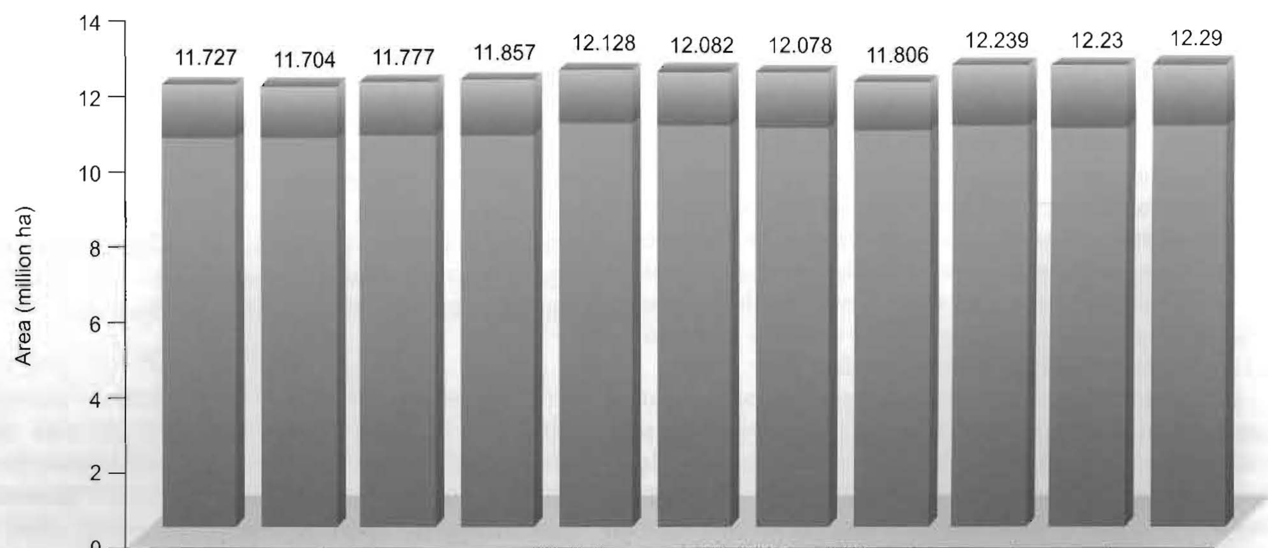
Romulo N. Arancon Jr.

Production and global trade scenario of coconut

The global exports of some coconut products during the last 5 years showed an increasing trend, particularly for coco powder, desiccated coconut, coco chemicals, shell charcoal and coir, and coir products. There was a decrease in the export of copra, coconut oil, coconut cream and copra meal, and a significant increase in coco chemicals, coconut shell charcoal, coir as well as coir products. Apart from the recent global financial crisis, shortage of raw materials for the processing industry, high domestic price of raw materials, decline of export prices, and increase of the cost of production are some of the factors which affected coconut product exports in the last five years. The APCC member countries are the main source for the export of almost the entire copra, desiccated coconut, coconut shell charcoal, coco chemicals and coir products. Coconut oil, copra meal and activated carbon are also exported by some countries outside of the APCC, says Dr Romulo N. Arancon Jr.

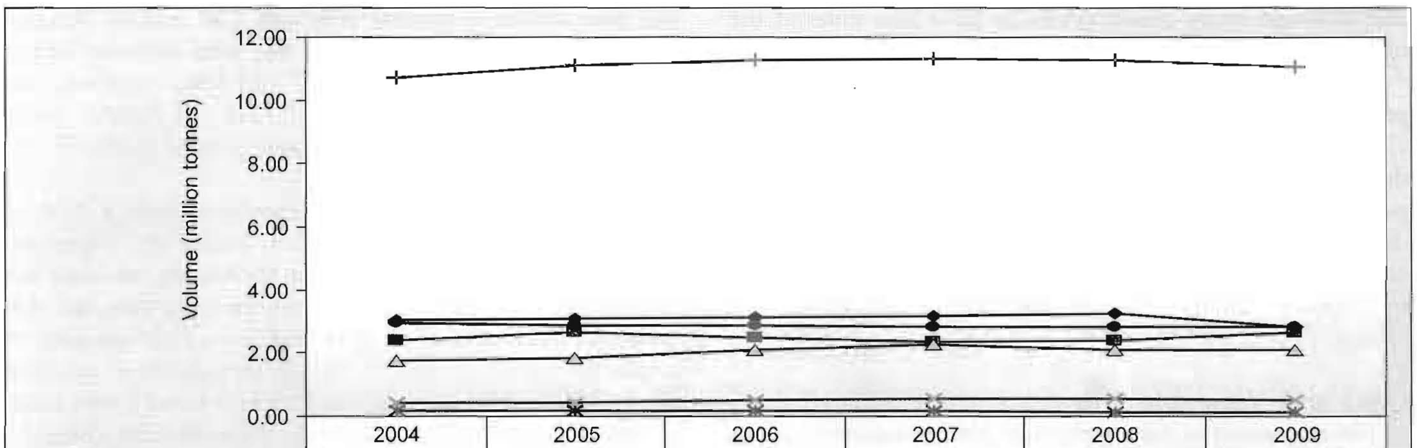
COCONUT is grown in 93 countries in the world over an area of 12.29 million ha, producing 11.04 million tonnes (copra equivalent). The 17 member countries of the Asian and Pacific Coconut Community (APCC) account for a major share of area and production with 10.7 million ha (87%) and 9.1 million tonnes in copra



	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09
Other Countries	1.415	1.411	1.417	1.444	1.441	1.468	1.477	1.312	1.601	1.63	1.64
APCC Countries	10.312	10.293	10.36	10.413	10.687	10.614	10.601	10.494	10.638	10.6	10.65

Year

Fig. 1. Coconut area in the world and in APCC member countries



	2004	2005	2006	2007	2008	2009
INDONESIA	3.05	3.10	3.13	3.19	3.25	2.83
PHILIPPINES	2.38	2.67	2.47	2.35	2.40	2.64
INDIA	1.74	1.83	2.12	2.26	2.10	2.12
SRI LANKA	0.45	0.44	0.53	0.54	0.56	0.50
P N G	0.16	0.16	0.16	0.16	0.13	0.14
OTHERS	2.94	2.89	2.86	2.81	2.85	2.81
TOTAL	10.72	11.09	11.27	11.31	11.29	11.04

Source: APCC Trade Data

Fig. 2. Coconut production in copra equivalent during 2004-2009

equivalent (82%) (Fig. 1). Indonesia, Philippines and India are major producers of coconut in the world. The area and productivity of coconut remained almost at the same level during the last 5 years (2004-2009). However, there has been an increase in production in some APCC member countries (Fig. 2).

India has highest nut production (2009), producing 16.929 million nuts with Indonesia, Philippines and Sri Lanka taking the second, third and fourth positions respectively. But in total productivity in copra equivalent, Indonesia has highest with 2.83 million tonnes, followed by the Philippines with 2.64 million tonnes and India with 2.12 million tonnes.

There are a number of value-added coconut products and byproducts which are traded globally (Table 1).

GLOBAL STATUS OF COCONUT

Major Coconut Products

Major coconut products traded in the world market are coconut oil, desiccated coconut, coconut milk, cream and milk powder, coconut shell charcoal, activated carbon, coir and coir products. Tender coconut water as sports drink/rehydrating drink, virgin coconut oil (VCO), coconut flour, and oleo chemicals are some of the emerging products. Nata de coco, coconut vinegar, coconut sugar

Table 1. Exports of coconut products in 2005-2009

Product	Global exports			APCC exports			Share (%) of APCC countries	
	2005	2009	Increase / decrease (%)	2005	2009	Increase / decrease(%)	2005	2009
Copra ('000 tonnes)	145	135	-6.9	126	115	-8.7	86.9	85.2
Coconut oil ('000 tonnes)	2,454	1,988	-18.6	2,157	1,780	-17.5	87.9	89.1
Copra meal ('000 tonnes)	850	715	-15.9	797	661	47.1	93.8	92.4
Desiccated coconut ('000 tonnes)	304	310	2	225	211	-6.22	74	68
Coco cream ('000 tonnes)	40853	32,050	-21.2	39,840	31,040	-221	98	96.8
Coco powd powder (tonnes)	7,136	10,027	40.5	5,000	8,750	75	70	87.3
Coco chemicals (tonnes)	16,880	30,859	82.8	18,880	30,859	828	100	100
Shell charcoal (tonnes)	30,288	85,637	183	30,288	73,523	143	100	85.8
Activated carbon (tonnes)	n.a.	n.a.	n.a.	102,243	87,200	-14.7	100	100
Coir and coir products (tonnes)	175,067	311,298	78.1	174,667	261,298	49.6	97.4	83.9

and coconut syrup based products have also entered the international market.

The Philippines has listed 10 non-traditional coconut products exports. These include glycerin, toilet/bath soap, virgin coconut oil, coconut milk powder, shampoo, nata de coco, coconut milk, alkonomide, makapuno and coco peat. These products generate an export value of more than US$ 100,000 per month. Glycerin led the pack with earnings of US$ 1.5 million from export of 1,251 tonnes in February 2010. The top destinations are Japan and China.

CNO and Vegetable Oils

World coconut oil production has remained at more or less the same level during the last ten years. The highest production was in 2001 at 3.46 million tonnes. The average annual coconut oil production in the last decade is 3.10 million tonnes (Table 2).

Table 2. World coconut oil production (1999–2009)

Year	Production (million tonnes)
1999	2.40
2000	3.24
2001	3.46
2002	3.10
2003	3.27
2004	3.04
2005	3.24
2006	3.10
2007	3.03
2008	3.05
2009	3.22
Average	**3.10**

Source: APCC Trade Data

Coconut oil competes with other sources of fats and oils in the world market. In the last two decades, volume of oils and fats has risen steadily. In 2009, total volume of the nine major vegetable oils was 136 million tonnes. Coconut oil was only 2.4% of the total volume and it ranked eighth after palm oil (33.4%), soybean oil (26.4%), rapeseed (15.8%), sunflower oil (9.6%), palm kernel (3.9%), cottonseed (3.4%) and peanut (3.1%) (Table 3 and Fig. 3).

Coconut oil faces tough competition with a host of other oils such as soybean, palm, sunflower, rapeseed, olive and corn oil. Recently, an increasing demand for coconut oil has been seen not only for food uses but also in oleo chemical and biofuel industry. This demand is primarily based on the chemical properties of coconut oil. In this market, coconut oil competes largely with palm kernel oil (PKO) since both oils have similar chemical composition. Also, both oils have high lauric fatty acid content which is not present in other vegetable oils. CNO and PKO are therefore unique and normally enjoy a premium. The two oils are the primary sources of lauric oil in the world.

In the last two decades, the production of lauric oil has been on the rise, largely driven by the growth in palm kernel oil. Basically, only three APCC member countries significantly contribute to the world lauric oil trade, i.e. the Philippines in the form of coconut oil, Malaysia with palm kernel oil and Indonesia with both coconut and palm kernel oil. Indonesia is seen as a major player in the lauric oil industry and trade with its increasing production of palm kernel oil. Papua New Guinea also produces both coconut oil and palm oil.

An increasing trend in the price of CNO was noted from January to May 2010. The average price rose to US$ 874/tonne from US$ 724/tonne in the corresponding period a year ago. The price of CNO ranged between US$ 765 and US$ 970 per tonne during this period.

The import demand of CNO for the period of January–May 2010 increased significantly from 0.64 million tonnes to 0.82 million tonnes a year earlier or an increase by 28.9%. Chinese import demand for CNO also

Table 3. Word production of nine major vegetable oils ('000 tonnes) (1960-2009)

Vegetable oil	1960	1970	1980	1990	2000	2008	2009	Share in 2009 (%)
Palm	1,264	1,742	4,543	11,014	21,874	42,904	45,360	33.35
Soybean	3,300	6,477	13,382	16,097	25,541	36,830	35,892	26.39
Rapeseed	1,099	1,833	3,478	8,160	14,466	19,774	21,478	15.79
Sunflower	1,788	3,491	5,024	7,869	9,700	10,773	13,051	9.60
Cotton	2,325	2,503	2,992	3,782	3,864	5,025	4,694	3.45
Palm kernel	421	380	547	1,450	2,691	5,010	5,253	3.86
Groundnut	2,587	3,044	2,864	3,897	4,560	4,391	4,193	3.08
Coconut	1,949	2,020	2,717	3,387	3,281	3,067	3,219	2.37
Olive	1,339	1,442	1,701	1,855	2,540	2,933	2,860	2.10
Total	16,072	22,932	37,248	57,511	88,517	130,707	136,00	100

Source: APCC/FAO/Oil World

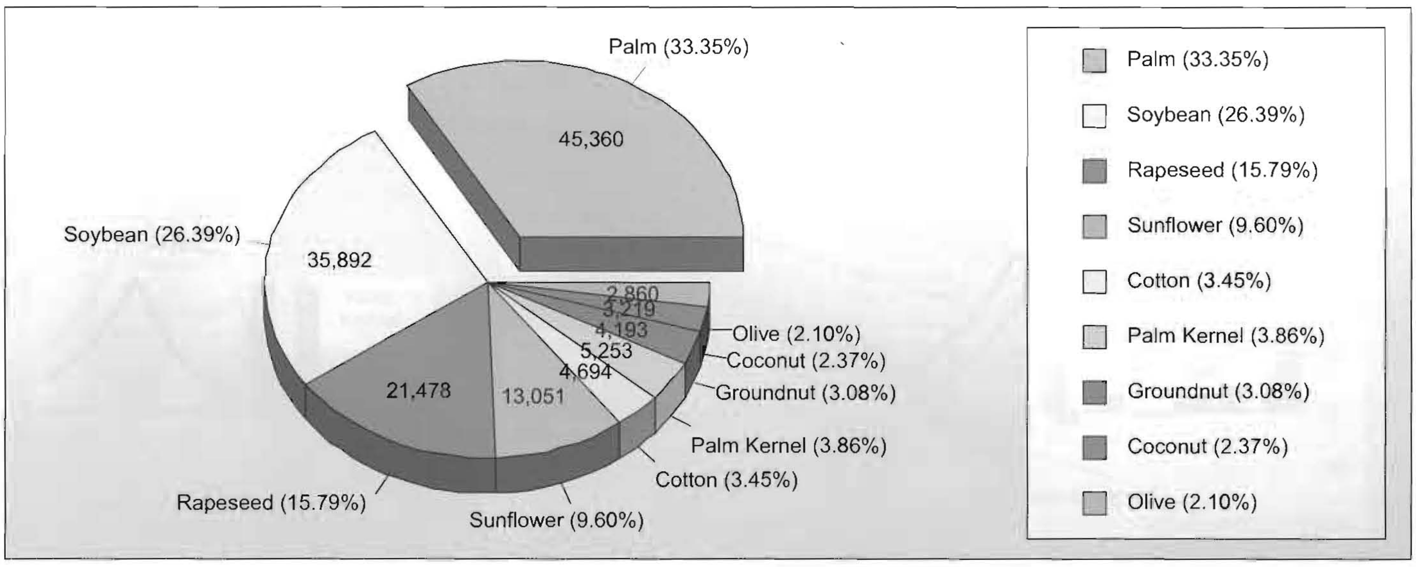


Fig. 3. World production of coconut oil vs other vegetable oils (2009)

Table 4. World export of lauric oils ('000) (2007-09)

Lauric oils	2007	2008	2009
Coconut			
Philippines	860	848	808
Indonesia	720	649	450
Others	309	337	347
Total	1,889	1,834	1,605
Palm Kernel			
Indonesia	1,264	1,397	1,640
Malaysia	1,062	1,047	1,128
Others	248	268	238
Total Export	4,463	4,546	4,611

increased considerably during the first quarter of 2010. The total import was up by almost 200% to reach 194,300 tonnes as opposed to 19,200 tonnes last year. Indonesia and the Philippines are the main suppliers of CNO to China.

The PKO had a premium price of about 8-12% over the price of CNO in January–May 2010. This makes PKO more expensive than CNO by US$74-US$94.

Due to the price difference between CNO and PKO in the world market the demand for CNO increased. China, as one of the biggest buyers of lauric oils, reduced her import demand on PKO and went for CNO. The price trend of CNO and PKO in 2006 – 2010 is shown on Fig. 4.

Coconut Industry Supply Value Chain

The coconut industry has to undertake a deliberate shift to value-added products like VCO, coconut milk powder, desiccated coconut, coco methyl ester (CME), coir and coir-based products, coconut shell charcoal/activated carbon, oleochemicals etc, to increase export income. Fig. 5 shows the Supply Value Chain of the Coconut Industry.

Coconut Export Products and Export Destinations

Coconut export products from different APCC member countries are as follows:

Country	Major coconut export products
Philippines	Coconut oil, desiccated coconut, coconut milk/powder and CS charcoal/activated carbon, VCO, Oleochemicals and Nata de Coco
Indonesia	Coconut oil, desiccated coconut, coconut milk/powder, copra and copra meal
Sri Lanka	Desiccated coconut, fresh coconut, coconut milk, coconut powder, activated carbon, mattress and bristles fibre
India	Coir yarn, coir matting and coir mats
Malaysia	Desiccated coconut, fresh coconut, RBD coconut oil, copra and activated carbon

Major Export Destinations

Coconut products are imported by about 60 countries in all the five continents. The major countries importing coconut products are listed below:

Europe	Products
Germany	Coconut oil, desiccated coconut and coconut fiber
United Kingdom	Desiccated coconut, coir fibre, coconut water, coconut milk/powder and Nata de Coco

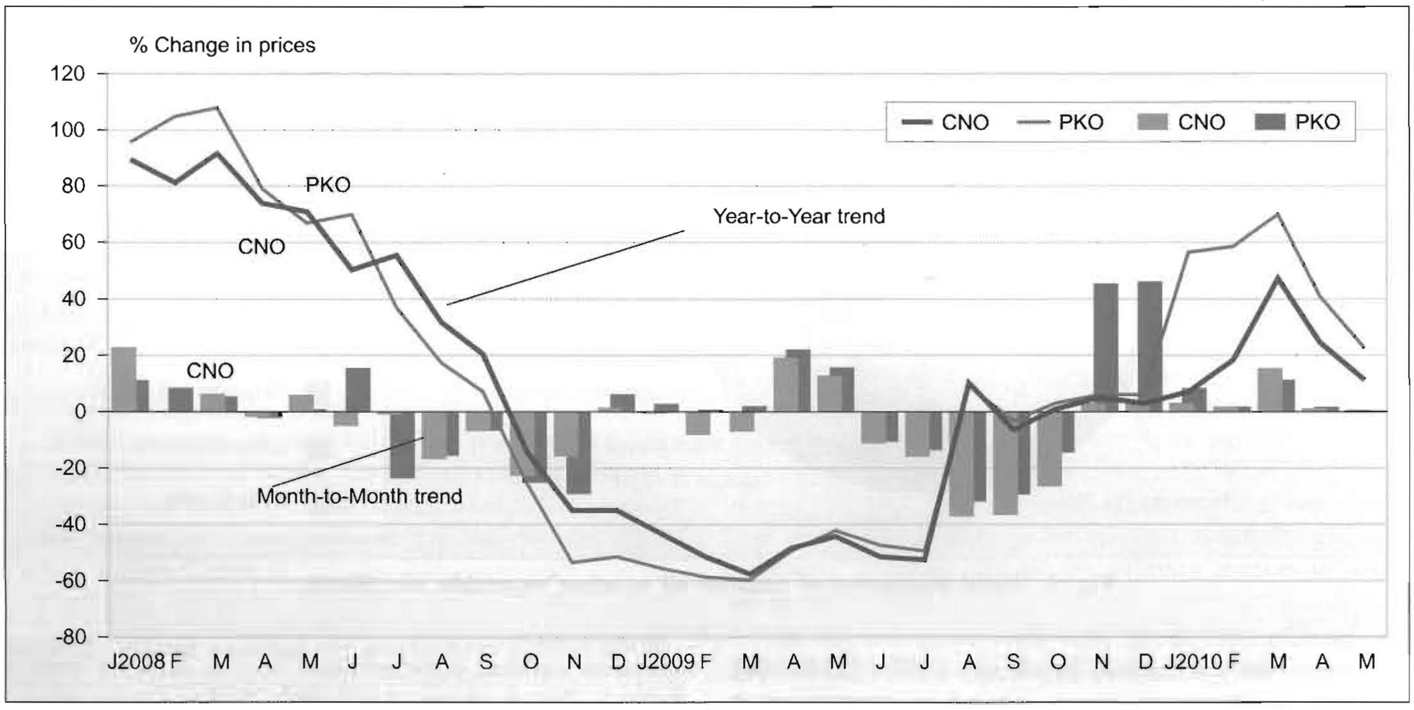


Fig 4. The price trend of CNO and PKO in 2008 - 2010

Belgium	Desiccated coconut, coconut oil and coir yarn
Netherlands	Desiccated coconut, coconut oil, coconut shell, activated carbon, coconut milk/powder, coconut water and nata de coco
Italy	Coconut shell, activated carbon, coir yarn, desiccated coconut, nata de coco and coconut oil
France	Coir yarn, desiccated coconut, nata de coco and coconut oil

North and South America	**Products**
USA	Coconut oil, desiccated coconut, coconut shell, activated carbon, coir yarn and nata de coco
Canada	Desiccated coconut, coconut milk/ powder, nata de coco, coconut water and virgin coconut oil
Brazil	Desiccated coconut, coconut oil and virgin coconut oil

Asia - Pacific/ Australia/ Middle East	**Products**
Malaysia	Coconut oil, desiccated coconut, coir fibre, charcoal, copra and other coconut products
Korea	Coconut oil, copra meal, desiccated coconut, copra, and coconut water
China	Coconut oil, desiccated coconut, coir products, charcoal, and coconut milk
Singapore	Coconut oil, desiccated coconut, activated carbon and coconut milk/ powder
Pakistan	Desiccated coconut, coconut oil and copra meal
Japan	Coconut shell, activated carbon, coconut water, nata de coco and coconut oil
Australia	Coconut shell, activated carbon, virgin coconut oil, coconut water, and coconut oil
United Arab Emirates and	Desiccated coconut, coconut water and nata de coco Saudi Arabia
South Africa	Coconut shell, activated carbon and desiccated coconut

PRODUCT DIVERSIFICATION, VALUE-ADDITION AND MARKET EXPANSION

Virgin Coconut Oil (VCO)

High value niche market for virgin coconut oil offers good prospects for the improvement of the income of

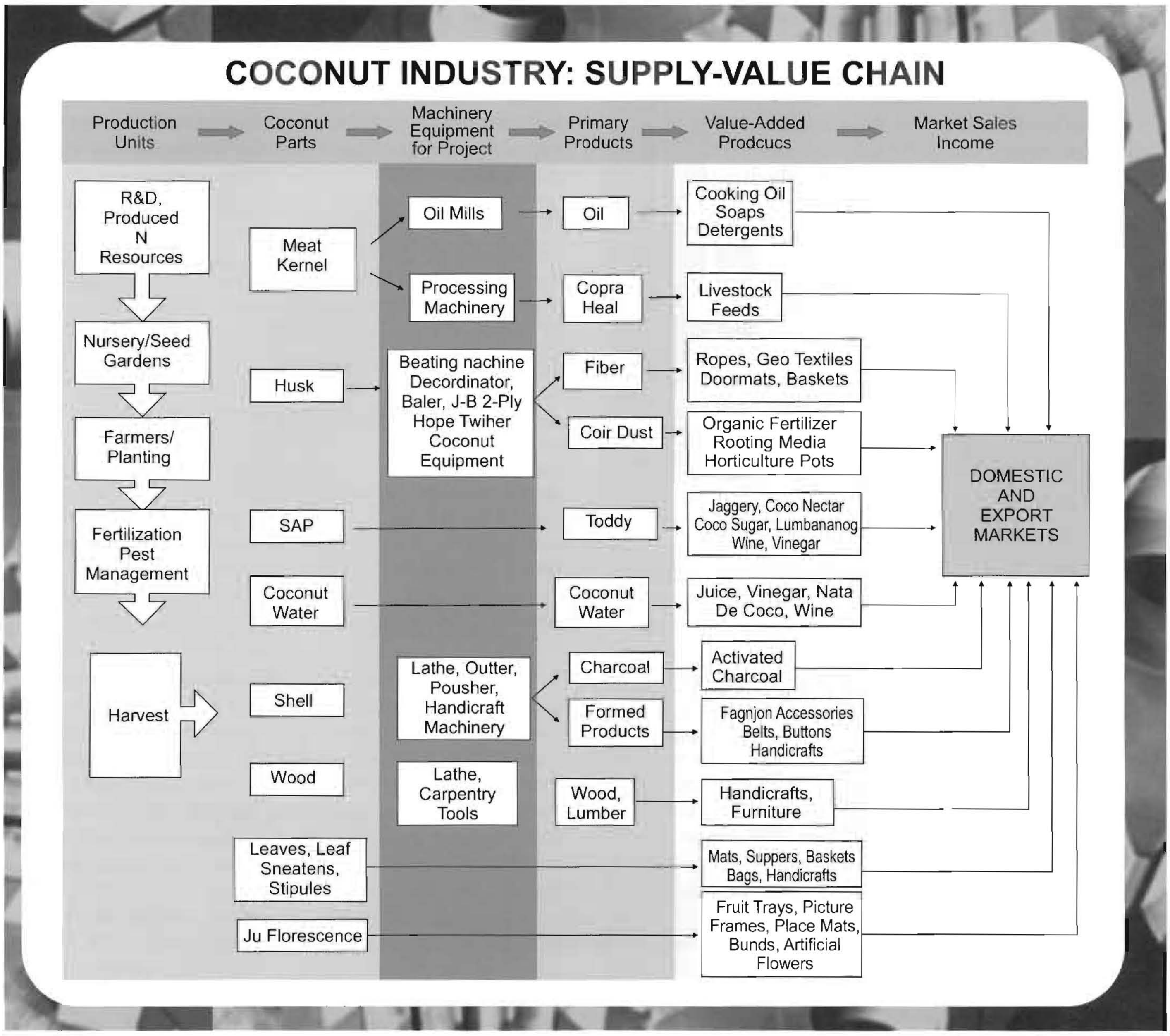
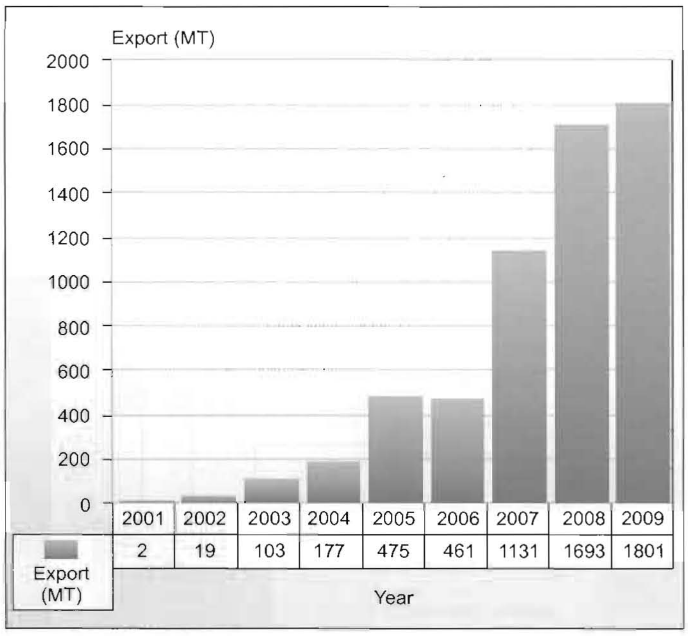


Fig 5. Coconut industry: supply value chain

coconut farmers. The VCO can also be produced in macro, micro or village scale operation. It creates a situation where coconut farmers can directly participate and get a bigger share of the profit of the industry under a fair trade arrangement, instead of just being a mere producer of copra. The case of a group called "Women in Business" in Samoa is a good example.

The development of high-value market for VCO and VCO-based products also offers a lot more options and flexibility to earn higher income from coconut by using different process technologies.

The Philippines is top exporter of virgin coconut oil (VCO) in the world market. Virgin coconut oil export started only in CY2001 with a volume of 1.80 million tonnes. In CY 2009, its export volume reached 1,801 million tonnes with a corresponding export value of US$ 5.6 million, a phenomenal performance for a newly introduced product both in the domestic and foreign markets. With only the USA and Canada as its major foreign market in CY2001, today, it has reached 41 destinations such as the countries in Europe, Asia and Pacific, Middle East, Australia and South Africa (Table 5). Besides the Philippines, Thailand, Indonesia, India, Malaysia, Sri Lanka, Vietnam, Fiji, Western Samoa and other APCC member countries also produce and export VCO.



Source: PCA and UCAP, Philippines

Fig 6. The Philippines export of VCO, 2001 – 2009 (in million tonnes)

Table 5. The Philippine export of VCO (2001 – 2009)

Year	Export Quantity (tonnes)
2001	2.0
2002	19
2003	103
2004	177
2005	475
2006	461
2007	1,131
2008	1,693
2009	1,801

The price of VCO in 2009 ranged from US$ 2,600 to US$ 3,500/tonne. VCO is used as food supplement, body oil, massage oil and in various personal care products. It is also used in animal pets and race horses. The increase in the demand for VCO has been attributed to the fact that many are now re-discovering the health benefits of coconut oil as a medium-chain triglyceride (MCT).

Fresh and Tender Coconut

Tender coconut water (TCW) is the natural isotonic beverage which has almost the same level of electrolyte balance as in our blood. It is the 'fluid of life'. It also contains essential nutrients such as proteins, animo acids, sugars, vitamins and biological growth factors and enzymes that promote anti-aging, healthy cell growth and rehydration.

Sugars in the form of glucose and fructose form an important constituent of TCW. The concentration of sugar steadily increases from 1.5 to 4.4% in the early months of maturation and this slowly falls to about 2% at the stage of full maturity. Sucrose that is a non-reducing sugar appears in the late stages and this increases with maturity (Table 6).

Table 6. Analysis of mature and tender coconut water

	Mature coconut water	Tender coconut water
Total solids (%)	5.4	4-6.5
Reducing sugars (%)	2	4.4
Minerals (%)	0.5	0.6
Protein (%)	0.1	0.01
Fat (%)	0.1	0.01
pH	5.2	4.5
Potassium mg (%)	247.0	290.0
Sodium mg (%)	48.0	42.0
Calcium mg (%)	40.0	44.0
Magnesium mg (%)	15.0	10.0
Phosphorous mg (%)	6.3	9.2
Iron mg (%)	79.0	106.0
Copper mg (%)	26.0	26.0

Fresh young tender coconut water has become quite popular as an emerging, natural and healthy product. Tender coconut water has gained high popularity especially in the non-traditional markets because of its beneficial properties as a healthy beverage and a sports drink. It is a very good rehydrating drink after sports and physical exercise. Market promotion and quality standards must be sustained to be able to expand the market.

Coconut water has recently caught on among athletes, health nuts and urbanites in the USA., where sales topped $50 million last year. Coca Cola and Pepsi have bought into two of the top three brands, Zico and O.N.E. Another companies, VitaCoco, even has Madonna among its big name investors.

Coconut Flour

Coconut flour is a byproduct of the VCO process. It is a food-grade product obtained after drying the residue in VCO or coconut milk processing. This defatted fresh coconut meat finely grounded into powder is very similar in consistency to wheat flour.

Coconut flour can be used in baking recipes. It is a delicious, gluten-free and health promoting food as it has high dietary fibre. It can be used in making high-nutritious breakfast bread (20 – 25% blend with wheat flour), cereals and cookies. The use of locally available coconut flour is indeed a great opportunity for import substitution and savings on foreign exchange.

Biofuel / Oleo Chemicals/ Fatty Acids

In the Philippines, R & D efforts on the development of coconut biodiesel started a few years back initially to stem spiraling prices of petro-diesel and to diversify the product use of coconut oil as a marketing strategy and to promote greater domestic utilization of coconut products. Research efforts were intensified with the passage of RA 8749 also known as the Clean Air Act. The Philippine government embarked on a programme utilizing biodiesel for diesel-fueled vehicles. The Bill calls for the mandatory 1% blend of Coco Methyl Ester (CME) with petro diesel mainly in the transport sector of the country. In February 2009, the Philippine government has increased the blend to 2% (B2). They are regularly studying to increase the blend to 3% or even 5% to take advantage of adequate supply of coconut oil and the increasing prices of petro-diesel.

Desiccated Coconut

Desiccated coconut (DC) is one of the fully developed coconut products manufactured in many APCC countries. This largest single product made from coconut kernel shows slow but steady growth in the export market. The current world demand for DC is approximately 300,000-350,000 tonnes. It has penetrated 106 foreign markets. Among its major markets are the USA, United Kingdom, France, Netherlands, Italy, Eastern Europe, Australia, Japan, Taiwan and the Middle Eastern countries (Table 7).

The total exports of DC has increased several folds from 150,000 tonnes in 1960 to 310,000 tonnes in 2009.

Oleo chemicals are also produced from coconut oil. The formation of basic oleo chemical substances like fatty acids, fatty acid methyl esters (FAME), fatty alcohols, fatty amines and glycerol are done by various chemical and enzymatic reactions. Intermediate chemical substances produced from these basic oleo chemical substances include alcohol ethoxylates, alcohol sulfates, alcohol ether sulfates, monoacylglycerols (MAG), diacylglycerols (DAG), structured triacylglycerols (TAG) and sugar esters. One of the applications of oleo chemicals is for biodiesel production. The fatty acids in coconut oil is esterified with an alcohol, commonly methanol to form methyl esters. Another common application is in the production of detergents and surfactants. Lauric acid is also used to produce sodium lauryl sulfate, the main ingredient in many personal care products. Other applications include the production of lubricants, green solvents, and bioplastics.

Table 7. Desiccated coconut exports (2005–2009) ('000 tonnes)

Region	2005	2006	2007	2008	2009
World	299	244	334	355	310
APCC	221	236	245	284	211

More than 60 countries import DC of which more than 60% is absorbed by Western Europe and USA. While there is a slow and steady decline in the share of DC in these countries, market in the countries of the Middle East, Africa, Eastern Europe and Asia has shown an increasing trend.

Coconut Cream/Milk/Powder

The export volume of coconut cream/milk and powder in 2009 was recorded at 32,050 tonnes and 10,027 tonnes, respectively. Indonesia, Philippines, Sri Lanka, Thailand, Malaysia and India are the producing countries. Indonesia is the leading exporter followed by Sri Lanka, Thailand and Philippines (Table 8).

Table 8. Exports of coconut cream/powder (2005 – 2009)

Coconut cream (tonnes)		Powder (tonnes)	
2005	2009	2005	2009
40,653	32,050	7,136	10,027

Nata de Coco

This product is supplied mainly by the Philippines, Indonesia, Malaysia and other APCC member countries. It has gained popularity in the USA, Japan, Taiwan, Canada, UAE and Korea. During 2009, the Philippines supplied 6,051 tonnes of this product to 45 countries against 207 tonnes in 1990.

Processed nata de coco or coconut gel is exported in 57 countries in the world market in the past 5 years. It is an excellent ingredient for sweet fruit salads, pickles, fruit cocktails, drinks, ice cream, *sherbets* and other recipes.

Coconut Sap-Based Products

Coconut sap-based products such as coconut sugar/ jaggary, beverage, toddy and vinegar are gaining much attention by consumers mainly due to their beneficial properties. Coco sugar's glycemic index is low at 35 which can be taken both by normal and diabetic patients. Coconut sugar also contains macro and micronutrients as well as essential vitamins. Most of the producers are small to medium scale village level operations.

Coconut-based alcoholic beverages particularly, oconut arrack, coconut vodka, coco wine, have also gained popularity in the domestic as well as international market.

Coconut Shell Charcoal (CSC) and CSC-Based Activated Carbon

The Philippines and Sri Lanka continue to be the major suppliers of coconut shell charcoal (Table 9).

Table 9. Shell charcoal exports (2005 – 2009) ('000 tonnes)

Region	2005	2006	2007	2008	2009
APCC	30,432	29,792	29,222	24,000	73,523

The world demand for activated carbon is expected to grow at five per cent per year, estimated at 1.2 million tonnes by 2010. While half the demand is coming from developed countries, greater growth opportunities are expected to occur in developing markets, primarily the emerging industrial economies of Asia like India and China.

> Production of coconut shells charcoal and its subsequent conversion to activated carbon have opened up an avenue for industrial level processing for value addition of these byproducts. Coconut shell activated carbon is one of the major agents in the purification of drinking water, medicines, sugar and industrial gases. 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 charcoal forms the best raw material for producing granular activated carbon, an important product for many industries.

Coir Fibre and Coir-Based Products

The world demand for coir fibre is approximately at 500,000 tonnes. There are two major types of coir fibre namely brown fibre and white fibre, produced in the world. Annual brown fibre production is 350,000 tonnes and white fibre production is 90,000 tonnes. India and Sri Lanka are the major producing countries. Emerging exporting countries are Thailand, Vietnam, Philippines and Indonesia. India is the largest exporter of value-added coir products and Sri Lanka is the largest exporter of raw fibre. More than half of the coir produced in Sri Lanka is exported in the form of raw fibre (Table 10).

Table 10. Coir and coir fibre products exports (2005–2009) (tonnes)

Region	2005	2006	2007	2008	2009
APCC	175,067	203,739	224,306	403,544	461,298

Among the various products, India exports mainly coir yarn, mattings, mats and rubberized coir fibre. Sri Lanka exports bristle, mattress, mixed and twisted fibres. Coir products are imported by several countries in all the five continents: Europe, America and Asia particularly China and Japan.

It is expected that there will be an increasing demand of coir products because of these being natural and environment-friendly. Cocopeat is also gaining popularity as a potting medium for horticultural plants.

STRATEGIES FOR COCONUT INDUSTRY DEVELOPMENT

New Planting/Replanting of Senile Palms and Coconut Wood Processing

The coconut palms in practically all producing countries have already outlived their productive life span and are therefore due for replanting. The economic production age of the coconut is 60 years and those which have already passed this age and show decreasing levels of production need to be replanted systematically with high-yielding varieties.

In addition, to improve the productivity per unit area, gaps caused by to natural calamities, diseases or pest incidence should be replaced to achieve better production efficiency. Cocowood processing should provide some economic incentives for replanting. Thus, investments in commercial cocowood processing plants should be encouraged.

Considering that 25-50 per cent of the coconut stands in the member countries are now senile, unproductive, and are therefore due for replanting, a strong political will and a firm commitment by all stakeholders especially the government decision makers are needed to accelerate the coconut planting and replanting programme. It may be interesting to note that the APCC member countries have signed the PNG Declaration in 2006 as proof of their commitment to accelerate the replanting programme in the respective countries.

Quality Planting Material/ Low-Cost Input Management

In view of the need to increase and sustain coconut production through replanting of senile and unproductive palms, there is a need to rapidly produce adequate number of planting material of superior local varieties and hybrids at affordable cost.

Low-cost input technologies like recycling of organic biomass, green manuring, application of coco peat or chopped husks and common salt around the base of the palms are some of the steps that farmers can do to increase production. The introduction of vermi-composting, soil moisture conservation techniques, organic matter building up technologies and planting of nitrogen fixing crops are some of the sustainable lost-cost input management strategies that will prove beneficial to the coconut palms in the long term.

Coconut-Based Farming System

There is also the need to increase not only coconut production but total farm productivity through improved management. This can be achieved through intercropping and livestock integration under the coconut based farming system model. Substantial yield increases have also been achieved by promoting micro irrigation where water is a limiting factor. Integrated Pest Management (IPM) strategies have also proven less costly and more sustainable.

Transfer of Technology

There is a need to facilitate the transfer and application of coconut production and processing technologies taking into consideration the socio-economic conditions in respective communities. Transfer of technology requires more on-farm adaptive research, demonstration trials and participatory training programmes with active participation of the coconut farmers. There is a need to strengthen the extension system by providing better linkage among research institutions, the farmers and the different stakeholders and industry.

Quality Improvement and Standards

The quality of coconut products affects consumer acceptability, prices and competitiveness. Consumers in industrialized countries are gradually imposing stringent quality standards for all products, especially for human consumption including feed components for livestock. If not cared for, it could mean loss of market share of such products.

In 1980s, the Philippines had initiated a Copra Quality Improvement Programme to reduce the aflatoxin levels of copra and copra meal. APCC Quality Standards have also been prepared for products like virgin coconut oil (VCO). The APCC Secretariat is currently taking the initiative to compile national quality standards of various coconut products and harmonize them as APCC Regional Standards. At the very least, they can be used as reference by exporters and buyers. It is important to harmonize them with the global standards particularly for products traded worldwide.

New Market and Expansion

In addition to the above, an aggressive campaign is called to expand opportunities in existing markets and identify new markets. Information on market profile, market access, distribution channels, market opportunities, packaging and quality requirements including prices for each importing country should be accessible to all coconut growers, processors and traders. Buyer/seller meetings should be encouraged to provide opportunities to establish new personal contacts. Domestic consumption/ utilization of coconut products should also be promoted and encouraged.

Policy Support and Investments

The APCC member countries should provide coordinated policy environment conducive to coconut industry development and to encourage domestic and foreign investments and propel business growth to be competitive in the international market. This could be in the form of tax exemptions of imported equipment/ machineries in the processing of emerging coconut products.

> Coconut product diversification is a major option for increasing income and improving profitability. There has been lot of improvements of processed products in the last twenty years. Several new products, e.g. virgin coconut oil (VCO) and VCO-based products, coconut shell charcoal (CSC) and CSC based activated carbon, coir-based products, etc. have already gained a good share in the domestic and/or in the international markets. The market of coconut milk/ cream and powder among migrants of coconut consumers in different parts of the world is increasing. Nata de coco is gaining much interest and popularity due to enhanced demand, especially in Japan, USA, Taiwan and Korea. The world demand of oleo-chemicals is also expanding by about 5% per annum. Product diversification like the use of coir-based products in an environment-friendly manner needs to be fully exploited. Private enterprise could play a proactive role in the development of the coconut industry with incentives from government to encourage product diversification at the community level.

SUMMARY

National governments together with the private sector must invest in the coconut industry by allocating appropriate funds in their national budget. The National Coconut Replanting/Rehabilitation Programme and the Coconut Based Farming System Programme must be supported by both the central and local governments. The coconut sector must be part of the National Priority Agenda for the Development.

For further interaction, please write to:
Dr Romulo N. Arancon Jr,. Executive Director, Asian and Pacific Coconut Community, Third Floor Lina Building, Jl. HR. Rasuna Said Kav. B-7, Kuningan, Jakarta Selatan (12920), Indonesia. Phone: (62-21) 5221712 – 13, Fax: (62-21) 5221714 and E-mail: apcc@indo.net.id.