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ECONOMIC PROBLEMS OF THE WINDWARD ISLANDS BANANA INDUSTRY

— by —

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The first part of this paper deals with the market problems of the Windward Islands Banana Industry. It tries to establish the urgent need for efforts to increase the competitiveness of the industry. The next part considers ways in which this competitiveness could be increased.

This paper results from a research project on the banana industry in the Windward Islands which is in its very early stages. What have been attempted here are preliminary considerations and the paper's conclusions and recommendations must be viewed with this in mind. Being a preliminary paper, a part of its purpose is to raise questions which need to be answered.

The research project is concerned with a comprehensive and detailed study of the economics of banana production in the Windward Islands. Special attention is being paid to factors affecting the competitiveness of the industry.

The paper draws on two costing studies undertaken by the writer in St. Lucia. The first was a general study in 1965 of the 1964 financial results of a stratified random sample of 120 farms. The second was a more detailed study by regular visits throughout 1965 of the economic operation of 30 farms. The results of the first study have been published. The tabulations of the second study have been completed and analysis is in progress. The paper also makes use of tables which have appeared in "An Abstract of West Indian Banana Statistics" which has been compiled by the writer. Some of these tables have been reproduced and others have been added.

I. Market Prospects

The Expansion of the Industry

The banana industry emerged as an important industry in the Windward Islands in the early 1950's. Expansion continued at a fast rate throughout the 1950's and early 1960's and is perhaps still continuing.

An important reason for this rapid expansion has been the favourable market conditions. This market situation has now, however, changed and prospects for the future are not what they were in the past.

The following factors seem to be important in explaining the emergence and rapid expansion of the industry in the Windward Islands :—

- (1) The opening which existed in the U.K. market in the early post-war period, due to the discontinuation of supplies from Jamaica during the war.
- (2) Jamaica's slow response to the market opportunities in the United Kingdom after the war due to the prevalence of Panama disease on the very susceptible then dominant export variety — the Gros Michel.
- (3) A high incidence of wind damage in Jamaica during the early post-war years.
- (4) The impoverished and eroded state of the soils in many of the areas in which bananas were grown.
- (5) The acceptance in the U.K. market of the cavendish varieties — Poyo and Lacatan — which are resistant to Panama Disease and the earlier establishment of these varieties in the Windward Islands because the industry was new.
- (6) The efficient marketing operations of the marketing agency for Windward Islands bananas.
- (7) The increased protection given to Commonwealth bananas by the raising of the import duties on non-Commonwealth bananas from £2.10 to £7.10 per ton in 1956 and the reinforcement of this protection by the limitation of imports from the relatively low-cost Latin American countries by the fixing of an import quota of 4,000 tons from dollar areas.

In 1954, Jamaica's exports to the United Kingdom reached only 75% of the quantity exported in 1939. They remained at about this level until about 1962 when there was a resumption of expansion.

The static position of Jamaica and the declining importance of the Canary Islands due to increased Commonwealth protection, left the Windward Islands a good opportunity to improve their

position in the British market and this they have been able to grasp.

Besides the foregoing factors, it is possible that internal economic factors such as relative wage rates and relative alternative economic opportunities, were to some extent responsible for the static position of Jamaica and the quick response of the Windward Islands. The analysis of the effect of internal factors on the responses of the two areas must await further research.

From 1963, Jamaica was able to expand her exports also. The market was, however, able to continue to absorb these increases in exports from the West Indies without any sharp decline in prices because of the almost complete elimination of a large African exporter — the West Cameroon — from the market due to her loss of Commonwealth preference in 1963. Before 1963 the West Cameroon supplied between 60,000 to 70,000 tons of bananas a year to the U.K. By 1965 this had dwindled to about 8,000 tons. The changing relative shares of suppliers of U.K. imports are shown in Appendix Table 3.

In the two-year period 1964-1965 exports from the Windward Islands increased by 56,000 tons and from Jamaica by 31,000 tons over their 1963 totals. This meant that the gap left by the elimination of the West Cameroon was already closed by 1965. In this year the Windward Islands and Jamaica supplied 95% of British imports. The rates of increase for the Windward Islands in 1963, 1964 and 1965 were 11%, 15% and 25.9%, respectively. The corresponding rates for Jamaica were 12.3%, 9.1% and 9%.

Prospects in the U.K. Market

It is easy to see that with this dominant position of Jamaica and Windward Islands in the British market, these rates of increase cannot continue without having an adverse effect on prices unless they are matched by similar rates of increase in demand. These rates of increase in demand can scarcely however be expected. Estimates were not available at the time of writing of the income elasticity of demand in a recent period. However, with an increase in real incomes per head of just about 2% per annum in the U.K. in recent years and with the low population growth of less than 0.5% per annum, more than a 3%¹ increase in demand from these sources cannot be expected. Supplies of other fresh fruits such as apples and oranges have been buoyant, so increases can scarcely be expected on grounds of substitution. Changes in taste

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assuming that the income elasticity of demand is not very different from the 1938 estimate of .9.

of the order required to increase demand to these levels are almost impossible.

The result is that a downward trend in prices has set in. In order to arrest this decline, an agreement between Jamaica and the Windward Islands to control supplies to the market was reached in 1966. Monthly supplies to the market are stipulated and these supplies are divided between the Windward Islands and Jamaica on a percentage basis. Production exceeded the Windward Islands quota in a few weeks in December, 1966 and January, 1967, and some fruit was not exported. While the quota may therefore stabilise prices in the British market, since all the fruit available has to be purchased by the Growers' Associations, the use of the proceeds of sales for the purchase of available supplies must result in depressed prices to growers. Prices will be lowered by the surplus during the periods of the surplus unless the Associations regulate prices throughout the year in order to reduce variations.

It seems, therefore, that the industry in the next few years would have considerable problems in adjusting itself to the current market situation.

It does not seem that there is further scope for the Windward Islands to increase its share of the British market at the expense of Jamaica. I have already pointed out that Jamaica's production had high rates of expansion in 1963, 1964 and 1965 and this took place despite lower prices to growers than is the case in the Windward Islands.

However, a closer study of this aspect will be looked into in the research project. It is possible that such factors as the existence of higher wages, the higher rate of economic growth and the existence of greater alternative opportunities in agriculture in Jamaica may make the Jamaican industry less resistant to increasing economic pressures. On the other hand the greater assistance that could be given in Jamaica in the form of subsidies and development funds may make for greater resilience. It must also be remembered that the continuation of the market-sharing agreement would help to stabilise the share of the market held by each area.

Prospects in Other Markets

The finding of outlets in other markets may help the market situation, but there are considerable difficulties here. First of all, the Windward Islands are relatively high cost producers. Comparative data on cost of production are not available but the information on farm-gate prices in Appendix Table 4 gives some indication of the poor competitive position of the Windward Islands. Latin

American producers are obtaining about 2c. per lb—about half of the price paid to growers in the Windward Islands. It seems unlikely that profitable production can be undertaken in the Windward Islands at these levels of prices.

There is hardly any hope then of their being able to compete with Latin American producers in open markets such as the United States.

In Canada import duties are applicable to non-Commonwealth bananas but the most favoured nation rate of \$11 (Can.) per metric ton gives very small protection to Commonwealth producers. The general rate of duty is \$22 (Can.) per metric ton.

In Western Europe, the Common market countries are offering increasing protection to Associated States. By 1970 the rate of duty applicable to third countries will be equalised at 20%. Meanwhile, protection offered to Associated States and competition on equal terms with Latin American producers in these and other West European countries make entry difficult for the Windward Islands.

Diverting Supplies from U.K. Market during Glut periods

However, it is worth investigating whether despite the lower prices that will be obtained if sales are made to these markets, opportunities for profitable sales to them during glut periods in the British markets have not existed and possibly will exist in future. If for instance at such periods, there is a price elasticity of demand of one or less than one in the British market, marginal supplies would not increase sales proceeds. As long therefore as prices can be obtained in other markets which exceed the extra cost of diverting supplies to these markets, there would be a gain from such diversion.

Even with elasticity above one there may be gain from diversion, although the price in the market to which diversion takes place is less than the price in the British market. This possibility depends on the balance of the loss from sales at a lower price and the gain that will result from any price appreciation in the British market. Successful diversion, however, requires a joint policy with Jamaica, for, if the Windward Islands alone were to divert supplies, some of the gains from the operation would be lost to them since the full flow of Jamaican fruit to the British market would prevent any appreciable price rise. In fact, sales at a lower price in the new market may result in a loss to the Windward Islands since there may not be adequate compensating price gains in the British market.

A conclusive argument on the possibilities of profitable diversion requires further study. Besides considerations on prices and the effect of marginal supplies on prices, artificial barriers to entry such as the availability of shipping space and the ownership of distribution facilities may be important.

U.K.'s possible entry in the E.C.M.

The entry of the United Kingdom in the Common Market would have important implications for the industry. If tariff and quota protection go, the only remaining factor which may help the Windward Islands to maintain their position in the market is the control over ripening and distribution facilities held by the marketing Company. This, however, would be of assistance in the short-run. In the long-run only a great increase in the competitiveness of the industry can help.

It would be in the interest of the banana industry if the Windward Islands were to attempt to become Associated States of the Common Market if the United Kingdom joins and protection is thereby lost or considerably reduced. Perhaps their present constitutional relationship with the United Kingdom would make association with the Common Market an easy matter. The external tariff of the Common Market would shelter them from the fierce competition of Latin America. However, they will have to face competition from the African and French West Indian producers. This competition should be less acute and with some increase in efficiency, they may be able to retain their position in the United Kingdom market. There would be the opportunity for obtaining an opening in the large Common Market also. However, this will require a considerable increase in the efficiency of the industry. Perhaps the lower protection that will be involved in the new situation may help the Windward Islands to make quicker adjustments to a more competitive position.

Other factors affecting Protection in U.K. Market

The problem of supply rising faster than demand is not confined to the Windward Islands and Jamaica. It is a problem of the banana industry in all major producing countries. The prevalence of low world free market prices increases the possibility of the British market being invaded by other suppliers. Even without entry into the Common Market, the United Kingdom is becoming increasingly reluctant to retain a level of protection which causes too wide a disparity between British and world prices. An increasing concern with expanding her trade with Latin America is also helping to change the British attitude to protection. These considerations add to the urgency of the need to increase the competitiveness of the industry. The next

part of the paper deals with ways in which this problem could be approached.

II. Some Considerations on Increasing the Competitiveness of the Industry

The Effects of Increasing Yields

Increasing the yield per acre seems to offer the best scope for improving the competitive position of the industry. The reasoning behind this view is given later in this section.

The implications of yield increases on the expansion of production and consequently on prices must be considered. Production at a rate which exceeds the quota granted to an island means that from the national standpoint a cost is incurred for the production of bananas which brings no receipts. This suggests that a policy should be adopted which would discourage production beyond the quota requirements. Since all bananas available for export must be paid for with the receipts for quantities actually exported, periods of surplus would be periods of low prices.

Whether these low prices would be enough to stabilise production at the levels required is left to be seen, but there is no guarantee that this will happen. The level of production that will take place at any price would depend on the distribution of costs of production among growers.

If the prevailing prices are not enough to stabilise production at required levels, administrative action would be required.

It seems that the best scheme of production regulation would be one which controls acreage expansion. Farmers would have to obtain permission to increase their acreage. Since it would be administratively difficult to keep a check on each farmer's plot, it could be done through a strict control of planting on land not previously under bananas. Farmers who want to expand or start cultivation would have to obtain permission. The grant of permission would depend on the planned increase in production. This method need not result in a freezing of the present geographical pattern of banana production since provision should be made for allowing expansion in suitable new areas. Attempts could also be made to re-settle farmers from marginal areas to suitable new ones through the alienation of Government lands or through the purchase — compulsory or voluntary — of unutilised lands from estates.

This restriction on putting new land under bananas would

allow a large part of demand increases or increases in the island quotas to be met by higher yields.

The Importance of Increasing Yields

Appendix Table 5 shows the comparatively low yields of the Windward Islands. Although the islands with their rugged terrain and high winds cannot be regarded as agronomically very suitable for banana growing, the potential for much higher yields seems to be there. Evidence of yields of 8-10 tons per acre has been found in the Costing Surveys on farms with high standards of management. These farms have not always been found in the very fertile areas. Yields of this level and even higher have also been obtained on the demonstration plots which are being run by the WINBAN Research Scheme in co-operation with the Departments of Agriculture.

The great difference between realised and potential yields seems to indicate that the further intensification of production would result in increasing returns. Hence, lower rather than higher average cost of production per unit of output seems likely under these conditions.

It should be mentioned, however, that even where intensification has reached the point where diminishing returns are leading to higher unit cost of production, profit per acre may still be increasing. The aim should be to obtain the highest profit per acre rather than the lowest unit cost of production. This is mentioned because of the misplaced emphasis that is given in the Windward Islands to cost per lb of bananas. This emphasis would become more inappropriate when higher levels of intensification are reached.

Besides the possibilities of obtaining increasing returns, there are other factors which support this need for intensive production.

The low land/labour ratio means high costs for the use of land. Land should therefore be used very intensively.

Establishment cost becomes a fixed cost during the periods between replantings. The costing studies showed this item to average between 20% - 30% of total expenses per year in the different sub-groups of farms. Intensive use must therefore be made of this fixed item. If for instance recurrent operations — fertilizing, weeding, etc. — are given inadequate attention, the lack of balance in cultivation standards between these operations and establishment will prevent the realisation of higher yields which could increase profits.

The administration of leaf spot control by the Associations and the policy of aiming at an equal standard of control for all farmers make leaf spot control costs in a national sense a fixed cost per acre. It is not possible to give an estimate of cost per acre because of the difficulty of obtaining acreage figures. But the cess deducted of about .4c. per lb (about 8% of receipts per lb by the Association from the Marketing Company) reveals that it is an important item of cost. This fixed item also indicates the need for high yields. If for instance average yields could be doubled, leaf spot cost would be a half of the present level per unit of output.

Higher yields would also lead to a more intensive use of roads. The provision of roads is a heavy burden on Government revenues. Higher yields would result in increased returns from this investment which utilises scarce capital resources.

Estate vs. Peasant Cultivation

The banana costing surveys have shown that yields and profits per acre were generally higher in the sub-groups with larger farms. There were medium-sized farms, however, which had better performance than large farms but there were not enough cases of these to affect the average results. It is generally recognised that the smaller farms are usually in less suitable areas, but it is felt that this does not explain the whole difference in results.

The prevalence of better performance by the larger farms has led to the view in some influential circles in the Windward Islands that large-scale organisation is more suitable for banana cultivation.

This is however, a simple view. If we examine individual operations we see that banana cultivation does not offer much scope for economies of scale especially in the conditions of the Windward Islands. Even where operations offer scope for cost reduction when done on a large scale, they can be undertaken on this scale without requiring the abolition of small-scale farm organisation. Land clearing and preparation, the construction of access roads and tracks, transportation to buying points and the wrapping of fruit are operations which offer scope for mechanisation, or for a better organisation of production when they are done for a large cultivated area. However these disadvantages of small-scale organisation are being avoided in several ways. Amongst them are the existence of private machinery hire services, the running of machinery pools by the Departments of Agriculture, the undertaking of co-operative road building to provide access to several farms and the carrying out of the wrapping of stems from small farms by the Associations at buying points.

It must be remembered, too, that the low cost of labour in the Windward Islands does not give any great advantage to mechanisation. Even where mechanisation provides a cost advantage to individual farmers, from the national standpoint it may be preferable to use labour intensive methods because of the lower social costs as opposed to money costs incurred in the use of these methods.

In the Windward Islands there is no noticeable difference in the capital intensity of cultivation methods between large and small farms. This provides evidence of the limited crops for economies of scale. Even in land clearing and preparation where mechanised methods are normally advantageous, the rugged nature of the terrain is a limiting factor.

Since scale economies do not seem to be important in explaining the difference in performance between large and small farms we must look to the differences in farming knowledge and practices for guidance on this point.

There is no doubt that managers and owners of large farms are more efficiency-conscious, and respond more readily to new knowledge on cultivation methods. There is also a greater desire to improve cultivation among these large farmers. Since the mere giving to a farmer a larger acreage does not help him to have these attitudes, there does not seem to be a case for using increased farm size as a means of increasing yields.

It is recognised that fragmentation and the possession of too small an acreage to provide an adequate income can affect the attitude to farming but the point that is being made here is that too much prominence tends to be given to inadequate acreage in discussions on efficiency. Changing the attitude to farming and the improvement of farm practices seem to be factors that are more important in explaining inefficient production.

It is likely that there is a small number of able, small farmers who can manage successfully larger acreages but who are unable to obtain additional land because of the high cost of land and its unavailability. This does not seem to be a major problem hindering the emergence of a prosperous peasantry, however, as such a peasantry has not emerged in Dominica or in St. Lucia where land shortage has not been great.

Since it seems that management is the major problem and not the scale of production, there is no need for re-organisation into large-scale production. The industry could be improved on

the present basis in which peasant production is responsible for a large proportion of total production.

There are certain additional advantages of small-scale farm organisation which reinforces this conclusion. They are—

- (1) Its ability to withstand wage increases ;
- (2) Its promotion of a more even distribution of wealth ;
- (3) The possibilities it offers for developing a more self-reliant and enterprising community than where the employed population in agriculture is dominated by agricultural labourers.

Improving Farming Knowledge and Skills

There is no doubt that there exists a body of knowledge on banana cultivation which can greatly increase yields and returns if adopted generally. The existence of this knowledge is shown by the better performance of those who adopt recommended techniques.

The lack of general adoption of these improved techniques poses a problem for the extension service. The wide difference between existing knowledge and practice is a serious problem in the islands. While it is important to undertake technical research, it must be realised that it is also very important, if these research efforts are not to be wasted, to ensure that the results reach the farmers for whom they are intended.

Problems of the organisation of the extension services, the adequacy of the numbers of extension officers and the development of effective methods of communicating knowledge to farmers must be carefully considered. It seems that very inadequate attention was paid in the past and continues to be paid to rural sociological research which is necessary to develop a body of knowledge of farmers' attitudes, their value systems, motivations, etc. This basic knowledge is essential if proper extension methods are to be evolved.

The problem is however, not wholly an extension one. While quite a large body of knowledge on required cultural practices exists, research has not reached the stage where it can offer precise information on the economic importance of improvements in particular practices. This information is necessary so that extension officers and farmers could give greater attention to practices which can be most effective taking into account their

effect on returns and their requirements of the scarce resources of farmers whether of capital or labour.

Since research cannot be concentrated on all fronts, the research service will have also to develop for itself a set of priorities based on the likely economic impact of particular lines of research and the prospects offered by these lines for yielding useful results.

Rationalising Banana Production

In a paper to the Agricultural Economics Conference last year on the subject "A Preliminary Appraisal of the Scope for Rationalisation of the West Indian Banana Industry" Dr. Beckford advocated for Jamaica major shifts in the location of banana production as a way of increasing yields, reducing transportation costs and thus increasing the efficiency of the industry. There is no doubt that there is considerable scope for increasing the competitiveness of the industry through this means. However we must not underestimate the administrative and political problems involved. This solution may also be more suitable for Jamaica where a more diversified agriculture is in existence and where therefore farmers may be aware of alternative agricultural opportunities and may have the knowledge to exploit them. The Government is also in a better position to offer incentives to encourage a change in production. Even here however, compulsion which will be involved in zoning may lead to political difficulties.

This recommendation seems to assume that alternative enterprises exist which are nearly or equally as attractive as, or perhaps more attractive than, banana cultivation for the less suitable areas under bananas. It seems also to assume that farmers are not aware of these opportunities and have to be jolted out of their conservatism by compulsion.

This view on the existence and lack of awareness of attractive alternative agricultural opportunities seems to be a popular one in discussions on agricultural diversification in the West Indies.

However I do not share this view which perhaps results from too great an importance being placed to calculations on paper of costs and returns. Very often the farmer does not have the necessary knowledge and experience to grow the alternative crop. Sometimes the extension service itself may not have this knowledge since research on the problems associated with the growing of the crop in the country may not have been done.

In the Windward Islands such an extreme policy as zoning

may result in considerable problems for growers who may be forced to cultivate crops which are far from being a good alternative to banana production.

The preference is therefore for a policy which will cause a gradual shift towards a better land use pattern.

Efforts should be made by the Departments of Agriculture to find new crops which can be as attractive as banana cultivation and to pass on knowledge of their cultivation and likely return to farmers. The finding of good alternatives for the marginal banana areas would enable farmers to leave banana cultivation more readily.

Policies adopted by the Growers' Associations such as the equalisation of transportation costs should be abolished. Bananas are a bulky crop in relation to value and transportation costs are therefore high. If farmers far away from ports on marginal lands have therefore to bear their own transportation costs they may be forced to grow a crop which is less bulky and which may grow well in the area.

The policy on leaf spot cess also encourages to some extent the growing of bananas on unsuitable areas. The cost of leaf spot control to the Association depends on the acreage sprayed and not on production. The cess is however levied according to yields. Marginal banana areas are therefore subsidised by areas with higher yields. This situation is made worse by the fact that some of the marginal areas are steep hillsides which are more difficult to spray and therefore cost more to spray per acre.

The extension of cultivation on unsuitable lands may be taking place while good banana lands are unutilised by their present owners. The communal land problem may be causing this to some extent in St. Lucia. Another paper in this conference deals with this problem. In the case of idle lands on estates, the taxation of land according to its agricultural potential may force owners to put them under cultivation or lease or sell them to others. The availability of these lands for cultivation may help to prevent extension on less suitable lands.

The Shortage of Credit

The use of less suitable lands and the lack of knowledge of good cultural practices have so far been given as reasons for low yields on small farms. The shortage of credit is an additional reason. The lack of adoption of improved practices is to some extent a result of the shortage of capital to finance these improvements.

In the past, Government attempts to provide credit to farmers have been piecemeal. Only recently have efforts been made to establish credit schemes on a permanent basis. Grenada and more recently St. Lucia have established credit schemes on a permanent basis. Grenada and more recently St. Lucia have established credit banks. Dominica and St. Vincent are hoping to do likewise.

Before the establishment of these banks the main sources of credit to farmers have been the commercial banks and the fertiliser schemes of the Growers' Associations. In the case of the commercial banks, only the larger farmers have been able to satisfy their standard of creditworthiness. These banks have traditionally lent mainly to commerce and only recently have they moved into other fields. The kind of credit involved in agriculture, especially to small farmers, are not suitable for their provision both from the standpoint of the period of loans and the risks involved. Public credit institutions are therefore necessary to cater for the special problems involved in agricultural credit such as the wide dispersion of borrowers, the high risks involved and the lack of suitable collateral of borrowers.

The fertiliser credit scheme has been a great success. It seems that our concern with the inadequate use of fertilisers by small farmers has prevented us from appreciating fully the success achieved in the almost general use of fertilisers in the area. This is something that is far from common in less developed countries. Perhaps the good fertiliser response obtained in banana cultivation in the area has also helped to encourage this good practice.

The success obtained in fertiliser use by the provision of credit is some indication that better practices could be obtained in other operations with the availability of credit.

The availability of credit for one operation is not also good practice. The lack of credit for other practices could interfere with the achievement of a proper balance in the standards of different operations. Inability to weed regularly for instance may prevent farmers from obtaining the best results from their fertiliser applications.

One of the great needs for credit is for replanting. Frequent replanting, besides directly increasing yields, would enable farmers to get a better response from fertiliser use. Indirectly also, it would help in nematode control and thus help to increase yields further.

Another need for credit is for the construction of access roads in and to farms which could be used by trucks. The lack of

roads results in the need for heading stems out of farms. This can cost as much as 25c. per stem — almost 1c. per lb. of bananas. Even the more common rates of 5 — 10c. per stem result in a large item of cost. Credit would enable farmers to hire machinery to build roads for individual farms or for several farms on a co-operative basis.

APPENDIX TABLE 1

Annual Percentage Increase in Quantity of Banana Exports — Windward Islands and Jamaica 1950-1965

Year/Region	Dominica		Grenada		St. Lucia		St. Vincent		Total Windward Is.		Jamaica	
	(Ton)	(% Increase)	(Ton)	(% Increase)	(Ton)	(% Increase)	(Ton)	(% Increase)	(Ton)	(% Increase)	(Ton)	(% Increase)
1950	4,643		432		26		-	-	5,101		65,700	
1951	6,501	40.0	279	-35.4	232	792.3	-	-	7,012	37.5	43,200	-34.2
1952	9,808	50.9	429	53.8	625	169.4	-	-	10,862	54.9	57,600	33.3
1953	13,571	38.4	481	12.1	1,622	159.5	-	-	15,674	44.3	117,400	103.8
1954	16,233	19.6	1,411	193.3	2,539	56.5	362		20,545	31.1	138,500	18.0
			(a)									
1955	15,034	-7.4	1,103	-21.8	5,109	101.2	1,306	260.8	22,552	9.8	136,500	-1.4
1956	22,357	48.7	982	-11.0	10,440	104.3	4,798	267.4	38,577	71.1	145,705	7.4
1957	17,325	-22.5	7,817	696.0	12,092	15.8	15,810	229.5	53,044	37.5	145,607	-0.1
1958	20,315	17.3	11,712	49.8	13,070	8.1	17,368	98.5	62,465	17.8	122,762	-15.7
1959	27,879	37.2	13,834	18.1	30,499	133.4	25,233	45.3	97,445	56.0	134,600	9.6
					(b)							
1960	28,375	1.8	12,212	-11.7	28,439	-6.8	22,496	-10.8	91,522	-6.1	137,900	2.5
											(d)	
1961	28,756	1.3	11,582	-5.2	40,450	42.2	21,432	-4.7	102,220	11.7	139,000	0.8
1962	28,239	-1.8	12,581	8.6	49,469	22.3	21,678	1.1	111,967	9.5	142,439	2.5
		(c)			(c)							
1963	30,738	8.8	14,539	15.6	53,311	7.8	25,624	18.2	124,230	11.0	159,910	12.3
1964	42,231	37.4	14,573	0.2	60,926	14.3	25,948	1.3	143,678	15.7	174,383	9.1
1965	49,752	17.8	21,056	44.5	80,533	32.2	29,603	14.1	180,944	25.9	190,000	9.0

(a) Hurricane Janet

(b) Hurricane Abby

(c) Hurricane Edith

(d) Windstorm of December of the previous year damaged about 20% of Banana Cultivation.

APPENDIX TABLE 2

*Quantity of Banana Imports into Main Importing Countries and Percentage
over four-years periods from 3-year annual averages*

Period/Region	World		U.K.		Canada		U. S. A.		W. Germany		Italy		France		Japan	
	(000 ton)	(per cent increase)	(000 ton)	(per cent increase)	(000 ton)	(per cent increase)	(000 ton)	(per cent increase)	(000 ton)	(per cent increase)	(000 ton)	(per cent increase)	(000 ton)	(per cent increase)	(000 ton)	(per cent increase)
1954 - 1956	3,058	-	304	-	134	-	1,464	-	230	-	42	-	267	-	24	-
1958 - 1960	3,939	28.8	329	8.2	155	15.7	1,722	17.6	428	86.1	69	64.3	343	28.5	38	58.3
1962 - 1964	4,292	9.0	359	9.1	159	2.6	1,604	6.9	4,69	9.6	151	118.8	365	6.4	226	494.7

Notes : tons — long tons

Sources : 1954-1956. 1958-1960 and 1962-1963-C.E.C. *Fruit Review*, 1960, 1963, 1964 ; 1964-F.A.O. *Trade Year 1964*.

APPENDIX TABLE 3

Imports of Bananas into the United Kingdom, 1955, 1960 and 1965

Country of Origin	1955		1960		1965	
	(000 ton)	%	(000 ton)	%	(000 ton)	%
Commonwealth :						
Jamaica	136.5	44.5	137.8	40.0	182.3	49.0
Windward Islands	21.8	7.1	88.5	25.7	170.1	45.7
Trinidad	0.4	0.1	3.2	0.9	—	—
Ghana	0.6	0.2	4.1	1.2	1.1	0.3
Other Commonwealth	0.7	0.2	0.3	0.1	0.5	0.1
Total Commonwealth (a)	160.0	52.1	233.9	68.0	354.0	95.1
Foreign :						
West Cameroon (b)	68.9	22.5	70.3	20.4	8.6	2.3
Brazil	29.4	9.6	4.7	1.4	4.4	1.2
Canary Islands	43.3	14.1	16.7	4.9	3.5	0.9
Other Foreign	5.1	1.7	18.4	5.3	1.7	0.5
Total Foreign	146.7	47.9	110.1	32.0	18.2	4.9
TOTAL IMPORTS	306.7	100.0	344.0	100.0	372.2	100.0

(a)

Not including in 1955 and 1960 imports from West Cameroon although West Cameroon enjoyed Commonwealth Preference in these years.

(b)

In 1955 and 1960 may include quantities from Nigeria.

APPENDIX TABLE 4.

Farm Gate Prices and Distribution Costs for Main Exporting Countries^(a)

(\$ E.C. per long ton)

	Ecuador		Colombia	Dominican Republic	Central America		Jamaica	Windwards Islands	Martinique	East Cameroon	West Cameroon	Madagascar	Somalia	China (Taiwan)	Philippines		Thailand
	N.Y. C'tn	H'burg C'tn	H'burg B'ch	N.Y. C'tn	N.Y. C'tn	U.K. B'ch	U.K. B'ch	France C'tn	France B'ch	U.K. B'ch	France B'ch	Italy B'ch	Japan Baskets	Japan Cartons (non-contract)	Japan Boxes (non-contract)	Japan Cartons (non-contract)	Japan Boxes (non-contract)
Farm Gate Price	50	50	-	33	33-50	78	108	149	99	63	68	104	175	58	58	91	149
Other Local expenses	83	82	-	66	98	-78	50	96	66	66	56	36	68	45	45	76	76
F.O.B. Cost	133	133	116	99	131-148	156	158	245	165	129	124	140	243	103	103	167	225
Ocean Frt. & Ins.	53	83	76	60	41	89	90	114	126	111	114	99	35	74	124(b)	66	66
Other Exp.	-	-	-	-	-	-	-	-	-	-	-	-	-	18	18	-	-
C.I.F. Cost	186	186	192	159	172-189	245	248	359	291	240	238	239	278	195	245	233	291
Importers' cost (inc. landing & margins)	28	33	17	50	41-25	28	-	40	7	28	73	-	-	-	-	-	-
Importers' selling price	214	219	209	209	213	273	-	399	298	268	311	-	-	-	-	-	-

(a) Notes: Based on latest information available — mainly 1964 or 1965; Windward Islands 1963.
 (b) Ships with refrigeration.

Sources: Papers prepared by FAO Study Group on Bananas for all countries excluding the Windward Islands.
 Windward Islands — From Annual Reports of Growers' Associations and from Marketing Agreements.

APPENDIX TABLE 5.

Banana Yields(a) in Some Important Exporting Countries

	Year	Yield (long tons per acre)	Average Bunch Weight (lbs.)	Varieties
Europe				
Spain (Canary Islands)	1962/63	13.6	65.1	Dwarf Cavendish
Central America				
Honduras	1964	15.9 - 17.6(b)	n.a.	Valery, Cabana and Gros Michel
Costa Rica	1964	10.3 - 14.7(c)	n.a.	Valery, Cabana and Gros Michel
Panama	1963	10.0	77	Valery and Gros Michel
South America				
Ecuador	1963	5.79	66	Gros Michel
Colombia	1965	5.0 - 9.5(d)	70.5	Gros Michel
Caribbean				
Dominican Republic	1965	13.8	n.a.	Valery and Gros Michel
Guadeloupe	1963/64	8.3	n.a.	Robusta
Martinique	1963/64	7.4	n.a.	Dwarf Cavendish, Robusta and Giant Cavendish
Jamaica	1964	2.3	28.8	Lacatan and Robusta
Windward Islands	1961	2.8	26.7(e)	Robusta and Lacatan

APPENDIX TABLE 5 (Cont'd.)

	Year	Yield (long tons per acre)	Average Bunch Weight (lbs.)	Varieties
Africa				
Cameroon	1965	12.0	38(f)	Robusta and Gros Michel
Ivory Coast	1963	9.6	35.2	Dwarf Cavendish and Gros Michel
Somalia	1963	3.9	35.2	Dwarf Cavendish and Robusta
Asia				
Taiwan	1964	3.9(g)	n.a.	n.a.

- (a) Yield data have been obtained from the F.A.O. Committee on Commodity Problems, Paper C.C.P. BA66/4, Review of National Production and Marketing Programmes and Policies Part 11, National Programmes and Policies, with the exception of Guadeloupe, Martinique, the Windward Islands and the Canary Islands. Data on these countries excluding the Windward Islands have been obtained from the F.A.O. Production Yearbook 1964. Data from C.C.P. 66/4 refer to export production and from the Production Yearbook to total production. However data from both sources are still comparable because those from the Production Yearbook are for countries with small local consumption. Acreage used in calculation of yields for the Windward Islands has been arrived at from the 1961 West Indian Agricultural Census. The acreage used is the pure acreage equivalent.
- (b) 15.9 tons from United Fruit Co., areas and 17.6 tons from Standard Fruit and Steamship Co., areas.
- (c) 10.3 tons from UF Co., areas and 14.7 tons from SF & S Co., areas
- (e) Average bunch weight for 1965.
- (f) Average bunch weight for West Cameroon.
- (g) In one flat fertile area which has about ¼ of land under banana cultivation, yield is 9.5 tons per acre.