Project ALA - 97/68

Upland Development Programme in Southern Mindanao (UDP)

Banana Market Report

Prepared by: Tom Cunningham
Agri-business Specialist
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Introduction

Bananas are produced commercially in Approx. 120 countries worldwide. The land area under production is now approaching 4,000,000 ha with a volume of 58,000,000 metric tons.

In the Philippines there are four main types of banana produced:

- Cavendish bananas are grown for export and are largely produced by big companies or "commercial farmers".
- Lakatan
- Latundan
- Saba and Cardaba bananas which are used for cooking and the production of banana chips.

World situation

The top 10 producing countries account for 66% of this total and the next 10 for a further 16%. The largest cultivated area is in Brazil followed by India. Philippines reports having the third largest area under production with 320,000 ha with Burundi and Ecuador in 4th and 5th places. See table 1.

Table 1: world banana production and leading countries

	Year		
Area Harv (Ha)	**1992**	**1995**	**1998**
World	**3,626,150**	**3,870,842**	**3,884,986**
Brazil	515,615	514,060	522,870
Burundi	290,000	260,000	295,000
Cameroon	45,000	55,000	55,000
China	191,592	198,100	181,500
Colombia	50,400	54,000	56,000
Congo, Dem Republic of	106,437	117,000	116,000
Costa Rica	38,119	52,165	49,000
Ecuador	184,920	227,910	248,350
Haiti	35,000	36,000	44,000
India	383,938	441,000	428,000
Indonesia	165,000	280,242	218,520
Kenya	38,000	39,000	41,000
Madagascar	40,000	42,000	45,000
Mexico	73,754	73,577	68,000
Philippines	321,445	322,008	320,000
Tanzania, United Rep of	100,000	90,000	95,000
Thailand	132,000	135,000	130,000
Uganda	120,000	120,000	125,000

World trade for fresh produce

The world export market has grown at an annual rate of around 4% since the mid 80s. increasing from 6.2 million tons in 1983 to over 13 million tons in 1997. The leading 11 exporting countries accounted for 88% of total exports. A feature has been the explosive growth in exports from Ecuador from a level of one million tons in 1985 to

becoming the dominant exporter today with 35% of total exports up from 15% in 1983. As the market expanded over that period Ecuador consistently captured in the region of 40% of the annual increase.

The Philippines is the fourth largest exporter after Ecuador, Colombia and Costa Rica with 1,200,000 tons or just under 10% of the world market. The Philippine market share has remained fairly stable at around 10%. See table 2.

Table 2: Banana exports from leading 8 exporting nations and world total

Exports - (1,000s Mt)	1983	1986	1989	1990	1991	1992	1993	1994	1995	1996	1997
World	**6,272,**	**7,262**	**8,206**	**9,334**	**10,380**	**10,601**	**11,127**	**12,525**	**13,422**	**13,918**	**14,076**
Colombia	786	987	985	1,148	1,473	1,415	1,580	1,703	1,360	1,476	1,586
Costa Rica	1,010	885	1,267	1,434	1,538	1,730	1,322	1,868	2,022	2,102	1,788
Ecuador	909	1,364	1,725	2,156	2,662	2,682	2,563	3,007	3,665	3,866	4,462
Guatemala	316	368	388	70	86	101	390	567	635	611	659
Honduras	698	771	816	781	705	742	647	445	521	573	488
Mexico	19	80	100	154	237	179	295	207	100	162	240
Panama	650	586	676	745	705	718	688	712	690	631	497
Philippines	643	855	851	839	941	821	1,153	1,155	1,213	1,252	1,143

The leading importers are the European Union, the United States, Japan. While there has been some growth in demand in North America, Japan, Korea and Western Europe during the present decade the low growth rate would suggest that these markets may be maturing. However they are still the major market accounting for 75% of the international banana trade.

During the latter half of this decade the Russian Federation, the former communist countries in Eastern Europe and China have emerged as significant growth markets and now account for 15% of international trade up from 2% in 1991. Economic growth in these countries will be an important factor in the future. Quality requirements in some of these emerging markets will not be as demanding as in the more developed countries. The growth in the Chinese market from almost nothing in 1994 to over 500,000 tons in 1997 has been the main market change and presents a significant opportunity for the Philippines.

The Philippines

In the Philippines bananas are produced on large estates and on small farms. The estates produce the Cavendish variety which is grown for export. Lakatan, Saba and Latundan are largely planted by small farmers which constitute nearly 90% of the total hectarage devoted to this crop. Saba is used for cooking and in the manufacture of chips. Table x below summarises the production situation in the Philippines.

The estimated establishment costs for Cavendish bananas, including irrigation and drainage is in the region of 500,000 Pesos per ha. 50 ha is regarded as the minimum

size for economic production units. This puts Cavendish production beyond the scope of UDP farmers. Latandan, Lakatan and Saba are much more resistant to drought and therefore irrigation is not as critical. Establishment costs in the region of 15,000 pesos per ha are quoted.

Latandan and Lakatan bananas have different ripening characteristics from Cavendish. This makes them more difficult to export, but they have been exported from the Philippines in the past. There are possibilities for export to markets that do not require long shipping times.

Table 3. Production profile of major banana varieties in the Philippines.

Varieties	area(ha)	Yield(t/ha)	Total production	Value(P1,000)
Saba	128,170	11,504	1,424,583	1,675,063
Latundan	51,230	7,359	377,013	649,815
Lakatan	40,170	11,207	450,193	602,400
Bungulan	29,670	7,894	234,235	305,767
Other varieties	81,300	14,995	1,219,140	1,433,904
Total	**330,540**	-	**3,755,164**	**4,666,951**

Domestic market

The main market of course is the domestic market. Mindanao due to its typhoon free status can supply all the year round. This provides a major marketing window for supplies to Luzon and the Visayas. In addition much of the banana plantations in Luzon have been badly affected by disease, which threatens the very future of production there. The use of planting materials produced using culture tissue can partly overcome this problem but it does make production more expensive and there is still the risk of storm damage.

At present consumption on the domestic market is estimated at approx. 2.4 million tons per annum. Per capita consumption is in the region of 32kgs. It is suggested that per capita consumption should rise to at least 45kgs. At present yields this would lead to an increased production area of seventy to eighty thousand hectares.

Varieties other than Giant Cavendish are planted largely by small farmers which constitute nearly 90% of the total hectarage devoted to this crop. Figure 1 below summarises the production situation in the Philippines. It can be seen that the standard of management is very low on the small farms producing the native varieties. Potential yields are around 35 tons per hectare with a planting density of 2,000 plants per ha. Realistically on small farms in the uplands planting densities are usually much lower. With a planting density of 1,000 plants per ha. and a reasonable standard of management 10 to 15 tons per ha should be achievable on a regular basis. At current farm gate prices of P7.00 per kg this would give a gross income of 70,000 to 100,000 Pesos per ha. Suckers can be bought from other growers at P5 each. Plants propagated

by using tissue culture are more expensive but are disease free and more uniform and can yield the first harvest in a shorter period.

Figure 1: ***Description of banana farms found in the Philippines***

Criterion	**Small farms**	**Large farms**
Area	Less than 1.0 to 20.0 ha	More than 20.0 ha
Yield	Low (3 to 10 t/ha)	High (more than 20 t/ha)
Market	Domestic	Export
Cultural Management		
1. Planting distance	Variable (1.5 to 8.0m)	Fixed
2. Fertilization	Minimal	High
3. Irrigation and drainage	None	Present
4. Weed control	Manual	Manual/Chemical
5. Stem and mat sanitation	None to minimal	Extensive
6. De-suckering	None to minimal	Extensive
7. Pest Control	None to minimal	Extensive
8. Postharvest handling	None to minimal	Extensive
Ownership	Individual/Tenant	Corporate/Cooperative

Banana chips

Apart from fresh bananas there is a growing market for banana chips. Saba banana are used for the production of this commodity. The main export markets are the USA and Europe but China is now an emerging market. On the Chinese market Philippine produce is running into stiff competition. The Philippines is now being seen as a high cost producer and is becoming uncompetitive on international markets. As a means of reducing processing costs there have been some suggestions that bananas could be part processed by the farmers before delivery to the chip producers. This should be investigated further but there are likely to be considerable difficulties in maintaining quality.

An important point to remember is that the Chinese economy has being experiencing price deflation for over 2 years now. When taken with the slowdown in other Asian economies the principal markets for Philippine produce is going through a very price sensitive period.

Limiting factors

The main limiting factors in the production of bananas in Mindanao is the incidence of disease and particularly virus diseases. *Banana bunchy top virus* (BBTV) and *banana mosaic virus* (BMV) are the two chief virus diseases. Bract mosaic virus also occurs. As the banana belongs to the same family as abaca there is a possibility that *abaca bunchy top virus* (ABTV) and *abaca mosaic virus* (AMV) are the same as the banana virus diseases and are transmissible from one to the other. BBTV and BMV

are transmitted by aphids. A number of researchers have noted that ABTV is not transmissible to banana but that BBTV does seem to be common to both abaca and banana. While there is some confusion about host plants for the virus it would appear that the main source of inoculum is infected banana or abaca plants. The aphid vectors have many hosts. It would also appear that BMV is not the same as or a variant of *cucumber mosaic virus.*

The importance of using DISEASE FREE PLANTING MATERIAL cannot be over emphasised. It is the basis for the control of virus and other diseases. If the source of the disease is absent the aphid vectors can not acquire the virus and therefore cannot transmit it. There have been tests developed to detect the virus in plant sap and these tests should be used. Tissue culture is a more expensive propagation technique but is an extremely effective method of producing high quality disease free planting material. What is worth considering is the use of tissue cultured foundation stock for nurseries to produce commercial planting material.

Good field hygeine, the removal of virus infected plants and control of aphid vectors are all husbandry practices that should be used.

There are various degrees of resistance and tolerance to virus diseases among the many different banana varieties. R & D work being conducted at this time include genetic engineering to transfer resistance to commercial varieties.

Other serious diseases are *sigatoga, black leaf streak, Moko* (bacterial wilt) and *Panama Disease* (fusarium wilt). The *Philippine Recommends for Banana* gives a number of recommendations for the control of these diseases including information on resistant varieties.

Bugtok disease is a bacterial disease and has caused the virtual abandonment of cardaba, saba and lakatan production in some areas. It is insect transmitted and can be controlled by bagging the hands.

Opportunities for further processing and by-products

Banana is also a very versatile fruit and can be converted into a great variety of processed products. Among the products which can be produced from banana are, banana flour, powder, figs, flakes, chips, puree, catsup, spread, jelly, jam, preserves, dried fritters and banana vinegar.

Conclusion and recommendations

Bananas for the domestic market offer one of the best and most immediately exploitable commercial opportunities for UDP farmers. Provided healthy planting material is used, cardaba, saba, latundan and lakatan bananas are not difficult to grow. They have a relatively low establishment and production cost for such a high value

crop. For many years there have been consistent complaints that there is not sufficient product available for the Manila market.
Bananas have a short gestation period, a good market and can be produced at just about any altitude the programme will be operating in. They can be planted as a shade crop for durian or other tree crops that need shade during their juvenile period.

The importance of healthy planting material and good crop husbandry practices are vital.

The development of good post harvest handling techniques to enable the delivery of good quality product to the market should be also given priority.

The programme should treat as a matter of urgency training in correct cultural techniques, production of good planting material and the consolidation of available information on cultivars and disease control into a production manual for the beneficiaries. Banana production could bankroll the other tree fruits which the programme will be promoting.

Plants produced by means of tissue culture could be used as foundation stock for the production of suckers for commercial plantations.