 percent lower than that of the international price.
- ◆ The prices of copra and coconut ruled below Minimum support Price in major producing states and procurement activities were initiated by the Government machinery under Price Support schemes.

COCONUT OIL

The price of coconut oil quoted at all the major marketing centres in the country expressed a downward trend during the month under review.

The monthly average price of coconut oil at Kochi was Rs. 6050/- per quintal. The price of coconut oil at Alappuzha market also moved in tune with the price behavior of Kochi market and the monthly average price at Alappuzha market was Rs.6088/- per quintal. The

monthly average price of coconut oil at Kozhikode market was Rs. 6039. The price at Kochi, Alappuzha and Kozhikode markets were about 6-8 percent lower than the prices prevailed in April 2012.

MILLING COPRA

The monthly average prices of FAQ copra recorded at Kochi market was Rs.4096/- per quintal. The monthly average prices of Rasi copra at Alappuzha market was Rs. 4014/- per quintal. The price at Kochi was about 8 percent lower than that of the previous month while the price of copra at

Alappuzha and Kozhikode were 9-11 percent lower than that of the previous month. The procurement operations under Price Support Scheme have already been initiated in Tamilnadu and Kerala by TANFED and NAFED respectively. The Minimum support price of milling copra has been fixed at Rs. 5100/- per quintal for the 2012 season.

The monthly average prices of milling copra at Ambajipeta market in Andhra Pradesh was Rs.4010/- per quintal.

EDIBLE COPRA

The monthly average prices of Rajapur copra at Kozhikode market was Rs.5498/- per quintal, which was about 8 percent lower than that of the previous month. The monthly price of ball copra at Kozhikode market averaged at Rs. 4813/- per quintal. The monthly prices of ball copra at APMC market Tiptur, in Karnataka averaged at Rs. 5323/- per quintal in May 2012 while it was Rs 5660/- in Bangalore and Rs. 5296/- in Arsikere.

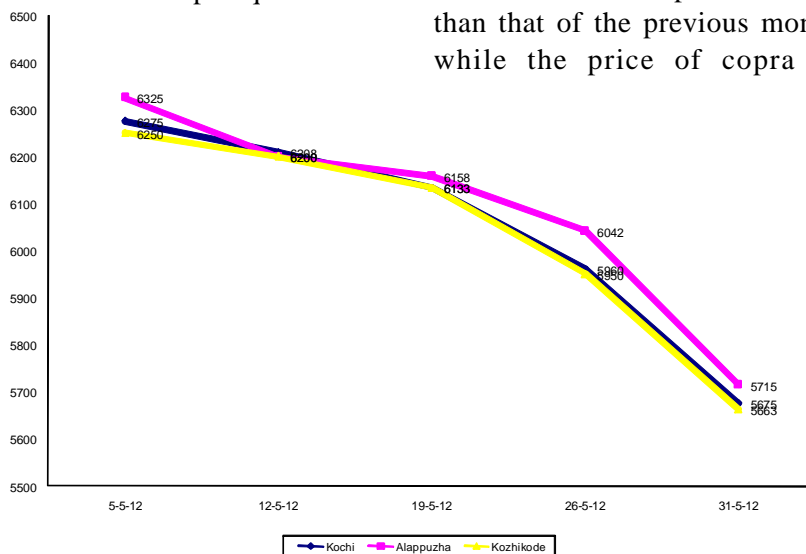
The Minimum support price of edible copra has been fixed by the Government of India at Rs.5350/- per quintal for 2012 season.

DRY COCONUT

The monthly average price of dry coconut was around Rs. 4430/- per thousand nuts at Kozhikode market which was 11 percent lower than that of the previous month.

COCONUT

The monthly average price of Rs.5500/- per thousand nuts for



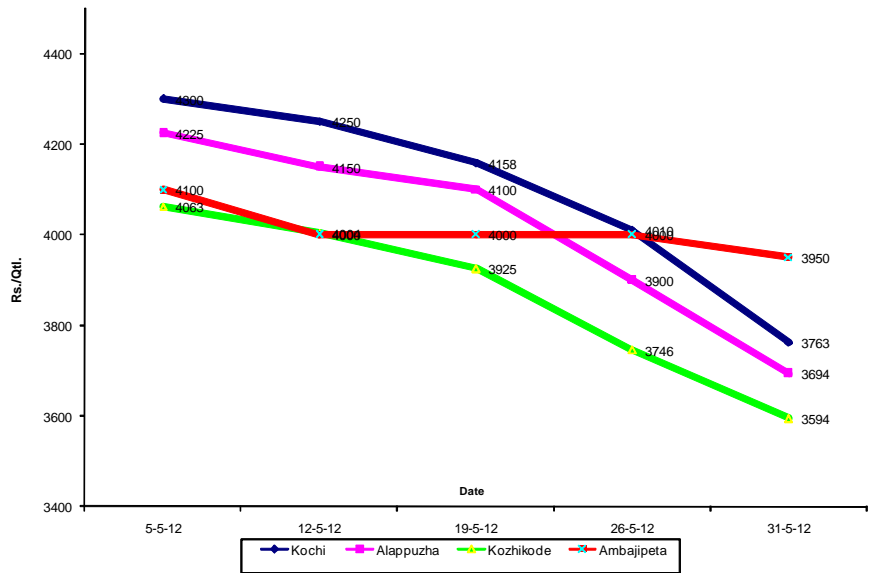
Price behaviour of coconut oil during May 2012

dehusked coconut at Nedumangad market was 13 percent lower than that of the previous month. Arsikere APMC market recorded an average of Rs.6288/- for thousand partially dehusked nuts which was 8 percent lower than that of previous month. The monthly average prices of partially dehusked coconut at Bangalore APMC market was Rs.6675/- which was marginally lower than that of previous month. The monthly average price of partially dehusked coconut Grade-1 quality at Mangalore APMC market improved to Rs.9813/- per thousand nuts which was 3 percent higher than that of the previous month.

The Government of India has declared the Minimum Support price of dehusked mature coconut with water at Rs. 14/- per kg.

TENDER COCONUT

The price of tender coconut at Kochi market ranged from Rs.18 to 20/- per nut. The monthly average price of tender coconut in Assam was Rs.12 per nut while it was Rs.20 at Itanagar in Arunachal Pradesh, Rs.19 at Dimapur in Nagaland and Rs.18 in Tripura.



Price behaviour of milling copra during May 2012

INTERNATIONAL PRICE

The monthly average price of US \$1290 per MT for coconut oil in Europe (C.I.F. Rotterdam) for May 2012 was about 5 percent lower when compared with the price of the previous month and lower by about 38 percent where compared to that of the corresponding month last year. The monthly average price of US\$ 774 per MT for copra was about 13 percent lower than that of the previous month and about

45 percent lower than that of the corresponding month last year. The domestic price of US\$1093 for coconut oil at Kochi market was about 15 percent lower than that of the international price.

The domestic price of coconut oil during May 2012, in Philippines was US\$1113 per MT. In Indonesia; the price was US\$1027 per MT. The international price of palm oil, palm kernel oil and soybean oil were US\$1142, US\$1425 and US\$ 1170 per MT respectively.

Market Price

Date	Coconut Oil			Milling Copra				Edible Copra	Ball Copra			Dry coconut	Coconut	Partially dehusked coconut			
	Rs./Qtl.													Rs./1000 nuts			
	Kochi	Alappuzha	Kozhikode	Kochi (FAQ)	Alappuzha (Rasi Copra)	Kozhikode	Karkala	Kozhikode	Kozhikode	Tiptur	Bangalore	Arsikere	Kozhikode	Nedumangad	Arsikere	Bangalore	Mangalore (Grade-1)
5-5-12	6275	6325	6250	4300	4225	4063	4100	5725	5025	5580	5600	5540	4600	6000	5000	7000	7000
12-5-12	6208	6200	6200	4250	4150	4004	4000	5625	4925	5434	5675	5355	4017	6000	5917	7000	7000
19-5-12	6133	6158	6133	4158	4100	3925	4000	5533	4867	5234	5675	5150	4600	6000	5800	7000	7000
26-5-12	5960	6042	5950	4010	3900	3746	4000	5292	4625	5070	5675	5133	4533	6000	5500	6583	6583
31-5-12	5675	5715	5663	3763	3694	3594	3950	5313	4625	5296	5675	5300	4400	6000	5800	6500	6500
Average	6050	6088	6039	4096	4014	3866	4010	5498	4813	5323	5660	5296	4430	6000	5603	6817	6817

Source: Kochi: Cochin Oil Merchants Association and Chamber of Commerce, Kochi - 2, **Kozhikode:** The *Mathrubhumi* daily **Alappuzha:** The *Malayala Manorama* daily, **Arsikere:** APMC, Arsikere
Price quoted for office pass copra at Kozhikode and Rasi copra at Alappuzha markets. NT : No transaction