

New Year wishes to all the esteemed readers of ICJ



THEME

Youth in coconut sector

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Active participation of youth needed in coconut sector

Dear Coconut farmers,

Youth in coconut sector is the special theme of this issue of ICJ. In many of the traditional coconut growing states, quite a large extent of coconut trees are aged and need replanting. Due to various reasons, enough efforts were not taken by farmers to replant the existing gardens. Timely replanting is the need of any plantation crop. Reasons like shortage of quality planting materials, wild fluctuations in the price of coconut and spread of pests and diseases are contributing towards apathy in coconut farming. Unless and until we attract more youngsters into various aspects of this sector, we cannot accelerate the rejuvenation process in coconut sector. Subjects which are actively taken up by youth in any society are scaling heights. Let it be sports, Information Technology, tourism, education, arts, cinema, etc wherever participation of youth is more, they are growing fast.

Many developed countries, having realized the importance of coconut in food, nutrition, health and wellness are extensively using coconut and its value added products in their day to day life. Recently, the US Department of Agriculture has notified that coconut oil, coconut meat, butter, egg and full fat dairy products are not detrimental to the health of people. During the last 10-15 years, tender coconut water and matured coconut water were considered to be the most natural, undiluted, unpolluted and unpoisoned health drink in USA and some of the European countries. This was followed by Virgin Coconut Oil (VCO) which was considered to be the king of all oils having medicinal value to heal some of the diseases where the modern medicine couldn't find a solution. Dairy free coconut milk and milk products in the form of beverages, ice creams, frozen desserts, cultured (pre biotic and pro biotic) products and creamers are gaining momentum in the markets in developed countries. In the dairy free milk and milk product segment, coconut milk has attained a very significant role in the US market. Observing the increasing trend in consumption of coconut oil, VCO, tender coconut, coconut milk and milk product, entrepreneurs from Philippines, Brazil, Indonesia, Thailand, and Vietnam have taken serious efforts to access the markets in USA. Anticipating the future potential of coconut products, we should also concentrate on these items. Take the case of information technology. Recognizing that the future lies in IT and IT enabled services, many engineering colleges and IT teaching and training centers were established across the country. This gave us an initial advantage over many other competing countries to

grab the opportunities, which were emerging in IT field. Attracting and retaining a huge pool of talented IT professionals has helped India to gain an envying position in the global IT market.

World over, there is fascination towards natural and healthy food products. People have realized that "the food we eat can be the strongest and the safest form of medicine or the slowest form of poison". Choice is ours. Creating an awareness about the goodness of coconut and coconut products including coconut oil, attracting youth towards taking up coconut cultivation, processing, value addition, marketing and export are the need of the hour. Consumers are looking towards natural and healthy coconut products like tender coconut water, coconut milk and various products from coconut milk, natural and healthy coconut palm sugar, coconut honey, VCO, activated carbon and many cosmoceutical and nutraceutical products from coconut. This is an opportunity as well as a challenge before us. We have to inform, inspire and motivate Indian youth to realize the hidden potential of coconut sector. The Indian market for coconut products itself is very big. If we count the urban India as a group of consumers, after China and Indian population, urban India will be the 3rd largest population in the world, leaving USA (population of 31.5 crore) behind urban Indian population of 36 crore. 75 % of urban Indian population with high purchasing power is a great latent market. If we lag behind in realizing this potential demand for natural and healthy coconut products, many small coconut growing countries like, Srilanka, Thailand, Vietnam and China will overtake us in Indian market itself. Already Philippines and Indonesia are much ahead of India in processing, value addition and exports.

Youngsters in India may be attracted to various segments of coconut like cultivation, establishment of good coconut nurseries, production of various value added products marketing and export of various coconut products. Among the coconut farmers, we have many highly educated youngsters who have opted for agriculture after quitting their high profile jobs. Many young educated farmers from Tamilnadu, Andhra Pradesh, Karnataka, Nagaland, Arunachal Pradesh, Gujarat, and Maharashtra are taking up coconut cultivation and organic farming as their vocation. There are many others to follow them, provided we disseminate information about the achievements of such young farmers. The success story of Shri. Raam Mohan who has developed the 'Ramganga' variety of new hybrid (DxT) coconut seedlings and Shri.

Nitin Goel of NGO products who is promoting the goodness of coconut products in north India are very encouraging. It is found that around 30% of the 1967 registered coconut products exporters are youngsters. Skill development training in coconut sector through Friends of Coconut Tree (FoCT) training and Neera Technician training are exclusively for Indian youth. The case of Shri. Abdul Razak Anrol hailing from an interior village of Assam, who came down to Kerala, underwent the Neera Technician training and is earning more than half a lakh rupees per month now is very much encouraging. In a country where there is huge unemployment among the rural youth, Neera Technicians and Friends of Coconut Trees (FoCT) offer excellent potential for steady income. There are many followers of Abdul Razak Anrol, from Assam, Chhattisgarh, Jharkhand and Bihar who have taken up Neera Technician training.

Presently there are 54 Coconut Producer Companies (CPC), 775 Coconut Producer Federations (CPF) and around 9736 Coconut Producer Societies (CPS) in the country. In the Board of Directors of these 54 CPCs, there is only a small representation of youth now. We look forward to have not more than 30% senior citizens, 40% middle aged people and a minimum of 30% youth in the Board of Directors of CPCs. The senior citizens are expected to bring in maturity as well as sense of direction while the middle aged people with their expertise can aggressively take the company on the path of progress, youth to bring in innovative and creative ideas and a zest for accelerating the growth of CPCs. Such a mix of the three generations in the Board of Directors of a CPC is expected to bring in better and faster results. We expect a similar pattern in the leaders and office bearers of CPSs and CPFs also. There are many young scientists who are actively involved in various agricultural research. Can we attract some of these young scientists who have a future of 25-35 years of their research career to coconut sector? We can expect better results if there is consistent and sustained research efforts by such young scientists in various aspects of coconut cultivation and value addition. Research may be undertaken in production of tissue culture coconut seedlings, identifying cost effective biological control mechanisms to contain the pests and diseases, developing innovative methods and mechanisms for simple and human friendly machines for coconut harvesting and Neera tapping and appropriate and cost effective technologies for processing of coconut and its by products. We are hopeful that such initiatives will pave the way forward for the revival and rejuvenation of coconut sector.

World is changing so fast that we are using electronic equipments for various purposes. Think of the case of the mobile phones. It is no more used as a mere calling device when people are on the

move. They support internet, email and various other applications. Lots of development are happening in various sectors including financial services through mobile applications. This type of latent for business, market development, export and financial growth are lying hidden in coconut sector also. There is a need for attracting young designers and engineers to develop machineries for coconut processing. It is a fact that machines to suite their requirements or for multiple users. In either case we need to attract youngsters, especially from the engineering colleges to develop various machineries needed in coconut sector.

The next important area is developing a good team of young professionals in management side. In coconut production, marketing, processing, export as well as in managing the CPCs we need young qualified professional managers. It is with this objective that CDB is giving opportunities to students from various management, teaching and training institutions like IIMs, IRMA, NIRD, NIFTEM, MANAGE etc to do their project and internship in CDB. Young, expert managers are essential in various functional areas of business. Many reputed management institutions are functioning in our country and we need to network with such institutes for attracting more youth to this sector. I call upon all the CPCs to identify at least one good management institute and an engineering college in their area for working together and collaborating mutually. In future, networking with good academic, scientific, research and training institutions are needed for the faster growth of CPCs.

Development in any sector will depend upon the team work of elders, the middle aged and youth with energy, enthusiasm, creativity and innovation. Whole hearted support and concerted efforts of each and every one is solicited for achieving this. Let us think of a bright future for coconut sector similar to that which has occurred in IT sector during the last three decades in India. Let us hope that this would add more push to our agricultural economy. Unleashing the potential of coconut sector can create much faster growth in traditional coconut growing states creating more wealth to farmers, labourers, processors and society as a whole. It can create wonderful impact in new coconut areas where coconut based plantations are taken up. Let us pledge ourselves to work collectively for attaining this cherished goal by attracting more youth to coconut sector.

With regards



T K Jose
Chairman



ARYA & Student READY for taking Indian agriculture to newer heights

● Sasikumar C. *Technical Officer, CDB, Kochi-11*

Agricultural provides employment to the largest section of Indian society and is the backbone of Indian economy. Ours is a land of youth which is one of our greatest assets. Young minds are creative and are capable of achieving seemingly the impossible. Youth are the primary productive human resource of socio-economic development. It is therefore, essential to locate the role of youth in mainstream development. The youth of India is diverse in ethnicity and socioeconomic backgrounds. Such diversity necessitates

To sustain food security, it is imperative to encourage farmers to continue with agriculture, wherein the rural youth have a crucial role to play. Currently, there is a challenge of retaining youngsters in agriculture due to various socio-economic factors, including profitability in agricultural pursuits.

customized initiatives to meet needs and activate their untapped potential. Over the years, it is being realized that agriculture needs to be commercialized for addressing the future challenges like climate change adaptation and mitigation, monsoon management, enduring

malnutrition, increasing population and enhancing income per unit area. Therefore this sector requires building its educational programme in such a way that it attracts best of mind and develops them to serve the nation to overcome the challenges.

The rapid growth and

diversification of development activities in our country has resulted in the much needed expansion of employment opportunities, but at the same time have triggered rural to urban migration. This trend has inadvertently resulted in shift of farm labour to non farm sectors. To sustain food security, it is imperative to encourage farmers to continue with agriculture, wherein the rural youth have a crucial role to play. Currently, there is a challenge of retaining youngsters in agriculture due to various socio-economic factors, including profitability in agricultural pursuits. It has become imminent to reorient agricultural practices to make them intellectually satisfying and economically rewarding for the youth. India has the largest youth population in the world that is poised to increase further in the coming decade. Nearly 70% of India's population is below the age of 35 making India the youngest nation in the world and interestingly 70% of them live in rural areas. According to 2011 Census, the youth population in the country including adolescents is around 550 million. In 2020, the average Indian will be only 29-year-old, whereas in China and the United States of America the average age is estimated to be 37 years. It is the time to utilize this demographic dividend for taking Indian agriculture to new heights by channelizing the creative energies of the youth through development of skills, knowledge and attitudes.

Keeping this in the view, in the XII Five-Year Plan, the Govt. of India proposed to initiate a programme 'Attracting and Retaining Youth in Agriculture' (ARYA). The initiative aims at analyzing the current policy environment and identifying supporting policies that can check the rate of migration of youth from rural areas. The ARYA will identify such mechanisms and models that



would encourage the youth to avail the quantum of opportunities in allied sectors. It is expected that the youth educated in agriculture and allied enterprises will be able to earn a dignified livelihood from farming and other related pursuits. Educated youth in urban areas can also take up urban and peri-urban agriculture in which ample opportunities exist. Several parts of our country like Kerala and Punjab are already urban in character, with town and village forming a continuum. These initiatives in coordination with other programmes of both Central and State Governments would empower the youth with knowledge, skills and enthusiasm to pursue agriculture with new vigour. These concerted efforts would enable making Indian agriculture 'green pastures' for the Indian youth in the years to come.

Average farm size in our country is getting smaller. Hence, group cooperation is important to harness the value of scale both in the production and post harvest phases of farming. It is in this context that the workshop on attracting and retaining youth in agriculture held at the Tamil Nadu Agriculture University, Coimbatore on April 5-6,

2014 assumes great significance with reference to shaping the future of agriculture in our country. We need the growth of a strong services sector in rural India. Agri-business centres and agri-clinics are needed on a big scale. Farm schools will have to be established in the fields of young farmers, in order to promote farmer to farmer learning. Value addition will have to be done to primary products in order to increase income. New technologies will have to be introduced, such as biotechnology after careful consideration of risks and benefits.

The current focus of many research organization/NGOs is on how to make agriculture more attractive and rewarding to the young generation. Agriculture continues to be at the mercy of the monsoon and the markets. It is imperative for the nation to produce food not only to feed its 1 billion+ human population but also for an equal number of livestock. As per the most recent law on Food Security, 40 kg of food grains should be given to about 70 per cent of the population every month. Technology has been doing a tremendous job in this regard even in backward states like Bihar and

Odisha; the productivity had shot up because of the adoption of new technology. Attracting and Retaining Youth in Agriculture (ARYA) and Student Ready are two such schemes introduced during the 12th Five Year plan period for attracting more youth to agriculture.

Attracting and Retaining Youth in Agriculture (ARYA)

The objectives of ARYA project are (i) to attract and empower the Youth in Rural Areas to take up various Agriculture, allied and service sector enterprises for sustainable income and gainful employment (ii) to enable the Farm Youth to establish network groups to take up resource and capital intensive activities like processing, value addition and marketing, and (iii) to demonstrate functional linkage with different institutions and stakeholders for convergence of opportunities available under various schemes/program for sustainable development of youth.

ARYA is implemented in 25 States through KVKs, one district from each State. In one district, 200-300 rural youths will be identified for their skill development in entrepreneurial activities and establishment of related micro-enterprise units in Apiary, Mushroom, Seed Processing, Hybridization, Seedling production, Soil testing, Poultry, Dairy, Goatry, Carp-hatchery, Vermi-compost etc., KVKs will involve the Agricultural Universities and ICAR Institutes as Technology Partners. At KVKs also one or two enterprise units will be established so that they serve as entrepreneurial training units for farmers. The purpose is to establish economic models for youth in villages so that youths get attracted in agriculture and overall rural situation is improved.

ARYA is being initiated by



the Government of India to take advantage of the large youth force available in India. Special efforts will be taken to attract train and retain the youth under 35 towards agriculture and agri business enterprises. At all India level 10,000 rural youth, 400 from each selected districts in the plains and 200 from hilly and less populated areas will be selected and linked to financial institutions with the help of KVKs. A provision of Rs.100 crore has been earmarked for this scheme during the 12th Five year plan.

Student Ready

The term READY refers to “Rural and Entrepreneurship Awareness Development Yojana”. Student READY is Skill development initiative to strengthen students with skills, so as to enable them to tackle global challenges, and to improve both their employability as well as ability to set up a venture. Student READY concept signifies this as a finishing school for the undergraduate students.

The students get experience of working on farm in coordination with research stations and KVKs. The students also stay in villages with farm families, agro based industries, cooperatives during phases of the RAWE programme to get real life field experience, understating of the problems and enable them to gain confidence to tackle these

problems. Approximately, 25000 graduates as Student READY will be a mandatory requirement for the under graduate programme. It is an all inclusive approach to strengthen the entrepreneurship development scenario in the country which is competent, quality conscious, market savvy, innovative and globally competitive entrepreneurs shall be carefully mentored and encouraged. The programme will attract youth towards agriculture and allied sector and such ventures, when established will help improve economic conditions in rural areas.

Skill development of rural youth will help in improving their confidence levels and encourage them to pursue farming as profession, generate additional employment opportunities to absorb under employed and unemployed rural youth in secondary agriculture and service related activities in rural areas. The concurrent monitoring, evaluation and mid-term correction will be an integral part of project implementation. Concerted efforts are being made to raise profitability of agriculture for making it a really attractive occupation, especially for the youth. Youngsters of India can make use of the opportunities thrown open by ARYA and Student READY for exploring the huge untapped potential that Indian coconut sector offers ■



Catering to health conscious people

N.Gopalakrishnan, after his post graduation joined as team leader in Fidelity, Bangalore and then worked as area sales manager at GSK, Coimbatore for one year. It was during that period he realized that most of the consumers are attracted towards health related products. He came to know that coconut is one of the healthiest products used widely. Thus GNK Agro Products was established and now Gopalakrishnan is the proud proprietor of his own company.

Gopalakrishnan is from an agricultural family. He started his entrepreneurship in coconut with

trading coconut for export. While doing coconut trading, he came to know about the huge demand for coconut and coconut related products both in export and domestic market.

GNK Agro Products was founded in the year 2013 and is one of the leading manufacturers of Virgin Coconut oil and low fat coconut powder. The company is situated in a tropical area in Coimbatore district where coconut is available in plenty. The products are manufactured by cold process method with latest technology machines with utmost hygiene. Online processing system is made for getting better quality products. Selected coconuts are handpicked to make the best quality products. GNK Agro Products is producing Coconut powder, Virgin coconut oil, Virgin coconut oil in spray bottles and Virgin coconut oil Capsules under the brand name Metrofanee

During the initial period, he had to struggle hard to get market for the products. But presently he is well established. Recently GNK Agro Products participated in Global Investor's Meet 2015 held at Chennai where huge response was received for his coconut products. Many export follow ups were also received. Presently the company

is now supplying products through local retail chains and is planning to launch the products globally with international food standards.

GNK Agro Products is working and enabling families to develop and sustain healthy habits by using coconut products. The ultimate aim of the company is to become the leading FMCG Company around globe. Metrofanee, the brand name itself of the company which means for health conscious peoples, ensures what the company is aiming at. Gopalakrishnan and his team is working towards achieving the same.



Software engineer making farmers richer



Madhuchandan SC, a 37-year-old software developer decided to give back to what he came from. This decision changed the lives of 300 farmers in his home district of Mandya in Karnataka, through a rural cooperative and an enterprise that will generate annual turnover of around Rs 36 crore for them.

Madhuchandan SC, “Madhuanna” to the Mandya farmers was living a life of comfort and ease with his wife and daughter in San Jose, California till August 2014. He travelled the world, worked with various companies and became the cofounder of a company in San Jose. He was working with a very big IT company which had junked their own product and replaced it with the one he developed. He felt that he has already done all that he wanted to in the software field. Then he decided to go back to Mandya his native in Karnataka and live the life of an organic farmer.

He was always crazy about farming and now he wanted to live that dream in a small farmhouse in his village. When he came back, though, the son of a former University of Agricultural Sciences Vice Chancellor he could see that everything was not as simple as he had planned. Madhu had initially planned to set up his own farm and live the life of a farmer. However, he was moved by the plight of farmer suicides and heart breaking stories



of their families and decided to work for their welfare.

That set aside his immediate plans of a small farmhouse near his village Sunaganahalli in Mandya. Then came a year of hard work, endless conceptualising, brainstorming with friends and reaching out to farmers. The germ of an idea surfaced: that there was a big market for organic products in Bengaluru, just two hours away. Several farmers were already practising it. All that was necessary was an intermediary to supply the product to the consumer. Madhu Chandan didn't let any grass grow under his feet and he felt that a cooperative society to source and market organic farm products would be the best business model. From being branded as the farmers' suicide capital of Karnataka Mandya has ushered in a silent agrarian revolution as farmers are now selling organic farm products for good profits.

To begin with, he started

the Mandya Organic Farmers Cooperative Society with the active participation of a group of 270 farmers, who now cultivate and sell their organic farm products profitably. Besides 270 farmers, the society has ayurveda doctors and agriculture scientists, who are passionate about bringing major changes in the agriculture sector. By setting up a retail outlet near the farmland to sell products, Madhuchandan has succeeded in offering the highest price for products. Today, Organic Mandya's retail outlet at the busy Bengaluru-Mysuru highway sells organic vegetables, cereals and pulses fresh from the farm. The products are in huge demand as people travelling



along the highway buy these healthy products.

The lack of awareness among farmers was the first issue that needed to be tackled. They had all sorts of misconceptions about organic farming. "In the earlier days, farmers were experts in their field. They knew exactly what they had to do. Over the years, they have been misguided to use all sorts of fertilisers and chemicals, which in the long run have destroyed the soil and affected crop yields. Only 5-6 per cent of farmers succeeded as they followed natural and organic methods of farming," says Madhu.

Madhu and his team had to spend hours educating farmers to join the organic farming movement. It took a while before they could win the confidence of farmers, who have been neglected all the while



and given false promises. Farmers needed support in communication, technology and marketing to sell their products. Though the farmers had good products, they did not know how to brand it and get a better price.

Madhu also realised the need to have a strong support system to sell the produce. Though the farmers had a wide variety of products, they were unaware about how to market it and get good profits. So he started an enterprise called Organic Mandya to sell the products in a supermarket and online too. The products turned out to be an instant hit so much so that they are not able to meet the surging demands of health-conscious customers.

Under the Organic Mandya banner, Madhu has started an 'integrated organic zone' to sell products. The zone is built next to the organic farmland. It also has a restaurant which promotes organic food. By setting up the zone near the farmland, the farmers can easily sell their produce without depending on middlemen.

Since the location is on the Mysuru-Bengaluru highway, it was ideal to get a large number of customers. With an oil extraction mill, customers can buy fresh oil as well. Among the 50-55 products sold, the most sought after products are Joni Bella (a liquid form of jaggery), jaggery powder and jaggery blocks.

The huge demand for products has boosted the confidence of farmers, who are now working

with great vigour to meet the rising demand. Farmers are getting double the price for their products through Organic Mandya. In a bid to scale up operations, Organic Mandya also plans to open five franchises in Mysuru and Bengaluru soon. With ambitious plans, Madhuchandan has a long way to go. Madhu has been getting hundreds of calls from people across the country everyday who would either like to join him or replicate the model in their villages and towns. Indian farmers can lead a dignified life like their foreign counterparts.

"I feel proud to be a farmer today. To be able to lead a healthier and happier life is a dream come true. No job can give the immense satisfaction that farming can offer you. We tend to complicate our lives, take up stressful jobs and never try to lend a helping hand to anyone. With things falling in place as we planned, I hope to see Mandya district a fully chemical-free zone in the next 5 years," says a confident Madhu, who is supported by 45 employees.

"We have just made a small beginning. There is a long way to go. People still think that the best career is perhaps joining an IT firm. I would say a farmer earning Rs 10,000 in a village will be much happier and healthier than an engineer earning Rs 1 lakh in a city," says Madhu, highlighting the need to appreciate farming as a way of life. Madhuchandan can be contacted at madhuchandan@gmail.com ■

Raam Mohan with barcoded Ramganga variety



Shri. Raam Mohan, 24, a mechanical engineering graduate with post graduation in Enterprise and Business Growth had started working in Umopathy farms during his college days itself during the spare time. Raam Mohan had a passion for agriculture since his childhood as he was born and brought up in an agricultural family. He started his agriprenurship as manager for marketing of coconut seedlings.

Raam Mohan's family has been in farming activities for generation. Coconut was always a part of it.

Umopathy Farm deals with various agro related products. The Farm is producing premium quality coconut seedlings, coconut sugar, quality poultry composite etc.

His father after completing his studies started a poultry farm on a small scale. Coconut was always a major part of their life and income. The family started focusing on coconut more around early 1990's. They were guided by OVR. Somasundaram in every step of their

activity which helped them move forward confidently in coconut ventures. Today Raam Mohan's Umopathy farms owns the most modernised coconut breeding farm which is controlled by softwares and barcodes and monitored by excellent staff.

Umapathy farms deals with various agro related products. The Farm is producing premium quality coconut seedlings, coconut sugar, quality poultry composite, commercial lemon, commercial white eggs, poultry feed, free range organic eggs etc. The farm is working with a vision to bring out the best variety and quality seedlings available to customers. Umapathy's flagship breed is Ramganga which has proved to be a very successful variety to the farmers commercially.

Rammohan's Farm is the first company in Tamilnadu to start coconut sugar production using icebox technology. Umapathy is trading coconut sugar since the last eight months. Raamohan is hopeful that the industry will grow as the awareness for natural, chemical free product is growing. Umapathy's sugar is available in leading supermarkets and organic shops in Tamilnadu under the brand name "Farm Made Foods". Raam Mohan is planning to expand into Kerala, Karnataka, Telangana, Andhra and Maharashtra soon. Umapathy is also supplying their products in bulk directly to high end sweet, cake manufacturers and exporters. The quality of Umapathy's products are appreciated by the customers.

Presently Raam Mohan is the head of finance and strategy planning of Umapathy Farms. He is very happy to see his satisfied customers "We don't need to speak for our product, the performance our products speaks for itself", says Raam Mohan. During his post graduate studies in Glasgow he worked in a packed tender coconut water company as an Intern which helped him a lot. He feels there is lot of opportunities in agro based industries than any other industry. People doesn't know that the worlds largest privately held company is a agro related company - Cargill.

In Umapathy farm all are equipped with modern technologies,

The Ramganga



Ramganga – (DxT) (Ganga bondam X West coast tall)

The Ramganga hybrid variety is the perfect solution for farmers aspiring to develop a farm in which their coconut trees should deliver high nuts per palm, sweet tender coconuts, high quality copra and high yields of coconut oil.

Ramganga Features

- Ideal hybrid for the purpose of commercial coconut farming.
- First flowering starts anywhere between 24-30 months of planting. This makes it early yielder.
- When harvested for tender coconuts, it produces 275-350
- If not for tender coconut, it can yield up to 250-300 nuts per year per tree.
- Tender coconut contains 500-750 ml of coconut water.
- Copra content is around 16-18 kgs for 100 nuts.



Hybridization is done through pollination method, so that risk of cross pollination is eliminated. The best performing mother palms are pollinated with the pollen which is taken from high yielding and best performing male tree (west coast tall) under closed pollination, for getting the best quality seedlings. The Ramganga hybrid variety is the perfect solution for farmers aspiring to develop a farm where coconut trees should deliver high nuts per palm, sweet tender coconuts, high quality copra and high-yields of coconut oil.



with the most advanced droppers. Fertigation is given to the palms weekly once. All the farm activities are maintained using software. Raam Mohan spends a lot of time and resource in research and development as his vision is to produce the best variety coconut seedlings to farmers. Umapathy is the first farm in coconut breeding to introduce barcode system, to help track its parents, pollinators etc. it helps to trace all the information about the available seedlings. This

also helps to provide the highest quality seedling to customers. The farm maintain records of all the parent trees performance and the best one is only selected for breeding.

Any customer who would like to see Ramaganga can directly approach Umapathy and Umapathy will introduce them to other farmers who have already planted the Ramganga variety. Raam Mohan urge all the fellow farmers to buy seedlings only when their parent line is known and decide only after seeing the

performance of the variety in farmer's field. Ramganga is only supplied from Umapathy's nursery and doesn't have any dealers or distributors.

Doing agriculture keeps Raam Mohan happy, satisfied and interested. When people are happy by getting benefited by the genuine agro products he supplies, it keeps him moving in the direction of creating better performing and quality products. ■



Perambra Coconut Producer Company received ISO 9001

Perambra Coconut Producer Company, a Kozhikode based Coconut Producer Company got ISO 9001:2008 certification. The certificate is awarded by London based Universal Certification Limited to the company in view of the activities undertaken for the development of coconut farmers and the sector through organic farming, coconut procurement and processing, production of neera, virgin coconut oil and packaged coconut water etc. Perambra Coconut Producer Company is the first company among the 54 Coconut Producer Companies formed in India to receive the ISO certification.

Adding value to coconut through branding and goodwill



Coconut sector has vast specific applications which can't be completely substituted by any other products. So it can be commercialized with little efforts. According to Vinay, we need younger creative brains who can work to add value and commercialize waste of coconut.

period of two years, under his leadership and with his continuous efforts, the Company has grown from a mere Rs.50 lakhs to the turnover of Rs. 8 crores employing more than 60 workers.

In the year 2012, the business was extended to Activated Carbon which is another value addition to the raw material. In the same year Vinay started Carbon Block making unit which supplies Carbon filters for water purification. In the year 2014 he started M/s Vision Advance Specialty Carbons Pvt Ltd which produces 6000Mt/annum of Coconut Shell based Activated Carbon and has given more than 150 employments directly. The annual turnover of the company is expected to cross Rs. 60 crores during the coming financial year.

Coconut sector has vast specific applications which can't be completely substituted by



any other products. So it can be commercialized with little efforts. According to Vinay, we need younger creative brains who can work to add value and commercialize waste of coconut. Vinay is planning to achieve Rs.100 Crore turn over by working more on branding and good will. He is also planning to start retail offices throughout the globe and introduce various other products of coconut. ■

Vinay Javagal S. a computer science engineer was a project coordinator at Tata Consultancy Services. At the age of 13, he started dreaming of becoming a businessman and had a vision to develop rural employment in his village. In the age of 22, while working in TCS, he started searching for a business platform where he can link the family coconut business for developing rural employment. In the year 2008, after analyzing demand and supply gap of Coconut Shell Charcoal for Activated Carbon manufacturing and the consistent growth of Carbon market with the bank loan of Rs. 2 lakhs he had started the company Sonavi Associates to do trading of Coconut Shell Charcoal with major companies in India and abroad. In the same year after realizing his companies consistent business growth, he resigned from TCS to start a manufacturing unit for Charcoal and Charcoal Crushing. Over a



The first generation coconut entrepreneur



Arul Vishnu Suthan from Pollachi, did his B.com from Loyola, Chennai did his Master's degree in computer science and went

Arul is from agriculture background and the first generation entrepreneur from his family who wishes to create more employment opportunities.

for a job for one year in logistics.

His desire to become an entrepreneur, from being an employee to employment generator made him to think of starting a business. During that time he read an article in Indian Coconut Journal about value added product of coconuts. With a very less production of coconuts Thailand is producing more value added products where as our country which holds the number one position in coconut production is lagging behind. His home town Pollachi is known for coconuts where there is surplus availability of raw materials that persuaded him to go for value added products.

Basically Arul is from agriculture background and the first generation entrepreneur from his family. In recent times there has been a buzz around the world about Virgin Coconut Oil. In the last couple of years VCO has become a subject of interest for many doctors for its chemical composition and miraculous effects on one's health unlike most other oils. So he decided to manufacture Cold pressed Virgin Coconut oil, the name of his company is M/s Wettree. Arul's future plan includes producing desiccated coconut powder and coconut milk powder. ■

Coconut Secrets for Optimal Health

■ Helps Prevent Obesity by speeding up metabolism, providing an immediate source of energy with fewer calories than other fats. People who consistently use coconut products, report a stronger ability to go without eating for several hours with no effects of hypoglycemia.

■ Improves Heart Health by providing healthy short chain and medium chain fatty acids (MCFA) that are essential to good health. Close to 98% of all fatty acids consumed are composed of long-chain fatty acids (LCFA), which are very different from MCFA that have no negative effect on cholesterol ratios and help to lower the risk of atherosclerosis and protect against heart disease.

■ High in Dietary Fiber rivaling other fiber sources such as psyllium, wheat bran, oat bran, and rice bran.

Coconut supplies an impressive 61% dietary fiber! Foods contain two types of carbohydrates - digestible and non-digestible. Digestible carbohydrates (soluble fiber) consists of starch and sugar and promote calories. Non-digestible carbohydrates (insoluble fiber) contains NO calories. Since the body cannot digest the dietary fiber in coconut, no calories are derived from it and it has no effect on blood sugar.

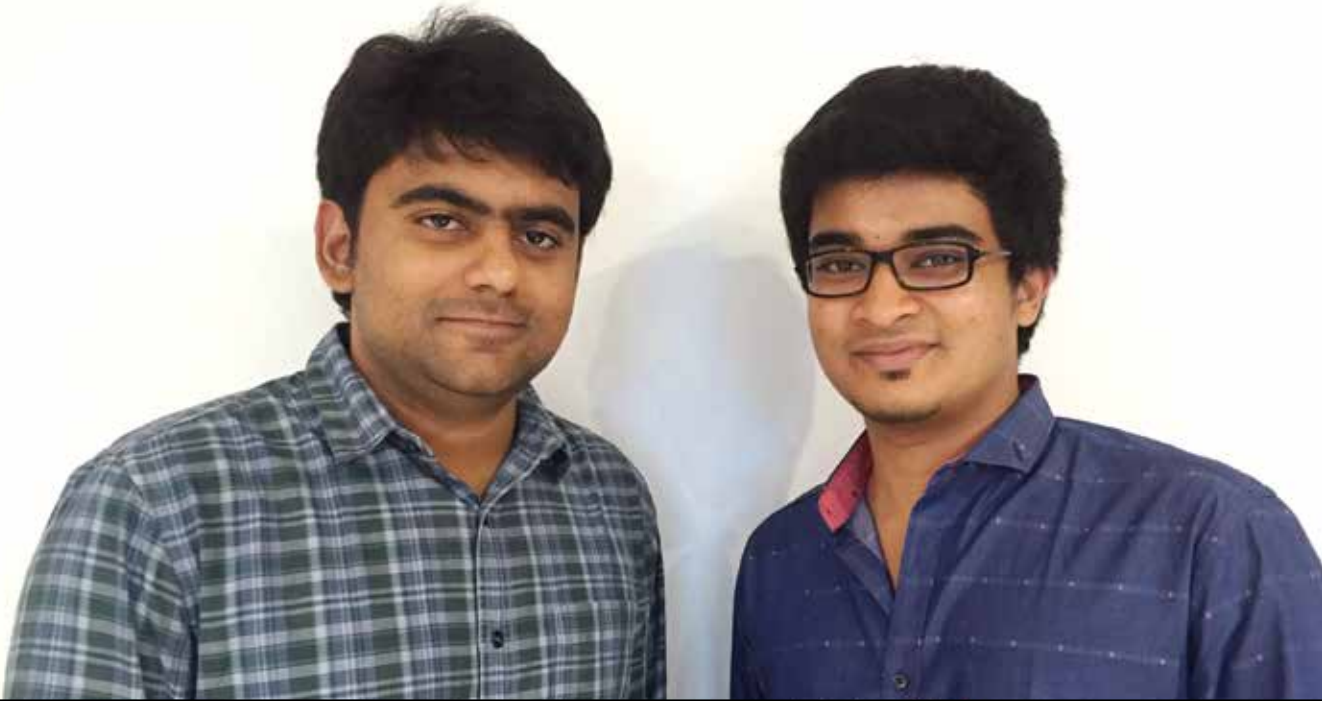
■ Low Glycemic Index (GI) measures how fast available carbohydrates in food raise blood sugar levels. Coconut fiber slows down the release of glucose, therefore requiring less insulin to utilize the glucose and transport it into the cell where it is converted into energy. Coconut also assists in relieving stress on the pancreas

and enzyme systems of the body, in turn, reducing the risks associated with Diabetes. Coconut Nectar and Crystals have a very low GI of only 35 (compared to honey with a GI of 55-83, and sugar with a GI of 65-100.)

■ Reduces Sweet Cravings and improves insulin secretion and utilization of blood glucose. The healthy fat in coconut slows down any rise in blood sugar and helps to reduce hypoglycemic cravings.

■ Improves Digestion and many of the symptoms and inflammatory conditions associated with digestive and bowel disorders, by supporting absorption of other nutrients including vitamins, minerals, and amino acids while also providing beneficial dietary fiber.

Revolutionizing coconut sector



Sheshagokul Shrinivasan, Executive Director, Apex Coco and Solar Energy Limited aged 23 has taken his Bachelor's degree in Science from PSG College of Technology, Coimbatore and Masters in International Business from Hult International Business School, San Francisco. He started his career as a Marketing Analyst in a Fashion studio in New York in the year 2014 and later in 2015, established a company "Bayridge Tex" dealing with fabrics and accessories for Garment manufacturing.

Manoj Prabagar Executive Director, Apex Coco and Solar Energy Limited aged 25 has taken his Masters in Business Administration from the University of Toledo, OHIO and in the year 2013, started a domestic brand called "Avarnas" featuring women's and kid's wear.

Both Sheshagokul Shrinivasan and Manoj Prabagar belong

to agricultural families. Their grandparents were all in agriculture sector and their parents were the 1st generation entrepreneurs who had ventured into textile business and set up a factory in Tirupur.

Moghan father of Manoj, started garment manufacturing export house Anugraha Fashion in the year 1989. At present the company has an integrated set up right from spinning to garment manufacturing unit, working with a turnover of 250 crores. Mr. Shrinivasan father of Sheshagokul, basically a chemical engineer started Aalfa Dyes and Chemicals in 1997, manufacturing Dyes and Auxiliaries. From there Alpine Knits India Pvt. Ltd was established in the year 2002. Alpine deals with garment machineries and has a spinning sector. The company is working with a turnover of 200 crores. In 2015 Sheshagokul Shrinivasan along with Mr. Manoj Prabagar started research on coconut-based

products and its worldwide market.

It was on realizing that India, the largest producer of coconut is earning an income of just \$10 per metric ton in exports, where as Thailand with only 1/10th production capacity of India, earns \$288 per metric ton that both Sheshagokul Shrinivasan and Manoj Prabagar decided to venture into coconut sector. They started to study on how Thailand's coconut export differed from India. They realized that Thailand is utilizing coconut for making value added products like coconut water, milk, cream, VCO, etc. whereas, 95% India's coconut export consisted of coco peat and activated carbon.

The above study resulted in venturing into manufacturing of coconut-based products where this two young entrepreneurs are expecting sea of opportunities in future. They are hopeful that this would enable them to diversify from textile field and enter into

agriculture sector. Therefore they decided to enter this field and subsequently started collecting data. Alpine, Anugraha and other five other companies collaborated to form Apex Coco And Solar Energy Limited. This company has invested 36 Mega Watt of solar energy. The team also met Shri.T.K, Jose IAS, Chairman, CDB and was provided with a new perspective on how to go about in this field.

The growing demand of coconut products in countries like US, Europe and other parts of the world, offers additional scope to venture into the industry. The masters degree

from US has also added to the know how of these entrepreneurs to place themselves in these markets.

The team is planning to manufacture products like coconut milk, desiccated coconut, virgin coconut oil, coco peat, coco fiber and activated carbon. They are aware that youngsters are not willing to come into farming due to low returns on the produces. The new culture prevailing within the youngsters is to focus on smart work rather than hard work. The farmers are not looking to increase the yield of coconut trees using proper scientific methods and none of the farmers are looking for

new plantations.

Sheshagokul Shrinivasan and Manoj Prabagar wishes to help the coconut farmers by using information technology for collecting data and implementation of systematic programs to improve the soil condition through organic manure. They are confident that this will increase the productivity and income of the farmers. The ultimate aim is to revolutionize this sector, which is untapped to its potential limits. They are confident that the agriculture sector will have a great future in the years to come which will add to the country's GDP. ■

Aspiring to become the leading exporter of coconut products

Ms.S.Arunya(24) an engineering graduate in Information Technology hail from an agricultural and business family and her father is her inspiration for being in this field. She always had a passion for business as she is growing up seeing her father's hard work and development in business. During her college days, she started learning about her father's business that primarily manufactures Desiccated Coconut Powder (DCP) With his support and guidance, soon after completing her under graduate degree she started Cocoshell Agro Product – a partnership firm in 2013 that manufactures Coconut Shell Powder and now she is the Managing Partner of the company.

With self-learning and her father's motivation, she was able to start direct export of DCP, before which they were selling their products to merchant exporters. The company is increasing their direct export volume gradually. Looking after the business gave her good exposure and experience in business field.



Being from an agricultural family and known about struggle that farmers go through, she wishes to start business relating to it so that they can also be benefited. She doesn't want to go for jobs with which only she and her family can lead a good life. She looks up to her father as he is giving employment to nearly hundred people and she wants to follow his footsteps. Even if the employment count happens to be small change comparatively,

she wants to make it. Coconut Development Board has given her good assistance and extended support for her above projects whenever required. This also gave her the confidence to go for her own project and the board guide for our betterment continuously. These reasons combined with her family's motivation, help and her passion and having gained good experience and confidence, now she has started one more new manufacturing unit named Indian Coconut Product, a proprietorship concern for manufacturing Desiccated Coconut Powder. It is located in Pollachi, the best coconut producing area of the country. The unit has production capacity of 6.5 MT per day and the processes involved will be made more organized. She plans to promote and expand the business from DCP and Coconut shell powder to various range of coconut products. Her aim is to be the leading manufacturer and exporter of coconut products in India.

E-mail id: indiancoconutproduct@gmail.com ■

FoCTs lead better life in Assam with better income

● **Rajat Kr. Pal**, Dy. Director, Coconut Dev. Board, Regional Office, Guwahati.

Friends of Coconut Tree (FoCT) – a concept of skill development for the youth initiated by Coconut Development Board across the major coconut growing states in the country is gaining rapid popularity amongst the unemployed and self employed youth of Northeast India. Since 2013, more than five hundred youth from Kamrup, Barpeta, Baksa, Sonitpur, Dhemaji, Bongaigaon, Goalpara etc of Assam have been trained in climbing, harvesting method, crown cleaning and other operations at DSP Farm Abhayapuri and Krishi Vigyan Kendra, Kahikuchi, Guwahati. DSP Farm Abhayapuri has trained 391 youth during the period 2013-14 to 2015-16; and 155 trainees have been trained at KVK, Kahikuchi, Guwahati in 2015-16 (upto Dec 2015). It has been observed that trainees taking part in FoCT training are of average age group of 23 to 27 years, of occupation like small business or farming or student, mostly hailing from poor or lower middle class families and land holding of average 1 to 1.5 hectare. The participants had different kinds of motivation and intention about the training. Some



wanted to have the skill of climbing along with knowledge on coconut. Whatever may be the intention, it can be said emphatically that the trainees are now utilizing the skill for income generation. Coconut Producers Societies are playing an important role in selecting the trainees. Recently, women have also come forward for this training from Sonitpur district.

In Assam and other North-eastern states, coconut is not cultivated as main crop but is cultivated in homestead land, boundary of ponds and surrounding the orchards or crop field. Coconut cultivation is concentrated in 6-7 districts of Assam, like Nagaon, Kamrup, Sonitpur, Barpeta, Baksa, Nalbari

and Cachar covering 60% of total cultivated area of 20,300 hectare.

Bikash, Pallab, Kanak, Gautam, Rantu of Kamrup district; Rupam, Tinku, Pranjal of Barpeta; Mun Boro, Bhaskar Rajbongshi, Kamal Basumatary of tribal origin from Baksa district are some of the youth who have harvested the fruit of this training by employing themselves partly using palm climbing machine. There are many from other districts who are in the same profession, earning good revenue from this green collar job. This workforce will be helpful for solving the dearth of coconut climbers and also in soaring to greater heights.

Here are the success stories of some trainees are given below:-



Rupam Talukdar, 22, son of Trailakya Talukdar, a paddy cultivator from Vill-Puthimari Block-Sarupeta, Dist-Barpeta of Assam is actively pursuing his new career as a Friend of Coconut Tree. During this year Rupam Talukdar attended the FoCT training programme at K.V.K Kamrup, Guwahati. After successfully completing the training programme he went back to his village and demonstrated his skill of climbing

coconut palms. The villagers are now aware about his capability and started calling him for different operations. He is charging Rs.25-30 for harvesting and Rs.40 for crown cleaning and spraying of chemicals. He climbs nearly 10 trees a day and his average income is Rs.300 per day out of which he is saving Rs.100. He affirms that no other job can get him such an income and he is determined to continue in the field as long as his health permits.

Tinku Talukdar, 21, son of Prabhat Talukdar, is another FoCT from Puthimari Village, BARPETA District. It was while working as salesman in grocery shop in his village that he came to know about FoCT programme from a representative of CPS. He changed his duty time and attended the training from the next day onwards at KVK Kamrup, Guwahati. Now Tinku is climbing 10 to 15 coconut palms per day. He is charging Rs.25-30 based on the height of the palm. Tinku maintains a record of his customer farmers and he regularly reminds them of the harvest period. Tinku is so proud that he earns around Rs.5500 per month from this new profession. He strictly follows the lessons he learned from managerial sessions on communication, leadership development, positive thinking and saving management. Tinku is determined to continue in this job due to the flexible working hours and the decent income he is getting.



Pranjal Talukdar, another trainee from BARPETA District, Assam is a student. He had the experience of climbing coconut trees in the traditional way and harvesting nuts from his compound. He attended FoCT training programme and got a palm climbing machine free of cost. Now he goes to far off places as a FoCT. He is charging only Rs.25 per tree and is earning around Rs.8000 per month. This additional income of Pranjal Talukdar is helping his family to live

in a well to do manner.

Bikash Malakar, 25 from Hajo area of Kamrup district, owns 1.5 acre land where he used to practice fishery, cultivate flower and vegetable and also have some plantation trees like coconut and arecanut.

In addition to the above, during this year Bikash Malakar attended the FoCT training programme at KVK Kamrup Guwahati. After completing the training programme successfully, he went back to his village along with palm climbing machine and presently utilizing the machine for harvesting and cleaning operations of coconut palm in neighbouring areas in his native village. Now he is known in his surrounding villages as coconut climber and people often contact him through mobile phone. On an average he climbs 10 to 15 palms per day. He is helping the farmers in pest and disease management and fertilizer application. Thus he is tremendously benefitted by the FoCT training programme and now his average income from harvesting and crown cleaning of coconut palms is Rs3000-3500 per month.

Pallab Malakar, 20 from the same area, owns two acres where he used to grow flower and vegetables. From flower business he earns Rs.12000 per year and Rs.20000 from vegetable cultivation. He attended the FoCT training programme at Abhayapuri Bongaigaon district of Assam. Now, he has taken palm climbing as a profession and is earning an additional income of around Rs. 6000 per month. He climbs around 15 coconut palms per day and is engaged for 15 days per month.

Kanak Kalita of Bagta village in Kamrup district is a farmer growing paddy and vegetables in his one acre land. Later on he got the opportunity of taking FoCT training programme from DSP Farm, Abhayapuri. The Coconut Producers Societies in his village helped him to link with households of the villages who want to manage coconut palm in their homestead garden. Now his income has started to soar up to the tune of Rs.6000 to 8000 per month.

Though Assam and other North eastern states are the non-traditional belt for coconut, FoCT training has opened another option for the unemployed and self-employed youth to earn better income for sustaining and maintaining their family. Keeping this in view, Coconut Development Board is taking the initiative to tie-up with other Krishi Vigyan Kendras and Horticulture Research Stations to run this skill development programme successfully. ■

Neera - the future health drink for Delhi

● G.R.Singh, Director and Arun Paul, Technical Officer, CDB, New Delhi

India is working up a voracious appetite for soft drinks and other fruit beverages. The Indian soft drink market is poised to grow at an annual rate of 28-30 per cent during the next 30 years. Demand for fruit drinks and packaged juice products has increased considerably during the last few years, while the overall market size of the soft drink market stands at a whopping Rs 65,000 crore. A delectable combination of rising disposable income, changing lifestyles and a young population's growing penchant for indulgence has transformed India into one of the world's fastest growing soft drink and beverage markets.

New Delhi's charm is undoubtedly derived from the city's multicultural and multi-ethnic flair. Even more than in other Indian metropolises, the urbanites living in Delhi reflect the country's population in all its diversity. The 18 million population of Delhi is a giant market for the soft drink and beverage industry. But the difference in taste and culture of this population demands diversity in the products too.

During summer, when the mercury levels soar, ice-cold drinks from exotic mocktails to traditional juices (eg: Indian lemonade, Bael



juice, jal jeera, lassi, tender coconut water, rooh afza etc.) cater to the need of the summer season in Delhi. The people in Delhi, irrespective of their age are fond of aerated/ carbonated drinks, though its regular consumption has found to cause several health hazards. The overcrowded yoga classes, health clubs and aerobics centres in Delhi, prove that there is a large number of people who bother about good and healthy lifestyle. In this context, Neera the health drink needs to be publicised in a big way in Delhi to quench the thirst of the diverse population of this metro.

Neera, also called as palm nectar is the vascular sap collected from immature unopened coconut inflorescence in fresh form. Neera can be consumed in the raw form

as drink. Packed and preserved Neera can be kept in can/bottle up to two months at room temperature. Neera is a rich source of minerals and vitamins. It has substantial amounts of iron, phosphorus and ascorbic acid. Palm sugar, which is made by boiling neera, contains protein, 16 amino acids, Vitamin B, iron, potassium, magnesium, calcium and zinc. It can be useful for treating anxiety, depression and bipolar disorders. The most significant characteristic of neera and its products its low Glycemic Index (GI), an indicator of the extent of sugar absorbed into the blood. While table sugar has a GI of 70, sugar made from neera has a GI of 35. Foods with GI less than 55 are classified as low GI foods, and can be used by people suffering from diabetes and high cholesterol.



Neera Products



Hon'ble Union Agriculture Minister Shri. Radha Mohan Singh tasting Neera

Currently neera has an excellent market potential in the country as well as in other countries like Sri Lanka, Myanmar, Thailand, Africa, Indonesia, Philippines and other pacific region, where neera is consumed as a health drink. Neera, if promoted and introduced across India, is bound to create a huge market potential as a health drink and as a base for manufacturing value added coconut products like concentrated syrup, sugar, honey etc. which has wide export potential in developed markets like USA and European region.

Understanding the benefits of Neera, Coconut Development Board (CDB) has launched many programmes to popularise it and is participating in various exhibitions and fairs across the country to enlighten the goodness of Neera. During the India International Trade Fair (IITF) 2015 in November at New Delhi, Neera was made available to the people of Delhi from the Thirukochi Coconut Producer Company. During the first five days B2 B programmes were arranged and several trade enquiries were received by the manufactures.



CDB stall with Neera in IITF 2015

The demand for Neera was good during the IITF as there were regular promotional activities through newspapers and FM radio stations. About 25 per cent of the visitors in the CDB stall were aware about Neera and majority of them liked the taste of the same. People between the age group of 30-50 were more eager and curious about the health benefits of Neera. The dealers in New Delhi have got regular customers for Neera after this trade fair. The customers who are aware about the goodness of Neera are travelling miles to reach the outlet to drink Neera. However after the trade fair, the demand for Neera was found to be reducing. Ensuing Winter may be the reason for this set back. As a general trend, people prefer hot beverages during cool winters and the present reduction in demand will overcome during the summer months when the temperature of Delhi start to shoot up. Moreover regular and massive public awareness campaign should be advocated to educate people about Neera and its value added products.

A recent study has suggested that India could prevent an estimated 400,000 people from becoming patients of diabetes over the next decade if the government imposes a 20 per cent extra tax on sweetened beverages. The study by researchers at the Public Health Foundation of India (PHFI), New Delhi, and academic institutions in the US and the UK has also indicated that such a tax on soft drinks might avert 11 million cases of obesity or overweight between 2014 and 2023. In these circumstances a natural health drink like Neera is having an ample scope in a metro like Delhi. Once the people start to taste Neera, it is sure that there will be a huge demand which cannot be met by the present supply and all other carbonated unhealthy drinks will become secondary in the market. ■

Cassava Based Green Pesticides Create Global Sensation

R.Hali, Director of Agriculture, Kerala (Retd), Pearl Hill, Attingal, Thiruvananthapuram



Eighty countries of the world, accommodating a population of over seven billion adopt cassava tubers as their staple food with pleasure. From time immemorial, tapioca (cassava) was offering food security par excellence to a vast majority of poverty stricken common people. Brazil, one of the major cassava producers of the world, has the credit to create ethanol from cassava and use it as an answer to the fast shrinking mineral oil resources. The emergence of ethanol as a green fuel was a landmark both in the history of cassava and the industrial world.

Intensification of research has opened up new avenues for the use of tapioca culminating in giving shape to astonishing results which the world has never dreamt. It was by the dawn of the second decade of the 21st

century, a fascinating technology has evolved from the Kerala based world renowned research centre, Central Tuber Crop Research Institute, Thiruvananthapuram. Dr.C.A.Jayaprakash and his team has isolated the insecticidal principles from cassava leaves and formulated organic formulations namely Nanma, Menma and Shreya, producing stunning results against a spectrum of insect pests of global importance. Apart from the super pest control properties, they are a blessing in disguise providing replacement to the costly and dreadful synthetic insecticides. Perhaps, the innovation of organic pesticides may be proved to be a discovery with unmatched global value in the crop protection exercise. The new pesticides got overwhelming reception from the farmers and plant lovers who had an

opportunity to conduct adventurous trials using these formulations.

According to Mr. Balachandran, leader of a 10,000 farmer group Sangamythri functioning in Kerala state, India, "We came to know and approached the institute when thousands of banana plants were destroyed by pseudostem weevil, and rhizome weevil. Several of our members got frightened to plant banana which formed their livelihood crop. To our astonishment, the team led by Dr. Jayaprakash could instill so much confidence in us and gave us unusual boldness to try menma, the new bio-formulation on 10,000 plants to start with. It was a great risk as a failure would have given a huge loss worth several lakhs of rupees. But the grand success produced by the bold initiative enhanced our confidence by several folds that gave

us courage to give the treatment to over 1 lakh plants in 2012. The result was amazing that the loss due to the pest attack could be reduced from the expected 40% to less than just 1%. Some plants infected were cured by injecting menma. The thrilling part of the story is that this year we have tried the formulation over 3 lakh plants and the pest is not seen anywhere". Mr. Nair concluded the long narration with a victorious smile.

The same experience is reported from other districts of Kerala under the leadership of Dr. Leena. According to the estimate done in Kerala, farmers could gain millions of dollars by saving the banana from the onslaught of pests. The saga of success of the wonderful bio-pesticides outreaches the nation and becomes globally useful when we know the fact it has the capacity to destroy aphids, mealy bugs, hairy caterpillars etc.

Tapioca based 3 bio pesticides thus have a global utility and become tempting when we estimate

the very low cost of production and application charges compared to the very toxic synthetic chemicals. The global utility becomes more revealing when we find the effect of new pesticides on the destruction and elimination of the above pests. In short, these are antidotes which provide near total assurance and safety to banana and all types of vegetables, fruit trees, ornamental plants and trees with very high timber value.

CTCRI, the largest among the research stations in the world doing exclusive studies on tuber crops, deserve special kudos not only from the crop culture world but also from the organic farming promoters and from all those who love and adore the plant world. Dr. C. A. Jayaprakash, Dr. Peethamparan and Prof. Reghunath along with research students namely Dr. Sreerag, Dr. Rakesh, Jithu. U. Krishnan and Lakshmi done the wonder across the state at the farmers' fields. Mr. Salimon from CTCRI and Mr. Vijayakumar from VSSE (ISRO)

helped them in designing the pilot plant for the mass production of bio-pesticides from cassava leaves.

The participation, the bold and adventurous contribution given by the farmers deserve compliments. The biggest need of the moment is to make available the wonder pesticides to all those who need it. Its popularity and need are so big that the delay in making it available could be even termed as a sin committed to the farmers. This is the hour for swift action and taking decisions. This will bring more prestige to Indian agriculture system and excellent benefit to the farmers. The whole world may watch CTCRI with pride and hope once they get the opportunity to use the wonder pesticides in their farms orchards and fields.

Cassava based green pesticides are sure to create a global sensation through its astonishing crop protection capabilities. The whole world is waiting for our action, are we hearing it! ■

Coconut oil intake safe - USDA

In its Scientific Report of the 2015 Dietary Guidelines, the advisory committee of the US Department of Agriculture (USDA), food with "nutrients of concern" such as eggs, butter, full-fat dairy products, nuts, coconut meat and coconut oil, has been classified as safe for intake, a complete twist from reminders to turn away from high-cholesterol food since the 1970s. Citing the lack of relationship between consumption of dietary cholesterol and serum (blood) cholesterol, the 300-milligram per day limit on cholesterol intake will be removed from the previous guidelines initially published in 2010. The public will no longer be alerted about the risks of high-cholesterol food intake in combating cardiovascular diseases and stroke. This also leads to the reintroduction of good cholesterol in food-based recommendations. Dietary cholesterol is now "not considered a nutrient of concern for over consumption," the report stated. However, eating less saturated fat is still recommended.



Coconut- a Solution for Wellness Certifies 'Wellness Solutions'

● Remyan Gopalakrishnan, Consultant, CDB, Kochi -11



Coconut oil when given to Alzheimer patients help to strengthen the cell walls. When cell walls get strengthened, energy production also gets triggered and accelerated. Rejuvenation of cells take place when virgin coconut oil stimulates the energy production.

Dr. Sreekumar, a Nutrition Specialist and a Senior ENT Surgeon is heralding the 'Wellness Solutions', a Medicare Centre located at Maradu, Kundannoor, Kochi. Wellness Solutions is an asylum for the patients especially cancer patients who have lost all hopes after suffering sustained pain of the radiation and chemo therapy and counting days for their turn. As a palliative care centre, the Chairman of the Institute Dr. Sreekumar is the visible God who dissolves their worries and pain through his pleasant and soft spoken approach and smiling face.

We met him when he called on the office of the Coconut Development Board for meeting Shri. T.K. Jose IAS, Chairman. The wonderful revelations of Dr. Sreekumar that coconut is the major ingredient of the diet of his patients and coconut kernel, coconut water and coconut

oil are best detoxification agents in cancer treatment were top ups for the recent findings of the therapeutic and nutraceutical properties of coconut.

This article is based on the information shared by Dr. Sreekumar, when CDB officials called on him at Wellness Solutions.

Q: What is the concept of this Centre or how it differs from a hospital of routine nature?

This Centre was started with the principle of preventive health, as the proverb reminds "Prevention is better than cure". This was therefore established for the very purpose of creating public awareness to maintaining Wellness by preventing the body from being afflicted by many diseases rather than consulting doctors as a patient of chronic diseases. We disseminated the message of being healthy. Wellness is not the disease curing through medication but it includes healthy

diet and healthy life style. But no one was interested on this approach. Everybody wanted medicine and treatment after becoming a patient. So we were getting only terminal patients from the very beginning. Thus Wellness Solutions became a centre of solace for the patients".

"Being healthy is very important and this requires awareness creation among the public. But the public didn't give value to that approach. They want consultation as a patient. A man or woman who contracts a lifestyle disease never think of consulting a doctor before realizing that he or she is suffering from a disease. The usual approach is 'let us see' when the disease is manifested externally. This "let us see" mentality slowly throw them to severe and acute life risk one after another and the problems and complications afflict their body. We have limitations to give such

terminal patients complete cure or relief.

Awareness creation is of utmost importance by which one can take care of their body and take precaution. There is no meaning in advising the diabetic patients to control food or avoid sugar. Expenditure of energy takes place in a normal working person. We have to supplement adequate energy there. Otherwise body will utterly fail to respond. Everybody find shelter on heredity. Who is to be blamed for the first person who contracted the disease? This is like the egg and chicken theory. We can't blame hereditary for all new diseases.

This is an era of specialization. Specialists care only their specialized area. Our education, information, awareness etc should start from the basic cells. A diagnosis centre diagnoses many defects from laboratory test. But when scientifically speaking, it is not correct. In fact biochemical reactions take place inside the cells and not in the blood. We do not see what is going on inside the body. What is going on inside the body is not happening inside the laboratory too. In the wake of cellular sciences, there are lots of differences from what we learn from biochemical tests and actual human body functions. We have to learn more about Nutrigenomics which is the study of effects of food on gene expression and metabolism.

Q: Coconut is a major ingredient in the food item of Wellness Solutions. Could you elaborate?

Ans: There are lots of toxins in our body. The residual effects of the poisonous food we take results in chronic disorders. Toxins are in our cells, cells of liver, kidneys etc. We are doing detoxification in patients to eliminate these toxins. Coconut products got amazing effects of detoxification of cells. Digestion of coconut oil is relatively rapid among other fats and oils commonly in use.



Coconut oil detoxifies many toxins from our body. Coconut water has the detoxifying effect of filtering out toxins from kidney. Coconut water is diuretic and this works well in removing impurities from kidney. By supplementing coconut water and oil to human body complete detoxification from body is possible. Besides, vitamins and minerals available in coconut water are made available to body. Thus the body regains more immunity and strength. Therefore it keeps our body healthy. I advise to include coconut and coconut products in our routine diet. It can be prominently positioned to maintain health and wellness through safe food.

Q: There are reports indicating the beneficial effects of Virgin Coconut Oil (VCO) in the treatment of Alzheimer's. What is your expert opinion?

Ans: Yes. Alzheimers disease is a rising global disease which evades a complete cure. Coconut oil when given to Alzheimer patients help to strengthen the cell walls. When cell walls get strengthened energy production also gets triggered and accelerated. Memory is lost in Alzheimer's patients due to damage of cells. Rejuvenation of cells takes place when virgin coconut oil stimulates the energy productions. This is the mechanism that takes place in Alzheimer's patients when

VCO is given. Ketone bodies and polyphenols in VCO have been identified as the key salutary factors.

For making cell walls stronger, good fat is required. When fat is heated its goodness is lost. When virgin coconut oil is heated its chemical composition gets disturbed and the qualities altered. When VCO is consumed per se, without heating, the result is entirely different. From natural food, cell life is increased, health is improved, cellular process is get corrected and virus and bacteria get eliminated. The unique properties of VCO justify by all means its consideration as a functional food. Processing makes the natural products losing all goodness.

“We regularly undergo medical check up to diagnosis diseases. This year I am free and am eagerly waiting for next year's checkup. But we never care our body to keep the diseases at bay or to do checkup with that sense of body management. I enquire my cancer patients about their health and not their disease status. Management of the health is very important. Measures to improve health condition are more important. A forty year old diabetic patient is a liability to his family, society and nation. Improving his health creates a geometric multiplication effect.

Wellness is the need of the present society. We are doing a lot

and spend more to cure diseases. But we are least bothered to keep the body healthy. We are spending crores of rupees to save the lives of chronic patients but nothing to maintain health of the public”.

Q:- Can we attribute the commencement of swimming and yoga in Government offices as a shift in our thought process ?

Ans: Yes. Precaution is needed to save our body from contracting multiple diseases. Let us start the learning process from the youngsters in academic institutions and government offices.

Q:- In what way coconut is used in the cancer treatment?

We can make use of coconut in many ways in cancer treatment. For sustaining our life, food with life is needed. Coconut products have life even after processing. Virgin coconut oil is very palatable and tasty. Western countries already started detoxification centers with coconut. Tender coconut water is awesome, and amazing. It energizes the body and reduces body fatigue. Coconut oil is anti viral, anti bacterial and



anti fungal. VCO has to be promoted against hypercholesterolemia and obesity and also to heal the damaged brain cells. A compound extracted from VCO is injected in patients suffering from heart attack in US. Neera sugar is the best sweetening agent available. We can develop probiotics from neera. Coconut water is rehydrating and diuretic. Thus the positive sides of coconut are innumerable.

I feel ashamed as a person from the land of coconut started learning the goodness of coconut from a non-coconut growing country like Australia. Now the question before us is how to make available the coconut products in non-growing countries. Natural preservation assumes significance in such situation. Countries like China have gone far ahead in natural preservation techniques. We have to work on this area.

Australian Government have bifurcated health sector into two. Ministry of Health and Ministry of Disease prevention. They consider health management more important than treating diseases.

Q: Tender Coconut Water contains more sugar. Is there any scientifically proven truth in saying that tender coconut water is not suitable for diabetic patients?

Ans: First part of the statement is correct. Tender coconut water contains more sugar. But the second

part is a mis-led statement. The minerals present in tender coconut water helps to open up the insulin receptors in the cells. Thus the glucose will be easily absorbed by the cells. Without insulin receptors sugar cannot be absorbed in. Just like Coconut oil preserves pickles for longer period without contamination, it preserves our body from being attacked by external factors.

Awareness creation is of paramount importance in our health care. Common man should be thoroughly taught of the adversaries of getting into unnecessary mental strain which will affect the whole systems of our body, which in turn, culminate in many disease conditions- Dr. Sreekumar reiterates.

After many decades of debate and arguments coconut fruit is now slowly coming out of the entangled misconception about its consumption. Scientific studies and clinical research have brought out its beneficial properties, health and nutritive values. Dr. Sreekumar was not mentioning anything about medium chain fatty acids or lauric acid, the so called beneficial factors containing in coconut oil. But he was strongly defending the detoxification effect of coconut products in the management of cancer patients. Let coconut be strongly in the lime light as the Super food of tomorrow, as is being revealed by scientific world. ■

Export of Indian coconut products shows steady increase

● **K.S. Sebastian**, Assistant Director, Export Promotion, CDB, Kochi-11

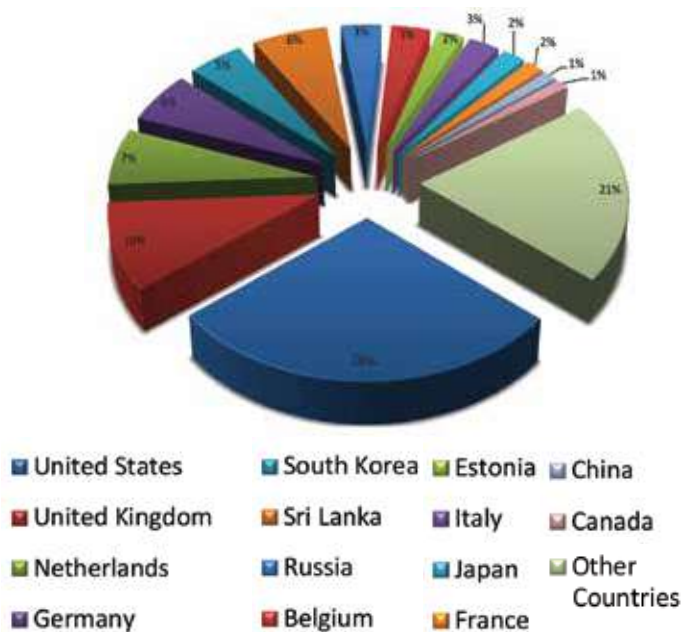
Export of coconut products during the first nine months of the financial year 2015-16 touched Rs. 1,078 crores. Compared to the export during the corresponding period of 2014-15, an increase of 8 % was recorded in coconut product exports. Significant increase was recorded in the export of virgin coconut oil, activated carbon, dry coconut and coconut oil. Export of coconut products from India during April to December 2015 is given in table 1.

Export of coconut products from April to December 2015				
Items	December 2015		April to December 2015	
	Cum. Qty (in MT)	Cum. Value (Rs. In lakhs)	Cum. Qty (in MT)	Cum. Value (Rs. In lakhs)
Activated Carbon	4824.87	5189.76	47136.79	48547.44
Coconut Fatty Soap		317.38		2297.01
Hair Cream		113.65		776.63
Coconut Oil	695.31	1393.49	5844.37	12841.57
Coconut Water		31.05		529.92
Copra	341.30	301.24	2927.22	2583.05
Desiccated Coconut	398.58	494.86	1856.91	2685.49
Dry coconut	557.81	544.96	13935.48	14368.60
Fresh coconut	4572.77	1599.03	27186.19	10588.34
Grated/sliced coconut	185.57	295.60	1579.40	2897.35
Oval coconut shell	73.66	53.77	1234.53	650.26
Shell charcoal	626.00	190.40	7281.56	2410.66
VCO	106.42	297.35	718.46	2299.96
Misc coconut products		668.70		4329.77
Total		11491.24		107806.05

Table 1

Activated Carbon

The export of activated carbon from India during the period April to December 2015 was 47,137 metric tonnes. United States was the major importer of Indian activated carbon, followed by United Kingdom. Details of export of Activated Carbon from India is given in table 2



Country wise export of Activated Carbon during April to December 2015

Country	Qty(in MT)	Value(Rs in lakhs)
United States	13305.13	13791.24
United Kingdom	4608.00	4988.36
Netherlands	3065.80	3149.63
Germany	2779.10	3045.14
South Korea	2266.05	2704.64
Sri Lanka	3061.99	2072.96
Russia	1632.80	1754.41
Belgium	1575.79	1567.89
Estonia	1078.00	1108.42
Italy	1255.80	1102.02
Japan	934.10	918.91
France	734.00	1016.15
China	546.55	712.76
Canada	539.05	568.04
Other Countries	9754.64	10046.87
Total	47136.79	48547.44

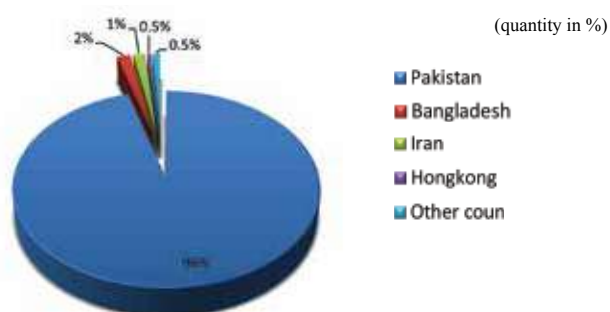
Table 2

Dry Coconut

During the first nine months of the financial year 2015-16, 13,935 metric tonnes of dry coconuts were exported from India. Out of this 13,314 MT was to Pakistan. Country wise export of dry coconut from India is given in table 3.

Export of dry coconut during April to December 2015		
Country	Qty (in MT)	Value (Rs in lakhs)
Pakistan	13314.25	13522.17
Bangladesh	225.00	188.98
Iran	200.00	218.69
Hongkong	72.96	153.00
Other countries	123.27	285.76
Total	13935.48	14368.60

Table 3



Virgin Coconut Oil

Export of virgin coconut oil from India during the first nine months of the financial year 2015-16 was to the tune of 718 metric tonnes. United States alone imported 513 metric tonnes of VCO from India. During the corresponding period last year, the export was only 397 metric tonnes. Country wise details of export of virgin coconut oil from India is given in table 4.

Export of VCO from India during April to December 2015		
Country	Qty (in MT)	Value (Rs. In lakhs)
United States	512.67	1561.77
Japan	49.87	117.73
United Kingdom	10.11	32.21
Other Countries	145.81	588.25
Total	718.46	2299.96

Table 4

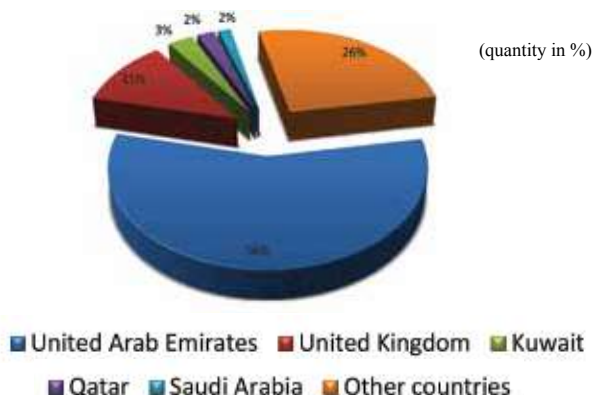


Fresh Coconut

Export of husked coconut from India during the first nine months of 2015-16 was 27,186 metric tonnes. Major portion of export was to UAE. Export of fresh coconut from India is given in table 5.

Export of fresh coconut during April to December 2015		
Country	Qty(in MT)	Value (Rs in lakhs)
United Arab Emirates	15339.83	6713.98
United Kingdom	3070.21	1340.81
Kuwait	820.28	371.94
Qatar	570.07	289.38
Saudi Arabia	407.16	156.45
Other countries	6978.64	1715.78
Total	27186.19	10588.34

Table 5



Coconut Oil

Export of coconut oil from India during the first nine months of the financial year 2015-16 was 5,844 metric tonnes, which is 19% higher compared to 4921 metric tonnes recorded during the corresponding period of 2014-15. UAE alone imported 1371 metric tonnes of coconut oil.

Coconut oil is also exported for edible purpose to United Arab Emirates, Myanmar, United States, Saudi Arabia, Oman, Qatar, Kuwait, Singapore, Malaysia, Nepal, Bahrain etc. Export of coconut oil from India is given in table 6.

Country	Qty (in MT)	Value (Rs in lakhs)
United Arab Emirates	1371.26	2769.60
United States	620.23	1509.14
Myanmar	685.56	1607.66
Saudi Arabia	591.55	1251.82
Oman	307.26	638.64
Qatar	298.34	637.39
Kuwait	199.33	428.88
Singapore	185.18	462.92
Malaysia	159.32	393.39
Bahrain	131.09	272.88
Nepal	135.68	237.07
Australia	108.39	270.72
Japan	75.68	166.39
France	60.88	127.64
United Kingdom	75.33	183.29
Other countries	839.28	1884.13
Total	5844.37	12841.57

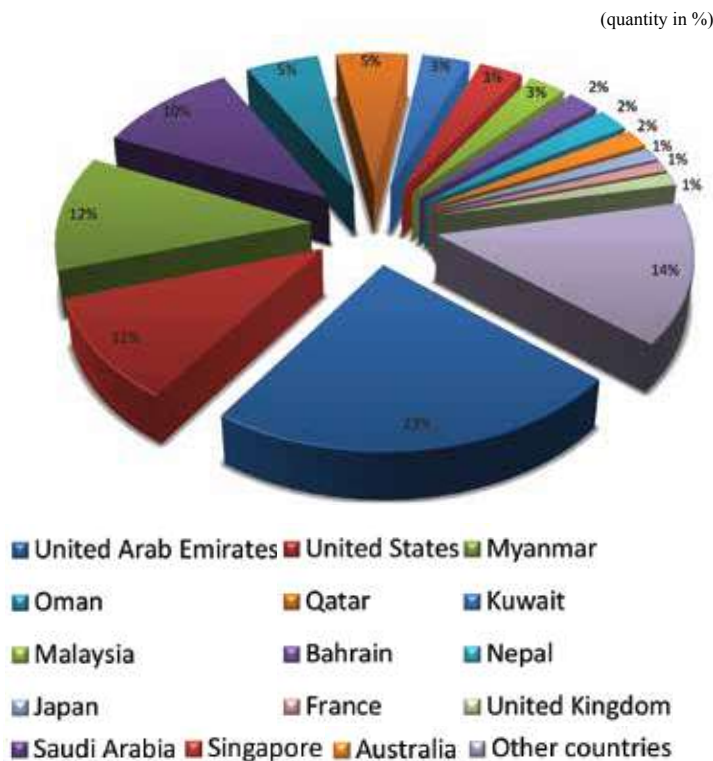


Table 6

Import

During the first nine months of the financial year 2015-16, India imported Rs 283 crores worth coconut products. Copra expeller cake, coconut fatty acid, coconut oil and coconut shell charcoal are the major items of import. Details of import of coconut products into India during the first nine months of 2015-16 is given in table 7.

Item	December		April to December 2015	
	Qty (in MT)	Value (Rs. in lakh)	Cumulative Qty (in MT)	Cumulative Value (Rs. In lakhs)
Coconut fatty acid	854.48	610.48	6177.27	4800.62
coconut oil	209.52	155.04	4689.12	3840.16
Copra oil cake	7140.56	1066.07	87660.67	13598.49
Coconut shell charcoal	336.00	115.86	11605.59	3679.51
Cream-milk-powder		151.64		1163.38
Copra	0	0.00	291.25	208.45
Misc coconut products		25.09		971.62
Total		2124.19		28262.25

Table 7

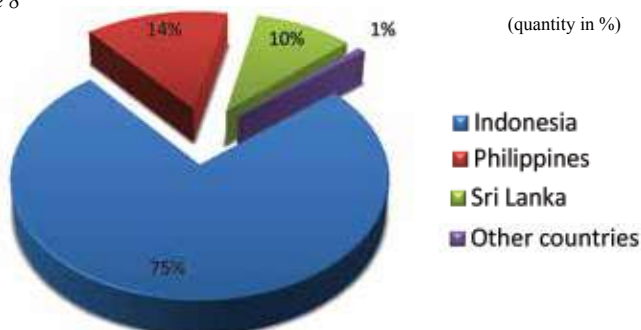


Copra expeller cake

One major item of import among coconut products is copra expeller cake. During the period from April to December 15, the quantity of import of this product was 87,661 metric tonnes. Details of import of this product is given in table 8.

Import of coconutoil cake to india during April to December 2015		
Country	Qty (in MT)	Value (Rs. In lakhs)
Indonesia	65865.89	10262.84
Philippines	12526.80	1905.35
Sri Lanka	8596.11	1348.12
Other countries	671.88	82.18
Total	87660.67	13598.49

Table 8



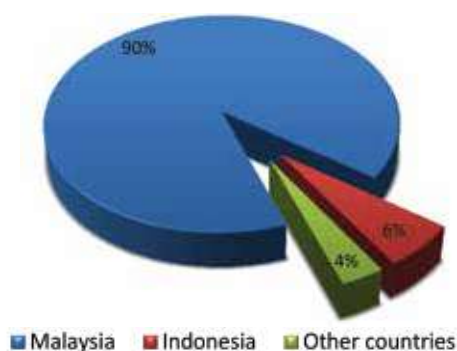
Coconut Fatty Acid

Import of coconut fatty acid into India during the first nine months of the financial year 2015-16 was 6177 metric tonnes, out of which 5579 metric tonnes was from Malaysia. Details of import of coconut fatty acid to india is given in table 9.

Import of coconut fatty acid to India during April to December 2015		
Country	Qty (in MT)	Value (Rs.in lakhs)
Malaysia	5579.18	4311.59
Indonesia	382.81	326.42
Other countries	215.28	162.62
Total	6177.27	4800.62

Table 9

(quantity in %)



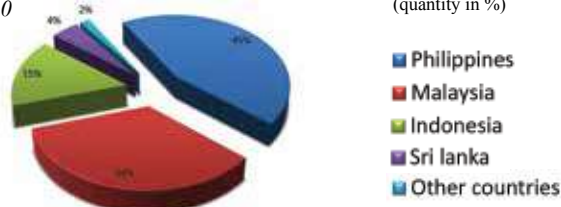
Coconut Shell Charcoal

Import of coconut shell charcoal into India during the first nine months of the financial year 2015-16 stood at 11,606 metric tonnes. The highest import was recorded from Malaysia. Details of import of coconut shell charcoal to India is given in Table 10.

Import of coconut shell charcoal to india during April to December 2015		
Country	Qty (in MT)	Value (Rs. In lakhs)
Philippines	5152.53	1606.82
Malaysia	3978.79	1250.70
Indonesia	1785.21	612.95
Sri lanka	503.36	157.27
Other countries	185.70	51.76
Total	11605.59	3679.51

Table 10

(quantity in %)



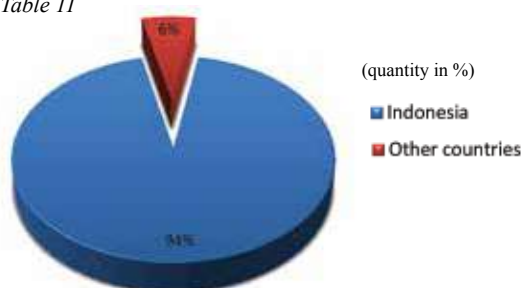
Coconut Oil

Import of coconut oil into India during the first nine months of the financial year was 4689 metric tonnes. Highest import recorded was from Indonesia, which was 4396 metric tonnes. Import of coconut oil to India is given in Table 11.

Import of coconut oil to india during April to December 2015		
Country	Qty (in MT)	Value (Rs. In lakhs)
Indonesia	4395.85	3560.15
Other countries	293.27	280.02
Total	4689.12	3840.16

Table 11

(quantity in %)



Thirukochi Neera processing plant inaugurated

Shri. Anoop Jacob, Minister for Civil Supplies, Government of Kerala inaugurated the Neera processing plant of Thirukochi Coconut Producer Company at Onakkoor, Pampakuda, Kerala on 23rd January 2016. Innovative projects like Neera processing plant gives a relief to the Coconut farmers, said Shri. Anoop Jacob during his inaugural address. He added that Neera is a healthy soft drink and it will pave the way for more employment generation.

Strengthening of FPOs is the only way for uplifting coconut sector said Shri T. K. Jose IAS, CDB, Chairman in his keynote address. According to the performance of each coconut producer companies, Coconut Development Board had listed top five companies in A+ grade and the Thirukochi Company is one among these companies. Shri. Joseph Vazhakkann MLA inaugurated the office complex and Shri. Michael Vethasiromani, MD, Marketfed commissioned the copra dryer of the Company. Smt. Asha Sanal District panchayat president launched the coconut juice and Shri P. Joy Oommen IAS, Chairman, KFC

launched the neera honey produced by the Company. Shri. Joseph Babu, Chairman Thirukochi CPC presided

200 ml each can be produced in this plant. Thirukochi Company uses the technology of Coconut Development



Shri. Anoop Jacob, Minister for Civil Supplies, Government of Kerala inaugurating the Neera processing plant of Thirukochi Coconut Producer Company

over the meeting.

Thirukochi Neera processing plant set up with an initial cost of Rs.3.55 crore has the per day capacity to process 8000 litres of Neera. 20,000 bottles of neera in

Board and School of Communication and Management Studies, Kochi for processing Neera. The company is also producing value-added products like Neera honey and coconut juice.

Training Programme on Coconut

Coconut Development Board, State Centre, Pitapally, Odisha organized a training programme on Coconut at Nayagarh District on 7th January 2016 in association with Dept. of Horticulture, Nayagarh. Shri. E. Aravazhi, Deputy Director, CDB, Pitapally welcomed the gathering. The programme was inaugurated by Shri. Mahendranath Sarangi, DDH, Nayagarh. Shri. Jogendra Mohapatra, ADH, Nayagarh, Shri. Subhash Chandra Panda,

Assistant Horticulture Officer, Shri. Amitabh Panda, Subject Matter Specialist (Hort.) KVK and Smt. Swati swagatika Sahoo, Assistant Horticulture Officer were present during the occasion.

In the technical session which followed, Dr. S.C. Sahoo, Professor and Scientist-in-charge, AICRP on Palms, OUAT, Bhubaneswar spoke on mother palm selection, seednut selection, nursery management, scientific way of planting,

intercultural operations, INM, IPM, and IDM in coconut.

Sri. E. Aravazhi, Deputy Director, CDB, State Centre, Pitapally briefed on various schemes of the Board like AEP, LoDP, OMU, FoCT, Aid to coconut nursery and TMOC followed by discussion about Farmer, Producer, Organisation (FPOs) – CPS, CPF and CPC. Kum. Neethu Thomas, Technical Officer CDB, spoke on value addition in coconut and spoke on various

value added products of coconut. like VCO, chips, vinegar, desiccated coconut, coconut milk, coir based products, husk based products etc. Since majority of the farmers were using coconut only for religious purpose, the topic on value added products on coconut aroused interest among the farmers.

In the interactive session which followed, Shri. E. Aravazhi, Deputy Director, CDB, State Centre, Pitapally cleared the doubts of farmers regarding CPS formation and coconut cultivation. The programme helped the farmers to gain knowledge on scientific cultivation aspects of coconut, value addition in coconut and schemes of Coconut Development Board.



The training programme

Awareness programme on CDB schemes



A view of the audience



Inaugural address by Shri. Jassa Bhai Barad, Agricultural Minister of Gujarat.

Coconut Development Board organized an awareness programme at Veraval, GirSomanath district of Gujarat on 10th January 2016 in order to create awareness among the coconut farmers about the activities and schemes of Coconut Development Board,

Shri. Jassa Bhai Barad, Honorable Agriculture Minister for state, Govt. of Gujarat inaugurated the programme and Shri. Rajesh Bhai Chudasama, Honorable Member of Parliament (LS) Junagadh, presided over. Dr. G.R. Singh, Director, CDB, Northern Region, New Delhi welcomed the gathering and briefed about the schemes and activities of CDB in Gujarat.

In his inaugural speech, the Minister appreciated the efforts of

the Board done for development of coconut sector in the state. Further he also offered all support of the Government of Gujarat to the Board. He further congratulated the Coconut Producers Society of Navapara for working in coordination with CDB and helping the local coconut farmers who were unaware about the activities of CDB.

Shri. Rajesh Bhai Chudasama, MP, Lokasbha, in his presidential address appreciated CDB for taking efforts to enlighten the livelihood of coconut farmers of Gujarat. He also assured his cooperation to allocate 40ha land for establishment of the DSP farm in Gujarat. The Minister distributed inputs under LoDP programme and the subsidy cheques of organic manure units to the

beneficiaries. The Coconut Producer Society registration certificates were also distributed during the occasion. Shri. Narendarbhair Parmar, Chairman CPS, Navapara proposed a vote of thanks.

The meeting was followed by a technical session wherein technical experts spoke on various subjects and interacted with the farmers.

Dr. G. R. Singh, Director, CDB, New Delhi; Shri. Ghatiya Dodi, Deputy Director Horticulture, Gir Somanth; Shri. R.S.Sengar, Asst. Director, CDB, Kondagaon; Shri. P.K.Mori, Horticulture Officer, Veraval, Shri. Arun Paul, TO, CDB, New Delhi and Shri. Sarad S.Aglawe, FO, CDB, Thane participated in the technical session.

Pollachi Coconut Producer Company launched Organic Coconut Oil

Pollachi CPC launched pure organic unadulterated coconut oil on 23rd November 2015 in its own brand name in one, half and quarter litre PET bottles. The company is procuring 2000 matured coconut from its members and is dehusking it after 30 days from harvesting. The brown husk is sold @ Re 1. The crushing is done in rotary oil mill. The company is getting 190.5 kgs of pure organic coconut oil and 98.60 kgs of coconut oil cake. For organic

coconuts, the company is paying the farmers 13% more than the market rate and the sale price is less than 10% of the MRP. The product is now being marketed through company's own retail outlet at Pollachi and is planning to sell through leading retail outlets in Pollalchi and Anamalai areas. Marketing through distributor network in all organic retail outlets in Tamil Nadu is also being explored.



Assam International Agri-Horti Show 2016

Coconut Development Board, Regional Office, Guwahati participated in 3rd Assam International Agri-Horticultural Show 2016 held from 6th to 9th January, 2016 organized by the Department of Agriculture, Govt. of Assam in association with Indian Chamber of Commerce, Assam Agricultural University and Assam Horticultural Society at College of Veterinary Science Playground Khanapara. More than 150 exhibitors from Department of Agriculture/Horticulture, University of Agriculture, Food Processing Department, Private Horticulturists, Floriculturists and SHGs participated in the show. International participants from Canada, Bangladesh Nepal, China, South Africa and Myanmar also took part in the show.

Shri Tarun Gogoi, Hon'ble Chief



The inaugural function



CDB stall in Assam International Agri-Horti Show 2016.

Minister of Assam inaugurated the show. Shri Rokibul Hussain, Agriculture Minister of Assam, Shri Hemanta Talukdar, Hon'ble Parliamentary Secretary, Shri V.K. Pipersenia, IAS, Chief Secretary, Shri V. B. Pyarelal, IAS, Addl. Chief Secretary and APC and Dr. K.M. Bujarbaruah, Vice Chancellor, AAU, Jorhat were present during the occasion

CDB, RO, Guwahati displayed mature nuts of different varieties coconut based food products and handicraft products. Leaflets and booklets on coconut were also

distributed to the farmers. CDB also participated in the seminar organized in Agri- Horti show and briefed about Coconut Development Board schemes. The Regional Director spoke on government intervention for Coconut Development in North-East India. Trainees of coconut based convenience food training from Puwali SHG displayed coconut based products like pickle, squash, coconut pera, coconut candy etc in Board's stall. Around two lakhs people from different districts of Assam and other North Eastern States visited the show.

Monthly operations- February



Andaman & Nicobar Islands: Continue watering the nursery. Start collection of seednuts from the mother palms. Store them for about one month before sowing. Prepare land for new plantation by removing weeds and cutting down unwanted plants.

Andhra Pradesh: Search for rhinoceros beetles on the crowns of the palms with beetle hook and kill the beetles. Fill the top three leaf axils of the palm with a mixture of 25g sevidol 8G with 250g fine sand. Spray the manure pits with 0.01 per cent carbaryl. Continue irrigation. Collect seednuts from selected mother palms. Release parasitoids if the attack of black headed caterpillar is noticed, particularly in coastal belt. If the palms are infected by scale insects, spray the palms with 0.01 per cent malathion or fenthion.

Assam: Dig isolation trenches of one metre depth and 30 cm width two metres away from the base of the Ganoderma affected palms. Cut down and destroy the affected trunk of dead palms in the garden. If planting pits have not been dug in January or February dig them during this month and fill up with top soil+sand+cow dung manure mixture up to 60 cm

for transplanting. After one or two showers, bring the soil to a fine tilth around the palms. Start preparing the nursery beds for sowing of seednuts.

Bihar/Jharkhand: Irrigate the palms. Apply plant protection chemicals to avoid attack of pests and diseases. Repair the irrigation channels. Prepare the land and dig pits of 1m x 1m x 1m size at a spacing of 8m x 8m. Replant/transplant the seedlings in low-lying areas where flood water is a problem. Adopt surface planting if water table is high. Check for the incidence of termite attack, especially in young palms. For the management of termite, adequate soil moisture is a prerequisite. Drench the nursery with 0.05 per cent chlorpyrifos twice at 20-25 days interval. Fill the top three leaf axils of the palms with 25g Sevidol 8G mixed with 250g fine sand to prevent rhinoceros beetle/red palm weevil attack.

Chattisgarh: Irrigate the palms, nursery and inter crops in the garden. Remove weeds from the garden. Plough the land and mulch the basins. Plant summer vegetables and other intercrops. Apply vermi compost to coconut palms.

Karnataka: Irrigate the garden.

Give 70-80 litres of water per palm per day under drip irrigation. Plant suitable intercrops under irrigated conditions. Check the attack of rhinoceros beetle. Clean the crowns of the palm and fill top three leaf axils of the palms with a mixture of 25g sevidol with 200 gm fine sand. Fill the leaf axils with two naphthalene balls covered with fine sand at 45 days interval. Treat manure pits and other possible breeding sites of rhinoceros beetle with carbaryl (0.1 per cent) which is to be repeated in every three months. Spray 1 per cent bordeaux mixture against leaf spot. Adopt integrated control measures against the attack of leaf eating caterpillar. Release parasitoids of suitable stage immediately after noticing the infestation and subsequently three times at fortnightly intervals. For tall plants and large orchards a combination of biological and chemical methods are suggested. If the attack of mite is noticed, spray neem oil formulation containing 0.1 per cent Azadirachtin / Neemazal@4 ml/ litre of water. The spray droplets are to be directed towards the second to fifth immature bunches. In order to improve the nutrient status of the

soil grow green manure crops like daincha in the basins of the palms and incorporate into the soil within 45 days. Apply organic manure @ 25 kg/ tree/year. Provide neem cake @5 kg / tree/year.

Kerala/Lakshadweep:

Continue irrigation. Continue collection of seednuts from selected mother palms and store them in a cool dry place. Apply one fourth of the fertilizers in irrigated gardens. If the attack of mite is noticed, spray neem oil formulation containing 0.1 per cent Azadirachtin / Neemazal @ 4 ml/ litre of water. The spray droplets are to be directed towards the second to fifth immature bunches.

Maharashtra/Goa/Gujarat:

Undertake hoeing in the garden. Remove the grasses and shrubs and burn them. Check for attack of pests/diseases and take appropriate steps to control them. Ensure irrigation. Start collection of seednuts for raising seedlings.

Odisha: Irrigate the palms. Remove weeds from the garden. Mulch with dry coconut leaves and coirpith for moisture conservation. Collect seednuts from selected mother palms and store them in cool and dry place. Spray the palms affected by leaf eating black-headed caterpillar with 0.02% dichlorvos or malathion 0.05 per cent. Repeat the spraying after an interval of 15 days if the attack is severe. Before spraying, cut down the affected leaves and burn them to prevent further infestation. Alternatively liberate parasites of black-headed caterpillar on the affected palms after 15 days of spraying. Palms on which the parasites have been released should not be sprayed with insecticides as it will kill the parasites also. If the attack of mite is noticed, spray neem oil formulation containing 0.1 per cent Azadirachtin / Neemazal @ 4 ml/ litre of water. The spray droplets are to be directed towards the second to fifth immature



bunches.

Tamil Nadu/Puducherry: If the attack of mite is noticed, spray neem oil formulation containing 0.1 per cent Azadirachtin / Neemazal @ 4 ml/ litre of water. The spray droplets are to be directed towards the second to fifth immature bunches. Spraying has to be done especially on the perianth region of buttons and affected nuts. Wherever spraying is difficult root feeding may be done with Azadirachtin 50% formulation 7.5 ml in 7.5 ml water. Continue irrigation. Treat manure pits and other possible breeding sites of Rhinoceros beetle with 0.01 per cent carbaryl to control grubs. Continue collection of seednuts from selected mother palms and store them in a cool dry place.

Tripura: Irrigation should be continued and the frequency of irrigation should be based on the quantum of rainfall received. Regular irrigation will improve the production of bearing plants.

West Bengal: Continue irrigation. Apply 200 litres of water in basin twice a week depending upon moisture retention capacity of the soil. If drip irrigation is adopted give 70 to 80 litres of water per palm per day. Provide proper shade to newly young seedlings. Mulch the basins with coconut husk, green leaves, dried coconut leaves in 3 to 4 layers

or spread coir pith in six-inch layer for moisture conservation. Harvest mature nuts. Collect the seednuts from the selected mother palms, which are regular bearers and have an annual yield of hundred nuts and above. Store the collected seednuts in shade. Check for the attack of rhinoceros beetle (triangular cuttings in new spindle leaves). Hook out the beetles from affected palms.

Clean the crowns of the palms and fill the top most axils of the palms with 25g sevidol 8G with 250g fine sand at 45 days interval. Treat manure pits once in every three months with carbaryl (0.1 %). If bud rot is noticed remove all the affected portions. Treat the wound with Bordeaux paste or paste of Blitox. Spray the crown with Blitox @ 5g per litre of water or Dithane M 45 @ 2 g per litre of water. To manage eriophyid mite infestation, spray the crowns with 0.1 per cent Azadirachtin (Neemazal) @ 4.0 ml per litre of water.

The spray droplets are to be directed towards the second to fifth immature bunches. Alternately, root feeding with 7.5 ml of Neemazal (5%) dissolved in 7.5 ml of water can also be done. Plough the interspaces and destroy weeds. Grow summer vegetables and flowers like marigold as intercrop. ■

MARKET REVIEW – DECEMBER 2015

Highlights

- The prices of milling copra and coconut oil expressed a downward trend in major markets in the country during December, 2015.
- The international price of coconut oil & copra expressed an upward trend during the month of December 2015 compared to previous month.

The month of December 2015 witnessed a slight declining trend in prices of coconut, copra and coconut oil at all important markets in the country.

Coconut Oil

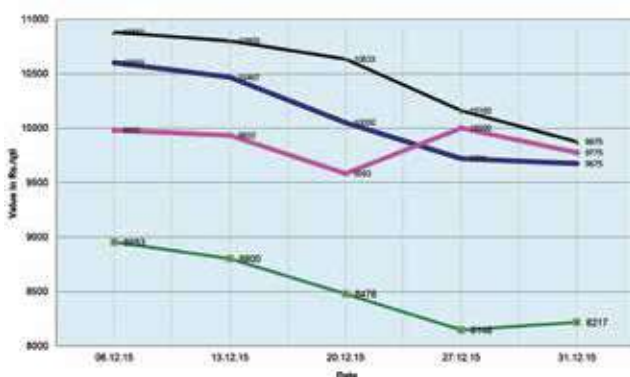
The price of coconut oil which opened at Rs.10,600/- per quintal at Kochi market, declined to Rs. 10,500/- on 7th and thereafter express a steady declining trend and closed at Rs.9,700/- per quintal with a net loss of Rs.900/- per quintal. The price of coconut oil at Alappuzha market which opened at Rs.9,900/- per quintal improved to Rs.10,000/- per quintal on 2nd and ruled steady till 8th. On 9th price declined to Rs.9,900/- and thereafter expressed mixed trend and closed at Rs.9,100/- per quintal with a net loss of Rs.800/- per quintal. The price of coconut oil at Kozhikode market which opened at Rs.10,900/- per quintal expressed a steady declining trend and closed at Rs.9,800/- with a net loss of Rs.1,100/- per quintal. The monthly average price of Rs.10,131/- per quintal at Kochi market, Rs.9,850/-

per quintal at Alappuzha market and Rs.10,512/- per quintal at Kozhikode market were marginally lower than that of previous month and about 24 to 26 percent less than that of corresponding month last year. The monthly average price of Rs.8,540/- per quintal at Kangayam market in Tamil Nadu was marginally lower than that of the previous month and about 30 percent lower than that of the corresponding month last year.

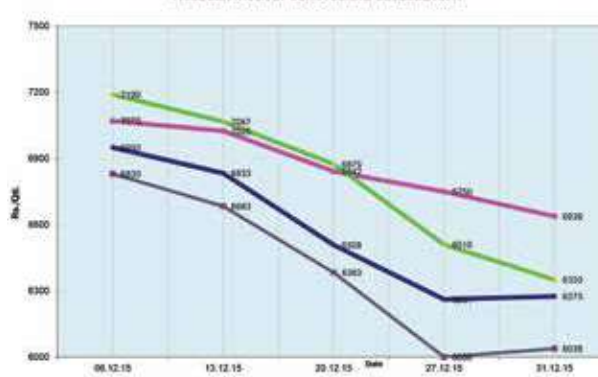
Milling Copra

The price of FAQ copra which opened at Rs.6950 per quintal at Kochi Market, declined to Rs.6850/- on 7th and ruled steady for few days. On 12th price declined to Rs.6750/- and thereafter expressed a downward trend and closed at Rs.6,300/- with a net loss of Rs.650/- per quintal. The price of Rasi copra at Alappuzha market which opened at Rs.6950/- per quintal, improved to Rs.7100/- on 2nd and ruled steady for few days. On 7th, the price declined to Rs.7050/- and thereafter expressed a downward trend and closed at Rs.6450/- with a net loss of Rs. 500

per quintal. The price of office pass copra at Kozhikode market opened at Rs.7,200/- per quintal, expressed a steady downward trend and closed at Rs.6,350/- with a net loss of Rs.850/- per quintal. The monthly average price of Rs.6585/- per quintal at Kochi market, Rs.6879/- per quintal at Alappuzha market and Rs.6829/- per quintal at Kozhikode market were 3 to 5 percent lower than that of the previous month and about 26 percent lower than that of the corresponding month last year. The monthly average price of milling copra was Rs.6,421/- per quintal at Kangayam market in Tamil Nadu, which was 6 percent lower than that of the previous month and about 26 percent lower than that of the corresponding month last year. The monthly average price of milling copra at Ambajipeta market in Andhra Pradesh was Rs.6069/- per quintal and the price was 6 percent lower than that of the previous month and about 20 percent lower than that of the corresponding month last year.



Price behaviour of coconut oil during December 2015



Price behaviour of copra during December 2015

Edible Copra

The monthly average price of Rajapur copra at Kozhikode market was Rs.13635/- per quintal, which was marginally lower than that of the previous month and 30 percent lower than that of corresponding month last year.

Ball Copra

The monthly average price of ball copra at Kozhikode market was Rs.12048/- per quintal, which was marginally higher than that of the previous month and about 32 percent lower than that of the corresponding month last year.

The monthly average price of ball copra at Tiptur APMC market in Karnataka was Rs.11785/- per quintal which was marginally lower than that of the previous month and about 18 percent lower than that of the corresponding month last year. The monthly average price of ball copra at Arsikere APMC market in Karnataka was Rs.10753/- per quintal, which was marginally higher than that of previous month and about 23 percent lower than that of corresponding month last year.

Dry Coconut

The monthly average price of Rs.9277/- per thousand nuts of dry coconuts at Kozhikode market was marginally lower than that of the

previous month and about 15 percent lower than that of corresponding month last year.

Coconut

The monthly average price of partially dehusked coconut at Nedumangad market was Rs.11135/-per thousand nuts, which was marginally lower than that of the previous month and about 22 percent lower than that of the corresponding month last year. The monthly average price of partially dehusked coconut at Arisekere APMC market in Karnataka was Rs.9994/- per thousand nuts, which was 6 percent lower than that of the previous month and also 6 percent lower than that of the corresponding month last year. The monthly average price of partially dehusked coconut at Bangalore APMC market in Karnataka was Rs.15,115/- per thousand nuts, was 8 percent lower than that of the previous month and was marginally higher than that of the corresponding month last year. The monthly average price of Grade-1 quality partially dehusked coconut at Mangalore APMC market was Rs.18000/- per thousand nuts, which was same as that of the previous month and about 12 percent higher than that of the corresponding month last year.

Tender coconut

The monthly average price of Tender coconut at Maddur APMC market in Karnataka was Rs.10,000/- per thousand nuts, which was same as that of the previous month and about 4 percent lower than that of the corresponding month last year.

International

The International monthly average price of coconut oil at Philippines (C.I.F. Rotterdam) market was US\$ 1150 per MT. This was about 8 percent higher than that of previous month and was marginally lower than that of corresponding month last year. The monthly average price of US\$ 739 per MT of copra was 4 percent higher than that of the previous month and about 9 percent lower than that of the corresponding month last year.

The domestic price of coconut oil during the month of December 2015 in Philippines was US\$ 1098 per MT, in Indonesia the price was US\$ 1103 per MT and in Srilanka was US\$ 1772 per MT. The international price of Palm oil was US\$ 552 per MT, Palm kernel oil (RBD) US\$ 832 MT and Soybean oil US\$ 768 per MT during the month of December 2015. ■

Prices of coconut oil, copra and coconut at various marketing centres during December 2015

Date	Coconut Oil (₹/Qtl)				Milling Copra (₹/Qtl)					Edible Copra (₹/Qtl)	Ball Copra (₹/Qtl)				Dry Coconut	Coco-nut	Partially dehusked Coconut			
	Kochi	Alappuzha	Kozhikode	Kan-gayam	"Kochi (FAQ)"	Alappuzha (Rasi Copra)	Kozhikode	Kan-gayam	Ambajipeta		Kozhikode	Kozhikode	Tiptur	Banglore			Arsikere	(₹/1000 nuts)		
															Kozhikode	Nedumangad	Arsikere	Banglore	Mangalore (Grade-1)	
06.12.15	10600	9980	10880	8953	6950	7070	7190	6830	6500	14160	12600	12050	14000	10945	9620	11500	11080	16500	18000	
13.12.15	10467	9933	10800	8800	6833	7025	7067	6683	6367	13417	11783	11667	14000	10261	9400	11167	10667	16500	18000	
20.12.15	10050	9583	10633	8478	6508	6842	6875	6383	5967	13517	11933	12000	14000	10498	9267	11000	10242	15000	18000	
27.12.15	9720	10000	10160	8146	6261	6750	6510	6000	5700	13620	12040	11844	14000	11158	9020	11000	9400	13500	18000	
31.12.15	9675	9775	9875	8217	6275	6638	6350	6038	5700	13500	11938	11303	14000	11128	9000	11000	8000	13500	18000	
Average	10131	9850	10512	8540	6585	6879	6829	6412	6069	13635	12048	11785	14000	10753	9277	11135	9994	15115	18000	

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.