Coconut oil, rolling back to its premium position

Thomas Mathew M and Baby P.O.

Coconut oil was the most traded vegetable oil in the world until mid 1850s. This primacy of coconut oil continued until the early 20th century. Because of the resultant increase in per capita consumption of vegetable oils and increasing industrial uses, certain oil seed crops have been surging ahead in area, production and yield. As a result of this structural rigidities and changes in the vegetable oil supply, coconut oil, the king of vegetable oils became a minor oil locked up in a competitive battle with other vegetable oils particularly palm oil and palm kernel oil.

Introduction

The coconut palm is considered as one of the richest sources of vegetable oils in the world. Coconut and coconut products have inelastic demand in many sectors. Among the varied coconut products, coconut oil is considered universally as the prime product, the demand and supply of which is the determinant factor for the market stability and the growth of the industry. Coconut oil is commercially important in the group of lauric oils. Chemically, all vegetable oils are glycerides of fatty acids and are inevitable items in the food basket of every house hold in the universe. These oils are classified into saturated and unsaturated fatty acids. The unsaturated fatty acids have double bond indicating its instability. So it adds up other atoms like oxygen or hydrogen along its double bonds to get it saturated. The Saturated fats are of medium chain as well as long chain. (Medium Chain Fatty Acids - MCFA and Long Chain Fatty Acids - LCFA.). The coconut oil contains more saturated fatty acids which is mainly composed of medium chain fatty acids and **are easily digested for quick release of energy**. The main fatty acids in coconut oil being **lauric and capric acids** when consumed are converted into **mono laurin and monocaprin** by the body metabolism. Both of these have strong antiviral and anti protozoal activity to fight and destroy even HIV viruses, bacteria and protozoa. Coconut oil is thus considered as a functional food i.e. food that provides health benefit over and beyond the basic nutrients. Despite being grouped as a premium oil, the severity and causes of emerging edible oil crisis in the world pushed coconut oil into a minor oil during the past four decades. The increasing trend in the production of globally competitive vegetable oils, particularly palm oil and palm kernel oil has pushed the global coconut economy into a situation of abject economic deterioration.

Historical Importance

Coconut oil is positioned as one of the essential vegetable oils in the country both under edible and non-edible sectors. Coconut oil has many physical and chemical properties that give its edge over other vegetable oils and fats. In classical literature it is termed as a "functional food". "Functional foods" are those foods that provide a health benefit over and beyond the basic nutrients. It helps enhancing

* *Coconut Development Board, Kochi -11*

the role of specific food of physiologically active food components. It is extensively used as edible oil in many coconut growing countries like Sri Lanka, Indonesia, Philippines etc. In India it is used as cooking oil in Kerala, parts of Tamil Nadu and Karnataka. Coconut oil is widely used as hair oil in many states since time immemorial as it is believed to help the growth of hair. Coconut oil is also used as industrial oil, as it forms an important raw material for many industrial products; such as toilet soaps, liquid soaps, shaving cream and natural shampoos. Similarly, coconut oil finds extensive use in the food industry due to its characteristics such as easy melting behaviour, resistance to oxidative rancidity, pleasing flavour and good digestibility. Coconut oil is preferred as a source of fat in the preparation of filled milk, infant milk powder, ice-cream and confectionary and bakery products. Coconut oil when used for surface spray for biscuits gives a glossy appearance and provides moisture barrier. Coconut oil can also be used for the manufacturing of vanaspati. Historically, coconut and coconut oil have been using for food and preparation of ayurvedic medicines in India apart from using it for the manufacture of a large number of unique industrial products.

Coconut oil was the most traded vegetable oil in the world until mid 1850s. This primacy of coconut oil continued until the early 20th century. However, a great transition had been witnessed in the field of vegetable oil production and consumption subsequent to the second World War. An increasing growth in the world population coupled with the improved family income and changes in life styles enhanced considerably the demand for vegetable oil[1]. It has been reported that the per capita consumption of oils and fats has been increasing from 15.6 kg to 23.4 kg per annum, with an increase of 50 per cent since 1999 having 82 per cent share from vegetable oils. Because of the resultant increase in per capita consumption of vegetable oils and increasing industrial uses, certain oil seed crops have been surging ahead in area, production and yield. As a result of this structural rigidities and changes in the vegetable oil supply, coconut oil, the king of vegetable oils became a minor oil locked up in a competitive battle with other vegetable oils particularly palm oil and palm kernel oil. In many industrial applications, coconut oil, which was once considered as inevitable, has become amenable for substitution with chemicals and other vegetable oils. The palm kernel oil, a by-product of palm oil industry has emerged as an important substitute for coconut oil particularly in the soap and toiletry industry.

Table 1. Trend in Production of major vegetable oils in the World

(in '000 MT)

Particulars	1990-'91	Share (%)	1994-'95	1999-'00	2005-'06	2007-'08	2008-'09	2009-'10	CGR	Share (%)
Palm kernel oil	1450	2.52	1990	2730	4110	4830	5180	5290	6.69	3.74
Olive oil	1855	3.23	1670	2370	2660	3110	2980	3220	2.80	2.27
Coconut oil	3387	5.89	3440	3280	3280	3230	3080	3670	0.40	2.59
Cotton oil	3782	6.58	3720	3570	4900	4190	4840	4510	0.88	3.19
Groundnut oil	3897	6.78	3900	4768	4487	5130	4840	4261	0.45	3.01
Sunflower oil	7869	13.68	8150	9640	10540	21200	12050	12480	2.33	8.82
Rapeseed oil	8160	14.19	10080	13610	17670	12050	21200	23500	5.43	16.60
Palm oil	11014	19.15	14750	21790	35160	44480	44480	45900	7.40	32.42
Soybean oil	16097	27.99	19710	24760	34820	35900	35900	38740	4.49	27.36
Total	**57511**	**100.00**	**67410**	**86518**	**117627**	**134190**	**134550**	**141571**	**4.61**	**100.00**

Source: Statistical Year Book, APCC (various issues), & Oil World (various issues)
CGR : Compound Growth Rate

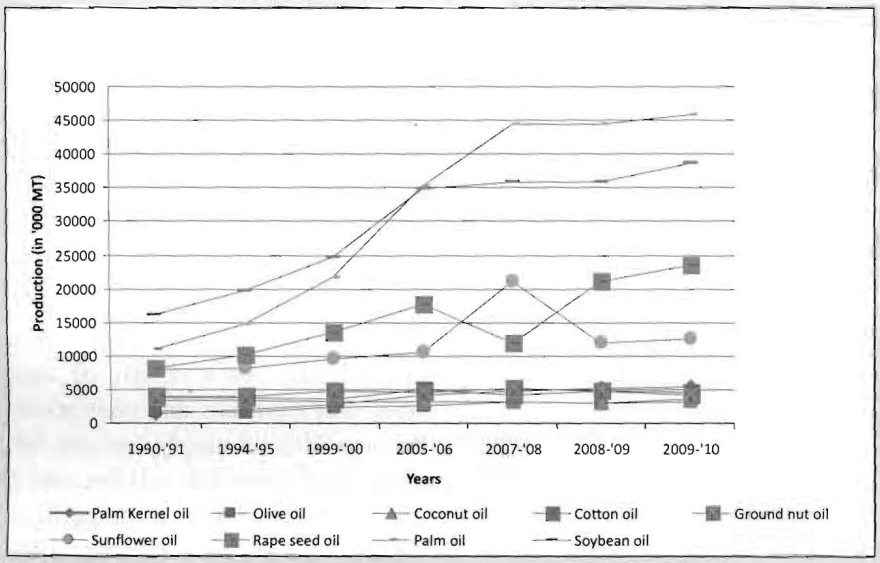

Fig 1. Trend in production of major vegetable oils in the world

In 1960, coconut oil was a tiger, occupying 4th rank with 12.43 per cent share in the total vegetable oil production in the world. During the corresponding period, palm oil and palm kernel oil having the production of 12.64 and 4.21 lakh MT respectively were holding 7th and 9th position in the order of importance. Correspondingly, soybean, groundnut and cotton seed oil the then major oils were holding 20.53, 16.09 and 14.47 percent share respectively. The trend in the global production of major vegetable oils is given in Table 1 and depicted in Fig -1. The trend indicates that the area under oil seed crops has been increasing tremendously to meet the increasing demand for vegetable oil for varied uses on account of the population growth. However, varied growth rate recorded for different oils indicates that the traditional oils are locked up in the competitive battles among the non-traditional oils. Hence more and more areas were put under those oil seed crops which had high per ha oil yield to

Table 2. Trend in Area and Production of Coconut in the World

Area : in '000 ha, Production : in '000 MT

Year	Area	% Change over previous year	Index number	Production of coconut in Copra equivalent	% Change over previous year	Index number
1990	10830		100	8753.8		100
1991	10709	-1.12	99	9141.25	4.43	104
1992	10915	1.92	101	9315.44	1.91	106
1993	10931	0.15	101	9844.98	5.68	112
1994	11694	6.98	108	10481.26	6.46	120
1995	11823	1.10	109	9518.66	-9.18	109
1996	12034	1.78	111	10189.26	7.05	116
1997	12216	1.51	113	10152.79	-0.36	116
1998	11916	-2.46	110	9942.48	-2.07	114
1999	11872	-0.37	110	9479.94	-4.65	108
2000	11754	-0.99	109	10583.89	11.65	121
2001	11845	0.77	109	10848.48	2.50	124
2002	12123	2.35	112	10524.39	-2.99	120
2003	12021	-0.84	111	12216.79	16.08	140
2004	12120	0.82	112	10716.65	-12.28	122
2005	12167	0.39	112	11089.44	3.48	127
2006	11848	-2.62	109	11267.66	1.61	129
2007	12175	2.76	112	11309.07	0.37	129
2008	12163	-0.10	112	11293.43	-0.14	129
Growth rate	**0.61**			**1.35**		

Source: Statistical Year Book , APCC.(various issues)

bridge the gap between the supply and demand. Oil palm, soybean and rapeseed were considered as the important oil seed crops in the emerging situation. Among these, oil palm occupied the prime position mainly on account of its dual utilities. The oil palm is considered as the highest oil yielding crop from unit area. Besides, it not only yield palm oil as the main product but also give palm kernel oil as the by-product. Palm kernel oil is the immediate substitute for coconut oil in many applications because of its similar chemical composition. Thus "Coconut", the Kalpavriksha, received a set back in the changed world economic order.

The area under coconut in the world is either declining in many countries or remaining stagnant during the past three decades especially during the post globalization period. The trend in area under and production of coconut in the world is depicted in Table 2 which indicates that area and production of coconut in the world remain stagnant, if not declining. While area was growing only at a compound growth rate of 0.61 per cent per annum the index number for area remains at 112 in 2008. Similarly, though the production of coconut was growing at the rate of 1.35 per cent per annum the index number for the production reached only 129 in 2009. The country-wise growth in area and production of coconut is shown in Table-3. The trend in area under coconut indicate that coconut cultivation in many countries lost impetus due to competition from other commercial crops like oil palm, rubber etc. The countries like Philippines and Indonesia recorded only a marginal growth in area under coconut whereas the countries like Sri Lanka, Vietnam and Thailand witnessed a negative growth in area under coconut. Natural calamities like tsunami, cyclone, typhoons etc have considerably reduced the area under coconut in many countries. The urbanization is another root cause for the decline in area under coconut in major developing countries. This indicates that coconut cultivation in many countries are neither competitive nor profitable. Because of the multifarious end uses, socio-economic and environmental importance, coconut culture and industry needs better patronage. The crop still provides food and livelihood security to many people in the Asian and Pacific countries besides protecting the coastal ecosystems of many countries.

Despite the fact that coconut cultivation is shrinking in many countries, coconut and coconut products still command demand from many sectors in the world owing to its inherent medicinal and nutritional properties. In many non-producing countries like Europe and USA coconut products, particularly coconut oil, coconut cream, coconut milk powder, desiccated coconut powder etc are niche products in

Table 3. Trend in Countrywise Area and Production of Coconuts

Area : in '000 ha. Production :in million nuts

Countries	1990-91				2007-08					
	Area	Per centage Share	Produc-tion	Per centage Share	Area	Per centage Share	Produc-tion	Per centage Share	CGR - Area	CGR - Production
India	1514	15.88	9700	25.30	1903	19.07	14744	30.21	1.44	2.65
Indonesia	3573	37.46	12392	32.32	3799	38.07	16235	33.27	0.38	1.70
Malaysia	320	3.36	770	2.01	115	1.15	390	0.80	-6.20	-4.16
Philippines	3093	32.43	11291	29.45	3380	33.87	12573	25.77	0.56	0.67
Sri Lanka	419	4.39	2184	5.70	395	3.96	2909	5.96	-0.37	1.81
Thailand	393	4.12	1103	2.88	247	2.48	1186	2.43	-2.86	0.45
Vietnam	225	2.36	900	2.35	141	1.41	760.08	1.56	-2.90	-1.05
Total	**9537**	**100.00**	**38340**	**100.00**	**9979.52**	**100.00**	**48797.08**	**100.00**	**0.28**	**1.52**

Source: Statistical Year Book, APCC. (various issues)
CGR- Compound growth rate

their food chain markets. Among all the products, coconut oil is considered as the prime product which determines the growth of coconut culture and industry. But in the changing world economic order, the coconut oil has been loosing its importance to other competing oils and chemicals. Because of the monopsonistic nature of market and seasonality in production, there exist violent price fluctuations which are often advantageous to manufacturers and traders. As a result of this uncertainties, the crop production and acreage often receive set backs. Because of the changing situations and emerging requirement of vegetable oils, coconut oil, the wonderful oil, once considered as inevitable and non-exchangeable, has become a minor oil amenable to substitution with cheaper oils and chemicals. Thus coconut oil lost its share from the total vegetable oil supply. The share of coconut oil in the total vegetable oil pool of the world has been shrinking from 12.13 percent in 1960 to 2.45 percent in 2009-10 and thereby placing this oil into 8th position among the leading vegetable oils. While the world production of vegetable oil has been increasing at a compound growth rate of 5 percent per annum, palm oil and palm kernel oil has recorded significant increase of 7.5 percent and 6.8 percent respectively. The palm oil production which occupied a share of 12.2 percent in the total global production of vegetable oil in 1980 tremendously increased and reached a comfortable position with a share of 33.25 per cent in the total vegetable oil production in 2009-10 and thus ranked first among all the oils. The rate of growth in the production of coconut oil in the world recorded only a marginal growth rate of 0.08 percent per annum whereas soybean and rapeseed oil registered a growth rate of 4.37 percent and 5.39 percent respectively during the corresponding period. In India coconut oil contributes 7.34 percent to the total domestic vegetable oil production. The major share of 24.71 percent is from rapeseed followed by 23.45 percent by soya bean oil, 19.05 percent by groundnut oil and 17.17 percent by cotton. However a discernable change in the trend could be observed during the post globalization period.

Undergoing changes in area and production of vegetable oil seeds in India

The domestic edible oil production pattern and the consumer preferences of vegetable oils have been witnessing tremendous changes. The changing customs duty on account of controlling the food inflations has further aggravated the situation wherein consumer preferences were shifted in favour of cheaper oils resulting structural changes in the area and production of vegetable oil seeds particularly the seasonal crops. The trend in area and production of 9 major vegetable oil seeds of the country for the period of 1989-90 to

Table 4. Trend in area, production and yield of major oil seeds in India

Area :'000 ha. Production : million MT

Year	Area	Production	Yield (Kg/ ha)
1989- 90	22800	16.92	742
1990- '91	24150	18.61	771
1991 - '92	25890	18.60	719
1992- ' 93	25240	20.11	797
1993 - '94	26900	21.50	799
1994 - 95	25300	21.34	843
1995 -'96	25960	22.11	851
1996 - '97	26340	24.38	926
1997 '98	26120	21.32	816
1998 -'99	26230	24.75	944
1999 - 2000	24280	20.72	853
2000 -'01	22770	18.44	810
2001 - '02	22640	20.66	913
2002 - '03	21490	14.84	691
2003 - '04	23660	25.19	1064
2004 -'05	27520	24.35	885
2005 -'06	27860	27.98	1004
2006 -'07	26510	24.29	916
2007 -'08	26690	29.76	1115
2008 -'09	27560.00	27.72	1006
Growth rate	**1.00**	**2.63**	**1.61**

Source:Agricultural Statistics at a Glance 2010 pp. 111-112

2008-09 is given in Table 4. The trend indicates that the area and production of total oil seed crops in the country is increasing only at marginal rate and is disproportionate to the population growth. In case of area under total vegetable oil seeds the trend recorded only a unit growth whereas production was increasing at a compound growth rate of 2.63 percent per annum, the rate of growth in productivity was only 1.63 percent per annum. As a result of this slow down in the production of vegetable oils coupled with the demographic growth of the country, the demand-supply equations were made the country to resort to imported oil to bridge the gap. Prior to the opening of the Indian Economy for Global players, ground nut oil occupied the bulk of the share in the total vegetable oil pool followed by rapeseed oil. The situations have been considerably changed subsequent to the globalization of the Indian Economy. The share of groundnut oil in the domestic oil production has been declined to 19 per cent in 2008 from 42 per cent share in 1990 recording a negative growth of 4.57 per cent. Soybean oil production recorded a significant growth of 16.69 per cent followed by cotton oil by 10.19 per cent and sunflower oil by 9.37 per cent. The coconut oil, which occupied 6.38 per cent share in the domestic oil production in 1990 slightly improved its position in 2008 with 7.34 per cent share. Unlike other traditional oil seed crops, the post globalization period recorded a distinguishing growth in the production of coconut oil in the country; thanks to the policy measures initiated by the Government of India and the efforts taken by the Coconut Development Board for the significant growth in the production and consumption of coconut oil in the country. The production of coconut oil recorded a compound growth of 4.8 per cent per annum. Coconut, coconut oil and other products are included in the sensitive list in the Free Trade Agreements[2]. More over, coconut is included in the Market Intervention Scheme and hence the farmers are protected with a Minimum Support Price mechanism.

Table 5. Trend in production of major vegetable oils in India

'000 MT

Vegetable oils	1990	Share in %	2008	Share in %	Growth rate
Soybean oil	307.1	6.96	1438	23.45	8.96
Cotton oil	398.9	9.04	1053	17.17	5.54
Groundnut oil	1864.7	42.24	1168	19.05	-2.57
Sunflower oil	207.5	4.70	508	8.28	5.10
Rape seed oil	1347.2	30.51	1515	24.71	0.65
Coconut oil	281.7	6.38	450	7.34	2.64
Total	**4414.9**	**100**	**6132**	**100**	**1.84**

Supply and Demand

India is an edible oil deficit country and the shortage may increase in years to come. To meet the burgeoning domestic requirement, palm oil is being considered as a potential source of oil owing to the high productivity of the oil palm and its competitive price in the international market. Being the cheapest oil, palmolein, is continued to enjoy consumers' preference. Similarly, if the price difference of coconut oil is significantly higher, ie.20 per cent or more, food and soap industry also consider palmolein and palmkernel oil as the cheapest substitutes for the coconut oil. Hence it is used in domestic cooking as well as in the food processing industry because of not only the price advantage but on account of its technical characteristics also. It is estimated that India annually requires about 15-16 million MT of edible oil. About 45 per cent of country's requirement of edible oil is met through import. India is the second largest edible oil market in the world after China. According to a study conducted by Ramana Rao and et al, India's import of edible oil has been increased many fold consequent to the globalization of the Indian Economy[3]. The situation was further aggravated subsequent to the policy initiations to fight against the inflationary pressures. The Govt. of India decided that it would keep food and edible oil prices as low as possible. Hence no fresh import duties were imposed and the Indian consumer got the benefit of low prices of vegetable oils. So long as import duty on unrefined oils remains nil, Indian consumer demand will respond to

Table 6. Trend in import of vegetable oils

in'000 MT

Vegetable oils	Oil Year (November - October.)									
	2000 -2001	2001 -2002	2002 -2003	2003 -2004	2004 -2005	2005 -2006	2006 -2007	2007 -2008	2008 -2009	2009 -2010
Palm oil	2921.41	2010.44	2470.67	2856.43	2783.31	2486.17	3109.37	4774.85	6427.08	6382.86
Sunflower oil	387.76	2.8	94.6	75.82	6.08	100.84	195.25	26.49	590.18	630.01
Soyabean oil	1414.94	1475.53	1167.72	906.02	2001.75	1723.82	1434.12	759.43	989.61	1666.49
Palm Kernel oil	Nil	Nil	Nil	64.35	32.56	26.84	9.67	26.26	107.62	111.97
Others	109.7	936.42	2071.81	493.97	193.68	77.8	66.44	21.37	68.83	32.01
Total	**4833.81**	**4425.19**	**5804.80**	**4396.59**	**5017.38**	**4415.47**	**4814.85**	**5608.40**	**8183.32**	**8823.34**

world prices -- larger quantities will be demanded at low prices and lower will be demanded at higher prices.

The total import of edible oils during November 2009 to October 2010 is reported at 88.23 lakh tons compared to 81.83 lakh tons in 2008-09 and 56.08 lakh tons in 2007-08. Import of edible oils is increased by 8 per cent compared to the previous year. Import of crude palm oil has declined to 51.69 lakh tons from 51.87 lakh tons and RBD palmolein declined to 12.13 lakh tons from 12.40 lakh tons in previous year. Soybean oil import has increased to 16.66 lakh tons from 9.90 lakh tons. Sunflower oil import jumped to 6.30 lakh tons from 5.90 lakh tons. Rapeseed oil import was reported at 13950 tons. Palm oil occupies about 72 per cent and Soybean oil about 19 per cent, of the total edible oils imported during the year 2009-10 (Table 6 and Fig. 2)

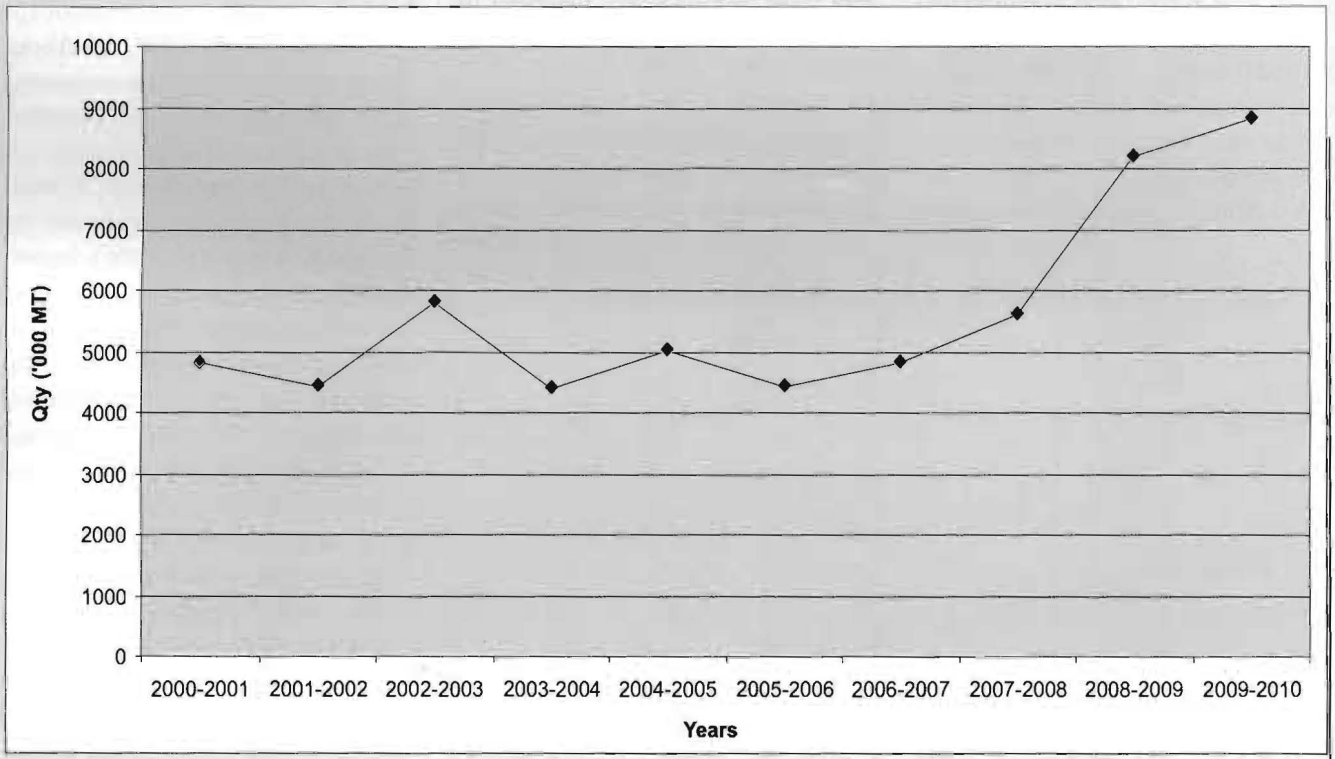

Fig 2. Trend in import of vegetable oils in India

Table 7. Countrywise Growth Rate in Area, Production and Productivity of Coconuts

Countries	1st Phase before Globalisation - from 1981-1982 to 1990-91			2nd Phase after Globalisation - from 1991-92 to 2008-2009		
	CGR - Area	CGR-Production	CGR - Productivity	CGR - Area	CGR-Production	CGR - Productivity
India	3.71	6.14	2.35	1.27	2.65	1.36
Indonesia	2.54	4.95	2.36	0.40	1.71	1.30
Malaysia	-1.39	-6.08	-4.75	-6.53	-4.85	1.79
Philippines	-0.24	-2.31	-2.07	0.59	1.89	1.29
Sri Lanka	0.00	-1.58	-1.58	-0.35	1.29	1.64
Thailand	0.06	8.67	8.61	-2.82	0.01	2.91
Vietnam	NA	NA	NA	-2.50	-1.27	1.26
Others	1.37	-3.18	-4.49	1.28	2.63	1.33

NA- Not available

While there is direct relationship between the demand and price, there exists an inverse relationship between the supplies of total vegetable oils including coconut oil. Because of the fact that price of coconut and its products in the country are integrated with the price of coconut oil, the movement of which is greatly influenced by the price of other vegetable oils including the international price of coconut oil. Globally, coconut oil is positioned as premium oil due to its multifarious applications after olive oil. Coconut oil contributes significantly to the gross domestic product of many of the producing countries. Coconut oil and its derivatives contribute significantly to the export earnings of the major producing countries. Of the total quantity of coconut oil produced annually in India about 30 per cent is consumed for edible purposes and the remaining 70 per cent goes to oleo chemical industries for different applications. The unique fatty acid composition and physical characteristics set coconut oil apart from most of the other oils. It is one of the very few vegetable oils which can be utilized in a wide range of applications. For the first time in the history of coconut, the price of copra, coconut oil and other products reached to a record level. An analysis of the changed situtation will be presented in the next part of this article.

To be continued....

Notes and References

1. Danilo M. Coronacion (2003). Constraints and opportunities on marketing and trading in coconut products in the changing global scenario. *Coconut for Prosperity - APCC Jakarta pp1-26*
2. Gopalan K (1950). Trade in coconut and coconut products in India, - *Indian Coconut Journal No.3 pp152-171*
3. Dr. D.M.Vasudevan and Dr. V.Rajagopal- *Coconut in Health and Medicines..*
4. Danilo M. Coronacion (2007) - Out look for Global competitiveness of coconut oil - *Coco Info International Vol.XIV p.p. 2-10*
5. Prasad N.B.L. and Azeemoddin G. (1995) *Commercial applications and use of coconut oil - INJ XXVI (1 & 2) .*
6. Area (2010) *Agricultural Statistics at a glance 2010 Deptt. of Economics and Statistics, Ministry of Agriculture.*
7. T. Rajmohan (1997) *"Study on the effect of coconut kernel and coconut oil on the serum lipid profile."* Coconut Development Board, Kochi.
8. Dr. D.M.Vasudevan (2011) - *"Health benefits of Coconut oil." Coco Info International Vol. 18 No.1, 2011 p.p.6-8.*
9. Buchanan Francis (1803). *"A journey from Mysore, Canara and Malabar - London"*

[1] The global population is rising by more than 1.15 per cent a year which contributes to a net addition to the demand for food and which reduces available resources for food production. The world may be forced to embrace genetically modified food crops which can give higher output per unit of input.(" The Global Food Crisis: Causes, Severity and Outlook" EPW June 28,2008 pp115-122)

[2] The Regional Trade Agreements such as South Asian Free Trade Agreement (SAFTA) between SAARC Member countries, the Indo-Thailand FTA, the Indo-Sri Lankan RTA, ASEAN FTA, etc. which targeted a free and fair world trade, has not yielded the desired advantage to India, as far as coconut products are concerned. Instead, there has been a surge in import of edible oils; palm oil, palm kernel oil and soybean oil are the major among these commodities. Despite, the FT and Regional trade is expected to facilitate economic growth of the member countries by providing greater market access and widening market and the volume of trade, the growth of domestic coconut industry is undermined due to the lack of competitiveness of coconut culture and industry. Even though India is the second largest producer of coconut in the world, the country has little role in influencing the world market mainly on account of high cost of production and the burgeoning domestic market. In order to safeguard the interests of the coconut farmers and the industry which provide continuous and steady employment opportunities in the rural areas it is necessary to continue the protections as the ASEAN countries particularly Indonesia, Philippines and Sri Lanka enjoy the advantages of economies of scale both in cultivation and industry. The Minimum Support Price (MSP) for FAQ grade milling copra and edible ball copra has been introduced since 1986 for ensuring remunerative prices to coconut. It is a Policy decision of the Government of India to announce the MSP for these products for every season on the recommendations of the Commission for Agriculture Cost and Price (CACP) with the guarantee to purchase the copra at the pre-announced price, in the event of a fall in market price.

[3]Ramana Rao, Ch. Sarada and P. Madhuri, Directorate of Oil seeds Research , Hyderabad, conducted a study on the behaviours of the imports of the edible oils from the period 1980-91 to 2004-'05. This period is very crucial keeping in view the various policy measures that have been announced from time to time. The study was divided into two periods. The results of the study indicated that the growth rates in imports during the first period (1980-81 to 1990-91) fell by 6.26 per cent.The exports grew at 11.15 per cent per annum. The per capita consumption of edible oils grew at 2.2 per cent. During the second period (1991-92 to 2004-05), the growth rate of import of edible oils was very high, ie, 37.89 percent while there was deceleration in the exports by 8.01percent. This complete reversal of the trend in the behavior of imports and exports is due to the inability of the oilseeds sector to cope up with the adjustments at the global level especially with respect to the trade competitiveness, international price of edible oils, the import policies on the duty structure and above all, the recurring droughts and other biotic stresses which the country witnessed during this period. The productivity grew at 1.12 per cent while per capita consumption still grew at 3.32 per cent.

Benefits of Coconut Flour

Coconut fiber has been shown to be very effective in moderating blood sugar and insulin levels. It was discovered in a research study conducted on normal and diabetic human subject spear-headed by Dr. Trinidad T. Trinidad of the Food and Nutrition Research Institute of the Philippine Department of Science and Technology (in collaboration with the Philippine Coconut Authority) that increasing levels of coconut flour in the bakery products resulted in lowering the glycemic index of the food and keeps blood sugar levels under control. The fiber in coconut flour can have great significance in the proper control and management of diabetes mellitus and the maintenance of weight. Foods rich in dietary fiber are low glycemic index foods. Dietary fiber helps moderate swings in blood sugar by slowing down the absorption of sugar into the blood stream. People with diabetes are much more prone to heart disease than those without diabetes. Dietary fiber such as the fiber in coconut flour is known to increase insulin sensitivity, thus reducing symptoms associated with diabetes, and consequently, the risk of heart disease.

- Cocommunity