



# Greater Potential for Value Added and Eco-Friendly Coconut Products in the United States of America

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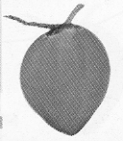
Coconut is a versatile crop and many value added products can be made of coconut instead of depending only on traditional copra and coconut oil. God has given us such a wonder tree popularly known as 'Kalpaviriksha' which gives us livelihood security, food security, nutritional security, health security and social security. It is eco friendly as well as environmentally sustainable. In spite of all these benefits, Coconut industry is still noncompetitive. Minimum support price could not help the farmers to get a fair price. The bulk of coconut processors are depending on copra and coconut oil making. Some farmers are demanding permission for toddy tapping. Jaggery made from coconut sap is an exportable product and could fetch high price. People in Tamil Nadu are expressing their discontent through media that coir pith is dumped along the road in public places which during rainy season may pollute water and environment and that the government should take immediate action to solve the problem. They do not realize that coir pith is a brown gold which can be composted and

used as organic manure for which technologies are readily available. Coir pith briquettes can be exported and also can be used for making eco friendly pots for growing ornamental plants. These pots are in demand European countries.

Newer value added products are introduced at a faster rate around the world to make products more competitive. Lots of ready to use food and drink items have come in the market which are easy to buy, carry and use. Situation in India is not different. Many value added products can be made out of coconut and can be marketed. In the era of Globalization and Trade Liberalization a cost effective good quality product with preferred consumer packaging and labeling coupled with a Trade Mark will have better market potential. Needless to say that advertisement in the popular media will have its own impact in popularizing the products. Some of the emerging new applications for accelerated value addition are given below for the benefit of readers before exploring the Coconut in USA Market.

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Minimally processed tender coconuts

**Emerging New Applications for Accelerated Value Addition**

**1. Organic foods**

At present, organic foods are considered as luxury, high value products with price advantage over conventional foods. Health conscious people the worldover particularly Europe and United States of America are conscious of their food free from pesticides, chemicals, etc. Organic foods are niche products, which come from certified organic farms, processed by authorized units and certified by state registered certification bodies.

The largest organic markets in terms of revenue generation are EU (53% market share) and North America (40%), the growth rate being 20 - 25% per annum. World consumption of organic oil is 95,000 tonne which is only 0.1% to the total oil consumption. EU alone consumes 53,500 tonnes. Compared to any other oils; organic coconut oil can easily be

produced since the bulk of coconut is raised without the application of inorganic fertilizer and pesticides.

**2. Virgin coconut oil (VCO)**

Of late processing of virgin coconut oil from coconut meat and

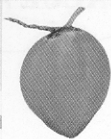
coconut milk with very low FFA is gaining popularity as healthy and nutritive oil. VCO has wider use in pharmaceuticals, nutraceuticals and cosmaceuticals. Natural virgin coconut oil and organic all natural virgin coconut oil may be exploited in niche markets with premium price. Large number of small scale units of Virgin Coconut Oil have been set up in many countries using different methods. Philippines is the major producer and exporter of VCO. Attracted by the high price of USD 3000 per tonne for VCO and USD 6000/tonne for organic Virgin Coconut Oil many entrepreneurs have started making VCO in many countries including India. However it is all the more necessary to strictly follow the quality standards for a sustained market.

**3. Functional foods**

The market is attracting health conscious groups with functional food buzz words like designer foods,



Coconut Based Breads, Cakes and Chocolates



medical foods, longevity foods, hyper nutritional foods, super foods, pharma foods, perspective foods, phyto foods, therapeutic foods and others. They contain biologically active components to enhance health and wellness. While the conventional food sector has an expected growth rate of 1 - 3%, the functional foods are catching up with the growth rate of 7 - 8%. Between 1998 and 2003, global sales in terms of value of functional food increased by almost 60% and are further set to rise by 40% by 2008, says Global Market Analyst Euromonitor. By 2010 Western Europe (34%), U.S. (34%) and Japan (25%) will account for 90% of the total estimated market size.

High level of new product activities are continuing to stimulate growth in the global confectionery market worth U.S. \$ 95 billion in 2002 with a total volume of 15 million tonnes. The perceptive consumption is 17 kg/year in Denmark, 16 kg in Sweden, 13 kg in Norway and in Europe and North America it is 8.8 kg to 10.7 kg. It is a fast growing market. Usage of coconut milk, milk powder and desiccated coconut have good



Utility products from coconut

potential which can help to build up resistance / immunity against viral, fungal and bacterial diseases. Coconut oil is a good cocoa butter substitute having speciality fats based on lauric oils and fats.

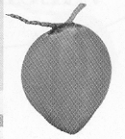
Coconut oil and its products with medium chain fatty acids have a greater role to play in the fast developing functional foods particularly baby foods, nutraceuticals, pharmaceuticals, etc.

#### 4. Functional drinks from coconut

Functional drinks market continues to be growing as sports drink, energy drink, wellness drink, etc. Beverages showed strong growth between 1998 and 2003 accounting for a Compounded Annual Growth Rate of almost 11%. Functional juices also showed good growth with value added sales up by 73% between 2003 and 2008. One reason for the success of functional



High Value Products from coconut as Cosmeceuticals



beverages is its convenience to consume on the move and therefore tap into key consumer demand pattern of health, convenience and portability. The global functional food drinks market, defined as soft drink with added health benefits was valued at US\$ 13.86 billion in 2000 which is expected to double making US\$ 24 billion by 2005 (global). Sports drink is mainly isotonic and hypotonic labelled with leading brand names. Energy drink include glucose based products, the marketed value of which was US\$ 3.5 billion in 2000. Most of the energy drinks contain caffeine, vitamins and minerals. This sector has faced problems from regulations on caffeine levels in drinks in some countries. Beside these, many small players are selling drinks made of enriched products like vitamin A and E, falsified juices and drinks and calcium falsified juices.

Young coconut water (tender nut water) and matured coconut water rich in minerals and vitamins as well as all enriched natural drink can have a wider domestic and international market.

### 5. Cosmoceuticals

Production of cosmetics and personal care products in Asia and Pacific countries is just developing with the emerging popularity of whitening products. With the growth of 10% for cosmetics, and personal care products and 5 - 19% for soap in Asia and Pacific the requirement is enormous. Many of the Pacific Countries are importing these products. Coconut oil rich in C12, C14 fatty acids fractions (lauryl and myristyl) are good for skin care.



Coconut Drinks

Besides lauric and myristic acids coconut oil contains many other fatty acids including capric, caprylic, caproic, palmitic, stearic and oleic acids, which can be used as cosmetic ingredients.

### 6. Oleochemicals

The long term trend in demand for oleochemicals is favourable with the world capacity expected to rise to 12 MMT and production to 10.8 MMT by 2010. Consumer trend in the application of oleochemicals in the detergent, soap and personal care products are increasing and hence there is good scope for coconut based oleochemicals.

### 7. Bio-fuel / Bio-lubricants

Energy security perspectives have become a driving force for the use of vegetable oil based bio diesel fuels, considering their advantages on the environmental aspects. Many

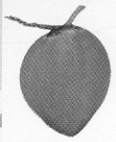
countries are in the process of making bio fuel.

Price considerations, lack of awareness of the fuel and impact on glycerin supply are the three challenges before the bio fuel sector.

Bio lubricants are functional fluids made from vegetable oils and down stream esters. Coconut oil as bio lubricant was tried in India for two and three wheelers. Overall global usage of renewable raw material in lubricants and related functional fluid applications is about 250.000 MT about 0.7% of total lubricant marketed by tonnage and 0.25% of total annual oils and fats produced.

### 8. Premium grade monolaurin and HIV/AIDS

Over a period of 22 years, 42 million people in the world have been affected by HIV/AIDS, a disease caused by virus, of which 7.2



million is from Asian and Pacific countries. In India, it is reported that 3.5 million people are affected by HIV/AIDS. Coconut oil with 48.6 % lauric acid is a potential source for producing monolaurin (lauricidin) which has been experimentally found to inactivate the virus. Dr. John Kabara, U.S. Scientist has done some preliminary work. However, a pilot scale testing with large number of AIDS patients has to be conducted. Philippines has also done some basic studies and would like to take up pilot study. In Indonesia a small study was carried out using Virgin Coconut Oil and obtained promising results. If more studies are done on this aspect a cost effective control measure could be materialized. In such a case the coconut produced now in the world may not be adequate for this purpose.

### 9. High value / eco friendly coir products

Coir and coir products have made good progress and occupy a major share of export. The geo textile and coir composite for erosion control, and soil moisture conservation and coir pith for growing horticultural plants have unlimited market in Europe and USA for export. There is still scope for high tech coir products for soundproof system in buildings, coir blended with other natural fiber like cotton, jute, oil palm, hemp, and for making life safety belts, etc. Noticeable interest for natural fibers in automotive sector, mainly driven by need to reduce costs and weight, and use as filters to replace talc and calcium carbonate is also seen. In automotive interiors, the natural fibre reinforced composites are also being attempted.



Coconut Cream /Milk

In all these areas, coconut can compete provided the productivity is increased and production cost is reduced, and quality standards are maintained on par with International Standards. Use of old and senile coconut wood as coco timber for making furniture, doors, wall paneling and floor tiles will reduce the utility of other timbers and contribute substantially to save the forest timber .Eco friendly coir and husk based products have enormous potential in the years to come.

### Coconut Products in United States of America

Coconut and its products were used since long back in US. In an advertisement in the US COOK BOOK IN 1957, it has been mentioned that Coconut Butter is a superior article of guaranteed purity which can be used in place of butter, lard or compounds in cooking. Similarly on 24 June, 2008, *Washington Post* published an article highlighting coconut as a special

delivery indeed, good for eating drinking and communicating”.

Dr. Mary Enig and Dr. John Kabra, the two American Scientists have done a lot of work on the health aspects of coconut and coconut oil and published articles in leading International Journals highlighting the beneficial effects of coconut. People are now aware that the tropical oils are good for health.

Variety of coconut drink products have come into the market in the last three years .In the beginning only Thai tender coconut and coconut water packed in Thai were available but now a variety of products are available from various countries. Maximum number of products is still from Thailand. Of late some of the products are packed in US itself with their own brand names.

Coconut milk and Cream are the next largest products in the Chain markets. Coconut cream is available in CVS also. Earlier there used to



be only one or two products but now one can see a variety of products and many producers of coconut products marketing their products in USA.

The packaging of the products is attractive with proper labeling and Brand Name which is easy to use and seems to attract consumers. With

proper market promotional activities highlighting the health benefits and identifying new markets, these products will have greater demand.

Coconut water as future Health, Sports, Wellness, Welfare and Social drink as Nature's Gift has started picking up the market. Multinationals

are promoting coconut products, If my dream comes true, I believe that coconut drink will be one of the most popular drink by 2020.

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## **How Coconut Oil Could Help Reduce the Symptoms of Type 2 Diabetes**

A new study in animals demonstrates that a diet rich in coconut oil protects against 'insulin resistance' (an impaired ability of cells to respond to insulin) in muscle and fat. The diet also avoids the accumulation of body fat caused by other high fat diets of similar calorie content. Together these findings are important because obesity and insulin resistance are major factors leading to the development of Type 2 diabetes. The study is also interesting because it helps explain human studies showing that people who incorporate medium chain 'fatty acids', such as those found in coconut oil, into their diets can lose body fat. Dr. Nigel Turner and Associate Professor Jiming Ye, from Sydney's Garvan Institute of Medical Research, compared fat metabolism and insulin resistance in mice fed coconut oil and lard based diets. Their findings are now published online in the international journal *Diabetes*. "The medium chain fatty acids, like those found in coconut oil, are interesting to us because they behave very differently to the fats normally found in our diets," said study leader Nigel Turner. "Unlike the long chain fatty acids contained in animal fats, medium chain fatty acids are small enough to enter mitochondria - the cells' energy burning powerhouses - directly, where they can then be converted to energy." "Unfortunately the downside to eating medium chain fatty acids is that they can lead to fat build up in the liver, an important fact to be taken into consideration by anyone considering using them as a weight loss therapy." Fat storage is determined by the balance between how much fat is taken in by cells and how much of this fat is burned for energy. When people eat a high fat diet, their bodies attempt to compensate by increasing their capacity to oxidise fat. The medium chain fatty acid (coconut oil) diet was more effective at increasing the oxidative capacity of muscle than the long chain fatty acid (lard) diet leading to less fat storage in muscle and better insulin action. According to Turner, the lard-based diet used in this research is similar to the diet eaten by people in the Western world. "Its fatty acid composition is about 40% saturated fats, 40% monounsaturated fats and 20% polyunsaturated fats, of which the vast proportion is omega-6, rather than omega-3," he said. "Obese humans usually eat 40-50% of their calories as fat".

"No high fat diet is good, and the normal dietary combination of long chain fats leads to an overload that our bodies can't cope with. Therefore high consumption of common dietary fats is contributing directly towards the global escalation of obesity and Type 2 diabetes." "If someone is trying to prevent weight gain, we can see they may benefit from substituting oils containing medium chain fatty acids for other oils in their diet, as long as consideration is given to the potential problem of excess fat in the liver. Other natural dietary alternatives, such as fish oil, might be helpful because the fatty acids in fish oil are thought to exert a lot of their beneficial effects through improving fat oxidation in the liver."

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