capacity operations will tend to force down the price of products relative to seed prices. Over the past few years, the world recession and subsequent disappointing recovery have, in broad terms, not provided a favorable background for our product markets. Since this also has been the period in which seed supplies were reduced, our industry has been affected from both sides. The recipe for good margins over time is the reverse of what we have been experiencing – we need ample seed supplies and strong product markets in relation to capacities.

These considerations highlight the major extent to which our profitability in the end depends on world economic conditions and on how these major commodity markets behave between which our capacities are situated. Poor margins are not a reflection on our own efficiency, the high level of which is indisputable and, indeed, is steadily improving so that we may better cope with difficult market situations. But, clearly, if market conditions are generating poor margins, our industry is faced with a very large task to try to turn market-generated poor margins into reasonable or good margins.

In considering the longer term profitability of our industry, it could be that, after the past period of expansion in capacities, what is now required is a period of consolidation. This would permit world seed supplies to become firmly established at the higher levels necessary to operate profitably existing capacity. At the same time, to contribute to long run profitability, *we need* to see a healthy growth in the world economy to contribute to expanding markets: *we need* to see increasing oilseed supplies not just from higher acreage but from rising yields and productivity in producing countries; *we need* this increase in productivity to contribute to prices being at levels which will encourage faster growth in total oil and meal markets. It is my hope that the President's Review at the next Congress will be able to report the favorable development of all these factors and the beginning of a new and more profitable phase for our industry. ●

The Philippine Coconut Industry Looks Up to Year 2020[1]

The Philippines government has undertaken a massive replanting program that by the year 2000 should result in more than half the nation's coconut acreage being planted to higher yielding varieties. The net result should be to permit the nation to meet rising internal oil markets and supply overseas markets as well. Production in 1977 totaled 2.8 million metric tons, copra basis, compared to almost 10 million metric tons, copra basis, estimated for the year 2000.

The Philippines is the world's largest producer of coconuts. Starting off from 1642 when planting was made compulsory by our Spanish colonizers, there are today 350 million coconut trees in 2.5 million hectares spread over 60 of the country's 71 provinces. This is three-fourths of all land planted to commercial crops. One-third of the population depends on this industry for a livelihood. These rates of specific dependence indicate that within the next 20 to 30 years one-fifth to one-fourth of the country's economic growth rate will have to be propelled by the coconut industry.

Production and export

Philippine coconut products exports in 1977 reached 1,835 million metric tons, copra basis, or 22% below the 2.338 million M.T. exported in 1976. With domestic consumption estimated at 440,000 million metric tons copra basis this year, total 1977 coconut production ran to approximately 2.28 million metric tons, copra terms, for a decline of 17% from the record production of 2.742 million metric tons, copra basis, achieved in 1976.

A number of explanations have been advanced to explain the 1977 shortfall. The principal factor cited is the below-normal rainfall levels during vital months of 1976, particularly in the provinces of Mindanao island, the major production center. The series of earthquakes in 1976 was also said by some observers to have disturbed the fruiting cycle of coconut trees. Some foreign analysts, on the other hand, advanced the "biological need of the trees to rest" after two years of high production and yields (1975 and 1976), as a contributing factor.

[1]This talk was presented by Manual Igual, president of the Coconut Growers Association of the Philippines, during the International Seed Crushers Association meeting during January 1978 in Kuala Lumpur, Malaysia.

Hectarage, tree populations, and yield

Our Bureau of Agricultural Economics reports that coconut hectarage in the Philippines in 1976 (the most widespread survey available) registered at 2.52 million hectares; this being 10% or about 240,000 hectares more than the 2.28 million hectares in 1975. The bulk of the increase was noted in the island of Mindanao where coconut lands increased by 20% to 1.16 million hectares from 0.97 million hectares in 1975.

Total trees planted was recorded at 349 million as of end-1976, 2 million trees more than in 1975. About 298 million or 85% of these are estimated to be bearing. About 11 million or 38% of the total bearing trees were recorded for Mindanao. Bearing trees in Luzon totaled 102 million (35% of total), while in the Visayan islands bearing tree population reached 84 million (28%).

Based on a calculated nuts harvest of about 12.3 billion nuts in 1976, yield per bearing tree registered 41 nuts for an annual yield per hectare of about 1.3 M.T. of copra in 1976 basis an average of 150 trees per hectare.

Composition of exports

In 1960, the product mix was 85% copra, 10% coconut oil, and 7% desiccated coconut. It was in 1970 that the pattern radically changed with 52% coconut oil, 41% copra, and 7% desiccated coconut. In 1977, the mix further changed to 66% coconut oil, 29% copra, and 5% desiccated coconut.

Historical record shows that coconut production expressed by copra volume has grown only by an average of 2.2% a year for the past 20 years (1955-1975), while the trend toward increased processing is indicated by a 7.5% annual increase in coconut oil output during the same period.

Markets

The United States and Western Europe remain the principal markets for Philippines coconut products. In 1977, exports to the U.S. represented 43% of the total consisting of 475,000 M.T. coconut oil and 45,000 M.T. desiccated coconut. The EEC absorbed 38%, of which 475,000 M.T. was copra, 178,000 M.T. coconut oil, and 36,000 M.T. desiccated coconut.

At the same time, an increasing export volume to other markets was noticeable in 1977 where the Soviet Union picked up 4% with their import of 20,000 M.T. copra and 27,000 M.T. coconut oil. Imports by the People's Republic of China amounted to 9,000 M.T. coconut oil. Other countries accounted for the remaining 14% of total exports; among these: Indonesia imports of coconut oil (7,141 M.T.) and copra (6,325 M.T.). The latter indicates the evolving possibility of greater intra-ASEAN trade.

Capacities

In 1960 there were 20 operational mills with an annual crushing capacity of 0.5 million metric tons of copra. In 1976, we had 47 operating mills with an annual crushing capacity of 2.48 million tons of copra. By end-1977, we had 50 operational mills with an annual crush capacity of 2.69 million tons of copra. The scale of production ranges from a low of 25 M.T. copra daily to a high 850 M.T. copra daily.

Regionally, capacities are now distributed as follows: Luzon, 46% (1.25 million M.T. copra a year); Visayas, 13% (344,100 M.T. copra a year); and Mindanao, 41% (1.1 million M.T. copra a year).

Installed capacity in Mindanao has risen from 27% in 1975 and 35% in 1976 to 41% in 1977. In 1977 seven additional oil mills with a combined crush capacity of 1,750 M.T. copra per day began operation. To maintain a high rate of capacity utilization would mean a steady increase in output.

Share to world total production/exports (1976)

World copra/coconut oil production in 1976 was estimated to have reached 3.08 million M.T. oil basis or about 6% of total oils and fats production. In the same year, Philippine coconut oil production (including the oil equivalent of copra exported) was placed at 1.66 million M.T. oil basis or 54% of total world coconut oil output.

World net exports of copra and coconut oil, on the other hand, were estimated at 1.7 million M.T. oil basis. This accounted for about 11% of total world net exports of oils and fats in 1976 which was estimated at 15.5 million M.T. Soybean oil exports reached 4.54 million M.T. (29%), while palm oil exports reached 1.95 million M.T. (13%).

Philippine exports of 1.4 million M.T. oil basis constituted 82% of total world net exports in 1976. Sri Lanka and Papua New Guinea were second at 61,000 M.T. and 69,000 M.T., respectively (4%), while Indonesia, Malaysia, and other countries together accounted for the remaining 174,000 M.T. (10%). These questions are often asked: "Will the Philippines continue to maintain its current position as the leading supplier of lauric materials to the world market in the face of an increasing internal and ASEAN demand? What is being done to safeguard and maintain this position?"

Having in mind the experience of our ASEAN partners, these questions are understandable. Indonesia, once the world's leading copra producer and exporter (Pre-World War II, 1934-1948) has seen its coconut production diminish while its internal demand has increased considerably because of a large and growing population. Malaysia's coconut production is basically for internal consumption, while its expansive palm oil industry has overtaken the volume of coconut oil supplied to the world market. Thailand and Singapore are expected to continue as net importers. In other parts of Asia, Sri Lanka is expected to export less and less of its coconut production, while India will remain a net importer.

The specter of population pressure upgrading domestic demand remains constant in developing countries which have a high "multiplier" coefficient. Consumption in developing countries grows at 4% per annum up to 1980; in developed countries at only 1.6% a year. For the period 1980 to 1985, consumption in developed countries is projected to grow by 1.8% a year, and in developing countries by 4.5% a year. Per capita consumption in developed countries averages between 20-25 kilograms of oils and fats a year, while in developing countries the range is 5-12 kilograms per capita a year.

Production policy reorientation

These terms of reference compelled the Philippine coconut industry to adopt a long term output growth strategy consistent with the national minimum real growth target rate of 3-4% for the agricultural sector, which can compare favorably with an urban growth rate of 8% considering an inflation rate of 4.6%.

One of the chosen options was to expand coconut products output to insure its availability at relatively competitive prices attractive to the end-users in its principal markets. It is projected that a dramatic increase in output will result in a reduction of relative price which should assure availability and a consistently positive net growth in Philippine export earnings.

The national replanting program

The Philippine government, to assure increased and stable supplies, has begun the National Coconut Replanting Program. This involves replanting 40,000 hectares or more per year using hybrids which are crosses between African tall and Malaysian dwarf as well as some high-yielding local hybrids.

Preparatory to this program, the Philippine Coconut Authority has been undertaking research and training activities. These activities include: (a) the establishment of eight regional hybrid nurseries all over the country to initially handle the 70,000 hybrid seednuts imported from the Ivory Coast; (b) aerial and ground surveys of pilot replanting areas; (c) evaluation of regional hybrid farms; and (d) training of technicians to replant hybrids. The PCA has been intensively training coconut development officers (CDOs) on survey and evaluation techniques, extension work procedures, and actual replanting techniques. These CDOs will serve as mobile task forces to undertake replanting projects in priority areas.

The farmers federation (COCOFED) has conducted a training program for about 3,000 coconut farmers and 420 COCOFED scholars of hybridization, replanting, and general coconut practices. The training covers subjects from plant physiology to land preparation, field planting, and pests/diseases control.

Coconut hybrid

The national coconut replanting program has singled out for mass cultivation the hybrid – a cross between the West African tall and the Malaysian dwarf or "MAWA" as they call it here in Malaysia. Developed in the Ivory Coast, this variety has been cultivated successfully in many commercial Malaysian plantations. Intensive studies also are being conducted on the hybridization between indigeneous Philippine and nonindigeneous plant material by the Philippine Coconut Authority (PCA) agricultural technicians and national research centers of the Philippine Council for Agriculture and Resources Research (PCARR). Breakthroughs have been made in early maturing and high output local hybrids.

Preference, however, has been expressed for the "MAWA" by virtue of its early-bearing and high-yielding characteristics. The hybrid bears nuts at the third year, and

its very low heights make the bunches of nuts look like golden yellow or golden orange aprons extending from fronds to ground level; thus assisted pollination, thinning, and harvesting become comparatively easy tasks.

The hybrid is conducive to the cultivation of an intercrop like cocoa. Application of a multi-crop system will provide the coconut farmer not only a higher volume and value from nuts but also added income from complementary cash crops. The hybrid has an average output of four tons per hectare and a biological maximum of six tons per hectare. On average, the hectare of coconut land planted to 155 hybrid palms would provide a harvest of 667 kilograms every 60 days of the year or .667 tons six times a year. The current average is one ton per year out of the traditional coconut tree stands in the Philippines or a harvest of only 167 kilograms or .167 tons six times a year.

If we replant 40,000 hectares of coconut lands yearly to hybrids from 1980 to 1983, 60,000 hectares yearly 1983-1988, 75,000 hectares yearly by 1988-1998, 100,000 hectares yearly after 1998, more than one-half of Philippine coconut lands shall have been replanted to hybrids by the year 2000 and output increased to four times the current level.

The replanting scheme is expected to continue at 100,000 hectares annually after 1998 and the program completed by the year 2012, eight years ahead of the 40-year program being considered today. Domestic consumption is not expected to change radically from the current 80:20 ratio favoring exports over domestic requirements. By the year 2012 the Philippines should have a population of 120 million people. A per capita consumption of 7 kilograms of edible coconut oil per year would equate to an annual domestic consumption of 1,486,800 metric tons (copra basis) or only 15% of estimated total production in the year 2000 leaving 85% for exports.

Financing the replanting scheme

When abnormal worldwide developments affected our domestic requirements for coconut products in 1973 to 1974, a mechanism called the Coconut Consumers Stabilization Fund (CCSF) was adopted which assessed copra sold at first domestic purchase or farm level. This was recommended by the industry itself and was the first private-industry–financed consumer subsidy program in the country. The CCSF was institutionalized by Presidential Decree No. 276 issued on August 20, 1973.

The fund is a flat fee based on 100 kilos of copra at farm gate. Procedurally, the fee is deducted by either the copra exporter, oil miller, or manufacturer on payment of the goods; this deduction being carried down to farm gate via a system of receipts. At the bottom line, the subsidy is funded by the farmers and not reflected in the export value of our coconut export products.

The CCSF fund was used to aid consumers of coconut-based products weather the ill effects of world supply and price dislocations by subsidizing the prices of edible cooking oil, laundry bar soap, and filled milk; all important items in the household basket of goods placed within the reach of low-income groups.

We feel the mechanism instituted by our coconut industry, which takes the form of a self-financing system, is the best answer to the challenges confronting many primary commodities in the developing world.

With the normalization of the world oilseeds, oils and fats price system, the huge demand for funds to subsidize social goods eased off, and levy proceeds were then reoriented toward other goals. One was to assure that future production abnormalities would not be cause for a crisis such as that experienced in 1973/74; thus the existence of a huge investible fund for the national coconut replanting program.

Presidential Decree No. 582 was then issued on November 14, 1974, to set up a Coconut Industry Development Fund (CIDF) initially with one hundred million pesos (about U.S. $13.5 million). Its purpose being: (a) to finance the establishment and operation of a hybrid coconut seednut farm on Bugsuk island, Palawan, in the Mindanao region that will provide the national replanting program with seed materials; (b) to fund the distribution, by the Philippine Coconut Authority, of the hybrid seednuts to coconut farmers free of charge; and (c) to finance extension services, model plantations, and other activities to insure that coconut farmers are well oriented on the replanting and care of hybrid trees on a commercial scale.

The national replanting program includes sections involving the financing of foregone income when trees are cut, agricultural input and technology financing, initiation and participation in modern processing and marketing structures, among others.

As of July 1, 1977, the CIDF resources totaled P1.1 billion (U.S. $146.7 million), and the fund is expected to accumulate at the rate of P476 million (U.S. $63.5 million) a year.

The CCSF levy has also enabled the country's coconut farmers under the umbrella organization called Philippine Coconut Producers Federation (COCOFED) to purchase a commercial bank, renamed United Coconut Planters Bank, which has been the spearhead in the move to make coconut farmers institutional participants in farm production, manufacture, and marketing of coconut products on a domestic and international scale.

All these efforts should complement each other not only to insure an output growth of the Philippine coconut industry but also to assure the availability of supply and the reliability of the Philippine trade to the world users of our coconut oil and copra, or our copra cake, meal and desiccated coconut. ●

Major issues concerning palm oil

During the International Seed Crushers' Association meeting, Malaysia's Primary Industries Minister, Y.B. Datuk Amar Taib B. Mahmud, spoke to the registrants on "Major Issues Concerning Palm Oil." Following are excerpts from that talk:

Malaysian production of palm oil, which exceeded one million tons in 1975, can be expected to reach around 2.5 million tons in 1980 and 4 million tons by 1985. The increase in Malaysian palm oil production, together with supplies from other sources, will likely raise the current palm oil share in world export of vegetable oils and fats from 13% to approximately 22% in 1985.

A significant development in recent years which is changing the pattern of Malaysian palm oil exports is the increase in the production of processed palm oil. The Malaysian government has since 1970 encouraged the processing of palm oil as one of the measures to expand the manufacturing sector and to attain a higher level of value-added in the export of Malaysian raw materials. Toward this end, the government has given approval to no less than 50 companies to undertake palm oil processing. These refineries, it is estimated, will produce about 800,000 tons of process palm oil in 1978, 900,000 tons in 1979, and nearly 1,000,000 tons in 1980. Currently, the bulk of the palm oil