

THEME

NEW HEIGHTS IN EXPORTS

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Export of Indian coconut products soaring to greater heights

Dear Coconut Farmers,

Export of Indian coconut and coconut products (other than coir and coir products) touched Rs. 834.75 crores in 2011-12, registering an increase of 56% over the previous year. Coir and coir products recorded an export value of Rs. 1050 crores. Since, Coconut Development Board becoming Export Promotion Council (EPC) for coconut and coconut products, it is actively promoting export of coconut products and extending considerable support to exporters. More than 800 exporters are now registered with the Board.

This achievement is in spite of the tough competition posed by the other coconut growing countries in South East Asia. Coconut and coconut products command consistent and growing demand worldwide. Major coconut products which command considerable demand globally are: coconut oil, desiccated coconut powder, tender coconut water, virgin coconut oil, fresh coconut, coconut shell charcoal, activated carbon made of coconut shell charcoal and coir and coir products. Major exporters of these products are Philippines, Indonesia, Sri Lanka, Malaysia, Thailand and Vietnam from the South East Asian region. India is lagging far behind these countries in the export of coconut and coconut products (other than coir). The reason is that our production capacity of value added coconut products is far too low compared to other countries. Despite this scenario, India's coconut export sector is picking up.

Globally India is the second largest producer of coconut; having the highest productivity and third position in area under coconut cultivation. Many coconut products record an average export growth rate of 30-35% per annum. Now it is high time to focus on more and more export of value added coconut products. We have the potential; but we do not have the required capacity. The status of the other major coconut growing countries producing innovative value added products from coconut should be a motivating factor to us. Many such products are being imported to India. Getting a clear understanding of these details are essential for riding out of the present crisis. Along with central and state governments, our farmers must also be well informed about these facts. We can have a clear

picture only with continuous updating of relevant global data.

Coconut Development Board is trying to promote value addition through processing of coconut for various innovative products through Technology Mission on Coconut (TMOC). Products like packaged tender coconut water, virgin coconut oil, coconut milk, coconut milk cream, coconut milk powder, desiccated coconut, shell charcoal and activated carbon from coconut shell charcoal etc possess high potential for exports to many developed countries. Our present capacities in these products are very meager compared to our potential.

While discussing about the bright prospects that the export sector offers, we cannot ignore the current crisis that Indian coconut sector is experiencing. It is high time that we must get rid of the notion that coconut is a crop exclusively for making copra and coconut oil. Media is dissembling that the surplus of copra and coconut oil in domestic market is contributing to price fall. We must analyse the unknown and underlying factors that impacts coconut price adversely. Coconut oil price is directly correlated to copra price and that in turn dictates the price of coconut in our country. Other factors such as the edible oil scenario, production, stock, surplus, deficit and import also contribute a great extent in determining price of coconut oil and in turn, price of coconut. Our overdependence on copra coconut oil route for processing and value addition is also a determining factor in coconut price.

Coconut Producer's Societies (CPS) is a recent and novel initiative of the Coconut Development Board in strengthening our small and marginal farmers. Board is targeting to form 3000 CPSs in Kerala, 1000 CPS each in Tamil Nadu and Karnataka and 500 CPSs in Andhra Pradesh by 31st March 2013. 1600 CPSs have already been formed. After formation of CPSs, further integration by federating CPSs to Federations (CPFs) and further to Producer Companies (PCs) is also being attempted. Over a period of next three years, about 100 Producer Companies of coconut farmers is put as the milestone. Initial hesitation seen among farmers in forming CPS is slowly melting out. The present crisis due to price fall in coconut in the midst of price hike in all production inputs warrants the small

farmers to stay united. Some of the CPSs which are into copra procuring are facing various teething problems. These problems must be brought to the notice of Board and to a common platform so that creative solutions can be worked out. Let us ensure that the procurement operations are smooth and hassle free through more involvement of farmers' through their collectives, CPSs-CPFs-PCs.

CPSs are venturing into copra procurement for the first time and it is quite natural that they may come across with many teething troubles in MSP procurement at the initial stage. CPSs must ensure that they are collecting coconut from its members only. Each CPS must maintain a register with the details of its members. It must be ensured that only good quality copra is supplied and the payment to the farmers are made through cheques.

Formation of farmer's collectives, federating them to CPFs and PCs cannot happen over night without sincere efforts to improve their capacity, to identify, address and resolve problems at different levels. Capacity building and human resource developments of the farmer collectives is the need of the hour. Board is extending training to CPS office bearers to conscientise them on the necessity of being united, for working together for their rights and also for maximizing farm revenue. They are expected to accelerate the transition of CPS to the Federation and Producer Companies faster to work for fair and remunerative price, planning for value addition through processing etc. Support of good management institutions and NGOs are being used for conducting such training for capacity building.

It is a welcome trend that serious discussions are now being initiated on Neera and value added products made out of Neera. Processed Neera as nutritious soft drink, concentrate of processed Neera, coconut palm jaggery, coconut palm sugar, organic palm sugar etc are the value added products being manufactured in many South East Asian countries where coconut is cultivated. These value added products are having good and growing demand in the export markets. Countries like Sri Lanka, Philippines, Indonesia, Thailand, Malaysia, Vietnam and China are producing neera based products on a large scale and is making good prospects both through domestic consumption and export. Since the last five years, coconut palm sugar production in Indonesia alone has grown from 11 MTs (2006) to 6 lakh MTs (2011). Out of this 1,44,000 MTs palm sugar was exported.

Coconut Neera is a nutritious and healthy bio beverage which is having immense scope in value addition and export. If an enabling policy is formulated by the state governments, CPSs can venture into producing palm jaggery and palm sugar out of Neera. As a beginning, those CPSs and Federations who have already initiated copra procuring and tender coconut sales may be permitted to start Neera processing. CPSs and their Federations must gather suggestions and opinion of farmers to bring them to the attention of legislators and Members of Parliament for making policies enabling farmers to venture into innovative, value added products from coconut especially Neera and Neera based products.

CPSs and Federations can establish export linkages once they develop their capacity in processing through Producer Companies. The concept of nurturing local fresh products in enhancing the food value chain also need to be explored. Consortium of Producer Companies need to explore markets at national and international level. Initial promotional efforts are possible under TMOC.

Through farmer collectives a well planned strategy can be worked out to adjust/shift production of coconut as per demand and supply. Aggregation of products, farm level processing of coconut to copra, making use of MSP procurement through NAFED etc can be attempted at CPS-CPF levels. 10-15 CPSs together can establish a shell charcoal unit having capacity to process 1 MT coconut shell. Likewise 10-15 CPSs can associate together to start a tender coconut water unit having capacity to process 10,000 tender coconuts per day. CPSs as groups can even venture into the production of other value added products from coconut and can have institutional linkages for marketing. Once Producer companies are coming to the forefront exporting of coconut products can bring in direct benefits to farmers.

I call upon all the CPSs and their Federations to think differently, act differently to venture into more united and concerted efforts to tide over the present difficult times.

With best wishes,

T K Jose



Chairman

Prospects for coconut exports from India

Dr.K.Muralidharan*, Shri.A.V.Ramanathan**

India is one of the leading producers of coconut in the world producing 16 billion nuts per annum. The crop is distributed in 18 states and three Union Territories under different agro-climatic conditions. A large number of coconut products are manufactured in the country which have both domestic and export market.

The status of the world economy

The world economy in the third millennium was significant in many ways. Indian economy began to surge and was put in the league of most favoured nations vis-à-vis growth under BRIC nations. (B-Brazil, R- Russia, I-Indian and C-China). India became a part of the global League of Nations which was poised for centre stage by 2050 A.D.

In spite of the sweeping winds, world economy continues to be in a crisis which has more or less halted the growth in world trade, causing uncertainties of trade imbalance affecting the foreign exchange reserves. For the global economy, August 2011 was watershed year in the world economic scene so much so that a sluggish world economy was set to sink again after close to four years after the onset of the global recession in December 2007.

Besides the never-ending crisis in Europe, one factor explaining this despondency was the fear of a second recession within half a decade. Recovery from the

recession was still sluggish in the US. Japan, that had been experiencing long-term stagnation, had been devastated by a wholly unexpected exogenous shock. France had announced that it had experienced virtually no growth in that quarter. But the real dampener was the release of evidence that the strongest economy in the rich nation's club, Germany was losing all momentum, registering a growth rate of just 0.1 per cent in the second quarter. The real economy crisis had penetrated Europe's core, pointing to the possibility of a return to recession in the Eurozone as a whole (which registered 0.2 per cent growth).

One obvious and important consequence of the global downturn is bound to be a fall in India's export revenues. The European Union accounts for 20.2 per cent of India's merchandise exports and the US for another 10.9 per cent. Thus, markets accounting for close to a third of India's exports are already stagnating or in recession. Only two regions can, hypothetically counter this tendency: Developing Asia (excluding China) and the OPEC countries, the former accounts for a sizeable 23.4 per cent of India's exports and the latter for another 21.1 per cent.

However, most of developing Asia would be adversely affected

Coconut & allied products Gross Domestic Product
GDP from Coconut products which include exports is about Rs 8,500 Cr. Coir industry has a domestic market of Rs 3,000 Cr and exports of Rs 1,050 Cr, making the Gross Domestic Product of Coconut & allied products at Rs 13,000 Cr.

The Indian Economy

With global growth slowing and financial markets experiencing a downturn, the fallout for India is a matter of concern. The channels through which these effects could be transmitted are more in number than conventionally recognized. For India that is now more integrated with the world economy, this has to be bad news. India's past reforms have resulted in its greater integration through flows of goods, services and finance with the global economy causing a blip in its confident trajectory.

by the Organisation for Economic Co-operation and Development (OECD) downturn to a greater extent than India. And unless geopolitical developments intervene, a global recession would moderate oil prices and dampen import demand from the OPEC bloc. Finally, the hope that China would be a balancing force is of less relevance to India since it accounts for just 6.5 per cent of the latter's exports. Overall, India is likely to take a hit in terms of its exports of goods, which has been a source of buoyancy.

India's Export Trade Performance Logistics and port costs

India's exports breached US \$ 300 billion mark in 2011-12, while Commerce Ministry aims at a growth of 15-20% in the current fiscal (2012-13FY) for export trade to reach to US \$ 350 billion. With a dark crowd looming over world trade, and US and European Union still fidgeting in economic crisis, emerging markets look to safe

It has been pointed out that the current policy on major ports regulates only 2.5% of the cost in the logistic chain. Elements of cost involved in moving a 20 feet laden container from Mumbai to New York are 60 % ocean freight, 15% destination delivery charge, 13 % other surcharges during ocean and road transport, 2.5% container

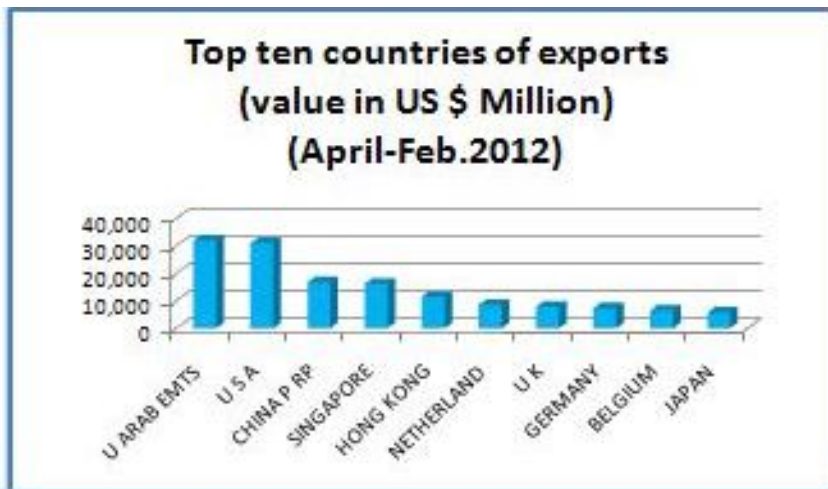
desperation in market to target more exporters with seemingly lucrative deals. Exporters should be very cautious about certain geographical regions which have become a favorite destination for fraudsters. They need to take cover with the Export Credit Guarantee Corporation so as to safeguard their proceeds from getting dissipated through fraud, hence caution must be exercised.

Food Safety Measures

The proliferation and increased stringency of food safety and agricultural health standards is a source of concern among many developed countries either because these countries lack the technical and administrative capacities needed for the compliance or because these standards can be applied in a discriminatory or protectionist manner. This is true of countries like Russia, where they insist that the certificates be issued by certified agencies approved by them. Certain Gulf countries are also demanding Free Commerce Certificate counter signed by their Consulate in addition to the health certificates

Indian Agricultural Sector

Agriculture in India has a long history dating back to ten thousand years. India is holding the second position worldwide in terms of farm output, in the production of wheat, rice, sugar, ground nut, inland fish and the 3rd position in the production of tobacco. India is world's second biggest cooking oil consumer, largest producer of milk, cashew, coconut, tea, turmeric, and



market heavens to garner further business. India had to divert its trade to various new markets and growing markets in Latin America, Middle East, East Africa and Pacific countries through Sea transport with shipments rising from 16.1% leaving behind China at 9.3% in the preceding FY. Comparisons do not reflect the actual measure of growth, as statistics cannot be applied methodically, as China's share of the world trade rose to US \$ 1.9 trillion against India's mute US \$ 0.300 trillion. It should be in absolute terms. Whatever may be the consensus of economists on this issue, India can be satisfied with its export performance which continued in spite of a leaf of constraints and issues.

handling charges at Port, 2.5% Suez surcharge and 2% for stuffing and Custom House Agent (CHA) charges. Ports are for increase in tariffs which would result in congestion in Ports costing \$ 60 to 80 per 20 feet container. These are fundamental issues that need to be resolved with long term benefits in view.

Exercising Caution during Exports

Absence of buyers from market is driving many exporters to accept export orders which they otherwise would have declined for lack of prudential norms. Ironically, this is the time to exercise more caution as fraudsters may exploit present

account for world's one-tenth production of fruits. This sector has a significant 16.6% of the Gross domestic product, and almost 52% of total workforce in India is in the farm sector. Coconut comes under oil seed of tree origin and is placed amongst India's horticulture crops.

Coconut Oil Industry-Export Import Scenario

India has been a dominant importer of edible oils to match the increasing needs of India's consumption which has an import content of 80,00,000 MT during November 2011 to August 2012.

Weak monsoon, which saw actual rainfall at 309.9 mm, a shortfall of (-)22% (Departure from Long Period Average) against a normal rainfall of 395.6 mm would cause further depletion of productivity of oil seeds in the Kharif season which would affect the overall contribution to the domestic edible oil content from primary and secondary sources.

We need to plan for meeting internal consumption demand through increasing domestic productivity instead of resorting to sourcing edible oil from neighboring South Asian countries. As against, a long term Policy, we often permit exports and suddenly slam breaks by banning exports which we do, saying that step is imperative to rein in food inflation.

For the last three years, Government has been allowing export of 10,000 tones of branded edible oil packaging up to 5 Kg which was in force between 28-9-2011 to 31-10-2012 which has been

withdrawn through Notification No 9 (RE 2012)/2009-14 dated 1st August 2012 by nullifying the Paragraph (4) of Notification No 77 dated 28-9-2011. However, export of coconut oil through Kochi port continues as no restriction has been placed on its export movement. Import of Palm oil, RBD Palmoilein, etc. are prohibited through any Kerala port. Therefore, even through prohibition of edible oils in Chapter 15 of the Harmonized Code of Nomenclature is in force, the DGFT has continued to place coconut oil export free from complete ban. Food inflation continues to threaten the economy, with lower demand and lower consumption. As for edible oil prices, we are slowly moving from slow consumption season to a peak season, the price pressures have not dwindled due to the fact that Indian currency is in devaluation compared to the weak Dollar (\$) as attested by the average difference in price of \$1=INR 44.81 to 55.94 (November 2011 to June 2012). As our BPL to APL movement would see consumption and demand moving up we will see fragility in our domestic demand and supply constrained as it is due to inflationary trends already bisecting growth projections.

Coconut oil imports (Chapter 15) and copra import (Chapter 12) is governed by Para 2.11 of the Foreign Trade Policy, and can be imported only through the state trading corporation. The imported coconut oil need to be re-exported within 90 days as per Appendix 30 A of the Handbook of Procedures. For import of copra, since it is not

included in the Standard Input: Output norms, adhoc norms have to be obtained which in the annual supplement (2012-13) makes it valid for one year instead of one and only transaction allowed as per the Policy of 2009-14. During the year 2011-12, total imports of coconut oil has been to the extent of 3,400 MT tonnes valued at Rs.3,000 lakhs according to Director General of Commercial Intelligence & Statistics, Kolkata.

Export of copra was around 17,500 MT tonnes valued Rs 115 Cr in 2011-12 as against 17,000 MT valued Rs.88 Cr. The value increase of copra in the last financial year can be attributed to higher Rupee devaluation.

Tender Coconut Water

India's total production of coconuts is in the vicinity of 16,000 million nuts, amongst which more than 2,500 million nuts is tender coconuts which can be branded as a sports drink for which there exist abundant markets.

Tender coconut water has a Harmonized Code of Nomenclature as 2202 90 90. Central Board of Excise, Customs had announced an abetment of 35% of retail price (Noti: 11/2011-CE (NT) dt 24-3-2011) and only 65% of the MRP is brought under Central Excise. The levy is fixed at 10%. Tender coconut water has been brought under the Focus Product Scheme (Appendix 37-D of HBP, VolII) hence eligible for 2% on f.o.b. value.

Grace Kennedy, Halifax, Nova Scotia, Jamaica, was selling tender coconut water in canned format

through their exclusive multi brand stores set up across Caribbean islands. Now this company has come forward to promote tender coconut water from Sri Lanka in tetra packs through their outlets under an exclusive right obtained from Sri Lankan Coconut Board, according to the Cocommunity XLII issue No.5 dated 1st May 2012.

In America, the minimum size of the pack is 330 ml while Indian firms are packing the water in 250 ml pet bottles and tetra packs. What is required in the export market is durable packaging and longer shelf life of at least 180 days.

The tender coconut water of Indian coconuts is sweeter than those of the other coconut producing countries. If a multinational company with a pan world presence can set up a unit here, with its next generation processing, packaging equipment and through its existing market set up it can become a world leader apart from seizing the domestic market opportunity and also that of the neighboring countries like Pakistan, Bangladesh, Sri Lanka and China.

Desiccated Coconut

There are a large number of units in India which are into manufacturing desiccated coconuts. There is a growing cluster in Tiptur of Tumkur district of Karnataka,



where more than 50 manufacturers are into manufacturing of desiccated coconut.

Arasikere, an important coconut centre is also close-by which has abundance of coconut and coir based industries. There are good numbers of desiccated coconut manufactures in Tamil Nadu as well.

The desiccated coconut industry performed very poorly during 2010-11 due to a number of reasons. However, they have regained their grip over export markets, when they were able to export four times their volume of desiccated coconut in 2011-12 with 5500 MT valued Rs 25 Cr against 1000 MT @ Rs 9.50 Cr of the previous year.

Shell based charcoal

Both Coimbatore district and newly formed district of Tirupur in Tamil Nadu, continues to be the mainstay of manufacturing of coconut shell charcoal, which has well spread in over the activated carbon industry. With higher growth in the entire segments of the user industry like shell powder, shell charcoal and activated carbon, coconut shell industry is active and is in great demand.



However, positioned as they are, in the un-organized sector, their method of production being highly traditional, they are subjected to

constant watching by the Pollution Control Board for any violation of air and water pollution. They need to be brought under organized set-up, provided institutional finance and subsidy in the form of grant for setting up cluster with common facility centres. The technology is available to make zero level discharge of pollutants from the manufacturing end. Against open pit manufacturing method, they would be able to harness the discharged air which could be converted to steam and energy and used for drying coconuts. This needs a priority approach, as large number of people in Kangayam, Dharapuram, and at other villages in Erode and Salem districts depend on coconut shell industry for their livelihood.

Activated carbon manufacturers are complaining about the non availability of quality charcoal for their activated carbon manufacturing plants, and if a market linkage is forged, the entire quantities of charcoal can be easily absorbed by the end user, the activated carbon export industry. CDB can play the part of the catalyst by which an effective market linkage can be established between the un-organized traditional charcoal manufacturing units and activated carbon manufacturers so that all the discerning players can be brought under an organized umbrella.

Apart from the domestic demand, shell charcoal accounted for export of 27,500 MT and was able to nett Rs.75 Cr in foreign exchange. The industry is slated for



penetrative growth, provided, it is positioned properly to bag sizable high value orders.

Oil Cake (Solvent/expeller)

This sector has been performing very poorly, even though due to increase in the livestock and animal population, countries are in the importing mood of oil cakes to feed the animals. There is a huge domestic as well as export demand. It may perhaps be noted that, 32% of copra extracted consist of oil cake meals, and if we are properly able to go in for a brand, there would be a market push of infinite proportions in the domestic as well as export markets.

Activated Carbon

There exists huge markets for activated carbon in North America, South America, Eastern Europe, Southeast Asia, Africa, Oceania, Mid East, Eastern Asia, Western Europe, North America, South America, Eastern Europe and Western Europe. Quantity of India's exports of coconut shell based activated carbon was to the extent of 38,500 MT valued at Rs 347.60 Cr. It is a high value premium product manufactured by the coconut industry and has an incremental annual growth rate of 15-18%. There are about 20 companies manufacturing high

grade activated carbon in Tamilnadu, Kerala, and Karnataka.

Coconut shell particles

Coconut shell particles can be used to improve properties of epoxy polymer composite which is used in eco building. Coconut shell is organic in nature. The shell has high abrasion resistant properties that are long standing in use. Its small macro pores structure renders it more effective for absorption of gas, vapour and for the colour, oxidants, impurities and odour of the compounds. Epoxy resin has a market of US \$ 15 billion worldwide with China's share being 30% of the market.

Diversification to New products

Particle Board

Ever since the Swedish furniture giant IKEA proposed an investment of Rs 10,500 Cr in India, which is into manufacturing products with multiple natural boards instead of exclusively using plywood, wood etc, the Particle Board industry from natural fibres have been looking up to exploit the expertise of the retail giant who will be making foray into big cities through its chain stores which would give consumers a flavour of boutique store experience.

The Particle Board industry, according to Particle Board industry Association, United States, is in the region of 69.9 million cubic meters in 2009, intending to go up to 84.1 million cubic meters in 2013. Downturn in housing construction sector followed by sub prime mortgage crisis of United States has seen a slight dip, but upward phase of construction activity in Asia and Europe, will cause higher capacity utilization contributing to growth. Malaysia, Russia, India, Indonesia, Vietnam, Brazil and turkey are reported to have set up plants for particle Boards. IKEA and Fantastic Furniture groups see extraordinary scope for the growth of the furniture industry and for the use of the particle boards in furniture industry. Coconut soft wood and fronts offer good scope for conversion to particle boards.

Coconut Timber Utilization

According to studies conducted in Philippines, Australia, Fiji, Samoa (ACIAR) and India, which has gone into the development of economic value of coconut wood, the coconut trunk can be used as a value added product for ship building materials (flooring) and for making furniture. Producers value added making from coconut wood should seriously

S. No.	Segment	Density	Uses
1	Lower Stem	Hard	Flooring, Trusses, Floor Joists, Staircase Components, Door Panels, Rafters, Window Jamb and Sidings, handicrafts
2	Middle Stem	Medium Hard	Exterior Wall Panels, Ceiling, Studs, Purlins and Roof Shingles, other utility items.
3	Top Stem	Soft	Panels and Interior Partition Walls, cabinets etc.

consider the structure and density variation of coconut wood stem. The variation in density necessitates a programme to manufacture various end-use products based on this particular feature.

The following table shows the density segment of a coconut stem recommended for different uses as coconut lumber product, for building construction.

As a rule, it is suggested that coconut wood with density below 400 kg/m³ should not be used as load bearing structural components but only in the internal parts of a building such as ceilings and wall linings in the form of boards and wall paneling.

Foreign Direct Investment

The bank loans which have high interest rates increases the pricing exorbitantly. The exchange rate that is the rupee rate's parity with the Dollar need to be controlled through Exchange Control mechanism, otherwise, pricing in dollar will go haywire, which Indian exporters cannot sustain because of the already heavy burden of high interest rates, transaction costs adding to the invoice value. External Commercial Borrowing also become cumbersome hence the exchange rate should be favourable to the trade. Infusion of Foreign Direct Investment is the only way by which new capital investments can be drawn to the sector which would be co-terminus with the development of the supply chain, which would reduce idle capacity in the small scale industry which supplies semi finished products to the export manufacturing industry.

Foreign Direct Investment in some of the coconut manufacturing value added industry like manufacturing facilities for packaged coconut juice/coconut water, activated carbon, particle board, and medium density fibre board out of coconut trunks, using coconut shell carbon properties to increase the tensile strength of epoxy polymer with JVs with indigenous manufacturer companies/ units, would enable flow of capital as well as technology infusion to garner higher productivity with possible buy-back.

Cost of institutional funds which in the fluid market conditions and studded economic growth times is not conducive for investment into new ventures. Capital being scarce, yet available, needs to be accessed for coconut value-added product sector need to make a growth profile.

Future of the Industry

Indian coconut industry needs to diversify to new products including the use of coconut timber, which can maximize its utility and consumption and export. This could supplement the furniture industry which lacks raw materials due to felling of forests, trees, etc. The time has come when the coconut export segment needs to restructure as the demand and supply for coconut value added products have been growing steadily.

Now that the coconut is considered a healthy food, there is a shift in the market towards high-valued food uses for the coconut such as tender coconut water,

coconut milk, spray dried coconut milk, coconut vinegar and virgin coconut oil (VCO). Although this would put added pressure on supplies, it should serve to strengthen coconut prices to the benefit of the grower who should get a higher price for his coconuts in the long term. This would serve as a great incentive to the farmer to continue and expand coconut production.

The husk market is growing for coir production to be used mainly in the processing of geo textiles. These are used in mattresses and car seat upholstery. China and India together are leading consumers of coir fibre as well as rubberized coir made from it. Rubberized coir is the most valuable product which could be made from coconuts and it is sure to attract serious investment in the future.

Coconut industry needs to tackle the low tide of trade flows with seizing opportunities of export tide to overcome mismatch in its demand supply graph. Leveraging the consistent opportunities when different countries continue their laid back attitude to let the weakness pass is a good attitude that will pay.

With the expanding coconut-derived product base and the development of successful commercialized technologies, it is inevitable that new markets would evolve. Therefore the outlook for the coconut industry is bright and conducive for growth.

**Director, ** Export Consultant,
Coconut Development Board*

Quantum Jump in Coconut Product Exports

K.S. Sebastian

The export sector of Indian economy made comprehensive progress over the last decade. Despite the slowdown in the global economy, the Indian export sector has shown a commendable growth in its exports in the past years. Exports in India account for a major share of the country's GDP. The latter half of the financial year that ended in March 2012, however, showed a decline in export growth as compared with the first half. This decline in the value can be attributed to the fierce competition that it had to face from industries across the globe. The overall statistics suggest that the Indian exports grew considerably across all major exporting destinations.

India's total export value was to the tune of US\$303.7 billion in 2011-12, recording an increase of 20.9% compared to the previous year. Similarly, export value recorded an increase of 40.5% during the year 2010-11 compared to that of 2009-10. Even though the first half of 2011-12 witnessed good performance, it could not be sustained during the second half on account of the economic recession in Europe and America. The fall of Rupee against Dollar and withdrawal of certain export incentives offered by the Government of India have added fuel to the fire. On the import front, India's import value has grown upto US\$ 488.6 billion in 2011-12, registering an increase of 32.1% over the previous year. The import growth in 2010-11 was only 28.12%.

India has registered outstanding performance in the export of coconut and coconut based products during 2011-12. The country's export reached Rs.834.75 crores in 2011-12, registering an increase of 56%. However during 2010-11 the increase in export was only 23.6%. The export of coconut and its products, excluding coir and coir products was quite negligible till five years ago. The export of coir and coir products alone exceeded Rs.1050 crores in 2011-12. Moreover, some of the coconut based products which did not figure much in exports earlier have come to take prominence as export earners. India's coconut export

Coconut

India's export of coconut until 2006-07 was below Rs.10 crores. But later on it improved progressively and has reached 200 crores in 2011-12. It is expected that the export of coconut will grow further in the coming years. Sri Lanka was the major exporter of coconut into the gulf markets. But the recent decline in coconut production in Sri Lanka has caused the product to become dearer thereby adversely affecting the export competitiveness of that nation. Further to this, the restrictions and ban imposed by Sri Lanka on coconut exports with a view to protect its domestic coconut based industries have created a

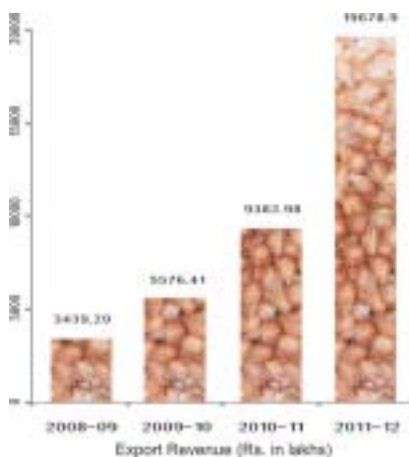
Table 1. Product wise details of country's export earning (2008-09 to 2011-12) (Value in Rs. lakhs)

Products	2008-09	2009-10	2010-11	2011-12
Raw Coconut	3,439.29	5,576.41	9,382.98	19,678.90
Desiccated Coconut	458.88	464.16	952.69	2,435.28
Coconut oil	5,841.23	4,002.95	3,991.83	7,281.61
Coconut Meal	9.89	41.40	0.66	2.86
Coconut Shell	183.19	304.00	173.74	267.15
Shell Charcoal	2,449.39	2,429.53	3,019.59	7,497.21
Copra	5,598.63	9,147.36	9,493.52	11,552.22
Activated Carbon	15,000.00	21,262.62	25,550.00	34,760.00
Total	32,980.50	43,228.43	52,565.01	83,475.23

basket now comprises of an array of products like activated carbon, coconut, copra, coconut oil, desiccated coconut, coconut shell charcoal etc. The product wise details of country's export from 2008-12 is given in Table 1.

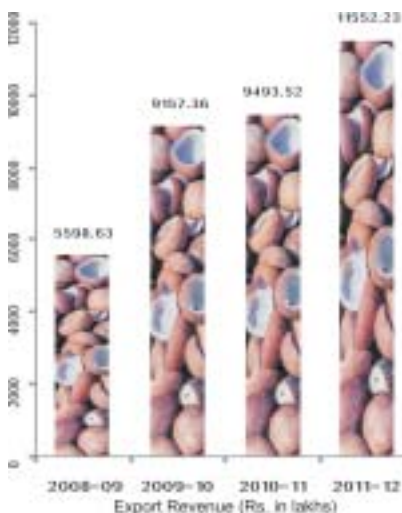
Quantity and export earnings from coconut (2008-09 to 2011-12)

Year	Qty (M.T)	Export Revenue (Rs in lakhs)
2008-09	16608.60	3439.29
2009-10	25401.46	5576.41
2010-11	32934.60	9382.98
2011-12	52246.60	19678.90



Quantity and export revenue from copra (2008-09 to 2011-12)

Year	Qty (M.T)	Export Revenue (Rs in lakhs)
2008-09	13701.00	5598.63
2009-10	23268.30	9157.36
2010-11	30241.74	9493.52
2011-12	17741.57	11552.23



favourable opportunity for Indian coconut exporters.

Many Indian entrepreneurs are coming forward to make use of this opportunity. Coconut Development Board has been designated as Export Promotion Council with effect from 1st April 2009. More than 300 entrepreneurs, mainly from Tamil Nadu, Kerala, Maharashtra, Karnataka and Gujarat have registered with the Board for exporting coconut alone. Most of the exporters depend on Tamil Nadu for sourcing their requirement. Sufficient availability, lower prices and higher percentage of nuts meeting export specification (greater than 600gm) are the factors that prompt exporters to depend more on the Tamil Nadu farms for procurement. It is expected that, once the newly formed CPSs and Federations become active in the field, the exporters can depend their own respective states for procuring nuts. In the prevailing scenario the nuts for export will fetch at least 50% higher price for the farmer over the market price and hence CPSs can be relied on to initiate suitable action.

Copra

Even though a decrease in the

quantity of export of copra (41%) is observed, an increase of 22% is recorded in the value of copra export. The high domestic prices that prevailed in 2011-12 badly affected the export of copra during the year. The highest share of Indian copra export is to Bangladesh. Copra is exported in a big way to Pakistan also. But these may not reflect in the official export statistics. India is not in a position to explore the Pakistan markets as Sri Lankan products can be imported in Pakistan with zero duty. India too can export coconut products to Pakistan in bulk if the country gives India the ‘MFN Status’. At present, Indian coconut products enter Pakistan mainly through Dubai. This affects the competitiveness of Indian products. Presently copra is getting only 2% incentive under the Focus Product Scheme. A further growth in copra export is possible if it is included

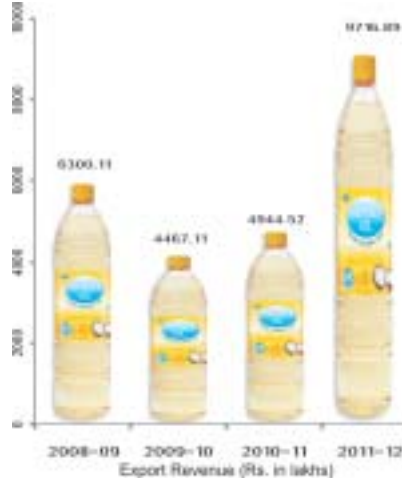
under the Vishesh Krishi Grama Udyog Yojana (VKGUY) scheme and is given 5% export incentive as the product is absolutely a farm product like coconut, coconut shell, coconut oil and oil cake.

Coconut Oil

Since the domestic price of coconut oil was ruling above the international price, India could not make much headway in coconut oil exports. But there are nominal exports due to its premium quality and its usability as unrefined edible oil. The circumstances are now favourable for coconut oil export as the difference between the domestic and international prices of coconut oil is very narrow. Since the government of India has banned the export of edible oils, export of coconut oil is presently allowed only through the Kochi port. The exporters from Tamil Nadu, Goa, Maharashtra and West Bengal have to depend on Kochi Port for

Quantity and export revenue from coconut oil (2008-09 to 2011-12)

Year	Qty (M.T)	Export Revenue (Rs in lakhs)
2008-09	12027.87	6300.11
2009-10	7131.04	4467.11
2010-11	8440.82	4944.52
2011-12	11077.42	9716.89



coconut oil export at present which leads to a decline in the competitiveness of Indian exporters in international markets. The product being banned for export, the chances of obtaining government's export incentives are precluded. If the ban on export of edible oil is removed coconut oil would also get 5% incentive under VKGUY and 1.8% under DDB. In this case India could have made a quantum jump in its coconut oil export.

Virgin Coconut Oil

A marginal increase is observed in the export of virgin coconut oil over the last few years. However, the exact export details of virgin coconut oil are not available as both coconut oil and virgin coconut oil have the same ITC (HS) Code. Coconut Development Board has requested the Government of India to allot a separate code for virgin coconut oil and also to grant export incentives to this product. It is understood that the request of the Board is being considered favourably. In the event of a favourable decision by the government, VCO will not be affected by the ban on edible oils and can also avail more export incentives. Since VCO is having good demand and high price in the international market, a leap in the export of VCO is expected in the coming years. Even though there are a good number of enquiries for organic coconut oil, we could not make any remarkable advancement in organic coconut oil exports as there are only a few organically certified coconut gardens. As many islands in Lakshadweep are expected to get organic certification soon, we can hope for a substantial increase in India's organic coconut oil export.

Activated Carbon

India holds the first position in the global export of activated carbon. Philippines, Indonesia, Sri Lanka and Malaysia are the other countries exporting activated carbon. In 2011-12 India exported 38500 metric tonnes of activated carbon valued at Rs.347.60 crores. Since the use of activated carbon is going up in the developed countries, it is assumed that Indian export of activated carbon will grow further. Presently there are less than 20 activated carbon manufacturers in India. The units are mostly located in Tamil Nadu, Karnataka and Kerala. Since activated carbon is classified under miscellaneous chemicals, it is getting the benefits under the Focus Market Scheme only. Since activated carbon is mainly exported to developed countries, exporters do not get the

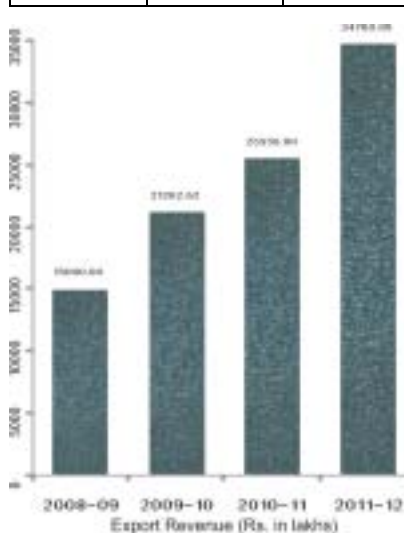
benefit of export incentives in most cases. Coconut Development Board has requested the Government of India to classify activated carbon as an agricultural product so that the product could become eligible for incentive under VKGUY or Focus Product Schemes. If this recommendation is approved the export of this product will certainly go up.

Desiccated Coconut

An increase of 30% is recorded in the export of desiccated coconut in 2011-12 while compared to the previous year. In terms of value, the increase in export of desiccated coconut is 156%. Although the price of desiccated coconut ruled high throughout 2011-12 in the domestic market, the export of the product to the Gulf countries was high. With the setting up of desiccated coconut units of

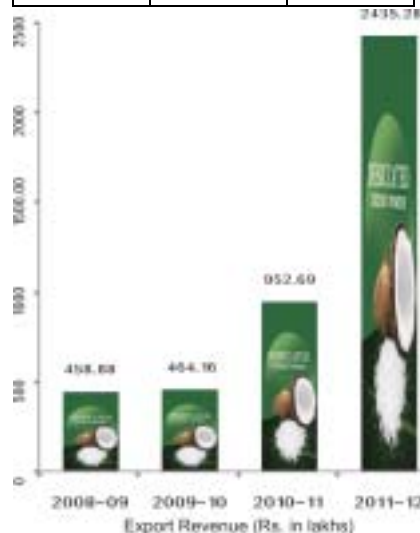
Quantity and export revenue from activated carbon (2008-09 to 2011-12)

Year	Qty (M.T)	Export Revenue (Rs in lakhs)
2008-09	26000.00	15000.00
2009-10	36855.21	21262.62
2010-11	38712.12	25550.00
2011-12	38500.00	34760.00



Quantity and export revenue from desiccated coconut powder (2008-09 to 2011-12)

Year	Qty (M.T)	Export Revenue (Rs in lakhs)
2008-09	2173.29	458.88
2009-10	2050.06	464.16
2010-11	4184.73	952.69
2011-12	5442.08	2435.28



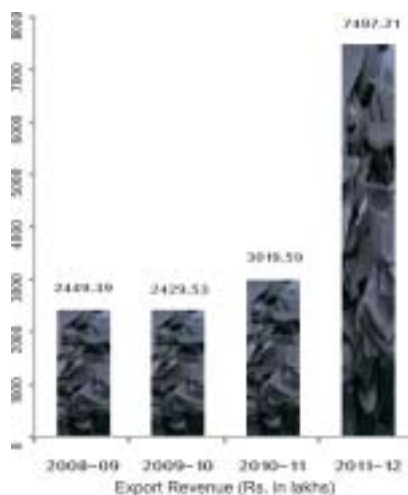
international standards with the assistance of Technology Mission on Coconut in different parts of the country, the export of this product can be expected to grow further in the coming years. If the American and European markets are targeted for the export of high quality product it will not be too much of a job to increase export of this considerably.

Coconut Shell Charcoal

The coconut shell charcoal industry has witnessed an increase of 73.69% in quantity and 148.29% in terms of value in 2011-12 as compared to the previous year. Even though the domestic price of

Quantity and export revenue from shell charcoal (2008-09 to 2011-12)

Year	Qty (M.T)	Export Revenue (Rs in lakhs)
2008-09	17279.00	2449.39
2009-10	39938.00	2429.53
2010-11	15862.00	3019.59
2011-12	27550.91	7497.21



coconut shell charcoal is higher in India than any other coconut growing country, the high quality of the Indian product puts it in high demand in international market for making the best quality activated

carbon. Since most of the traditional activated carbon units are on the verge of closure due to pollution control problems, and as there are very few units which have adopted modern technology, there is little chance for any considerable increase in the export of shell charcoal in the coming years.

Packaged tender coconut water

A good increase in the export of packaged tender coconut water was recorded in 2011-12. The export revenue from tender coconut water for 2010-11 was below Rs. 1 crore while it has grown up to Rs. 2 crores this year, registering an increase of more than 100%. If the product is made available in attractive packs of 330ml and above, targeting the American market, this product will undoubtedly make big strides in the export arena. It is a welcome trend that some exporters have already started working towards this end.

Coconut Product Exporters

There has been a considerable increase in the number of exporters in the field of coconut during the past three years. Nearly 800 exporters have already registered with the Export Promotion Council of the Board. The number of exporters is expected to touch 1000 by the end of this financial year.

Export in the coming years

India's coconut export sector does have bright prospects in the coming years too. The prevailing recession in America and Europe may affect the export of activated carbon. At the same time, Indian activated carbon retains its high potential for export on account of its high quality. Since the Gulf countries continue to be the major export destinations and as there is hardly any difference between the domestic and international prices of most of the coconut products it is certain that India's coconut export will cross Rs.1000 crores in 2012-13.

Asst. Marketing Officer, CDB

Benefits for the Coconut industry

ITC HS Code	Products	Scheme benefit in percentage of FOB Value	Scheme benefit in percentage of FOB Value
0801	Coconut, fresh or dried, Desiccated Coconut, other	VKGUY (5%)	DDB (1%)
12030000	Copra	FPS(2%)	DDB(1%)
1404 90 60	Coconut shell unworked	VKGUY(5%)	DDB (1%)
	Coconut shell, worked	FPS (2%)	DDB (1%)
1513 11 00 1513 19 00	Coconut Copra Oil	VKGUY (5%)	DDB (2%) DEPB % ,2%, 1.5%
	Oil cake, oil meal	VKGUY (5%)	DDB (1%)
3802 10 00	Activated Carbon		
3401 11 10	Ayurvedic Toilet soap having 67% TFM content and Coconut Fatty acid not less than 50%		DDB (6%)
4402 90 10	Coconut shell charcoal		
9614 00 00	Coconut hookah	VKGUY (5%)	DDB (1%)
2202 90 90	Tender coconut Water	FPS (2%)	

Coconut sector is also eligible for Focus Market Scheme for export of various Coconut products to indicated Focus markets in Appendix 37- B of the Handbook of Procedures, Vol I. VKGUY= Vishesh Krishi Gram Udyog Yojana (App: 37 B, HBP, Vol I); DDB (Duty Drawback) FPS (Focus Product Scheme)(37 D of HBP, Vol I)

Major coconut products traded world wide

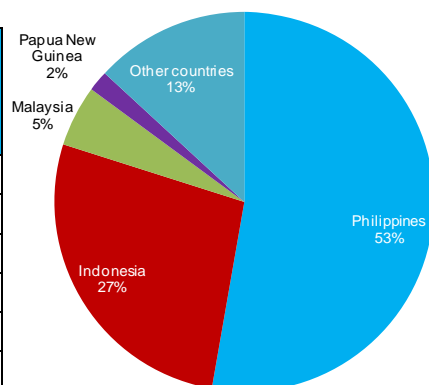
Philippines, Indonesia, Sri Lanka, Malaysia, Thailand and India are the major coconut products exporting countries. The major coconut products barring coir and coir

products are coconut oil, desiccated coconut powder, activated carbon, copra meal, copra, shell charcoal, fresh coconuts, coconut milk and coconut milk powder. Contribution

of major coconut growing countries in the export of major coconut products during the year 2010 is given below.

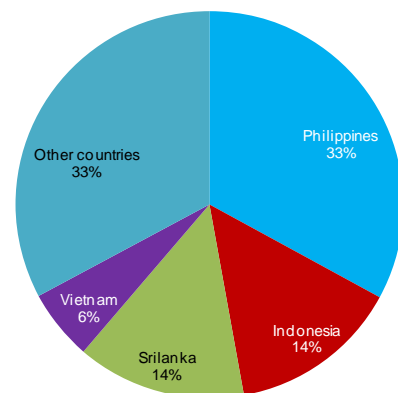
Exports of coconut oil 2010 (in MT)

Sl. No	Country	2010	% contribution	Value (in 000 US\$)	Value (in crores INR)
1	Philippines	13,42,500	52.72	11,25,214	5626.07
2	Indonesia	6,92,500	27.19	5,66,068	2830.34
3	Malaysia	1,31,600	5.17	1,40,882	704.41
4	Papua New Guinea	45,300	1.78	1,23,455	617.28
5	Other countries	3,34,703	13.14		
	Total	25,46,603	100.00		



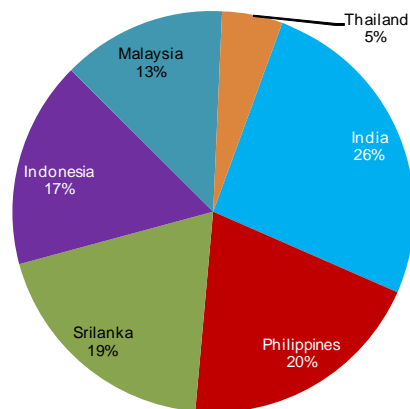
Exports of Desiccated Coconut 2010(in MT)

Sl. No	Country	2010	% contribution	Value (in 000 US\$)	Value (in crores INR)
1	Philippines	1,09,170	32.94	110,240	551.20
2	Indonesia	47,065	14.20	48,238	241.19
3	Sri Lanka	46,905	14.15	47,616	238.08
4	Vietnam	19,600	5.91	20,000	100.00
5	Other countries	1,08,657	32.79		
	Total	3,31,397	100.00		



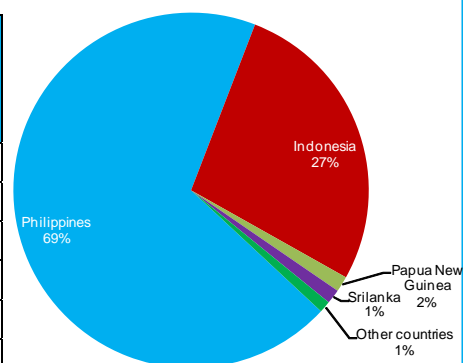
Exports of activated carbon 2010(in MT)

Sl. No	Country	2010	% contribution	Value (in 000 US\$)	Value (in crores INR)
1	India	38,712	26.02	51,100	255.50
2	Philippines	29,572	19.88	40,692	203.46
3	Srilanka	28,782	19.34	47,812	239.06
4	Indonesia	24,791	16.66	27,744	138.72
5	Malaysia	19,732	13.26	23,862	119.31
6	Thailand	7,200	4.84	15,649	78.25
	Total	148789	100.00		



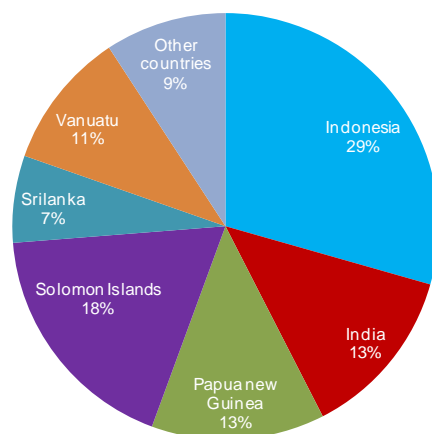
Exports of copra meal 2010 (in MT)

Sl. No	Country	2010	% contribution	Value (in 000 US\$)	Value (in crores INR)
1	Philippines	7,24,400	68.94	78,322	391.61
2	Indonesia	2,86,400	27.26	25,488	127.44
3	Papua New Guinea	14,600	1.39	7,575	37.88
4	Sri Lanka	14,200	1.35	2,539	12.70
5	Other countries	11,100	1.06		
	Total	10,50,700	100.00		



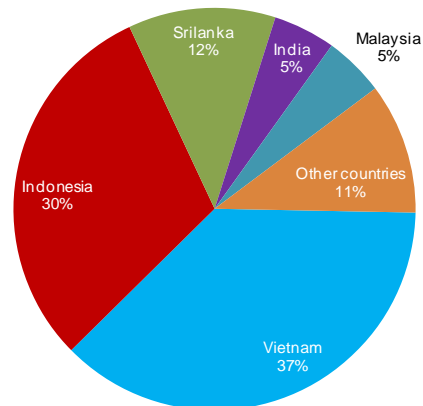
Exports of copra 2010 (in MT)

Sl. No	Country	2010	% contribution	Value (in 000 US\$)	Value (in crores INR)
1	Indonesia	38,000	29.39	11,451	57.26
2	India	16,927	13.09	16,037	80.19
3	Papua new Guinea	17,000	13.15	28,908	144.54
4	Solomon Islands	23,466	18.15	11,055	55.28
5	Sri Lanka	8,500	6.57	1,220	6.10
6	Vanuatu	13,500	10.44	6,363	31.82
7	Other countries	11,900	9.20		
	Total	1,29,293	100.00		



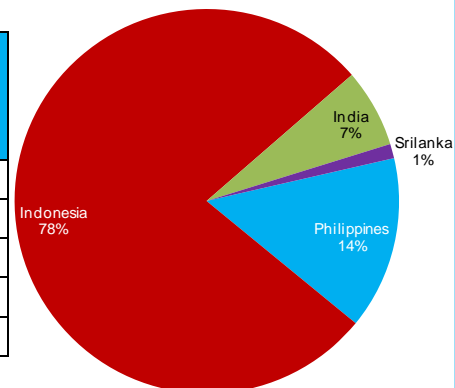
Exports of fresh coconuts 2010 (in MT)

Sl. No	Country	2010	% contribution	Value (in 000 US\$)	Value (in crores INR)
1	Vietnam	122,767	37.11	24,553	122.77
2	Indonesia	1,00,119	30.26	14,618	73.09
3	Sri Lanka	38,911	11.76	11,212	56.06
4	India	16,578	5.01	11,409	57.05
5	Malaysia	16,016	4.84	2,365	11.83
6	Other countries	34,460	10.42		
	Total	3,30,861	100.00		



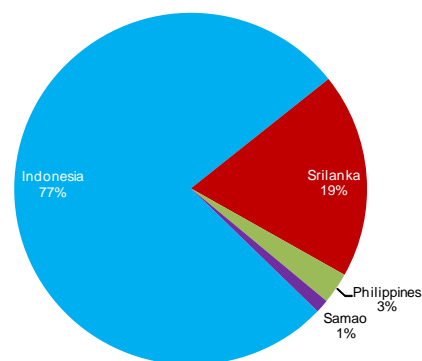
Exports of coconut shell charcoal 2010 (in MT)

Sl. No	Country	2010	% contribution	Value (in 000 US\$)	Value (in crores INR)
1	Philippines	35,000	14.54	11,190	55.95
2	Indonesia	1,86,910	77.67	64,920	324.60
3	India	15,862	6.59	5,490	27.45
4	Sri Lanka	2,873	1.19	1,123	5.62
	Total	240645	100.00		



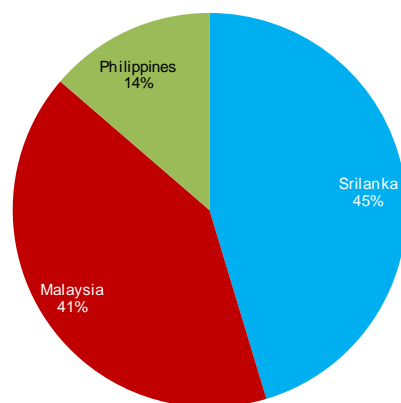
Exports of coconut milk/cream 2010 (in MT)

Sl. No	Country	2010	% contribution	Value (in 000 US\$)	Value (in crores INR)
1	Indonesia	29,898	77.05	27,660	152.13
2	Sri Lanka	7,319	18.86	10,419	57.30
3	Philippines	1,119	2.88	1,984	10.91
4	Samao	467	1.20	2,142	11.78
	Total	38803	100.00		



Exports of coconut milk powder 2010 (in MT)

Sl. No	Country	2010	% contribution	Value (in 000 US\$)	Value (in crores INR)
1	Sri Lanka	3,817	45.34	15,566	85.61
2	Malaysia	3,447	40.95	10,277	56.52
3	Philippines	1,154	13.71	3,133	17.23
	Total	8418	100.00		



Tariff and Trade Policy on Edible Oils since 1994

April, 1994: Import of RBD Palmolein placed on OGL with 65 per cent import duty.

March, 1995: Import of all edible oils (except coconut oil, palm kernel oil, RBD palm oil, RBD palm stearin placed on OGL with 30 per cent import duty.

1996-97: (in regular Budget): Reduction in import duty to 20 per cent. With 2 per cent special duty of customs, the total duty to 22 per cent. Another special duty of custom of 3 per cent was later imposed bringing the total duty to 25 per cent.

July, 1998: Import duty further reduced to 15 per cent.

1999-2000 (Budget): Import duty raised to 15 per cent (basic) plus 10 per cent (surcharge) bringing total import duty to 16.5 per cent.

December, 1999: Import duty on refined oils raised to 25 per cent (basic) plus 10 per cent (surcharge), that is 27.5 per cent. In addition, a levy of 4 per cent of Special Additional Duty (SAD) imposed on refined oils.

June, 2000 Import duty on crude oils raised to 25 per cent (basic) plus 10 per cent (surcharge), that is 27.5 per cent,

and on refined oils to 35 per cent (basic) plus 10 per cent (surcharge) plus 4 per cent (SAD), that is 44.04 per cent. Import duty on Crude Palm Oil (CPO) for manufacture of vanaspati retained at 15 per cent (basic) plus 10 per cent (surcharge), that is 16.5 per cent.

November, 2000: Import duty on CPO for manufacture of vanaspati raised to 25 per cent and on crude vegetable oils to 35 per cent. Import duty on CPO for manufacture, other than of vanaspati, raised to 55 per cent. Import duty on refined vegetable oils raised to 45 per cent (basic) plus 4 per cent SAD, that is 50.8 per cent. Import duty on refined palm oil and RBD palmolein raised to 65 per cent basic plus 4 per cent SAD, that is 71.6 per cent.

March, 2001 As amended on April 26, 2001: Import duty on crude oils for manufacture of vanaspati/refined oils by importers registered with Directorate of VVO&F raised to 75 per cent (for others, duty at 85 per cent) except on soyabean oil, rapeseed oil and CPO, at 45 per cent, 75 per cent and 75 per cent (?????), respectively. Import duty on refined oils including RBD Palmolein raised to 85 per cent (basic) except in the cases of soyabean and mustard oil where it is placed at 45 per cent (basic) and 75 per cent (basic) respectively due to WTO binding. A 4 per cent SAD also levied on refined oils.

October, 2001: Import duty on CPO and its fractions, of edible grade, in loose or bulk form reduced from 75 per cent to 65 per cent.

November, 2001: Import duty on crude sunflower oil or safflower oil reduced to 50 per cent up to an aggregate of 1,50,000 tonnes Tariff Rate Quota (TRQ) of total imports of such goods in a financial year subject to certain conditions. Import duty on refined rape, colza or mustard oil reduced to 45 per cent up to an aggregate of 1,50,000 tonnes TRQ of total imports of such goods in a financial year subject to certain conditions.

March, 2002: Status quo on import duty structure maintained. Import of vanaspati from Nepal brought under SAD of 4 per cent.

August, 2002: SAD made non-applicable on vanaspati imported from Nepal under TRQ.

March, 2003: Status quo on import duty structure of vegetable oils/edible oils maintained.

April, 2003: Import duty on Refined Palm Oil and RBD Palmolein reduced from 85 per cent to 70 per cent and SAD made non-applicable on edible oils.

July, 2004: Import duty on Refined Palm Oil and RBD Palmolein raised from 70 per cent to 75 per cent

February, 2005: April, 1994 Import of RBD Palmolein placed on OGL with 65 per cent import duty.

March, 1995: Import of all edible oils (except coconut oil, palm kernel oil, RBD palm oil, RBD palm stearin placed on OGL with 30 per cent import duty.

1996-97 (in regular Budget): Reduction in import duty to 20 per cent. With 2 per cent special duty of customs, the total duty to 22 per cent. Another special duty of custom of 3 per cent was later imposed bringing the total duty to 25 per cent.

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June, 2000: Import duty on crude oils raised to 25 per cent (basic) plus 10 per cent (surcharge), that is 27.5 per cent, and on refined oils to 35 per cent (basic) plus 10 per cent (surcharge) plus 4 per cent (SAD), that is 44.04 per cent. Import duty on Crude Palm Oil (CPO) for manufacture of vanaspati retained at 15 per cent (basic) plus 10 per cent (surcharge), that is 16.5 per cent.

November, 2000: Import duty on CPO for manufacture of vanaspati raised to 25 per cent and on crude vegetable oils to 35 per cent. Import duty on CPO for manufacture, other than of vanaspati, raised to 55 per cent. Import duty on refined vegetable oils raised to 45 per cent (basic) plus 4 per cent SAD, that is 50.8 per cent. Import duty on refined palm oil and RBD palmolein raised to 65 per cent basic plus 4 per cent SAD, that is 71.6 per cent.

March, 2001 As amended on April 26, 2001: Import duty on crude oils for manufacture of vanaspati/refined oils by importers registered with Directorate of VVO&F raised to 75 per cent (for others, duty at 85 per cent) except on soyabean oil, rapeseed oil and CPO, at 45 per cent, 75 per cent and 75 per cent, respectively. Import duty on refined oils including RBD Palmolein raised to 85 per cent (basic) except in the cases of soyabean and mustard oil where it is placed at 45 per cent (basic) and 75 per cent (basic) respectively due to WTO binding. A 4 per cent SAD also levied on refined oils.

October, 2001: Import duty on CPO and its fractions, of edible grade, in loose or bulk form reduced from 75 per cent to 65 per cent.

November, 2001: Import duty on crude sunflower oil or safflower oil reduced to 50 per cent up to an aggregate of 1,50,000 tonnes Tariff Rate Quota (TRQ) of total imports of such goods in a financial year subject to certain conditions. Import duty on refined rape, colza or mustard oil reduced to 45 per cent up to an aggregate of 1,50,000 tonnes TRQ of total imports of such goods in a financial year subject to certain conditions.

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April, 2003: Import duty on Refined Palm Oil and RBD Palmolein reduced from 85 per cent to 70 per cent and SAD made non-applicable on edible oils.

July, 2004: Import duty on Refined Palm Oil and RBD Palmolein raised from 70 per cent to 75 per cent

February, 2005: Import duty on crude Palm Oil and RBD Palmolein raised from 65 per cent to 80 per cent, and that on Refined Palm Oil and RBD Palmolein from 75 per cent to 90 per cent. Import duty on crude Palm Oil and RBD Palmolein raised from 65 per cent to 80 per cent, and that on Refined Palm Oil and RBD Palmolein from 75 per cent to 90 per cent.

Major decisions in respect of edible oils and fats since 2007.

January, 2007: By virtue of Notification No. CUS NTF No. 08/2007 dated 24.1.2007, import duty on Crude Palm Oil/

Crude Palmolein has been reduced from 70% to 60%, import duty on refined Palm Oil/RBD Palmolein reduced from 80% to 67.5%, import duty on Crude Sunflower Oil reduced from 75% to 65% and import duty on refined Sunflower Oil reduced from 85% to 75%.

March, 2007: W.e.f. 01.03.2007, import duty on Crude Sunflower Oil has been reduced from 65% to 50% and import duty on refined Sunflower Oil and other Oils has been reduced from 75% to 60%. Further edible oils (except Soyabean oil, rapeseed oil and mustard oil) will attract education cess of 3% of the aggregate of customs duty. With effect from 1.3.2007, all edible oils will not attract Special Additional Duty of customs @ 4%.

April, 2007: W.e.f 13.4.07, import duty on Crude Palm Oil/ crude palmolein has been reduced from 60% to 50% and import duty on Refined Palm Oil/ RBD has been reduced from 67.5% to 57.5%.

July, 2007: W.e.f. 23.7.2007, import duty on Crude Palm Oil/Palmolein and Refined Palm Oil/Palmolein has been reduced from 50% to 45% and 57.5% to 52.5% respectively and import duty on Crude and Refined Sunflower Oil has been reduced from 50% to 40% and 60% to 50% respectively and import duty on Crude and Refined Soyabean Oil has been reduced from 45% to 40%.

February, 2008: The earlier Order dated 12.06.2000 and 21.04.2003 wherein minimum level of usage of indigenous oils and maximum level of usage of expeller mustard oil in vanaspati were stipulated, have been rescinded vide Order No. 45-VP(2)/99 dated 11-2-2008 under the provisions of Vegetable oil Products (Regulation) Order, 1998. Thus as on date, there is no mandatory compulsion regarding usage of indigenous oils including expeller mustard oil in the manufacture of vanaspati.

March, 2008: W.e.f 21.03.2008, import duty on Crude Palm Oil/Palmolein and Refined Palm Oil/Palmolein has been reduced from 45% to 20% and 52.5% to 27.5%, respectively and import duty on Crude and Refined Sunflower Oil has been reduced from 40% to 20% and 50% to 27.5% respectively and import duty on Crude & Refined Mustard/Rapeseed Oil has been reduced from 75% to 20% and 75% to 27.5% respectively.

April, 2008: W.e.f. 1st April, 2008, the customs duty on crude and refined forms of Palm Oil, Palmolein, Palm Kernel Oil, Soyabean Oil, Rapeseed/Mustard Oil, Sunflower Oil, Safflower Oil, Groundnut Oil, Coconut Oil, and some other Vegetable Oils has been reduced to zero percent and 7.5% respectively, vide Notification No.42/2008-Customs issued by the Ministry of Finance, Department of Revenue.

November, 2008: DGFT vide notification no. 122/2008-Customs has increased the custom duty on the degummed Soyabean Oil to 20% w.e.f 18.11.2008. However, the custom duty has been reduced to Nil w.e.f 24.3.2009 vide DGFT Notification No. 27/2009-customs. The duty structure of 0% on crude oils and 7.5 % on refined oils has been continued.

March, 2008: DGFT vide Notification No. 85 (RE-2007)/2004-2009 dated 17th March, 2008 has banned export of all edible oils under Chapter 15 of Schedule I. However, export restrictions have been lifted in respect of castor oil (of non-edible grade), coconut oil (through Cochin Port) and certain oils (namely, Kokum oil/fat, sal oil/fat/stearine, Dhup oil, neemseed oil, Nigarseed oil, Mango Kernel oil/stearine/olein, processed or refined sal fat) produced from minor forest origin vide Notification No. 92(RE-2007)/2004-

2009 dated 1.4.2008 issued by Department of Commerce for period of one year. The ban of export has been extended upto 16.03.2010 vide notification No. 98(RE-2008)/2004-09 dated 17.4.2009. DGFT vide notification 39(RE-2008)2004-09 has permitted the export of fish oil w.e.f 20.11.2008. The ban imposed vide notification no. 98(RE-2008)/2004-09 has been extended upto 30.9.2010 vide notification No. 04/2009-2014 dated 4 September, 2010. The ban imposed vide notification no. 04/2009-2014 dated 4.9.2009 has been extended upto 30.9.2011 vide notification No. 07 (RE-2010)/2009-2014 dated 30 September, 2010. Vide Notification No. 77(RE-2010)/2009-14, dated 28th September, 2011, the ban on export of edible oils with above exemption has been extended upto 30.9.2012.

November, 2008: DGFT vide notification no. 60(RE-2008)/2004-09 has permitted the export of edible oils in branded consumer packs of upto 5 Kgs, subject to the limit of 10000 tons during the next one year upto 31.10.2009 w.e.f 20.11.2008. It is extended upto 31.10.2010 w.e.f 1.11.2009 and further extended upto 31.10.2011 w.e.f 1.11.2010. Vide Notification No. 77(RE-2010)/2009-14, dated 28th September, 2011, the export of edible oils in branded consumer packs with a ceiling of 10,000 tons has been extended from 1.11.2011 to 31.10.2012.

April, 2008: State Governments have been authorized to re-impose stock restrictions with respect to edible oils/oilseeds with effect from 7th April, 2008 which has been continued upto 30.9.2011 and extended for one more year upto 30.9.2012.

September, 2012: In order to provide relief to the poorer section of the society, from the rising prices of edible oils, the Central Government has introduced a Scheme for Distribution of 10 lakh tons of edible oils in 2008-09 at a subsidy of Rs.15/- per kg. through State Governments/UTs @ 1 kg. per ration card per month. The scheme was extended during 2009-10, 2010-2011 and in 2011-12 upto 30.9.2012. After the implementation of the Scheme, edible oil prices have substantially declined and poorer sections were provided edible oils at subsidized rates.

July, 2012: CCEA in its meeting held on 19.7.2012 has approved to defreeze the tariff value of RBD Palmolein frozen since 2006 to align it with the current international prices which will help to augment the domestic availability of edible oils and better capacity utilization of refining industry. W.e.f. 31.7.2012, Tariff Value for import of RBD Palmolein has been revised to US \$ 1053 vide Notification No. 66/2012-CUSTOMS (N.T.).

Food Safety and Standard Act, 2006(34 of 2006) was enacted by the Parliament with objective to consolidate the laws relating to food and to establish Food Safety Authority of India under Ministry of Health and Family Welfare for laying down science based standards of articles of food and to regulate their manufacture, storage, distribution, sale and import to ensure availability of safe and wholesome food for human consumption and for matters connected therewith or incidental thereto. The new Act will replace existing Acts/Orders related to various food sectors in the country to be administered and monitored by Food Safety and Standards Authority of India.

In pursuance of Section 90 of the Food Safety and Standards Act, 2006 the three control order administered by DVVOF has been implemented by Food Safety and Standards Authority of India w.e.f 5.8.2011.

You too can become an Exporter

Sebastian K.S.

The business opportunities through exports are emerging in leaps and bounds. This equation has changed since the export trade between developing countries and developed countries was a permanent fixture due to globalization. Trade between South-South countries (developing and emerging markets) have been growing steadily and stealthily due to the nascent trade environment where highly developed markets have been affected by set backs in their economic growth due to numerous reasons. Indian trade has been becoming more competitive due to their exposure to the foreign markets, and has grown steadily from US \$ 41 billion in 2003-4 to \$303.1 billion in 2011-12. We have market space in developing economies and niche markets. Government has been going for all out support for the export industry by designing tailor-made schemes for vital sectors for trade expansion. This is an excellent opportunity that Indian manufacturers need to seize. Start small and go global was government's mission to turn a number of players to enter the export arena. This Mission succeeded and India is poised to become a world leader as part of BRIC (Brazil, Russia, India and china) by 2050.

If somebody has to enter the realms of exporters, there are a

number of steps he needs to take before he gets a license to export even though there are no impediments for export. Para 2.1 of the Foreign trade policy says that "Exports and Imports shall be free, except when regulated by Foreign Trade policy or any other law in force." This is the cardinal view of the Government.

If any business entity, constituted or formed under any statute can become an exporter or importer provided it gets the appropriate licenses from various statutory bodies empowered to issue the same. The businessman can either be a single owner or Proprietor, or may be a Partner in a Partnership firm, a co-parcener in the Hindu Undivided family, running a Private Limited Company or may be a part of the governing body of the Public limited Company. In all such cases, mandatory registration under Central Act or State Act is statutorily necessary. For Private/Public Limited Company, it is the Registrar of Companies who has been vested with the authority to register such companies under the Company Registration Act.

The firm or the individual or the Company which is the constituent body that is engaging itself in business, should get a Permanent Account Number in that firm/

company/individual's name. Once the Pan Card is obtained, the applicant should open a bank account in the name and style of the entity set up based on its registration.

IEC Code Number

After the completion of these formalities, the firm or individual or the company should apply to the Director General of Foreign Trade (DGFT) for IEC Code. IEC Code is unique 10 digit code issued by DGFT, Ministry of Commerce, Government of India to Indian Companies. IEC Code is the abbreviation of "Importer Exporter Code". To import or export in India, IEC Code is mandatory. No person or entity shall make any Import or Export without IEC Code Number.

An application for grant of IEC number shall be made by the Registered/Head Office of the applicant and apply to the nearest Regional Authority of Directorate General Foreign Trade, the Registered office in case of company and Head office in case of others, falls in the 'Aayaat Niryaat Form - ANF2A' and shall be accompanied by documents prescribed therein. In case of Software Technology Park of India(STPI)/ Electronic Hardware Technology Park(EHTP)/ Bio Technology Park(BTP) units, the Regional Offices of the DGFT

S.No	Code Number	Categories of Importers / Exporters
1	0100000011	All Ministries / Departments of Central Government and agencies wholly or partially owned by them.
2	0100000029	All Ministries / Departments of any State Government and agencies wholly or partially owned by them.
3	0100000037	Diplomatic personnel, Counselor officers in India and officials of UNO and its specialised agencies.
4	0100000045	Indians returning from / going abroad and claiming benefit under Baggage Rules.
5	0100000053	Persons / Institutions / Hospitals importing or exporting goods for personnel use, not connected with trade or manufacture or agriculture.
6	0100000061	Persons importing / exporting goods from /to Nepal
7	0100000070	Persons importing / exporting goods from /to Myanmar through Indo-Myanmar border areas
8	0100000088	Ford Foundation
9	0100000096	Importers importing goods for display or use in fairs / exhibitions or similar events under provisions of ATA carnet This IEC number can also be used by importers importing for exhibitions/fairs as per Para 2.29 of HBPv1.
10	0100000100	Director, National Blood Group Reference Laboratory, Bombay or their authorized offices.
11	0100000126	Individuals / Charitable Institution /Registered NGOs importing goods, which have been exempted from Customs duty under Notification issued by Ministry of Finance for bonafide use by victims affected by natural calamity.
12	0100000134	Persons importing / exporting permissible goods as notified from time to time, from / to China through Gunji, Namgaya Shipkila and Nathula ports, subject to value ceilings of single consignment as given in Para 2.8(iv) above.
13	0100000169	Non-commercial imports and exports by entities who have been authorized by Reserve Bank of India.

having jurisdiction over the district in which the Registered/ Head Office of the STPI unit is located shall issue or amend the IECs. Only one IEC would be issued against a single PAN number. Any proprietor can have only one IEC number and in case there are more than one IECs allotted to a proprietor, the same may be

surrendered to the Regional Office for cancellation.

The application can be downloaded in PDF or Word format. This is called "Aayaat Niryaat Form - ANF2A". Application can be filed online in DGFT website. Along with IEC Code Number Application Form it

is necessary to submit Appendix-18B attested by Applicant's Banker in his letter head with two passport size photo. An IEC number allotted to an applicant shall be valid for all its branches/divisions/units/factories as indicated in the format of IEC given in Appendix- 18B.

Where an IEC Number is lost

or misplaced, the issuing authority may consider requests for grant of a duplicate copy of IEC number, if accompanied by an affidavit. If an IEC holder does not wish to operate the allotted IEC number, he may surrender the same by informing the issuing authority. On receipt of such intimation, the issuing authority shall immediately cancel the same and electronically transmit it to DGFT for onward transmission to the Customs and Regional Authorities.

IEC Number Exempted categories

The following categories of importers or exporters are exempted from obtaining Importer - Exporter Code (IEC) number:

(1) Importers covered by clause 3 (1) [except sub-clauses (e) and (l)] and exporters covered by clause 3(2) [except sub-clauses (i) and (k)] of the Foreign Trade (Exemption from application of Rules in certain cases) Order, 1993.

(2) Ministries/Departments of the Central or State Government.

(3) Persons importing or exporting goods for personal use not connected with trade or manufacture or agriculture.

(4) Persons importing/exporting goods from/to Nepal provided the CIF value of a single consignment does not exceed Indian Rs.25,000.

(5) Persons importing/exporting goods from/to Myanmar through Indo-Myanmar border areas provided the CIF value of a single consignment does not exceed Indian Rs.25,000.

However, the exemption from

obtaining Importer-Exporter Code (IEC) number shall not be applicable for the export of Special Chemicals, Organisms, Materials, Equipments and Technologies (SCOMET) as listed in Appendix-3, Schedule 2 of the ITC(HS) except in the case of exports by category(ii) above.

Table 1 shows the permanent IEC numbers shall be used by the categories of importers/ exporters mentioned against them for import/export purposes.

Commercial Public Sector Undertaking (PSU) who have obtained PAN will however be required to obtain Importer Exporter Code number. The permanent IEC number as mentioned above, shall be used by non-commercial PSUs.

Mandatory Requirements to apply for IEC Code Number

1. PAN Number
2. Current Bank Account
3. Bankers Certificate
4. Application Fee- Rs 250.00 (Pay via EFT (Electronic Fund Transfer), and submit IEC Online Application form to receive IEC Number instantly)

The physical application containing required documents should reach DGFT RLA concerned within 15 days of its online submission.

Check List of Documents to apply for IEC Code

- a. Covering Letter on your company's letter head for issue of new IEC Code Number.
- b. Two copies of the application in prescribed format (Aayaat

Niryaat Form ANF 2A) must be submitted to the regional Jt.DGFT Office.

c. Each individual page of the application has to be signed by the applicant.

d. Part 1 & Part 4 has to be filled in by all applicants.

e. No hard copies of Part 1 may be submitted. However in cases where applications are submitted otherwise, hard copy of Part 1 has to be submitted.

f. Only relevant portions of Part 2 need to be filled in.

g. Rs 250.00 Bank Receipt (in duplicate)/Demand Draft/EFT details evidencing payment of application fee in terms of Appendix 21B.

h. Certificate from the Banker of the applicant firm in the format given in Appendix 18A.

i. Self certified copy of PAN issuing letter or PAN (Permanent Account Number) Card issued by Income Tax Authority.

j. Two copies of passport size photographs of the applicant duly attested by the Banker of the applicant.

k. Self addressed envelope with Rs.25/- postal stamp for delivery of IEC certificate by registered post or challan/DD of Rs.100/- for speed post.

The company/individual after getting the IEC Code, should obtain Registration-cum-Membership certificate(RCMC) from the Export Promotion Council(EPC) dealing with his product. List of Export Promotion Councils/Commodity

Boards with addresses and other details is given in Appendix-31 of Handbook of Procedures. If the export product is such that it is not covered by any EPC, RCMC in respect thereof may be issued by Federation of Indian Exporters organization(FIEO). The service exporters (except software service exporters) shall be required to obtain RCMC from FIEO.

Procedure for Issue of RCMC

An application for registration may be made to the concerned registering authority in the prescribed format along with the documents prescribed therein. If the application for registration is accepted, the concerned registering authority shall issue the RCMC indicating the status of the applicant as merchant exporter or manufacturer exporter or merchant cum manufacturer or service exporter. In case an exporter desires to get registration as a manufacturer exporter, he shall furnish evidence to that effect.

Validity Period of RCMC

The RCMC shall be deemed to be valid from 1st April of the licensing year in which it was issued and shall be valid for five years ending 31st March of the licensing year, unless otherwise specified.

Furnishing of Returns

The exporter shall furnish quarterly returns/ details of his exports of different commodities to the concerned registering authority. This will be in addition to any other returns as may be prescribed by the registering authority. However, status holders shall also send

monthly returns to FIEO in the format specified by FIEO.

Intimation regarding change in Constitution

In case of change in ownership, constitution, name or address of an exporter, it shall be obligatory on the part of RCMC holder to intimate such change to the registering authority within a period of one month from the date of such change. The registering authority, however, may condone delays on merits.

De-Registration

The registering authority may de-register an RCMC holder for a specified period for violation of the conditions of registration. Before such de-registration, the RCMC holder shall be given a show cause notice by the registering authority, and an adequate and reasonable opportunity to make a representation against the proposed de-registration. Upon de – registration, the concerned export promotion council shall intimate the same to all the licensing authorities.

A person aggrieved by a decision of the registering authority in respect of any matter connected with the issue of RCMC may prefer an appeal to the Director General of Foreign Trade or an officer designated in this behalf, within 60 days, against the said decision and the decision of the appellate authority shall be final. The Director General of Foreign Trade may direct any registering authority to register or de- register an exporter or otherwise issue such other directions to them consistent with and in order to implement the

provisions of the Act, the Rules and Orders made thereunder, the Policy or the Handbook.

The exporter can use the good offices of the EPC which has jurisdiction over his products to sort out impediments or problems he may face in the course of export. He should also register as stated earlier with Central Board of Excise & Customs, Service tax and should obtain VAT registration from the concerned authority.

Once all these are obtained, the company or individual can export or import as the case may be, subject to limitation prescribed in Para 2.1 of the Foreign trade Policy.

A valid RCMC holder is entitled to number of benefits like Duty Drawback(DDB), Focus Product Scheme(FPS), Special Focus product Scheme(SFPS), Focus Market Scheme(FMS), Vishesh Krishi Gram Udyog Yojana (VKGUY), Agricultural Infrastructure Development Scrip, Status Holders Scrip, Advance Authorization, Duty Free import Authorization, EPCG (Export Promotion Capital Goods Scheme), Served from India Scheme (SFIS), Market Linked Focus Product Scheme (MLFPS), Special Bonus Benefit Scheme(SBBS), Status Holder Recognition etc.

Exports drive economy. Developing countries are emerging as developed countries. Under developed countries have graduated to developing countries. Once the cycle turns full, new countries in various continents will be driving the economy of the World.

Asst. Marketing Officer, CDB, Kochi-11

Coconut Products in American Markets on the increase

Dr. P. Rethinam

Coconut is considered as an extremely auspicious fruit forming an integral part of the social, religious and cultural fabric. It is also economically and nutritively useful. Coconut at tender nut stage is a health drink, wellness drink, energy drink, sports drink and social drink. The nut at maturity gives raw materials like coconut meat, matured coconut water, shell and husk which provide hundreds of other value added products.

Coconut production by and large was utilized for copra making and coconut oil extraction besides domestic consumption and only a small fraction is used for processing and value addition. The price of coconut mainly depends on coconut oil. Until recently there was not much value addition, product diversification and by-product utilization in coconut. All these factors made the coconut industry unattractive even though it does have the potential to make many value added products. A paradigm shift in the present set up of this industry is a must for riding out of this awful situation and those changes can be brought out with both short and long term strategies and above all the mind set change.

This is the apt time to rise up to the situation to make coconut industry competitive and the farmers get fair price to coconut. Coconut tree as a whole provide ample opportunities to produce large number of value added

products. Coconut products like coconut oil, virgin coconut oil, coconut milk, milk powder, desiccated coconut, defatted desiccated coconut powder, coconut dietary fibre, coconut jaggery and jaggery powder, coconut water based drinks, vinegar, activated charcoal, coir and coir based products, geo textiles, coconut husk, chips and coconut coir pith, coco wood based furniture and handicrafts are having good market potential. Coco based oleo chemicals and coco bio diesel, bio lubricants in some of the Asian and Pacific countries are gaining importance. The price for value added products are much more than coconut oil at any point of time.

To ensure both economic and ecological access to food and nutritional security, high profitability, reduced production cost at farm level and to remain competitive and to take full advantage of globalization and trade liberalization through advanced preparedness for the WTO regime, productivity increase at farm level, integrated processing technologies for product diversification, value addition and by-product utilization are essential. Strategic planning and implementation for free flow of proven technologies which has not reached the farmers, strong Public-Private – Farmers' partnership approach with needed technical back stopping, strong market promotional and marketing net



Coconut drinks in US supermarkets

work with strong political will and commitment and determination of farmers are essential to make the coconut industry competitive.

With this preamble, I would like to share some of my observations which I gathered by visiting the various US chain markets like Wall Mart, Giant, Grand mart, Shoppers, CVS, Rite Aid, Wall Green, etc. and also Asian Markets like Chinese, Vietnamese, Thai etc. During my last five years visit to this country I could see that more and more products are coming into these chain markets which were seen only in Asian markets during the earlier days. Many more coconut products like coconut sugar, coconut milk based ice cream, various kinds of chocolate with desiccated coconut etc are available in the market.

Marketing Strategies

Marketing is an art and business tactic that needs much attention. While we think about strategies, trade mark, packaging and labeling are essential. If these products are identified with generic health properties, it will have higher preference.

Trade mark: Consumers are greatly aware that they should get a good product from a reliable source. Products with trademarks are moving well than products without trademarks. Pepsi, Coke, Five Star Chocolate etc. are always having a good world market.

Packaging: Attractive packaging is very important. Many attractive packing materials are available in the market now. Consumer preferred packaging is very important particularly in small size or for instant use which is now



Coconut milk products



practiced in coconut, shampoo etc. Packaging research is a continuous process and is going on all over the world.

Labeling: Consumers are very cautious to know about the content of the product especially its nutrient contents. For eg. if one knows that by taking one pack of 100 ml coconut water how much energy and nutrients it adds, people will be prompted to buy that product. They can also know of the required quantity.

Niche products marketing: This is another area that needs attention. Nowadays there are many niche products in the market getting popular and giving good margin of profit. For example virgin coconut oil is a value added product. The new niche products using VCO in massage oils, aroma therapy VCO capsules, VCO based shampoo, facial creams, skin care products, body range products etc. is now coming from Philippines, Thailand, Fiji, Samoa and American



Coconut shampoo

countries. When Philippines started making virgin coconut oil, it was a small market with small quantity and big margin of profit. The product is having big export market and is further diversified into downstream products.

Popularising generic properties of coconut and its products: Coconut as a whole and various coconut products like coconut water, coconut milk, coconut dietary fibre, coconut oil,

virgin coconut oil, coconut jaggery etc are having many health and healing properties. Health benefits of coconut has been cited in the ancient literatures and in Ayurvedic healing for more than 4000 years ago. There are ample scientific evidences to prove that coconut and coconut oil are good for health. In the western society and even in Indian society, the health benefits of coconuts are better realised now. The mystery appears to be in the favorable fats found in coconut.

Coconut represents a vegetarian-sourced saturated fat

consisting of medium chain fatty acids (MCFAs). Scientists have long recognized MCFAs such as lauric and capric acid for their anti-viral and anti-microbial properties. The body utilizes MCFAs as energy instead of storing them as fat. Lauric acid occurring naturally in human breast milk plays a vital role in nourishing and protecting babies from infections also found abundantly in coconut and plays a fundamental role in building our body's immune system. Once in our system, it transforms into an antibacterial and antiviral substance

called "monolaurin" which destroys viruses and diseases including HIV /AIDS.

Instead of all these we are yet to change our views and mindset to say coconut is good for health. Let us highlight the health benefits of coconut and coconut oil and this will promote the utility of coconut. Coconut as a sunrise industry has an unlimited market potential. Let us exploit the same not only in US market but also in global market.

Former Chairman, CDB, Kochi & Executive Director, APCC, Jakarta

Philippines President boasts of increased coco water export

The growing export of "coco water", formerly a plant production waste, is no longer a business matter to sneeze at, President Benigno Aquino told Quezon residents. In a speech, Aquino recalled that his critics sneered at him when he broke the news on the bright prospect of exporting coco water or buko juice after his US trip during September last year. "They laughed at me because of my pride in coco water (as an export item),"

Quezon is one of the country's major coconut producing province. Citing data, Aquino said that in 2009, the country exported 483 thousand liters of coco water which rose to 1.8 million liters the following year. But that's not the end of it because according to Mr. Aquino, the country had exported 16 million liters of buko juice last year. "The water that was used to be discarded has now turned beneficial. I believe that soon, I will be hearing the shortage of coco water as an export item," the President said which was received with wild applause.

Coconut water is now a multi-million dollar industry in the United States where it is being promoted as an alternative natural sports drink because it contains the essential electrolytes and minerals needed for rehydration.

Quezon Governor David Suarez recently launched a massive coconut tree planting program in the province to help address the aging coconut trees. He also initiated a campaign against widespread illegal coconut cutting and underground coco lumber trade.

Candelaria Mayor Ferdinand Maliwanag said the coco water was formerly a plant production waste that caused river pollution. "But with the brisk buko juice export business, that's another environmental problem solved," Maliwanag recalled that when the news of the buko juice hit the media after President Aquino's US visit, he boasted that his town had long been manufacturing the same product. "That packed buko juice is no longer news to us," Maliwanag said.



Buko juice is a popular refreshing drink from the Philippines. "Buko" is a Filipino word which means "young coconut" in English. Buko juice is also known as Coconut Milk Drink. There are two ways to prepare a Buko juice, one is by using fresh coconut juice from the coconut fruit, the other is by using canned Buko juice concentrate purchased from groceries carrying Asian products. Either way, they offer a refreshing and healthy drink. Buko juice is known to help cure UTI (Urinary Tract Infection)

Activated Carbon Emerges as the Leader

Dr. K Muralidharan* and Jayashree.A**

Activated Carbon is the new success mantra from coconut shell. It is a crude form of graphite. It differs from graphite by its random imperfect structure which is highly porous over a broad range of pore sizes from visible cracks and crevices to molecular dimensions. The graphite structure gives the carbon its very large surface area which allows the carbon to adsorb a wide range of compounds. Activated carbon has the strongest physical adsorption forces or the highest volume of adsorbing porosity of any material known to

mankind. Activated carbon can have a surface of greater than $1600\text{m}^2/\text{g}$. 5gms of activated carbon can have the surface area of a football field.

Activated carbon, also called activated charcoal or activated coal is a form of carbon that has been processed to make it extremely porous and thus to have a very large surface area available for adsorption or chemical reactions. Activated carbon is mainly an adsorption material which can absorb a variety of chemical compounds, odor or color and can

also serve to control the humidity in the air. Activated carbon has proven to be safe because it is commonly used to clean the air and also widely used in the distillation of drinking water. In medical application, activated carbon is used to treat poisonings and overdoses following oral ingestion.

Activated carbon was first known to treat water over 2000 years ago. However, it was first produced commercially at the beginning of the 20th century and was only available in powder form. Adsorption is a surface phenomenon

Coconut Shell Based Activated Carbon

Coconut shell based activated carbon hold good demand in the global market especially for pollution control, gold purification, automotive industry and pharmaceutical industry. The global demand for coconut shell based activated carbon in the recent years has been increasing at a rate of 5-9%, particularly US, Europe and Japan. Though activated carbon can be made from various kinds of biomass, coconut shell based activated carbon is reported to be superior in quality and commands a good price in the international market. Coconut shell activated carbon has certain inherent qualities that make them superior to activated carbons from other sources. High hardness levels ($> 95\%$) ensures superior material handling and minimizes dust generation, high surface area (up to

$1300\text{m}^2/\text{g}$) gives high adsorption efficiency and high microporosity (< 20 Angstroms) gives high adsorption and retention capacity. This is important for the removal of low-molecular weight organics and trace levels of contaminants. Low ash content gives high purity preventing contamination of adsorbates. High density provides for economical containment for the same level. India is recognized as one of the important suppliers of activated carbon to the world market. Coconut Development Board has supported the establishment of about fifteen activated carbon manufacturing units, which have a capacity to produce more than 100 MT of activated carbon per day. Export of shell charcoal and activated carbon from India had earned USD 55 million in

foreign exchange in 2010-11. World demand for activated carbon is expected to grow at five per cent per year, touching 2.0 million tones by 2012-13. Besides half the demand coming from developed countries, greater growth opportunities would generally occur in developing markets, primarily the emerging industrial economies of Asia. The anticipated demand supply gap in the next 10 years is estimated to be about 165,000 tons. Demand factors are attributed to recent policies and interests arising from economic growth and social development in industrialized countries, environmental awareness and anti-pollution/clear air legislations, requirements for food safety/SPS in trade, waste management regulation, anti-biological protection in conflict areas etc.

in which an adsorbate is held onto the surface of the activated carbon by Van der Waal's forces and saturation is represented by an equilibrium point. These forces are physical in nature, which means that the process is reversible. The raw material has a very large influence on the characteristics and performance of activated carbon. Activated carbon can be made from many substances containing high carbon content such as coal, wood and coconut shells. Among them activated carbon from coconut shell is considered best suitable for most applications due to its high hardness.

The first known use of activated carbon dates back to ancient Egyptians who utilized its adsorbent properties for purifying oils and medicinal purposes. Centuries later, the early ocean-going vessels stored drinking water in wooden barrels, inside of which had been charred. By early 19th century both wood and bone charcoal was in large-scale use for the decolorization and purification of cane sugar. However, it was not until the beginning of the First World War that the potential of activated carbon was really capitalized. The advent of gas warfare necessitated the development of suitable respiratory devices for personnel protection. Granular activated carbon was used to this end as, indeed, it still is today.

By the late 1930's there was considerable industrial-scale use of carbon for gaseous and liquid phase application and new manufacturing processes had been developed to satisfy the needs of industry. During the 1939-1945 war, a further significant development took place, the production of more sophisticated chemically



impregnated carbon for entrapment of both war and nerve gases.

Modern day uses of carbon are diverse in consumer products such as refrigerator deodorizers and at the other end of the spectrum in high technology applications such as nuclear power plant containment systems.

Almost all materials containing -high fixed carbon content can potentially be activated. The most commonly used raw materials are coal (anthracite, bituminous and lignite), coconut shells, wood (both soft and hard), peat and petroleum based residues.

Many other raw materials have been evaluated such as walnut shells, peach pits, babassu nutshell and palm kernels but invariably their commercial limitation lies in raw material supply. This is illustrated by considering that 1,000 tons of untreated shell type raw materials will only yield about 100 tons of good quality activated carbon.

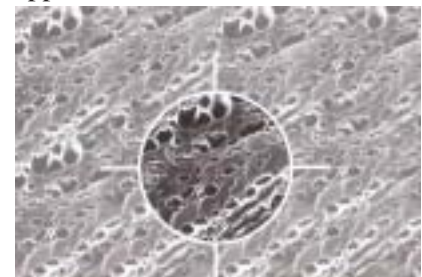
Most carbonaceous materials do have a certain degree of porosity and an internal surface area in the range of 10-15 m²/g. During activation, the internal

surface becomes more highly developed and extended by controlled oxidation of carbon atoms - usually achieved by the use of steam at high temperature.

After activation, the carbon will have acquired an internal surface area between 700 and 1,200 m²/g, depending on the plant operating conditions. The internal surface area must be accessible to the passage of a fluid or vapor if a potential for adsorption is to exist. Thus, it is necessary that an activated carbon has not only a highly developed internal surface but accessibility to that surface via a network of pores of differing diameters.

Structures

In order to explain the capabilities of activated carbon an appreciation of its structure is most



essential. Much of the literature quotes a modified graphite-like structure; the modification resulting from the presence of microcrystallines, formed during the carbonization process, which during activation have their regular bonding, disrupted causing free valencies which are very reactive. In addition, the presence of impurities and process conditions influence the formation of interior vacancies in the microcrystalline structures.

Such theory generally explains pores as the result of faults in crystalline structures. However, more recent research studies provide a more feasible explanation of the carbon structure. Final activates consist almost entirely of elemental carbon together with residual ash which in the case of wood and coconut, originate from minerals within the vessels of living tissues; silica being the only constituent actually incorporated within the cell wall tissue matrix. The ash content of coal is of different composition. Thus, the overall structure consists of a modified cellular-like configuration with varying ash components depending on the particular raw material.

Furthermore, measurements taken from photomicrographs of coconut show good agreement with mercury penetration data. It is known that the carbonization and activation processes destroy, to varying degrees, intercellular walls and sieve plates between cells. The end result on wood is a very open, sponge-like macrostructure seriously reducing the probability of adsorbate contact with cell walls.

Adsorption Mechanism

Activated carbon can be considered as a material of phenomenal surface area made up of millions of pores- rather like a “molecular sponge”. The process by which such a surface concentrates fluid molecules by chemical and/or physical forces is known as **ADSORPTION** (whereas, **ABSORPTION** is a process whereby fluid molecules are taken up by a liquid or solid and distributed throughout that liquid or solid).

In the **physical adsorption process**, molecules are held by the carbon’s surface by weak forces known as Van Der Waals Forces resulting from intermolecular attraction. The carbon and the adsorbate are thus unchanged chemically.

However, in the process known as **CHEMISORPTION** molecules chemically react with the carbon’s surface (or an impregnant on the carbon’s surface) and are held by much stronger forces - chemical bonds.

In general terms, to effect adsorption it is necessary to present the molecule to be adsorbed to a pore of comparable size. In this way the attractive forces coupled with opposite wall effect will be at a maximum and should be greater than the energy of the molecule.

Gas Phase Adsorption - This is a condensation process where the adsorption forces condense the molecules from the bulk phase within the pores of the activated carbon. The driving force for adsorption is the ratio of the partial pressure and the vapour pressure of the compound.

Liquid Phase Adsorption - The molecules go from the bulk phase to being adsorbed in the pores in a semi-liquid state. The driving force for adsorption is the ratio of the concentration to the solubility of the compound.

Methods of Manufacture

Chemical Activation

The raw material used in chemical activation is usually sawdust and the most popular activating agent is phosphoric acid, although zinc chloride and sulfuric acid are well documented. Others used in the past include calcium hydroxide, calcium chloride, manganese chloride and sodium hydroxide, all of which are dehydrating agents.

The raw material and reagent are mixed into a paste, dried and carbonized in a rotary furnace at 600 degrees C. When phosphoric acid is the activating agent the carbonized product is further heated at 800-1000 degrees C during which stage the carbon is oxidized by the acid. The acid is largely recovered after the activation stage and converted back to the correct strength for reuse. The activated product is washed with water and dried.

Activity can be controlled by altering the proportion of raw material to activating agent, between the limits of 1:05 to 1:4. By increasing the concentration of the activating agent, the activity increases although control of furnace temperature and residence time can achieve the same objective.

Steam Activation

The use of steam for activation

can be applied to virtually all raw materials especially for coconut shell charcoal. A variety of methods have been developed but all of these share the same basic principle of initial carbonization at **500-600 degrees C** followed by activation of shell charcoal with steam at **800-1,100 degrees C**.

Since the overall reaction (converting carbon to carbon dioxide) is **exothermic** it is possible to utilize this energy and have a self-sustaining process.

- $C + H_2O \text{ (steam)} \rightarrow CO + H_2$ (-31 Kcal)
- $CO + \frac{1}{2} O_2 \rightarrow CO_2$ (+67 Kcal)
- $H_2 + \frac{1}{2} O_2 \rightarrow H_2O \text{ (steam)}$ (+58 Kcal)
- $C + O_2 \rightarrow CO_2$ (+94 Kcal)

A number of different types of kilns and furnaces can be used for carbonization/activation which include rotary Kilns (fired directly or indirectly), vertical multi-hearth furnaces, fluidized bed reactors and vertical single throat retorts.

As an example, production of activated carbon using a Rotary Kiln Process is described. Raw material is introduced through a hopper on front end the retort and flow through a central duct towards the heating zone. As the raw material moves slowly down the retort, the temperature increases to 700-800 degrees C and full carbonization takes place. The activation zone, at the centre of the retort, covers 10 ft in total area available and it is here that steam activation takes place at temperature of 900-1000 deg C. Air is bled into the furnace to convert the product gases, CO and H₂ into

CO₂ and steam which, because of the exothermic nature of this reaction, reheats the firebricks on the wall side of the retort, enabling the process to be self-supporting. Steam injection is given through SS pipe continuously utilize the “in situ” heating provided by the product gas combustion. The degree of activation (or quality) of the product is determined by the residence time in the activation zone. The resulting product is in the form of 1mm to 6 mm pieces and requires further processing before being suitable for its various end uses. This entails a series of crushing and screening operations to produce specific mesh ranges. Certain products may undergo further processing such as drying, acid washing or chemical impregnation to satisfy particular requirements.

Forms of Activated Carbon

There are different forms of activated carbon.

Granular Activated Carbon (GAC) – This is the irregular shaped particles with sizes ranging from 0.2 to 5 mm. This type is used in both liquid and gas phase applications.

Powder Activated Carbon (PAC) – This is pulverized carbon with a size predominantly less than 0.18mm (US Mesh 80). These are mainly used in liquid phase applications and for flue gas treatment.

Pelleted Activated Carbon – This is extruded and cylindrical shaped with diameters from 0.8 to 5 mm. These are mainly used for gas phase applications because of their low pressure drop, high mechanical strength and low dust content.

Flowchart of activated carbon manufacturing process



Acid Washed Activated Carbon- Acid washed coconut shell based activated carbon is made from selective grades of coconut shell charcoal which is acid washed after activation. It is specially designed to remove difficult to adsorb organics and combines higher micro-porosity with sufficient transport pores to permit superior loadings of highly soluble organics.

pH range of 6 to 8 is maintained for its use in water purification and drinking water treatment purposes. It is of high purity and has got good demand in world market.

Impregnated Activated Carbon - Several different grades of impregnated activated carbon for those special applications where either standard non-treated carbon does not work or where activated carbon's adsorptive capacity can be greatly enhanced through impregnation. Special range of products include:

- KOH Impregnated Coconut shell based Activated Carbon for Vapour phase application
- NaOH Impregnated Coconut shell based Activated Carbon for Vapour phase application
- Silver Impregnated Coconut shell based Activated Carbon
- Phosphoric Acid Impregnated Activated Carbon
- Activated carbon for Gold and precious metal recovery
- Special blend high activity activated carbon

Furthermore activated carbon can be impregnated with sulfur, chloride or iodine to increase its adsorptive capacity, making the impregnated activated carbon much more

effective for the removing gaseous mercury (Hg) from flue gases at low temperatures.

A number of different pollutants are either partially or totally resistant to separation through adsorption (e.g. chlorine, ammonia, amines, sulphur dioxide, mercury, hydrogen sulphide, mercaptanes, formaldehyde, carbon oxide sulphide, etc.).

These substances can be removed with specially impregnated activated carbons that have a chemisorptive effect. In chemisorption, the substances to be removed are either chemically bonded by the impregnating agent on the activated carbon or converted by these agents into a form that adsorbs on activated carbon. Impregnating agents include metal, salts, iodine, sulphur as well as acids and bases.



Properties

A gram of activated carbon can have a surface area in excess of 500 m², with 1500 m² being readily achievable. Carbon aerogels, while more expensive, have even higher surface areas, and are used in special applications.

Under an electron microscope, the high surface-area structures of activated carbon are revealed. Individual particles are intensely convoluted and display various kinds of porosity; there may be many areas where flat surfaces of graphite-like material run parallel

to each other, separated by only a few nanometers or so. These micropores provide superb conditions for adsorption to occur, since adsorbing material can interact with many surfaces simultaneously. Tests of adsorption behaviour are usually done with nitrogen gas at 77 K under high vacuum, but in everyday terms activated carbon is perfectly capable of producing the equivalent, by adsorption from its environment, liquid water from steam at 100° C and a pressure of 1/10,000 of an atmosphere.

James Dewar, the scientist after whom the Dewar (vacuum flask) is named, spent much time studying activated carbon and published a paper regarding its absorption capacity with regard to gases. In this paper, he discovered that cooling the carbon to liquid nitrogen temperatures allowed it to absorb significant quantities of numerous air gases, among others, that could then be recollected by simply allowing the carbon to warm again and that coconut based carbon was superior for the effect. He uses oxygen as an example, wherein the activated carbon would typically adsorb the atmospheric concentration (21%) under standard conditions, but release over 80% oxygen if the carbon was first cooled to low temperatures.

Physical Properties

Surface Area

Surface area is the most important physical property of activated carbon. For specific applications, the surface area available for adsorption depends upon the molecular size of the adsorbate and the pore diameter of

the activated carbon. Generally liquid phase carbon is characterized as having majority of pores of 3 mm diameter and larger and for gas phase carbon the pores are of 3 mm and smaller.

Bulk Density

Bulk density of activated carbon together with its specific adsorptive capacity for a given substance is important to determine the bed capacity in the design of the adsorption system or to determine grades of carbons required for an existing system.

Particle size

The range of particle sizes of activated carbon is important. The rate of adsorption has been shown to depend inversely upon the particle size. The smaller particles have faster rate. However in fixed beds, the pressure drop increases as particle size decreases.

Mechanical Strength

The mechanical strength or hardness and the attrition resistance of the particles are important where pressure drop and carbon losses are a concern.

Kindling point

The kindling point of the carbon must be high enough to prevent excessive carbon oxidation in gas phase adsorption where high heat of adsorption, particularly of ketones are involved.

Chemical Properties

The most important chemical properties of activated carbon are the ash content, ash composition and pH of the carbon.

Iodine Number

Iodine No. of activated carbon

Assistance to units under Technology Mission on Coconut (TMOC)

Under the scheme Technology Mission on Coconut, the Coconut Development Board is providing technical and financial support to entrepreneurs interested in initiating coconut processing industries. The financial assistance is project based and the assistance is to the tune of 25 % as back ended subsidy limited to a maximum amount of Rs.50 lakhs. Details of activated carbon units assisted under TMOC is detailed below:

Sl. No.	Name of the Unit	Capacity (MT/day)
1	M/s. Adsorbent Carbons Limited, Sipcot Industrial Complex, Tuticorin, Tamil Nadu	6
2	M/s. Raj carbon, Tuticorin, Tamilnadu	4
3	M/s. Genuine Shell Carb Private Limited, Erode, Tamilnadu	9.2
4	M/s.Active Char Products Pvt.Ltd, Maradu, Kundannoor, Cochin, Kerala	15
5	M/s.Kalpaka Chemicals Pvt.Ltd, Tuticurion, Tamilnadu	14
6	M/s. Adsorbents Pvt. Ltd., Tuticorin (Expansion), Tamilnadu	5
7	M/s Global Eco carbon Pvt. Ltd., Tumkur, Karnataka	4
8	M/S. Indo German Carbons Ltd, Edayar Industrial Area , Binanipuram, Ernakulam, Kerala	9
9	M/s ABI Technochem (p)Ltd, Tuticorin, Tamilnadu	4
10	M/s. Coco Carbons (India) Pvt. Ltd., Industrial Area, Sompura Hobli, Nelmangala Taluk, Bangalore, Karnataka	8
11	M/s. Universal Carbon, Trichy, Palladam, Tamilnadu	3
12	M/s. Sundar Carbon, Fisheries College, Backside, Madurai Bypass Road, Tuticorin, Tamilnadu	12
13	M/s. EBE Liza Enterprises, Tuticurion, Tamilnadu	1.50
14	M/s. Kajah Enterprises (P) Ltd, 64, South Car Street Tirunelveli Town, Tamilnadu	5
15	M/s. Kavin Carbons Pvt. Ltd, N.Subramaniapuram, Sattur Taluk, Tamil Nadu	4

is the Milligrams of Iodine adsorbed per gram of carbon at residual filtrate concentration of 0.02 N. It is a measure of micropores. It is' one of the standard measurements

made to evaluate the specific adsorptive capacity of activated carbon. The higher the Iodine number, the higher would be the adsorptive capacity.

Carbon Tetra Chloride Activity

Gas adsorptive properties of activated carbon may be statistically determined by exposure to the desired substance at constant temperature and humidity levels. The adsorptive capacity is reported as weight percent pick up of the adsorbate by the carbon adsorbent. The most commonly applied gas adsorption tests are Carbon Tetra Chloride (CCl₄) and Benzene activity tests. The Carbon Tetra Chloride activity of a sample is its weight percent pick up, at equilibrium of Carbon Tetra Chloride from a dry air stream saturated with Carbon Tetra Chloride.

Methylene Blue value

Methylene Blue value is the maximum number of millimeters of standard methylene blue solution which can be completely decolourised.

Ash Content

Reduces overall activity of activated carbon, reduces efficiency of reactivation and metals (Fe₂O₃) can leach out of activated carbon resulting in discoloration.

Applications

Waste Treatment

Activated carbon can be used to treat a number of contaminants in liquid wastes including Non - biodegradable organic compounds (COD), Adsorbable Organic Halogens (AOX), Toxicity, Colour compounds and dyestuffs, Inhibitory compounds for biological treatment systems Aromatic compound including phenol and bis-phenol A (BPA), Chlorinated/halogenated

Grades of Carbon		
GENERAL GRADE CARBON		
Sl. No	Properties	Specifications
1.	Physical	4 US Mesh TO 325 US Mesh
2.	Typical sizes	4x8, 6x12, 8x16, 12x30, 18x40, 30x60 40x140, Minus 100 Mesh
3.	Bulk density	0.4 TO 0.55 GM/CC
4.	Activity level	35 - 80 CTC 600 - 1300 Iodine no.
5.	Surface area	600 - 1350 M ² /GM
6.	Ash content	3 - 5%
7.	pH	8 - 10.5
8.	Moisture	3 - 10%
SPECIAL GRADE CARBON		
Sl. No	Properties	Specifications
1.	Acid Washed	pH: 6 – 8
2.	Impregnated	Silver impregnation, Copper impregnation, Koh impregnation.



organic compounds, Pesticides and a host of toxic substances.

Air Pollution Control

In the context of air pollution control, Volatile Organic Compounds (VOC's) from air and other gases can be removed by activated carbon to below the detection limit. Noxious compounds such as hydrogen sulphide and mercaptans are readily trapped through adsorption on activated carbon and help to prevent odours. Dioxins and heavy metals such as

mercury and cadmium are not normally removed to low enough concentrations by conventional treatment. A range of industrial inorganic compounds and materials can be removed from gas streams, before venting to the atmosphere, using specialized impregnated or catalytic (Centaur) carbons.

In the Food and Beverage Industry

Activated carbons can be used in the Food and Beverage industry to decolourise, dechlorinate, deozonate, decaffeinate, debitter, deodorize a number of food products.

In the Pharmaceutical Industry

In the Pharmaceutical industry, activated carbons are used for removal of colour compounds, odour compounds, proteins and other contaminants that could be present in the raw materials or that

form during production.

As a Catalyst

With its large surface area, purity and relative hardness, activated carbon is an ideal carrier for catalytic metals or a catalyst by itself. Activated carbons have been successfully used as a catalyst in the manufacture of dry cell batteries, production of biodegradable herbicides like cyanuric chloride glyphosate, mercaptan removal in petroleum distillates and in the production and destruction of phosgene.

In the production of natural gas

Activated carbons have also been used for removal of mercury from natural gas for the production of L.N.G., removal of mercury from liquid hydrocarbons and the removal of mercaptans/thiols, hydrogen sulphide and amine solutions from natural gas and natural gas scrubbing.

In the brewing industry

Industrial uses of activated carbon also include its use for the purification of hydrocarbon contaminated Carbon Dioxide generated from the conversion of sugars to alcohol and its reuse for carbonation in the brewing Industry thereby eliminating the need from purchasing Carbon Dioxide from outside sources.

For the storage of gases

It can also be used to remove trace lubrication oils from waste streams and in fruit storage for gas storage (under pressurized condition the extensively developed carbon porosity provides for greatly enhanced volume storage of either a pure gas, such as carbon dioxide

or nitrogen, or a gas mixture such as air) and delivery and also in applications that provide alternatives to greenhouse gas emissions.

In the Caustic soda Industry

Caustic Soda is used extensively in, and is also a by-product from, the chlor-alkali industry. Mercury cells are used for production of chlorine, hydrogen, and sodium (in a few plants potassium) hydroxides by electrolysis of a brine solution, and this can cause contamination. Steam activated and impregnated carbons are proven for this application.

For the purification of Electroplating Chemicals

Electroplating chemicals that become contaminated with organics and metal finishing residues can be purified by the use of steam activated carbon and the chemicals can be recycled for reuse. Chromium can be recovered from electroplating solutions.

In Process Water treatment

In process water treatment, activated carbons are used to remove tastes and odors, disinfection byproducts like chloramines, free and combined chlorine, trihalomethanes and halocarbons, for pH and alkalinity control, condensate recovery and treatment systems in steam generating operations, personal and collective protective masks against toxic gases including Industrial and military respirators.

Other Applications

Other applications include within air filtration systems in archives and museums, ozone management in

ponds and aquaria, treatment of swimming pool water for removal of organic matter, chloroform, ozone, chloramine and other bonded chlorine and in cigarette filters, filters for treating cabin air in automobiles.

Industrial Applications of Activated Carbon

Liquid - Phase applications

- Refining and bleaching of vegetable oils
- Purification of potable and beverage water
- Treatment of municipal and industrial waste water
- Remediation of contaminated ground water by absorbing pesticides
- Purification of aquarium and pond water
- Purification, extraction and adsorption of pharmaceuticals and chemicals
- Solvent recovery
- Removal of color and odor contaminants in food

Gas - Phase applications

- Air purification systems like indoor air conditioning and industrial air cleaning systems
- Adsorption of hydrocarbon vapors and volatile organic compounds (VOC's)
- Solvent vapor recovery





- Clarification and purification of effluent and industrial gas
- Automotive evaporation control systems
- Gas masks and cigarette filters

Gold Recovery

High grade coconut shell based granular activated carbon is used to recover gold from low grade ores and residue streams. Activated carbon finding its applications in gold recovery process are: Carbon-in-pulp (CIP), Carbon-in-leach (CIL) and Carbon-in-column (CIC).



Global Scenario & Market Analysis

The major producers of coconut shell based activated carbon were Philippines, Indonesia and Sri Lanka who emerged into the field more than twenty years back with the assistance of European carbon suppliers. Even though coconut shells from southern parts of India were considered the best suitable for application, production of high quality activated carbons started producing very recently only with the advent of world class



Kilns



Transporting



Finished products

manufacturing facilities. Activated carbon manufacturers and major consumers are increasingly looking to secure sourcing / production base in Asia, where cost advantage can be obtained for raw material as well as man power.

Norit and Calgon Carbon Corporation accounts for more than 50% of the market share in world market. Norit is sourcing their major share of coconut shell carbon from India. According to Roskill information services, London, activated carbon sales growth will be 8 to 10% in the global market.

Forecasted rise in demand will be 5% to 10% in the US, Europe and Japan for the next 5 years and about 15% in Asia and Latin America. Higher levels of industrial activity, rising population, and more stringent environmental regulation will spur demand for activated carbon in water treatment which accounts for about 35% of global consumption.

Gas phase applications will offer more rapid gains through the decade, a performance that is largely attributable to expanding opportunities in air purification and emission canister applications. Strong gains are forecast for automotive emission canisters where activated carbon demand is

rising due to strict guide lines.

The new regulation has necessitated the use of larger capacity canisters which is increasing activated carbon usage per unit. Opportunities are also rising in air purification application. Value demand for activated carbon will be favourable in the future, benefiting from continued development of value added products designed for specialised applications, where higher prices are justified by the potential to significantly improve the efficiency of a production or recovery process and the quality of the end product.

**Director & **Senior Technical Officer,
CDB, Kochi-11*

Coconut finds new horizon

India holds the first position in coconut productivity, second in production and the third position in area under coconut globally. But we lag far behind other countries in processing, value addition, and export of coconut products. It is high time that we change our traditional attitude and venture into product diversification, value addition and exports. The modern consumer is too conscious of quality and is reviewing everything from the quality point of view. Here are the success stories of a few coconut farmers turned entrepreneurs reaping success from the stringent quality parameters they follow and are into the export of various coconut products viz. tender coconut water, coconut oil, organic coconut oil and frozen grated coconut.

Pure Tropic is a partnership firm started by Mr Shanmuganand and Mr Mohanraj in 2010 manufacturing and marketing packed tender coconut water under the brand name Tendo. Both were

looking for a change from their existing textile business and wanted to diversify into the beverage industry. The increasing demand for coconut water prompted them to venture into the processing, packing and marketing of tender coconut water.

Packing coconut water in its most natural form, retaining its health benefit and flavor was really a challenge. Various technologies for preserving coconut water without adding any preservatives were studied in depth. After an year research, a best solution was arrived at and they decided to go ahead with tetrapak packaging.

The initial days of Pure Tropic were not that easy. It was extremely difficult to find a suitable market for this premium packaged product. A lot of time was spent on educating the distributors and retailers about the technology used by Pure Tropics for producing this most natural form of coconut water. The company is now processing

about 1,75,000 nuts per month and the present capacity of the unit is 2, 00,000 tender coconut water packs per month.

The product was initially introduced in North American market. It was well accepted by the Asian community in North America. The product is available in most of the ethnic retail stores in North America. The initial success motivated them to expand their business further to all the countries having Asian population. According to Shanmuganand, one of the main hurdles faced in the marketing and export of the tender coconut water was the ignorance of people on the benefits of tender coconut water over mature coconut water. Creating awareness was in fact a Herculean task. Countries like Thailand are selling mature nut water at a very low price. Competing with their price and convincing the distributors, retailers and consumers about the difference was really a big challenge for the company.

Pure Tropics is taking great care in the quality of the product. Tender coconut is collected from selected farmers only. Trained climbers harvest the tender nuts. In order to avoid damage to the tender nuts, nuts are lowered to the ground using ropes. Stringent quality standards are followed all through the process. A quality assurance team is strictly monitoring the supply chain. The plant is HACCP compliant. The turnover of Pure Tropics in 2010-11 was about 40 lakhs it has grown to nearly 2 crores in 2011-12. The



Tendo: Packed tender coconut water from Pure Tropic

company is planning to expand its capacity by adding a Tetrapack machine for packing 330 ml size.

For more information contact: Pure Tropic, 283, Mangalam Road, Karuvam Palayam, Tripur-641604, Tamil Nadu, Web: tendococonutwater.com.

KLF Nirmal Industries (P) Ltd is a leading coconut oil manufacturer since the 2 decades offering pure and clear KLF NIRMAL coconut oil, extracted from fine quality copra, procured through their own purchase centres, from various parts of Kerala, in their own oil mill situated at Irinjalakuda, Thrissur District, Kerala.

Company's founder, Shri K L Francis was a doyen in coconut oil industry of Kerala with his long standing experience and he was procuring good quality copra directly from the farmers, avoiding middlemen thus ensuring full value to the farmer for his produce. He redefined the extraction of coconut oil by switching over to expeller technology from conventional rotary chucks ensuring higher yield.

KLF NIRMAL is a well accepted brand amongst coconut oil

consumers due to its natural colour, aroma and inherent characteristics. High quality standards right from buying copra to extraction and packing is maintained.

The product is available in Kerala, Karnataka, Tamil Nadu, Andhra Pradesh, Maharashtra, Orissa and Chhattisgarh. KLF's commitment to quality is reflected in its ISO 9001 Certification, while its commitment to environmental conservation is reflected in its ISO 14001 Certification. The company has recently obtained ISO 22000 certification too.

It was in 2002-03 that KLF ventured into exporting of coconut oil. Encouraged by the good track record achieved in the domestic market and due to the wide acceptability of KLF coconut oil by the consumers, the company ventured into export market in 2002-03. Similar to the domestic market, coconut oil could carve a niche in the export market as well because of its purity, quality, aroma and extended shelf life. KLF is one of the leading coconut oil exporters in the country. Over the years, KLF's export volume has grown manifold. The product is now available in UAE, Bahrain, Kuwait, Saudi

Arabia, Oman and Qatar.

KLF is getting regular enquiries from other parts of the world and is incessantly working on to widen its export markets. The company is exporting coconut oil to countries like USA, South Africa, Tanzania and Pakistan. KLF is a recognized certified Export House too.

In recognition of the unstinted efforts made by KLF, the company was awarded with the Export Award 2004-2005 for export of non-traditional item (coconut oil) by the Indian Chamber of Commerce & Industry and the Best Exporter Award – 2008 instituted by Coconut Development Board.

For more information Contact: KLF Nirmal Industries (P) Ltd. Fr.Dismas Road, Near Christ College, Irinjalakuda-680121 Thrissur, Kerala-India. Tel: +91-480-2826705, Fax:+91-480-2825708, Email:klfgroup@klfnirmal.com, care@klfnirmal.com

James Thomas, is a sagacious farmer from Kothamangalam in Ernakulam district who has identified the potential of venturing into processing and export of coconut oil and organic coconut oil. He is an advocate of organic farming and exemplifies the same through the processing and marketing of organic coconut oil. Now he has entrenched himself as an exporter of organic coconut oil.

Since the negative publicity of coconut oil is waived off now, consumption of coconut and its products have increased manifold especially in the international market. The medicinal properties of coconut oil, especially organic coconut oil is well accepted among the Asian population. His colourless, odourless coconut oil is





James Thomas

having good demand in America and Europe. James' organic coconut oil is mainly used for making capsules for fighting cholesterol. James is an organic farmer since the last 8 years. Indocert has certified his farm for its organic compliance.

James is exporting nearly two tonnes of organic coconut oil through several exporters. The major destinations are America, Saudi Arabia, Czechoslovakia and Australia. James is so confident about the quality of his product. 'Very good, very very good' was the comment James received for his organic coconut oil from Peter, a Czechoslovakian buyer.

James is having 28 acres of organically cultivated coconut plantation. He is following mixed farming wherein nutmeg, cocoa, banana and arecanut are grown as intercrops. A single nut from James' garden weighs nearly 800 gm to 1 kg. He is mostly using his own nuts for making oil. He purchases nuts from organically certified gardens too. He is having 2 modern copra dyers and 2 modern expellers. The product is double filtered for best quality. The organic certification is getting for him 30% additional income, says James. He is selling his product @ Rs. 100 per liter.

It is only six months since he has started the production of organic coconut oil. More than 15 tonnes of organic coconut oil is supplied to various destinations. The product is packed in bulk packing of 200 kg barrells and 25 liter cans. The product is also available in 1 liter bottles and cans.

Fore more information contact: Ottakattil House, Chelad P O, Kothamangalam, Phone: 9946662580

Lalan Tharakan of Tharakan Foods, Pvt Ltd. Alapuzha is unique in his own way. This farmer is producing and exporting frozen grated coconut in bulk quantities. The frequent price fluctuation persuaded him to think differently. He started the export of frozen grated coconut in 2008. Initially he was selling the product to a Gujarat based export house and later on he started exporting the product directly. USA is his major destination.

Lalan Tharakan is utilizing nearly 2 lakh nuts per month. He is mainly using his own nuts and nuts are procured from Palakkad and Chalakudy. He is procuring the nuts from the framers @Rs12 per kg. The shell of the nut is broken into

pieces, and the meat is taken out as such. The testa is removed manually. He is having a water treatment plant where the testa is cleaned thoroughly. He himself has designed a grating machine with which the nuts is grated and packed. The product is packed in 200, 227 and 480 gm and 1kg packs. The product in its frozen condition has a shelf life of one year. He is exporting nearly 25 tonnes in a month. The product is branded 'kinkai' and sold locally too. Lalan's turn over in 2010 was only Rs. 50 lakhs. It has now grown to Rs. 1.5 crores now.

Fore more information contact: Tharakan Foods Pvt. Ltd, Ezhupunna P.O., Cherthala, Phone: 9447260482.



Kinkai Crated Coconut

India's coconut exports are going up in spite of the tough competition posed by the other coconut growing countries. Abundant opportunities are existing in the export sector for coconut and its products. It is the responsibly of our farming community to exploit these opportunities. Let that be the need of the hour.

Business Opportunities

REFINED COCONUT OIL

A company is looking for suppliers of refined coconut oil, 300-500 MT. Those who are interested may contact:

Mr. Narendra Babu, Vadilal Industries Ltd.,
2-21, Upstairs, Officers Lane, Chittoor - 517 001 (A.P)
Tel. 08572 - 234883 / 233815, Tel./ Fax. 08572 -
226858, e-mail: vadilal9@gmail.com,
vadilal_ctr@yahoo.co.uk

CRUDE COCONUT OIL

Registered company; KATTNA Agency Fiji Ltd. specializes in the importation of copra from Kiribati Island in Kiribati planning to crush the imported copra in Fiji. They are seeking interested buyers for their crude coconut oil. Interested parties may contact:

Ms. Sue
Director, KATTNA Agency
Email: kattna.agency@gmail.com

COCONUT SHELL CHARCOAL AND VIRGIN COCONUT OIL EXPORTER

Production capacity of coconut shell charcoal is 100 tons per month or more with the quality of 5-6% moisture content and 3% ash. Virgin Coconut Oil production capacity is 100 tons/month.

Contact person:

Mr. Joseph Jupiter Pardede
Kepala Balai Riset dan Standardisasi
Industri
Badan Penelitian dan Pengembangan
Industri
Departemen Perindustrian
Jl. Diponegoro No. 21-23
Manado 95112, North Sulawesi
Email: jos1155@yahoo.com

COCONUT WATER AND MILK

We are looking for suppliers of long term coconut water and coconut milk that are not tied up with major global brands. Interested parties may contact:

Dr. Vinay Chand,
230, Finchley Road, London, NW36DJ
United Kingdom
Tel: 020-77945977
Fax: 020-7431 5715
Email: vinaychand@msn.com

REFINE COCONUT OIL

An ice coating producer from Poland is looking for Refine Coconut Oil. They annually use approx. 1000 MT. Interested parties may contact:

Mr. Dorota Hoffmann
Import Department, Terravita Sp. Z.o.o.
ul. Szarych Szerega 48, 60-462 Poznan, Poland
Tel: 48 61 66 88 315, Fax: 48 61 822 19 31
Mobile: 609 479 239
Email: import@terravita.com.pl
www.terravita.pl

GRATED COCONUT

A trade company, who deal with import export of different raw materials, is looking for grated coconut. Interested parties (exporting companies) contact directly:

Mr. Carlos Marin
Director of NISA S.A. de CV
Cancun-Quintana Roo Mexico
Tel: 52 998 886 88 96
Email: carlos.marin@gruponisacar.com

ORGANIC COCONUT MILK

An Australian buyer has approached Pacific Islands Trade & Invest, expressing interest in importing certified organic coconut milk from the Pacific islands. The buyer is currently buying in 20 litre containers from Thailand. Product must be certified organic. For further details contact:

Mr. Jeremy Grennell
Pacific Islands Trade & Invest
P.O. Box 5407, Sydney, NSW 2000, Australia
Tel: 612 9290 2133
Email: jeremy.grennell@pacifictradeinvestment.com

COCONUT WOOD

A company is looking for suppliers of wood of red coconut and black palmyra (black palm tree) as lumber/timber/ squares/logs/planks with specification of the thickness: 20/30/40/50 mm, widths: 5 – 15 cm (may be 20 cm), or square: 5x5 6x6 8x8 10x10 cm, Lengths: 1m+, high + medium density, best quality, and dry (AD+KD). Interested parties may contact:

Mr. Mathias Pfeifhofer
Email: brainwood@gmx.de

World Coconut Day celebrated

All coconut growing countries in the Asia and Pacific region observe 2nd September as World Coconut Day every year. The foundation day of the Asian and Pacific Coconut Community an intergovernmental organization is observed as the foundation day of all the member countries. APCC decided that September 2nd, the day APCC was established be designated the World Coconut Day. The objective of observing coconut day is to create increased awareness and

industry a sustainable industry. Coconut Development Board organised various functions across the country to celebrate the World Coconut day on 2nd September .

Shri. Bhaskar Bhaurao Jadhav, Minister for Urban Development, Forests, Ports, Khar Lands and Guardian Minister for Ratnagiri District, Govt. of Maharashtra inaugurated the World Coconut Day celebration of the Coconut Development Board at Ganpatipule,



In his inaugural address, Shri. Bhaskar Bhaurao Jadhav, sought the technical guidance of Coconut

Development Board in enhancing potential of coconut cultivation in Konkan region of Maharashtra. He announced that the government is planning to allot 100 ha of land for establishing a Demonstration cum Seed Production Farm (DSP farm)



Shri. Bhaskar Bhaurao Jadhav, Minister for Urban Development, Forests, Ports, Khar Lands and Guardian Minister for Ratnagiri District, Govt. of Maharashtra inaugurating the World Coconut Day celebration at Ganpatipule, Ratnagiri, Maharashtra. Seen are Shri. Uday Samant, Hon'ble MLA, Shri. Sudhir Kumar Goel IAS, Principal Secretary (Agriculture & Marketing), Govt. of Maharashtra, Shri.T.K. Jose IAS, Chairman, CDB, Shri. Rajeev Jadev IAS, District Collector, Ratnagiri, Dr.K.E. Lawande, Vice Chancellor, Dr.Balasaheb Sawant Konkan Krishi Vidyapeet, Dapoli, Shri. Niranjan Davkhare,MLC, and Shri VV Limaye, Vice Chairman, CDB

importance of coconut and help focus national and international attention to this crop and to enhance its potential to alleviate poverty, encourage investment in the sector and promote the total development of coconut industry in the producing countries. This is an occasion to review policies and formulate plan of action in this sector. It is also an occasion to find ways and means to make coconut

Ratnagiri, Maharashtra on 2nd September 2012. Taking into account the development of coconut cultivation in western region of India, Coconut Development Board celebrated the World Coconut Day 2012 at Ratnagiri in Maharashtra on the theme Potential & Prospects of Coconut Cultivation in Western Region of India .

for Coconut. The Minister also released the first copy of the, *Bhartiya Naral Patrika*, the Marathi publication of the Board. Shri. Uday Samant, MLA in his presidential address requested the farmers to further extend their area under coconut in the western region.



Shri.T.K. Jose IAS, Chairman, Coconut Development Board in his keynote address stated that after the implementation of proposed demonstration cum seed production farm in Maharashtra there will be five fold increase in coconut cultivation in Maharashtra within the next 5 years. Board will work in tandem with the State Government for implementing various schemes. At the juncture of price fall of coconut and coconut oil, the Board is focusing more on processing and value addition to get more income from coconut products.



Shri. Sudhir Kumar Goel IAS, Principal Secretary (Agriculture &

Marketing), Govt. of Maharashtra in his address stated that good quality coconut seedlings are required for establishing nurseries in the region. Good quality mother palms will be identified for producing quality seedlings and this will be done with the technical assistance of Coconut Development Board.



Dr.K.E. Lawande, Vice Chancellor, Dr.Balasaheb Sawant Konkan Krishi Vidyapeet, Dapoli, Shri. Niranjan Davkhare, MLC and Adv.Varkala B. Ravikumar, Member, CDB spoke on the occasion. Shri. Vasant Vishnu Limaye, Vice Chairman, CDB in his welcome address urged the farmers to extend the area under

c o c o n u t cultivation and to practice scientific cultivation to have b e t t e r remuneration. Shri. Sugata Ghose, Chief Coconut Development Officer, Coconut Development Board proposed a vote of thanks.



The inaugural session was followed by a technical session chaired by Shri. Sugata Ghose, Chief Coconut Development Officer, CDB. Shri. G.D. Joshi, (Retd.) Director (Extension), Dr.Balasaheb Sawant Konkan Krishi Vidyapeeth (BSSKV), Dapoli; Dr. Dilip Nagvekar, Retd. Agronomist, RCRS, Bhatye; Dr. Vijay Kumar Desai, Entomologist, BSSKV, Dapoli; Smt. Jayashree A, Sr.Technical Officer, CDB and Shri. V. G. Chandrasekharan, Statistical Officer, CDB made

presentations on various topics on coconut cultivation, pest and disease and value addition.

An exhibition was also held wherein the latest technological developments in the field of agriculture was showcased. The theme pavilion of the Board displayed posters depicting the nutraceutical and medicinal values of coconut and its products.

Samples of different value added products, decorative, utility and industrial items made of coconut wood, coir, whole coconut, coconut shell, etc. was the centre of attraction. The Minister and other delegates visited the exhibition. On observing the varied nutritious and convenient value added products made from coconut, the Minister envisaged viable markets for these products in the State. He also watched the demonstration of the palm climbing device. MTDC; Dept. of Agriculture, Govt. of Maharashtra; Dr. BSSKV, Dapoli; Adivasi Food Products Pvt. Ltd., Maharashtra; kisan.com; Dinesh Foods, Kerala, Keratech (P) Ltd., Kerala; Sree Engineering Works, Ratnagiri and Ormichem took part in the exhibition.

As part of the World Coconut Day celebrations, competitions in essay writing and poetry were organized for school children, teachers and public. Competitions were also held in coconut recipe, palm climbing and coconut bunches. Cash prize of Rs. 750, Rs. 500/- and Rs.250/- was awarded to the winners. Shri VV Limaye, Vice Chairman and Shri Sugata Ghose, CCDO, CDB distributed the prizes to the winners during the valedictory session.

More than 2000 farmers from different parts of Maharashtra, Goa, Andhra Pradesh, Gujarat and Karnataka attended the meeting.



The Minister and other dignitaries in the CDB stall

World Coconut Day celebrated across the country

Karnataka

Coconut Development Board, Regional Office, Bangalore celebrated World Coconut Day at Basavarajendra High School premises, Arasikere on 2nd September, 2012. A coconut exhibition was also held as part of the Celebration. Shri. K.M. Shivalingegowda, MLA, Arasikere inaugurated the programme and Shri. G.M. Siddesh, MP, Davanagere inaugurated the exhibition.

Shri. K.M. Shivalingegowda, MLA in his address spoke on the various issues of coconut farmers like, drought, incidence of pest and diseases and the fall in price of coconut. He called upon the government to give much attention to the problems of coconut growers particularly in Hassan, Tumkur and Chickmagalur districts where coconut is grown abundantly. He further informed that to arrest the falling price trend of coconut, the Government of Karnataka is taking measures to stabilize the price of coconut. The farmers must also make efforts to increase the productivity of coconut by adopting scientific management practices.

Shri. G.M. Siddesh, MP, Davanagere in his address called upon the government to declare tender coconut water as national drink. He opined that the present soft drinks have to be replaced with natural healthy tender coconut water. Shri. B. Basavaraj, MP, Tumkur and Member, CDB, in his presidential address said that since the coconut growers are reeling under price crash, Government intervention is urgently required to help the coconut farmers in getting at remunerative price for their produce. Dr. Viswanth, MLA

Kadur in his address said that the Mangalorens are healthy and active in nature because they use coconut oil in their daily food. He added that government should encourage the use of coconut oil as edible oil and also conduct more and more awareness programs to educate public that consumption of coconut

and requested the Board to provide more funds to the district for the development of coconut cultivation as well as for setting up coconut based industries.

The programme was conducted in association with Karnataka State Coconut Growers Association and Department of Horticulture. A



Shri. K.M. Shivalingegowda, MLA inaugurating the programme at Arasikere

oil will not increase cholesterol. Shri. Nagesh MLA, Tiptur in his address expressed his concern over the fall in prices of coconut.

Shri. Vijayakumar Hallikeri, Deputy Director, Coconut Development Board, Regional Office, Bangalore in his key note address briefed on the importance of World Coconut Day and requested the farmers to adopt scientific management practices to increase the productivity and to make their gardens pest and disease free. Due to drought and price fall of coconut and copra coconut farmers are facing severe problems in Karnataka.

Dr. T. R. Chandrashaker, progressive farmer and President, Karnataka Coconut Growers Association spoke on the occasion

coconut exhibition was also organized wherein various departments and manufacturers participated. A coconut workshop and an awareness programme on value addition of coconut was also organized.

Shri. Vijayakumar Hallikeri, Deputy Director CDB, chaired the technical session. Experts and scientists from Horticulture Research Station and KVK made presentation on coconut cultivation, pest and disease management, harvesting, marketing and processing of coconut and on the schemes of various departments. President, Vice President and Directors of the Coconut Growers Association and 5,000 farmers from Tumkur, Hassan, Chikmangalore, Chitradurga and Shimoga attended the programme.

Orissa

Coconut Development Board State Centre and DSP Farm, Pitapally, Odisha celebrated World Coconut Day at Siripur, Bhubaneswar on 2nd September 2012. Dr.S.K. Chaddha, IFS, Director, Horticulture, Government of Odisha was the chief guest and Prof.P.C.Lenka, Director (Planning, Monitoring and Evaluation), OUAT, Bhubaneswar presided over. Shri. Jagannath Sahani, Director of Agriculture (Retd), Government of Odisha and Dr H.S.Singh, Head, Central Horticultural Experiment Station, Bhubaneswar were the guests of honour. Shri.K. Debnath, Deputy Director i/c, CDB, State Centre delivered the welcome address and spoke on the importance of World Coconut Day. More than 150 department officials and farmers participated in the function.

In the inaugural address, Dr.S.K.Chaddha IFS, Director of Horticulture advised the coconut farmers of the state to utilize the assistance provided by the Board for increasing the area under coconut cultivation as well as improving the productivity of the existing plantations. He also stressed the need for establishing coconut based industries in the state for value-addition of coconut particularly packaged tender coconut water, virgin coconut oil and activated carbon for increasing the income from coconut cultivation.

Shri. Jagannath Sahani, Director, Agriculture (Retd), Government of Odisha advised that stringent measures should be taken during the procurement of seed nuts as well

as during the selection of coconut seedlings for providing best quality seedlings to the farming community. Dr H.S. Singh, Head, Central Horticultural Experiment Station, ICAR, Bhubaneswar spoke on the importance of planting different intercrops in coconut garden for increasing the income per unit area. He also stressed the need for controlling eriophyid mite in Odisha. Due to the attack of the mite, the size and quality of the nuts are



Prof.P.C.Lenka, Director (Planning, Monitoring and Evaluation), OUAT, Bhubaneswar delivering the presidential address. Seen are Dr. S.K. Chaddha, IFS, Shri. B.P. Mishra, Dr. H.S. Singh and Shri. Khokan Debnath

deteriorating. In his presidential address, Prof.P.C.Lenka appealed the farming community for adopting latest technology on coconut cultivation and advised to increase the area under coconut as Odisha is one of the most potential coconut growing states in India. Besides traditional coastal districts, other interior districts like Keonjhar, Mayurbhanj, Nayagarh etc. may be considered for new plantations. An exhibition was also held wherein various products and byproducts of coconut were displayed. Smt. Swapna Surendran, Technical Officer, CDB State Centre proposed a vote of thanks.

The inaugural session was followed by technical session chaired by Prof.P.C.Lenka, Director (Planning, Monitoring and Evaluation), OUAT, Bhubaneswar. Prof.H.P. Patnaik, Department of Agricultural Entomology, College of Agriculture, OUAT, Bhubaneswar spoke on integrated management of insects-pests of coconut with special reference to black headed caterpillar and eriophyid mite in Odisha. Dr.S.C. Sahoo, Scientist-

in-charge, AICRP on Palms, OUAT, Bhubaneswar spoke on coconut nursery management and establishment of a good coconut plantation. Dr.S.S. Mohapatra, Associate Professor, College of Agriculture, OUAT, Bhubaneswar made a presentation on integrated management of diseases of coconut in Odisha. Shri. S.B.Das, Deputy Director (Planning), Department of Horticulture spoke on the various state sector schemes on coconut in Odisha. Shri. Khokan Debnath, Deputy Director i/c, CDB, State Centre made a presentation on the schemes of Coconut Development Board and formation of Coconut Producers Societies in Odisha.

Tamil Nadu

Coconut Development Board, Regional Office, Chennai, in association with Rethinam Institute of Management, Tamil Nadu Agricultural University, Department of Agriculture, Government of Tamil Nadu and Coconut Growers Associations celebrated World Coconut Day on 2nd September 2012 at Rethinam Institute of Management, Coimbatore. Shri. K. Sugumar, MP, Pollachi presided over the function and Dr. K. Ramasamy, Vice-Chancellor, TNAU, Coimbatore was the chief guest. Shri. S.Panneer Selvam, Secretary, Coconut Growers Association, Theni made the introductory remarks and Dr.K.Rajamanickam, Professor & Head, Coconut Research Station, Aliyar Nagar, Pollachi spoke on the activities of



Shri. K. Sugumar, MP delivering presidential address on World Coconut Day

the Research Station. Dr.Madhan A Sendhil, Chairman, Rethinam group, Shri. C.M.Kamaraj, Managing Director, Sakthi Coco Products, Pollachi, Shri. S. Lakshmi Raj, Joint Director of Agriculture, Coimbatore, Shri.Hemachandra,

Deputy Director, CDB, Chennai and Shri.T.A.Krishnasamy Gounder, President, UCGASI, Pollachi spoke on the occasion. Shri. S.S. Selvakumar, Technical Officer, CDB proposed a vote of thanks. An exhibition was also held during the occasion.

West Bengal

Coconut Development Board, State Centre Kolkata, West Bengal organized World Coconut Day celebration at Kolaghat Panchayet Samiti Hall, Kolaghat, Purba Medinipur on 2nd September 2012. Shri. Biplab Roy Chowdhury, MLA, Paskura-2, Purba Medinipur inaugurated the programme. He called upon the farmers to avail the assistance of the Board. He further requested the Board to make available enough dwarf variety coconut seedlings. Shri. Asit Banerjee, Sabhapati, Kolaghat Panchayet Samiti in his presidential address requested the Board to give training to the farmers in scientific cultivation of coconut. Shri. R.K. Das, Deputy Director, CDB, State Centre Kolkata delivered the welcome address and



Shri. Biplab Roy Chowdhury, MLA, delivering the inaugural address

spoke on the necessity for creating awareness on scientific cultivation of coconut for enhancing productivity. District Horticulture Officer, Assistant Director of Agriculture and Block Development Officer spoke on the occasion. More than 100 farmers and officials participated in the function. Shri Babul Chakraborty, CDB, State Centre Kolkata proposed a vote of

thanks. The inaugural function was followed by a technical session. Dr. K. Ghorai, District Horticulture Officer, Department of Horticulture, Government of West Bengal, Shri. Nabagopal Barman, Assistant Director, Department of Agriculture and Shri R.K. Das, Deputy Director, CDB made presentations.

Chhattisgarh

World Coconut Day was celebrated on 2nd September 2012 at Chavara Higher Secondary School, Kondagon, Chhattisgarh. Shri. N.S Thomar, Deputy Director, Horticulture, Jagadapur inaugurated the programme and Sr. Shalini, Manager, Chavara Higher Secondary School, Kondagon presided over. Shri. R.S Sengar, Assistant Director welcomed the gathering and Mr. Mrinal Kanti Nath, Field Officer proposed a vote of thanks.



Chief guest N.S.Tomar, DDH, C.G inaugurating the WCD - 2012 celebration

Andhra Pradesh

Coconut Development Board, State Centre, Hyderabad and DSP Farm Vegiwada jointly organised the World Coconut Day celebration, at KVK, Srikakulam on the theme formation of Coconut Producer's Societies (CPS) and Friends of Coconut Tree (FoCT) for the development of coconut cultivation and industry in Andhra Pradesh. Saurabh Gaur IAS, District Collector, Srikakulam inaugurated the programme. He offered all possible help to the Board in the formation of CPS and FoCT. He called upon the farmers to get united under CPS and reap the benefits by improving the production and productivity of coconut. Dr. Srinivasalu, Registrar, Dr.YSR Horticultural University, Andhra Pradesh in his presidential address

emphasized the need for forming CPS and FoCTs. Shri. K R Kuttikrishnan, Deputy Director, CDB, made a presentation on CPS and Shri. Pramod P. Kurian, Technical Officer, CDB made a presentation on FoCT.



Shri. Saurabh Gaur IAS inaugurating the programme

Dr. M Venku Naidu, Associate Dean, Agricultural College, Naira, Dr. P Jamuna, Programme Coordinator, KVK, Amdalavalasa, Dr. G Ramanadam, Principal Scientist (Hort), HRS, Ambajipetta, Dr.Ram Mohan, DDH, Government

of AP and Dr. S Muralikrishnan, JDA, Srikakulam, spoke during the occasion. Exhibition of value added coconut products, handicraft items and informative posters were also held as part of the world coconut day celebration.

Assam

Coconut Development Board Regional Office, Guwahati and DSP Farm, Assam celebrated the World Coconut Day at Srimanta Sankardev Kalashetra, Panjabari, Assam. Shri L. Obed, Director i/c, Coconut Development Board, Regional Office, East & Northeast, Guwahati,

Assam inaugurated the programme and spoke on the various schemes and the achievements of the Board in the region. Dr. GC Acharaya, Scientist i/c, CPCRI, Kahikuchi, made a presentation on "Coconut Cultivation Technology in Northeast region and Sri I.C Katiyar, Assistant

Director i/c, Coconut Development Board, DSP Farm Abhayapuri spoke on the activities of the DSP Farm. Shri. Raju Rai, CDB, RO, Guwahati delivered the welcome address and Shri B. Bara, Senior Technical Officer, CDB proposed a vote of thanks.

Kerala

Thrissur



Shri. K.P. Mohanan, Minister of Agriculture, Kerala delivering the inaugural address at Thrissur

World Coconut day was celebrated at Kerala Agricultural University, Mannuthy, Thrissur on 2nd September 2012 Shri. K.P. Mohanan, Minister for Agriculture, Kerala inaugurated the function. In his inaugural address, minister informed that state government will intensify the procurement operations. The minister further

called upon the farmers to utilize the 50% subsidy offered by the state government for setting up coconut dryer. Each block panchayath is eligible for a dryer. The minister also passed the resolution represented by the Coconut Producer Societies. Shri. C. P. John, member, Planning Board presided over. Dr. P K Rajeevan, Registrar, Kerala

Agricultural University handed over the technology developed by KAU for producing neera to the Minister. Dr. Jayaprakash Naik, Associate Director briefed on the technology developed by KAU. A seminar on value addition of coconut products was also held. The meeting was attended by members of the 50 CPSs of Thrissur district.

Kozhikode

World Coconut Day was celebrated at different venues by the Coconut Producers' Society in Kozhikode District. Kavunthara Coconut Producers Society, Naduvannur organised a meeting under the Chairmanship of Shri C.A. Sreedharan Master, Panchayat President, Naduvannur. Shri Sasi Kolath, President of the CPS presided over. The importance of CPS and other CDB schemes implemented was discussed in detail. Shri. T. Dasan MLA, Koyilandy Municipality inaugurated the office building of the Nanderi coconut Farmers' Federation in Naderi on the World Coconut Day. He offered all support in the smooth functioning of the CPSs and its Federations and assured to present

the problems of the farmers before the authorities.

Smt. Shantha, Chairperson, Koyilandy Municipality presided over. In her presidential address, she appreciated the efforts of the Board in the formation of CPS and Federations. Shri Balakrishnan, President of the Federation informed that the Federation was formed with federating 15 CPS of the nearby areas. The federation is planning to install a copra drier with 10,000 nuts capacity in the area and will make copra by collecting nuts from the members of the CPS and Federations. Ms. Mridula, Technical Officer, CDB spoke on the importance of World Coconut day and the activities of Board.

KERAFED, Kozhikode organized a coconut seminar on the World Coconut Day. More than 100 CPS registered with CDB attended the function. Shri Pradeep Kumar, MLA, North Kozhikode inaugurated the seminar. Shri Manayat Chandran, Chairman Kerafed in his presidential address informed that KERAFED is planning to supply copra dryers at 50% subsidy. Dr. K. Pratapan, MD Kerafed, Dr. K.V.Rajagopal, Senior Physician, Kottakal Arya Vaidyashala, Ms. Mridula, Technical Officer, CDB and Shri. Ajith C. S spoke during the seminar. Shri V.V.Hamza, Regional Manger, Kerafed, Kozhikode proposed a vote of thanks.

Thiruvananthapuram

World Coconut Day was celebrated in Thiruvananthapuram district at various venues under the auspicious of Coconut Producer's Societies. Smt. Jameela Prakasam MLA, Kovalam inaugurated the meeting held at Balaramapuram. Shri. M Krishnan Nair, President, Nenam Coconut Producer's Federation presided over. Smt. Nisha G, Technical Officer, CDB spoke on the relevance and necessity of forming Coconut Producer's Societies. The meeting was followed by a seminar on value addition of coconut products. Smt. Jissy George, subject matter specialist, KVK, Kayamkulam and



Smt. Jameela Prakasam, MLA delivering the inaugural address

Dr. N Radhakrishnan, Associate Professor, (Baalarampuram), Coconut Research Station made presentations. Vettampally Coconut Producer's Society in association with the Tissue Culture

Society conducted a coconut farmers meeting and seminar on World coconut Day. Friends of Coconut Trees were also honoured on the occasion.

Malapuram

Shri. Ubaidulla MLA, Malapuram inaugurated the World Coconut celebrations of the Board in Malapuram district. Shri. K P Muhammed Mustafa, Chairman, Malapuram Municipality presided over. Smt. K M Girija, Vice Chairperson, Malapuram Municipality, Shri. Paloly Kunjumammed, Member, Malapuram Municipality and Shri. K S. Sebastian, Assistant Marketing Officer, Coconut Development Board spoke on the occasion.



Shri. Ubaidulla, MLA delivering the inaugural address

Kollam

Coconut Development Board in association with Clappana Federation of Coconut Producers' Society celebrated the World Coconut Day in Kollam district. Shri. M. Ansar, Chairman, Kangarappally Municipality inaugurated the farmers' meet and seminar. Dr. P. Anithakumari, Sr. Scientist, CPCRI and Shri. R. Jayanath, Technical Officer, CDB spoke on the technical session that followed.



Shri. M. Ansar, Chairman, Karunagappally Municipality inaugurating the World Coconut Day celebration

Kottayam

Members of the Nedumanny Kera Samridhi Coconut Producers' Society visited Shri. Oommen Chandy, Chief Minister Kerala on World Coconut Day and requested him to save the coconut farmers from the present price fall of coconut. Chief Minister assured the farmers that the government will

work for the betterment of the coconut farmers. He informed that the government will provide financial assistance for buying copra dryers to 100 CPSs.

Virippukala CPS, Sarvodaya CPS, Kothavara CPS and Kottayam Social Service Society organised farmers meet on the World Coconut Day at various venues.



Members of the Nedumanni CPS handing over the representation to Shri. Oommen Chandy, Chief Minister of Kerala

Palakkad

Shri. T.N. Kandamuthan, President, Palakkad district Panchayat inaugurated the World Coconut Day celebration and the farmer seminar held in Palakkad district. Seminars was held on coconut farming and on the various

programmes of the Board. Pookottokavu Coconut Producers' Society, Kottappuram Coconut Producers Society and Muthalamada Coconut Producers Federation conducted World Coconut Day celebration in various venues in Palakkad district.

Kannur

Coconut Development Board in association with the Cherupuzha Coconut Producers Federation celebrated the World Coconut Day on 2nd September at Kannur. Shri. M. Krishnan, MLA, Payyannur inaugurated the farmers' meet and Shri. Roshy Jose, President, Cherupuzha Grama Panchayat presided over. Shri. K.M. Vijayan, Field Officer, CDB spoke on the occasion.

Shri. K K Gangadhran retired



Shri. K K Gangadhran retired from the services of the Coconut Development Board on 31st August 2012. He joined the Board in October 1982 and has served the Board for 30 years.

Shri. Sugata Ghose appointed CCDO of CDB



Shri. Sugata Ghose took over as the Chief Coconut Development Officer of Coconut Development Board on 18th September 2012. Shri. Ghose is a post graduate in Plant Pathology from Allahabad Agricultural Institute. He joined the Board in 1986 as Deputy Director and worked in Assam, West Bengal, Orissa and held charges of Manipur and Andaman and Nicobar Islands. He was promoted as Director in 1998. Shri. Ghose was instrumental in setting up the Demonstration cum Seed Production Farm of the Board at Abhayapuri in Assam and Pittapally in Orissa. He has authored many articles and presented papers in national and international seminars. Shri. Gosh started his official career in Darjeeling Tea Research Centre of the Tea Board in 1979. Further he worked with the Department of Agriculture, Goa, Daman and Diu as Coconut Development Officer. Consequent to the retirement of Shri. M Thomas Mathew on superannuation, Shri. Ghose was officiating as the CCDO in charge of the Board since 1st June 2012. Prior to this posting, he was the Director of the Board at its Regional office in Assam.

Maharashtra seeks CDB aid to raise coconut production

Our Bureau
Kochi, Sept. 4

The Maharashtra government has sought the technical guidance of Coconut Development Board to enhance coconut production in the Konkan region.

The Board, in a release issued here said that the decision to celebrate the World Coconut Day at Ratnagiri with the theme 'Potential and Prospects of Coconut Cultivation' was taken considering the development of coconut cultivation in the western region.

value-addition to get more income from coconut products. Potential value-added products, he said, are virgin coconut oil, coconut cream, spray-dried milk powder, preservation and packaging of tender coconut water, coconut vinegar, coconut chips and coconut convenience foods.

World Coconut

Guardian Minister for Ratnagiri district, said that the allotment of 100 hectares to set up a demonstration-cum-seed production farm (DSP Farm) for Coconut Development Board is under process and will be cleared soon.

The Minister was speaking at a function in connection with the World Coconut Day at Ganpatipule.

coconut cultivation in Maharashtra within the next five years with the setting up of the proposed DSP Farm and other schemes. The Board will work in tandem with the State government for implementing the schemes, he added.

Considering the price fall on coconut and coconut oil, the Chairman said, the Board is focusing more on processing and

quality coconut seedlings required for establishment of nurseries in the region. The task of identifying mother palms for the production of quality seedlings will be solved with the technical assistance of CDB, he said.

sajeevkumar.v@thehindu.co.in

State govt to bolster coconut production

Indo-Asian News Service

Thiruvananthapuram, Sept. 2

World Coconut Day was celebrated on Sunday. The production area and productivity of the nut have seen a decline in Kerala, the land of coconuts. But the government is now trying to reverse the trend.

According to Kerala State Planning Board figures, the area under coconut cultivation fell from 8,98,000 hectares in 2005-06 to 7,70,000 hectares in 2010-11.

number of fresh saplings had been provided to farmers and the results would be seen in three years' time.

"One problem is that farmers show a negative attitude towards coconut when prices drop. But they take a different position when rubber prices change. They take more care of rubber trees than other crops," he said.

said.

He said the government would provide all necessary infrastructure to companies to produce new products from coconuts.

The Coconut Development Board too plans to help farmers by setting up 5,000 tender coconut parlours across the country.

Tender coconuts will

NEERA LAUNCH

negative attitude towards coconut when prices drop. But they take a different position when rubber prices change. They take more care of

farmers' Boarders by coconut country Ten directly s by Coco compris farmers Gijo J

Boarders by coconut country Ten directly s by Coco compris farmers

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come at a time
but production and
they have gone up in
sing Tamil Nadu and

Chief Minister
Chandy too has given the nod
for an expert committee to
work towards setting up four
coconut bio-parks.

Three coconut parks in the
government sector and one in
the private sector will come up
in a few months, Mohanan

Coconut Day celebrations

Special Correspondent

AGRI-CULTURE
Agricultural Minister
Mohanan told IANS that
last one year, a record

COCONUT FARMERS

think the world celebrated yet another Coconut Day on Sunday, there was little to cheer for farmers who have been hit by falling prices and labour shortage. Experts say diversifying is the way forward



KOCHI: Bhaskar Bhaurao Jadhav, Maharashtra's Minister for Urban Development, has sought the technical guidance of the Coconut Development Board to enhance the potential of coconut in the Konkan region of Maharashtra. He was inaugurating the World

Coconut Day in media

WORLD COCONUT DAY celebrated yet another Coconut Day on Sunday, there was little to cheer for farmers who have been hit by falling prices and labour shortage. Experts say diversifying is the way forward

Coconut support price likely to be increased

Four bio-parks to be set up; 50% subsidy for dryers

THIRISSUR: Agriculture Minister K.P. Mohanan has said the government plans to increase the support price for coconut. He was addressing a meeting organised at Mannuthy, near here, on Sunday by the Kerala Agricultural University (KAU) and the Department of Agriculture to observe World Coconut Day.

The government has decided to set up four coconut bio-parks in the State. They will have coconut-based industries. Facilities will be provided to entrepreneurs dealing in coconut-based products. One park will be in the private sector and the rest in the public sector," he added. Mr. Mohanan said that the government was providing 50 per cent subsidy for setting up coconut dryers. Each block panchayat would get a dryer.



Agriculture Minister K.P. Mohanan calls for alternative strategies to boost revenue from coconut.

from successful practitioners. For example, Indonesia and Philippines have effective technologies for making coconut milk, butter and yogurt. Why can't we adopt the technologies? 'Emerging Kerala' will be an ideal platform to facilitate technological advancement," he said.

Nutritional value
Jayaprakash Naik, Associate Director, said that neera and coconut jaggery had high nutritional and medicinal values. "They can provide a high income for farmers. The income obtained from neera production is Rs.1,560 a month a tree," he added. R. Ajithkumar, Director of Agriculture, released a souvenir published in connection with centenary of Regional Agricultural Research Station.

ment of 100 hectares of land for establishing a demonstration-cum-seed production (DSP farm) for Coconut Development Board in Maharashtra is being processed. Jose, chairman, Coconut Development Board, said the ongoing schemes lead to a five-fold increase in coconut farming in Maharashtra in 5 years.

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AAHAR

Coconut Development Board, Regional Office, Chennai participated in AAHAR, international food and hospitality fair 2012, held at Chennai Trade Center from 23rd to 25th August 2012. Smt. P. M. Nirmala IAS, Secretary, Food, Government of Tamil Nadu inaugurated the exhibition. Coconut based food products like coconut milk powder, desiccated coconut, chips, vinegar, branded coconut oil,

virgin coconut oil, packed tender coconut water, coconut milk, coconut hair oil, coconut chutney powder, shell charcoal, activated carbon, shell and wood based handicraft items were displayed in the Board's stall. M/s. Sakthi Coco Products, Pollachi, M/s. Sri Ram Coconut Products, Dindigul and M/s. KMR Industries, Myladuthurai had its sales cum display counter in the Board's stall.

Independence Day Horticulture Show

Coconut Development Board, Regional Office, Bangalore participated in Independence Day Horticulture Show 2012 held from 9th to 15th August 2012 at Lalbagh, Bangalore organised by the Mysore Horticulture Society, Lalbagh, Bangalore. Shri. Jaagdish Shettar, Chief Minister, Karnataka inaugurated the show. Shri. R Ashoka, Deputy Chief Minister, Shri. S A Ravindranath, Minister for Horticulture, Dr. D Hemachandra Sagar MLA and Dr. K. G. Jagadeesha IAS, Director, Horticulture were present on the occasion.

Board showcased different varieties of coconut bunches and coconut value added products like ball copra, branded coconut oil, virgin coconut oil, packed tender coconut water in cans and pouches, different brands of desiccated coconut powder, coconut milk powder, coconut based vinegar, coconut water concentrates and shell and wood based handicrafts were displayed in the Board's stall. M/s. Graphic Arts System, Bangalore displayed shell and wood based coconut handicrafts in Board's stall.

111th Board Meeting held

The 111th meeting of the Board was held at Vadodara, Gujarat on 15th September 2012. Shri. T.K. Jose IAS, Chairman, CDB presided over. Shri. Vasanth Vishnu Limaye, Vice Chairman CDB, Members of the Board; Dr. Satish B. Agnihotri IAS, Financial Advisor, Ministry of Agriculture, Dr. A. K. Misra, Director (Cooperation) Ministry of Consumer Affairs, Food and Public Distribution, Government of India, Shri. M K Shankaralinge Gowda

IAS, Principal Secretary, Department of Horticulture, Government of Karnataka, Shri. K. Dharmarajan, Adv. Varkala B. Ravikumar, Smt. K. R. Netravathy, Shri. R. Kalaiselvan and Shri. Mani C. Kappan attended the meeting. Shri. Om Prakash, Additional Commissioner (Hort), Ministry of Agriculture, Government of India and Shri. Sugata Ghose, CCDO, CDB were also present on the occasion.

Obituary



Dr K K Haridas (54), Cardiologist and head of cardiology department, Amrita Institute of Medical Sciences (AIMS), passed away on 10th September 2012 at Kochi. An expert in interventional cardiology, Dr. Haridas had played a key role in making the diagnostic and treatment methods of angiogram and angioplasty popular in the state. He was part of many research works and has won several international accolades.

Dr. K K Haridas was the Principal Investigator of the study 'Impact of Coconut Oil as a cooking medium on cardiovascular risk factors and clinical outcomes in patients with coronary artery disease receiving standard medical care; A randomized case controlled study with polyunsaturated sunflower oil' conducted by the Board in association with Amrita Institute of Medical Sciences. The objective of the study was to compare the effects of coconut oil as a dietary cooking medium for serum lipid & other cardiovascular risk factors. In the study patients with CAD undergoing standard medical therapy were compared with patients consuming sunflower based cooking media. Coconut Development Board deeply mourn the sad and unexpected demise of Dr. KK. Haridas.

Monthly operations in coconut gardens - *October*

Andaman & Nicobar Islands:

Apply organic manures like dried compost /cow dung @ 40 kg or poultry manure @ 5 kg/palm in the basin taken at a distance of 2 m away from the bole of the palm in a depth of 2-3 inch. Cover it with soil. New planting of quality seedlings can be undertaken with a density of 150 seedlings per hectare. Prevent accumulation of rain water in the pits. Plant perennial intercrops such as clove, nutmeg, cinnamon, pepper and banana in the case of existing old plantation. Control rhinoceros beetle by releasing baculovirus treated beetles @ 15 beetles/ha. Remove the affected bark tissues on the stem and apply 5 per cent calixin on the wound and also apply warm coal tar if stem bleeding is noticed. Monitor the prevalence of bud rot disease and cut and remove all the affected tissues of the crown and apply 10 per cent bordeaux mixture and cover with polythene to protect it from rain water till normal shoot emerges in case of bud rot disease affected palms. Remove the weeds from the plantation.

Andhra Pradesh: Plant one year old seedlings in the main field. Apply the second dose of fertilizers i.e. 750 g urea, 1300g single superphosphate and 1250 g muriate of potash per adult palm.

Assam: Apply the second dose of fertilizers if not applied during September. Start the post monsoon prophylactic spraying of the palms with one per cent bordeaux mixture in areas where bud rot disease is noticed. Incorporate the weed plant

Clerodendron infortunatum in the breeding grounds to destroy the grubs and eggs of rhinoceros beetle. Fill the youngest three leaf axils with a mixture of 250 g powdered marotti/ neem cake with equal volume of sand or place naphthalene balls(12 g/ palm) and cover them with sand thrice a year. Keep the nursery free of weeds. Irrigate the nursery if necessary. If stem bleeding is noticed, remove the affected tissues on the stem and apply 5 per cent calixin on the wound followed by coal tar. Tie or prop up bunches to prevent buckling.

Bihar / Madhya Pradesh:

Remove weeds from the garden. Apply the second dose of fertilizers after the monsoon @ 250 g Urea, 500 g Single Super Phosphate and 500 g Muriate of Potash per palm if applied in 3 splits. Apply fertilizer in basin taken around the palm at a radius of 1.8 m and cover with top soil. Fertilizer application should be followed by irrigation. Crown cleaning should be done to avoid infections during winter season. Apply Blitox @ 5 g/ litre and Dithane M 45 @ 2 g/litre on the crown and bunches alternatively to avoid secondary infections during winter and continue upto February. Sow horse gram or cow pea in coconut basins during mid October after fertilizer application as mulch crops which will help the maintenance of micro climate, moisture conservation and nitrogen fixation in the soil.

Karnataka: Prepare land for new planting. Discard seedlings which

has not attained proper growth in the nursery. Application of second dose of fertilizer may be taken up. Clean the crowns of the palms by removing dried and old spathes. As a control measure of rhinoceros beetle, incorporate the weed plant *Clerodendron infortunatum* in the breeding grounds to destroy the grubs and eggs of the beetle. Fill the youngest three leaf axils with a mixture of 250 g powdered marotti/ neem cake with equal volume of sand or place naphthalene balls (12g/ palm) and cover them with sand thrice a year. Treat manure pits and other possible breeding sites with carbaryl 0.1 per cent which is to be repeated every three months. As a prophylactic measure, spray bordeaux mixture to avoid the infestation of bud rot .

Kerala/Lakshadweep: Check for the incidence of stem bleeding. If found infected, remove the affected bark tissues on the stem and apply 5 percent calixin on the wound. When this is dry apply warm coaltar. Apply 5 kg neem cake per palm per year along with the second dose of fertilizer. If the attack of the mite is noticed, spray neem oil - garlic - soap emulsion 2 percent (20 ml neem oil + 20 g garlic emulsion + 5 g soap in 1 litre water) or commercial botanical pesticides containing azadirachtin 0.004 per cent @ 4ml per litre of water on bunches, especially on the perianth region of buttons and affected nuts or root feed neem formulations containing azadirachtin 5 per cent @ 7.5 ml with equal volume of water.

Maharashtra/Goa/Gujarat:

Plough the garden and make channels for irrigating the palms. Pile up mounds in sandy soils. Remove ungerminated and dead sprouts from the nursery.

Orissa: Initiate sowing of green manure crop seeds in the coconut basins. Incorporate green leaf manures in the coconut basins. Plant/sow intercrops like seasonal intercrops and vegetables. Keep the nursery free of weeds. If the attack of pests and diseases are noticed apply plant protection chemicals. Clean the crown and apply organic manures. Other maintenance operations to coconut as well as the intercrops also may be initiated.

Tamil Nadu / Puducherry:

Apply the second dose of fertilizers, i.e. 500g urea, 800g single superphosphate and 800g muriate of potash per adult palm (under rain fed conditions). Incorporate it well in the soil and cover with soil immediately after the application of fertilizers. Check for the incidence of stem bleeding. If found infected remove the affected bark tissues on the stem and apply 5 percent calixin on the wound. When this is dry apply warm coal tar. Apply 5 kg. neem cake per palm per year along with the second dose of fertilizer. If the attack of the mite is noticed, spray neem oil - garlic soap emulsion 2 percent (20 ml neem oil + 20 g garlic emulsion + 5 g soap in 1 litre water) or commercial botanical pesticides containing azadirachtin 0.004 per cent @ 4ml per litre of water on bunches, especially on the perianth region of buttons and affected nuts or root feed neem formulations containing azadirachtin 5 per cent @ 7.5 ml



Root feeding against stem bleeding disease

with equal volume of water.

Tripura: Clean the crown if not done in the earlier month. Application of plant protection chemicals and fertilizer should be followed if not done last month.

West Bengal: Incorporate the green manure crop in the soil. Apply organic manure such as dried cow dung/ dried compost @ 40 kg or vermi compost @ 20 kg/tree if not applied during the previous month in the basin at a distance between 1.5m and 2 m away from the bole of the tree in a depth of 2-3 inch. Cover it with soil. Plough the inter space and plant early varieties of winter vegetables, oil seeds or pulses. Look for crown chocking especially in north Bengal. If noticed, apply borax @ 100 g per palm. Hand weed the nursery and provide partial shade to young seedlings. Support newly planted seedlings with suitable props. Tie or prop up bunches to prevent buckling. Start harvesting of matured nuts. Look for insect damage and disease symptoms. Hook out the rhinoceros beetles and fill the top three leaf axils with a

mixture of 250 g powdered marotti/ neem cake with equal volume of sand or place naphthalene balls (12g/ palm) and cover them with sand thrice a year. Check the palms for bud rot. If bud rot is found, remove the affected parts, apply bordeaux paste and cover with polythene sheet or plastic bucket. Spray the neighbouring palms/ seedlings with 1.0 per cent bordeaux mixture. If stem bleeding is noticed, remove the affected bark, apply 5 per cent calixin on the wound and the next day apply coal tar. Root feed 5 per cent calixin (5 ml in 100 ml water) once in every three months and apply 5 kg neem cake per palm per year along with second dose of fertilizers. If the attack of the mite is noticed, spray neem oil - garlic - soap emulsion 2 percent (20 ml neem oil + 20 gm garlic emulsion + 5 gm soap in 1 litre water) or commercial botanical pesticides containing azadirachtin 0.004 per cent @ 4ml per litre of water on bunches, especially on the perianth region of buttons and affected nuts or root feed neem formulations containing azadirachtin 5 per cent @ 7.5 ml

Market Review - August 2012

Highlights

- ◆ The price of milling copra, ball copra and coconut oil expressed a downward trend at all the major markets during the month under report.
- ◆ The international price of coconut oil expressed a downward trend during August 2012. The domestic price of coconut oil at Kochi market was about 11 percent higher than that of the international price.
- ◆ The prices of copra and coconut ruled below Minimum Support Price in major producing states and procurement activities were initiated by the Government machinery under Price Support schemes.

COCONUT OIL

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

The monthly average price of coconut oil at Kochi was Rs. 6092/- per quintal. The price of coconut oil at Alappuzha market also moved in tune with the price behavior of Kochi market. The monthly average price was Rs. 6165/- per quintal at Alappuzha market and Rs.6232 at Kozhikode market. The prices at Kochi, Alappuzha and Kozhikode

markets were marginally lower than the prices prevalent in June 2012.

MILLING COPRA

The monthly average prices of FAQ copra recorded at Kochi market was Rs.4191/- per quintal. The monthly average prices of Rasi copra at Alappuzha market was Rs. 4145/- and Kozhikode market was Rs.4014 per quintal. The prices at Kochi, Alappuzha and Kozhikode were marginally lower than that of the previous month. The procurement operations under Price Support Scheme have already been initiated in Tamilnadu and Kerala by TANFED and NAFED respectively. The Minimum support

price of milling copra has been fixed at Rs. 5100/- per quintal for 2012 season. A total quantity of 18343 MT of copra was procured by NAFED through TANFED in Tamil Nadu and 9071 MT was procured in Kerala by NAFED through Kerafed and Marketfed. Around 5508 Mt of copra was procured in Andhra Pradesh and 3350 MT in Lakshadweep. The monthly average prices of milling copra at Ambajipeta market in Andhra Pradesh was Rs.3876/- per quintal compared to Rs. 4180/- recorded during the previous month.

EDIBLE COPRA

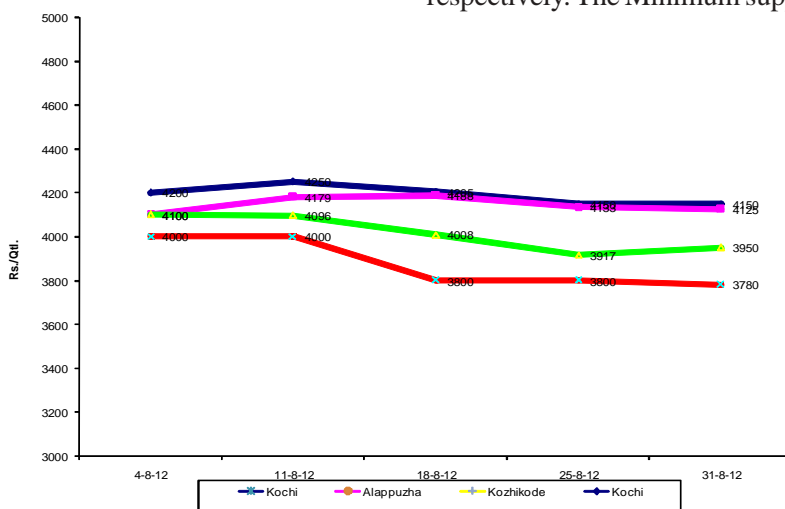
The monthly average prices of Rajapur copra at Kozhikode market was Rs.5323/- per quintal, which was marginally lower compared to the price of the previous month. The monthly prices of ball copra at Kozhikode market averaged at Rs. 4745/- per quintal. The monthly prices of ball copra at APMC market Tiptur, in Karnataka averaged at Rs. 5120/- per quintal in August 2012 while it was Rs 5900/- in Bangalore and Rs. 5078/- in Arsikere. The Minimum support price of edible copra has been fixed at Rs. 5350/- per quintal for 2012 season.

DRY COCONUT

The monthly average price of dry coconut was around Rs. 4677/- per thousand nuts at Kozhikode market which was marginally lower than that of the previous month.

COCONUT

The monthly average price of Rs.5367/- per thousand nuts for dehusked coconut at Nedumangad



Price behaviour of coconut oil during August 2012

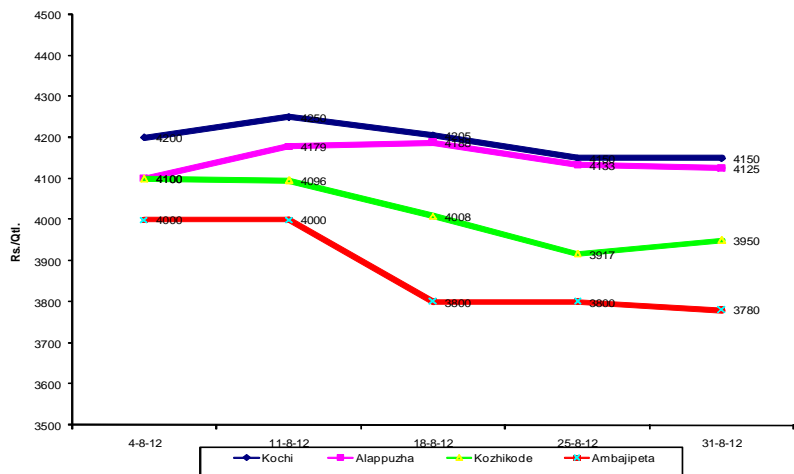
market, was marginally lower than that of the previous month. Arsikere APMC market recorded an average of Rs.5798/- for thousand partially dehusked nuts which was about 4 percent higher than that of previous month.

The monthly average prices of partially dehusked coconut at Bangalore APMC market was Rs. 6900/- which was about 19 percent higher than that of previous month. The monthly average price of partially dehusked coconut Grade-1 quality at Mangalore APMC market improved to Rs.9600/- per thousand nuts which was marginally higher than that of the previous month. The monthly average price of coconut in Assam was Rs.21 per nut while it was Rs.23 at Dimapur in Nagaland.

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

TENDER COCONUT

Prices of tender coconut at Kochi market ranged from Rs.15 to 25 per nut. The monthly average price of tender coconut in Assam was Rs.15



Price behaviour of milling copra during August 2012

per nut while it was Rs.18 in Tripura.

INTERNATIONAL PRICE

The monthly average price of US \$994 per MT for coconut oil in Europe (C.I.F. Rotterdam) for the month of August 2012 was about 4 percent lower when compared with the price of the previous month and lower by about 32 percent compared to that of the corresponding month last year. The monthly average price of US\$ 645 per MT for copra was about 5 percent lower than that of the

previous month and about 56 percent lower than that of the corresponding month last year. The domestic price of US\$1102 for coconut oil at Kochi market was about 11 percent higher than that of the international price.

The domestic price of coconut oil during the month of August 2012, in Philippines was US\$946 per MT and in Indonesia the price was US\$945 per MT. The international price of Palm oil, Palm kernel oil and Soybean oil were US\$997 US\$988 and US\$ 1180 per MT respectively.

Market Price

Date	Coconut Oil			Milling Copra				Edible Copra	Ball Copra			Dry coconut	Coconut	Partially dehusked coconut										
	Rs./Qtl.																		Rs./1000nuts					
	Kochi	Alappuzha	Kozhikode	Kochi (FAQ)	Alappuzha (Rasi Copra)	Kozhikode	Karkala	Kozhikode	Kozhikode	Tiptur	Bangalore	Arsikere	Kozhikode	Nedumangad	Arsikere	Bangalore	Mangalore (Grade-1)							
4-8-12	6150	6250	6350	4200	4100	4100	4000	5350	4733	5189	5900	5200	4833	5500	5515	5500	9600							
11-8-12	6200	6192	6350	4250	4179	4096	4000	5329	4733	5097	5900	5033	4733	5083	5815	7250	9600							
18-8-12	6110	6175	6258	4205	4188	4008	3800	5404	4808	5186	5900	5117	4667	5250	5867	7500	9600							
25-8-12	6000	6133	6100	4150	4133	3917	3800	5333	4798	5078	5900	5026	4550	5500	5720	7250	9600							
31-8-12	6000	6075	6100	4150	4125	3950	3780	5200	4650	5052	5900	5013	4600	5500	6075	7000	9600							
Average	6092	6165	6232	4191	4145	4014	3876	5323	4745	5120	5900	5078	4677	5367	5798	6900	9600							

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