

Project ALA - 97/68

Upland Development Programme in Southern Mindanao (UDP)

Coconut Market Report

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Coconuts

The world production area of coconuts seems to have stabilised at around 10,000,000ha. Coconuts are produced commercially in nearly 100 countries in the humid tropics. The leading 8 Asian producing countries account for 85% of the total production area. Of this 30% is concentrated in the Philippines, 25% in Indonesia and 20% in India.

Table 1: coconut production area - world total and leading Asian producers

<i>Coconuts</i>	<i>Year</i>					
	<i>1983</i>	<i>1986</i>	<i>1989</i>	<i>1992</i>	<i>1995</i>	<i>1998</i>
<i>Area Harv (Ha)</i>						
World	9,015,792	9,586,395	9,902,877	10,094,414	10,581,453	10,469,544
India	1,165,600	1,231,200	1,472,200	1,537,700	1,795,500	1,820,000
Indonesia	1,904,000	2,112,040	2,170,005	2,287,245	2,584,754	2,552,736
Malaysia	349,000	280,000	325,611	291,000	265,000	260,000
Papua New Guinea	233,000	241,000	260,000	260,000	260,000	230,000
Philippines	3,202,000	3,284,000	3,110,423	3,076,720	3,064,457	3,050,000
Sri Lanka	416,423	416,423	416,423	416,423	441,859	441,859
Thailand	280,640	327,200	350,400	336,480	335,360	352,000
Viet Nam	100,100	157,686	206,287	204,100	172,900	148,803

Source: various FAO yearbooks

The Asian and Pacific Coconut Community (APCC) was established to promote the coconut industry in the Asia/Pacific region. APCC is an intergovernmental organisation of thirteen countries, composed of Federated States of Micronesia, Fiji, India, Indonesia, Malaysia, Papua New Guinea, Philippines, Solomon Islands, Sri Lanka, Thailand, Vanuatu, Vietnam and Western Samoa.

The last ten years has seen a noticeable trend in market and product diversification in international marketing of coconut. This has resulted in export earnings to APCC member countries increasing from US\$ 903 million in 1990 to 1790 million in 1997. APCC member countries account for over 90 per cent of coconut product exports to the international market.

The coconut palm tree has been variously described as the "heavenly tree", "tree of life", "tree of abundance", nature's supermarket". It is a source of a very diverse range of products.

The main product is copra the white flesh of the coconut fruit. This is dried by a variety of means including sun drying, various mechanical dryers and it is dried over fires where it is protected from the direct heat by being laid on corrugated iron or other such material. The dried copra is pressed to produce coconut oil.

The juice of the coconut is a refreshing drink. The flesh of unripe nuts can be desiccated or used as a flavouring in ice creams or other confectioneries. Coconut milk is tinned and used in cooking. Coconut vinegar, coconut sugar, various buko products in jars etc

The hard shell of the nut can be converted into charcoal and is used in that state, converted into activated charcoal and charcoal briquettes.

The fibrous material that surrounds the hard shell is known as coir and the fibre can be extracted and woven to produce a variety of products. It is used in the bedding and furniture industry, brushes, floor mats, craft items, automobile upholstery, drainage filters, building insulation, packaging, slope stabilisation, landscape construction, stream bank stabilisation, channel liners, stream restoration, sediment control, concrete reinforcement, pressed into building boards or roofing felt etc.

It can also be blended with other materials/fibres.

The leaf is used as a thatching material and when the trees productive life is over after 80 years or so the timber can be used to produce lumber or a variety of craft items.

Coconut dust is used as a soil conditioner and as a soilless potting compost and is often promoted as an environmentally friendly and sustainable substitute for Peat moss. It can also be used as the basis for organic composts.

India and Sri Lanka dominate the production of coir and coir products, but there are also commercial operations in Malaysia and Indonesia. There is minimal processing in the Philippines.

World market

The main traded coconut products on the world market are oil of coconut and cake of coconut. Although India has the third largest area planted to coconut it plays little direct part in world trade, which is dominated by Philippine and Indonesian product.

Table 2: Exports of oil of coconut - world and 3 leading countries

<i>Oil of Coconuts</i>	<i>Year</i>			
	<i>Exports - Qty (Mt)</i>	1992	1995	1997
World		1,547,996	1,793,552	2,006,058
Indonesia		351,480	148,280	644,252
Malaysia		66,363	86,515	33,000
Papua New Guinea		40,913	33,100	48,600
Philippines		882,226	1,340,410	1,080,160

Source: various FAO yearbooks

Table 3: Exports of cake of coconut - world and 2 leading countries

<i>Cake of Coconuts</i>	<i>Year</i>			
	<i>Exports - Qty (Mt)</i>	1992	1995	1997
World		1,002,511	1,191,589	1,075,366
Indonesia		316,863	287,319	375,788
Philippines		539,686	756,344	570,999

Source: various FAO yearbooks

Oil of coconut is largely a commodity product. The world price is largely determined by the supply and price of close substitutes. There is little opportunity for differentiation.

The Philippine Coconut Authority (PCA) is a major source of information on coconut production and coconut based farming systems. The Philippines also has the largest bank of coconut genetic material.

Table 4: imports of oil of coconut - world and 15 leading countries

<i>Oil of coconut</i>	<i>Year</i>		
	<i>Imports - Qty (Mt)</i>	1992	1995
World	1,480,939	1,698,134	1,588,170
Belgium-Luxembourg	28,847	97,546	46,014
China	44,411	51,649	32,670
France	61,642	52,334	65,165
Germany	188,403	210,467	290,518
Italy	49,927	61,295	54,747
Japan	58,693	23,191	28,045
Korea, Republic of	29,824	42,308	45,466
Malaysia	45,597	46,207	24,200
Netherlands	137,483	170,174	80,971
Poland	3,800	6,447	17,951
Russian Federation	5,124	3,000	14,000
Singapore	33,227	31,317	11,848
Spain	23,274	35,655	40,122
United Kingdom	41,898	74,338	42,380
United States of America	515,987	492,171	589,192

Source: various FAO yearbooks

Table 5: imports of cake of coconut - world and 11 leading countries

<i>Cake of Coconuts</i>	<i>Year</i>		
	<i>Imports - Qty (Mt)</i>	1992	1995
World	1,021,547	1,337,800	837,986
Belgium-Luxembourg	143,068	150,512	113,090
China	4,841	5,044	16,940
Denmark	131,706	100,680	32,972
France	20,097	21,065	14,858
Germany	203,715	122,579	39,965
Italy	83,700	116,091	82,807
Korea, Republic of	7,602	295,306	304,961
Netherlands	313,623	377,833	76,235
Portugal	27,502	13,184	25,649
Spain	15,863	37,192	48,950
United Kingdom	38,500	58,108	46,145

Source: various FAO yearbooks

Role of UDP

It is not envisaged that UDP will have any major role in coconut marketing and particularly in copra or oil marketing. Where coconuts are being produced in UDP target municipalities there is likely to be scope for improving yield and quality and primary processing. There will also be opportunity to promote integrated coconut based farming systems.

The principal opportunities are likely to be in the area of coconut by-products.

Coconut By-products

As outlined above there are a large variety of coconut by-products.

As environmental awareness becomes more widespread there is an increasing appreciation of the need for measures which will protect the environment in an ecologically sound and aesthetically pleasing manner. The use of concrete to protect embankments is becoming less acceptable. There is a growing appreciation of the use of various forms of vegetation to achieve this. In order to stabilise the soil while vegetation is taking root there is an increasing use of geo-textiles. Geo-textiles can be produced from either naturally occurring or synthetic fibres.

The total market for geo-textiles is estimated at over 1,000 million square meters annually which translates into 3 million tons of textiles.

About 1% of this total is composed of coir based products. A limiting factor in the adoption of natural fibres is the requirement that materials have to be approved before they can be used in public contracts etc. This is an area in which the coconut industry as a whole (world) has a role to play.

All this indicates a potential market which is expanding every year, if somewhat slowly. The impact of this on the industry at a local level is more difficult to estimate. The Philippines is regarded as a relatively high cost producer of coir and depending on prevailing world market prices is often uncompetitive on world market for the production of matting. The implication of this is that only value added product from the Philippine is the only area where exports are possible.

Locally the use of coir based products should be promoted for conservation measures. Where UDP is promoting or involved in soil stabilisation etc. every effort should be made to showcase such technology.

Coir fibre and coir dust is largely unused at this time. Some husks are used to fuel copra dryers, but most is either just burned or left to rot.

The processing of fibre and dust is a multi stage process. Some of the steps in the processing chain do not require high levels of technology, capital or management. The Philippine Coconut Authority (PCA) has pioneered low cost fibre extraction and baling technology which the programme can help to promote in the target communities.

Further downstream the process becomes more capital intensive, technologically demanding and requires higher levels of skills for production, management and marketing.

Depending on the eventual product the fibre would be twisted into rope of various diameter or compressed into mats. Depending on the type of matting required the fibre may or may not be sprayed with latex. If sprayed with latex to give what is known as rubberised matting the material goes into a drying channel and from there to a surface flattening machine, then to a sheeting machine where it is finished. Capital requirements for these latter operations can exceed one million US dollars.

UDP therefore should look on coir processing as a two stage process. Stage 1 would be the development of community based fibre extraction and baling or simple further processing. UDP would not be the appropriate body to promote investment at the Stage 2 level.

The rationale for this two stage processing is as follows:

1. Coconut husk has a low volume to value ratio. Transport of husk over long distances will incur considerable cost
2. Transport of baled material and compressed bricks is much more cost effective
3. The fibre separating machine, screening machine and baling machine can be fabricated locally and can come in small units. This reduces costs and means that primary processing can be done near the raw material source
4. Employment is generated at or near community level
5. The production and marketing of primary product is more within the capacity of local communities
6. If sufficient volume of primary product is available larger processing operations could be attracted

Apart from possible uses as geotextiles there are a number of exporters of manufactured coir based products, mainly craft based, who complain of shortage of supplies. The programme will work with these to study the viability of establishing enterprises to manufacture and supply product to these outlets.

Coir dust

Coir dust has the ability to absorb up to eight times its own weight in water. As a soil conditioner, potting medium or mulch it is a close substitute for peat moss. It can be promoted as an environmentally sustainable alternative to peat moss (environmentalists are concerned about the disappearance of blanket peat bogs due to their harvesting for the production of peat moss).

Coir dust can be compacted into bricks for ease of transport and can also be shrunk wrapped for sale in garden centres etc.

PCA have developed a technique where the dust can form the base for the production of organic fertiliser.

Other Edible Products

The fruit of the coconut can be used for the production of a variety of products including coconut vinegar, sugar, yoghurt, dried buko, coconut milk and cream, nata-de-coco etc. There is a local market for these products and where entrepreneurs are come forward the programme through the framework provided by the enterprise development manual can assist them to establish enterprises. The PCA in Region XI have established a facility at Bago Oshiro, where by-product processing can be demonstrated. This should be regarded as a major resource for the development of small processing enterprises.

The *Directory of Coconut Traders and Equipment Manufacturer 1998*, published by the Asian and Pacific Coconut Community (APCC). The directory lists the exporters and products from APCC member countries, importers and products and equipment manufacturers. It also contains some vital statistics of the coconut industry

The Philippine South Trade Directory features trade listings and updated business listings of the Visayas and Mindanao and is a useful starting point for generating a list of possible local outlets for product.

The situation in the project area

Davao Oriental has the largest area of Coconut plantation of any province in the Philippines. Davao del Sur and especially the Southern Municipalities have also large areas. Coir fibre and coir dust is largely unused at this time. Some husks are used to fuel copra dryers, but most is either just burned or left to rot.

