AGRICULTURAL MARKETING AND DISTRIBUTION ARRANGEMENTS WITH RESPECT TO THE RESORT HOTEL IN THE CARIBBEAN

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Introduction

This paper focuses upon three basic economic components that through their inherent (economic) behaviour bring about different types of physical marketing distribution arrangements. The producer, the product and the purchaser (consumer) constitute the components, and the marketing arrangements, in the form of different kinds of logistics (transport network and other facilities), are the mechanism that transfers the produce from surplus (producing) areas to deficit (demand) areas. In an economic exchange system, regional specialisation of production has increased economic interdependence, and thus, created even greater dependence on the transfer mechanisms responsible for the inter-regional and international movements of products. The sensitivity of the existing marketing mechanisms seems to be in direct proportion to the level of economic specialisation a country has attained. Thus, disruptions of seemingly unimportant logistical inputs can hold the flow of goods and cause economic hardship both in produce areas and market areas.

In the developing economies one may perhaps state that the marketing mechanisms, due to lower degrees of specialisation of production, should play a less fundamental role for society as a whole, and that, therefore, an efficient marketing system would be of minor importance. However, if we assume that people strive to better their living conditions, efficient marketing will no doubt result from the demand for specialised production. This applies in particular to the food producing sector, that is, to agricultural production, which has such a basic and crucial role to play in the development process.

The Product and the Marketing

The product influences the physical marketing mechanism as well as the degree of integration of the first stage production into a vertical marketing arrangement; (the latter, of course, also a result of the wish to supply the ultimate market in a continuous or regular way). Caribbean agricultural staples are integrated into such mechanism, which supply metropolitan markets smoothly and efficiently. This system is, of course, as sensitive to disruptions as any modern marketing mechanism. Bananas, coffee, citrus, coconuts and sugar are all products that are characterized by specialised marketing arrangements, from the pick-up system to the retailing in the metropolitan markets. Outside these crops one finds that marketing systems may be less mechanically and functionally specialised, but that different products nevertheless generate different marketing distribution requirements, mainly due to bulk and perishability. Thus in a quite small study area in Jamaica, Manchester Parish with an area of 339 square miles, six product-specialised systems operate together with the Jamaican Agricultural Marketing Corporation systems, giving the whole area 173 collecting points for agricultural products. In terms of accessibility (straight line distance), all farms in the parish are less than two miles away from a pick-up point.

If one adds to these marketing services existing parish markets which are served through "independent systems", one would expect that there should exist good

supply-demand reactions in the market as a whole. The vertically integrated marketing-distribution systems operate under international commodity agreements, which decide sales volumes at the overseas market end. Thus island-based product associations act as dealers between the overseas buyer and the grower. However, the chances to limit production in depressed market situations are often small due to advantageous contract agreements between product associations and member-growers, who favour cash payment upon delivery; thus the grower need not worry about changes in overseas markets, nor start organising new marketing systems. Often the grower has also available product expertise or other types of farm inputs. Thus, there are situations where the close relationship of farmer-product association can create rigidity in the sometimes vertically integrated systems, with unlimited production for island-based product associations, who have overseas delivery agreements. It holds certain advantages due to, first, that it is well established and that, therefore, it is easy to deliver the produce, and secondly, that it offers a stable price to the grower. The drawbacks are that it creates rigidity in the factors of production and a market collapse can therefore have serious regional economic consequences. Furthermore, over-specialisation towards these well established products may result in a deterioration of alternative food supply production for the domestic market. The result may be unnecessary food imports to be financed with scarce foreign currency reserves.

The (Producer) Farmer and the Marketing

Having discussed certain factors influencing the relationships between the product and its marketing distribution arrangements, one should now also look at the attitudes farmers take to available alternative marketing outlets. Obviously, farmers have to weigh a great number of factors before making decisions on what system to use, and what crop(s) to grow. A limited information field on market prices, different ways of marketing, etc., often make them choose one of the product systems with its seemingly economic stability. Few farmers are in a position to analyse the whole marketing potential and use favourable price trends when deciding which crops to grow. Furthermore, Government marketing organisations often purchase all types of products delivered from farmers, regardless of quality and shape, and at poor incentive prices, due to the dual role of such agencies as marketing organisations on one hand and welfare-oriented disbursement organisations on the other. Thus, the intelligent, efficient farmer finds himself placed between the two systems, none of which offers satisfactory incentives and none really improving the Island food supply situation (Figure 1:1-6).

The Purchaser and the Agricultural Product

Caribbean agriculture is often analysed with regard to the production function -- how to increase production on the farm, how to improve yields for products, what new equipment can be utilised, etc. The strong concentration on aspects of production has led to an apparent neglect of how production reaches deficit regions (that is, consumption areas), the whereabouts of potential consumers, and what marketing systems and marketing techniques are required to reach the consumers. When markets have been analysed in the past, there has generally been a concentration on the traditional export staple products, for which the marketing, per se, has caused few problems. The studies have usually been on macro-economic levels, international trade oriented, dealing with supply-demand aspects in carefully sealed and integrated commodity systems. Important and crucial marketing aspects of less visible relationships (production-consumption) have, to a great extent, been left aside. The consumer side of the research requires considerable attention, particularly of the internal level, as it is within this framework that agriculture has

an important role to play in the economic development process.

There are three kinds of markets. Firstly, the overseas staple crop markets are well established operations, to which supplies have gone for decades or centuries. Secondly, there is the domestic market, within which the ordinary daily food markets function, supplied by "spontaneous", more-or-less sophisticated marketing systems, with a gradual re-organisation on a retail level in major urban centres. Thirdly, the other segment of the domestic market is industrial, and has, therefore, completely different economic and operational characteristics than the daily food market. The industrial market consists of the food processing industry and the hotel industry on many islands. The growth rate of the tourist industry in the Caribbean should make this an important outlet for agricultural products. What, then, is this relationship?

The Tourist Hotel Industry

A Sequential Development Model

Before dealing with the particulars of the food supply system of a sample Jamaican hotel, the dynamic nature of the linkages of the hotel/farm product sector must be understood. The time factor is fundamental in an understanding of the evolution of these economic linkages. Most well known resort areas in the Caribbean have developed gradually, with intensified expansions during the last decade or so. In order to follow the expansion of the tourist hotel industry and the evolution of the linkages with agriculture, a sequential development model has been constructed. Five stages are visualised (Figure 2:1-5). During an initial stage, a location is established on a coastline. The functional effect upon the local area is practically nil; it is a novel enterprise which relies heavily on the foreland agencies that brought it onto the coastline itself. Practically all developmental, and later also operating inputs, are being supplied from the foreland. Its sole local relationship may be its geographic location. Few situations of this type exist today in the Caribbean. In the past however, there have existed operations of this "enclaved nature" in terms of support structures. In such a situation local impacts have been zero.

In moving to the following stages, one manipulates different inputs affecting the operations of the hotel's food supply system: the hotel size can be altered, the degree of hotel agglomeration as well, structural changes in the agricultural supply sector can be anticipated, new model of transport can be innovated, new accessibility ratings can be established for the area, to mention some of the deliberate changes that are elaborated upon here.

Thus, Stages 1 and 2 are embryonic, but extremely important factors in the local growth process. The most difficult steps to explain are thosethat bring about the first commercial linkages between the enclave -- the hotel and the region's farming sector. Certain farmers become involved in minor supply arrangements with the hotel, either on their own initiative or through the assistance of available agricultural extension services, or from other specialised agricultural administrations. In Stage 3, new demand levels are introduced by the hotel. Thus more efficient techniques of supplying required demands are gradually introduced, with wholesaling middlemen-dealer arrangements between the farmer and the hotel.

Geographically, the overall supply system is quite concentrated with increasing island-based supplies and with a gradual decline or emphasis on a new set of imported products. Stage 4 again expands the hotel-generated demand levels, introduces an

additional hotel facility with its own demand level for food products and brings about changes in the transport network. The effects of these innovations are felt throughout the expanded system, and limitations in nearby supply structures to react rapidly to the rising opportunities may cause an increase of long distance deliveries of either specialised products or of large bulk products that are produced under more favourable conditions outside the resort region. In the final Stage 5, agglommeration economics affects the area. Additional large scale hotel operations are introduced, entrenching certain well established supply structures and supply lines. The overall effects of the dynamic resort area are felt through mounting pressures on adjacent lands, lands that are often in farming. Often the resort industry expansion will encroach upon these lands, changing the land use patterns quite drastically.

Thus, a gradual decline of food supplies from nearby agricultural lands to the hotels seems quite likely to occur, while medium and long distance supplies will increase in importance. Long distance supply lines are further consolidated. A stratification of supply systems evolves, in which process certain hotel operations lose their previous local and regional supply linkages and instead, become closely linked with long distance supply functions. Hence, small scale farming will lose its usability unless it adapts to the new situation.

The development model has no pretension to illustrate, accurately, how a resort development has taken place. One could add, deduct, or indeed, restructure the whole process. Nevertheless, the fundamental dynamic, and thus fluid, nature of the linkages with the agricultural food supply sector that underlines the hotel expansion in a Caribbean setting, has been illustrated.

Turning to the Jamaican hotel investigation, the Caribbean project at McGill University's Department of Geography has collected data for selected hotels in order to establish the composition of hotel food requirements, the economics of the purchases, and their structural and geographic characteristics. The data is for the month of June 1970, which is a low season month, unfortunately. However, this was the only month for which comparative data for a number of hotels were available. Usually, the hotels do not save the raw data material -- the purchase order books -- more than a month or two, after which they are disposed of. The presentation of one hotel operation will illustrate objectives, methodology and results. In the analysis of the hotel food supply system the following factors have been considered.

1. Hotel Capacity which regulates the optimal food requirement that can be anticipated by the hotel. The larger the hotel, the greater the bulk purchases.

   Even more important is the fact that large hotels have lower order frequencies due to bulk purchases, and often good storage facilities on the premises. This limits the number of potential food suppliers, either among regular farmers or among wholesalers. The big bulk-low frequency situation has other effects too on the supplier, demanding, for instance, better packaging, better control on deliveries and better coordination of many activities down to the farm level, from where a shipment originates.

2. Seasonality influences purchase policies and delivery timetables. For instance, the deviations of hotel purchase levels (the annual monthly average purchase amount equalling 100) range from a peak season value of

196.3 to a low of 49.7 for one of our sample hotels. This fluctuation affects the organisation of the marketing distribution system as these fluctuations have to be accommodated somewhere in the system with storage facilities. The hotel can only partially utilise depressed food market situations with bulk purchases for future consumption. Perishability, of course, is a limiting factor.

3. Existing food supply systems - the local infra-structure influences the hotel's food supply hinterland. If the location is in an old, well-established (tourist) region, a wholesale organisation can easily be deployed, long distance shipments are equally easily available. If it is a new tourist area, the problems of food supplies can become extremely complex.

4. The hotel's management techniques are the final factor to be considered. Usually modern hotel operations feature methods of operation characteristic of hotels serving an international travel market. Obviously, but extremely important, is the business philosophy that this entails, in terms of economic behaviour. It usually means a business-like approach towards food purchases and supplies; regular purchases, standardised qualities, punctuality in deliveries, long-term agreements of a legal character, insurance against poor products with alternatives available at short notice, etc. The business communication difficulty between the hotel and the suppliers can be very real due to educational and cultural differences between the hotel management and the farmer-suppliers.

Research Objectives

The objectives of the investigation of selected hotel operations in Jamaica were to establish:

(a) the characteristics of the food supply systems used by the hotels in terms of composition of the demand; and,
(b) the geographic demensions of the various systems that were being used.

The sampled hotels had to be representative of the hotel structure on Jamaica. The most important factor considered was size. Thus, the average size of Jamaican hotels was established, and from each size class, one hotel was selected. All sampled hotels are located on the North Shore, because this coastline constitutes the backbone of the Jamaican hotel industry, since the initiation of the postwar tourist era on the Island. For this presentation, one sample hotel will suffice to describe the various procedures, as well as the line of thought that we have tried to follow.

The hotel operation to be described falls into the size category of 50 to 150 rooms. Thus, the hotel is a far cry from the hotel chain units (international) that dot the Jamaican North Shore from Montego Bay in the West to Port Maria in the East, both in terms of size, complexity of operations, food supply demands and general hotel logistics.

The Data

The field workers had full access to data of hotels in any category, from luxury class and down, and complete cooperation with the various hotel managements

in a sample of hotels. The total hotel sample consists of six hotels altogether. For each hotel, the purchase department's purchase books and general food accounts were made available. Six kinds of information were recorded, data considered pertinent to an understanding of the food supply systems: the pruchased item, its volume and value, the name of the supplier (or deliverer), the geographic location of his business operation and finally, the geographic origin of the actual item purchased by the hotel. Each individual purchase order entry was recorded, which makes possible some interesting analyses of order size for various items. For example, in the case of pineapple purchases, totalling $474.21, we know that this "item" was delivered in 29 individual shipments to the hotel from 4 suppliers, with a volume purchase range from 70 to 159 pounds; the average purchase order was 108 pounds; one supplier contributed 85 per cent of the whole pineapple purchase and practically the whole volume was shipped from suppliers located within a five-mile radius of the hotel in the general resort area of Montego Bay. With these detailed data on each transaction, certain aspects of the hotel food supply system could be investigated.

Product Composition

Some basic data reveal first of all to what kinds of agricultural products and what type of food producing sectors in the island economy, the hotel food demands are directed. Broadly speaking, the monthly food bill consists of two main categories. The first category consists of rather exotic and import-oriented items, supplied through the Kingston-based importing houses. Although their role as suppliers is important, they are of minor interest in relation to island agriculture and are, therefore, excluded from our survey. In concentrating on the second category, we find that the hotel purchases some 49 food items from 45 different suppliers, operating from 15 geographic locations. The products themselves have, of course, a greater number of places of origin -- the data reveal 20 locations. If it had been possible to trace back product origins through the distribution links, the geographic diffusion of the hotel food demands would have been impressive.

The food purchase bill has a skewed composition, in terms of different product sectors. First, the non-crop food sector (meat, seafood, dairy products, chickens and eggs) dominates the food bill; 63.5 per cent of all food purchases are placed in this sector, which leaves the food crop sector with approximately one-third of the food purchases. Second, within the food crop sector, there are some considerable concentrations on a very narrow group of products. The top four, in terms of value, account for 54.4 per cent of the food crop deliveries (lettuce, pineapples, tomatoes, Irish potatoes), leaving the rest of this sector to some 34 agricultural products of such varying types as yams, bananas, sweet peppers, turnips, thyme, to mention a few of the listings.

The Frequency of Deliveries

The frequency of shipments is the second important aspect from the hotel's point of view, and this influences the marketing mechanisms considerably. A high frequency/small volume arrangement for a product brings with it a completely different marketing mechanism than low frequency/large volume deliveries during long but regular intervals. The arrangement that a hotel opts for is decided by a number of factors, such as easy access to a smoothly operating marketing system, location of the hotel in relation to other useful infrastructures having marketing and distribution facilities, efficient transport and other logistics on hand, perishability of the product and also the size of the hotel. To what extent would it be possible to draw some conclusions on the character of the marketing mechanism, or the type of marketing mechanism that should be the most efficient operation by looking at

delivery frequencies?

One important "noise factor" in this sample hotel should be pointed out. The sample hotel is quite conveniently located, in relation to supply points, in the urbanised Montego Bay area. This, of course, affects the frequencies of deliveries for individual products, but may not necessarily alter, significantly, final conclusions. Regardless of hotel location, cold storage facilities have to be provided at either end of the haul, and for sensitive products and sensitive clientele, the frequency should reflect the concern of one party to please every other party involved. Ranking products by degree of perishability is difficult and controversial. However, the data seems to support what one could anticipate: perishable products such as bananas, pineapples, meat, tomatoes and seafood have, by far, the highest delivery frequencies, ranging from 32 per month for bananas to 18 for seafood. Compared with miscellaneous food crop products, these frequencies are extremely high. Their impact can be measured in a different light too, which indicates even better the concern one can expect on behalf of distributors, etc.: 35 per cent of all total deliveries registered are accounted for by these sensitive, high frequency products. Therefore, and also considering their position in terms of value of purchases, they warrant efficiency all along the marketing line, from the farmer and up. Although they quite likely travel shorter distances than some of the shipments of imported products from Kingston, these products consume unproportionately high logistics inputs.

The Supply Structure

With the predominance of only a few products among the food crop sector and with special logistical requirements to fulfil delivery obligations, one should be able to get a clearer picture of the food supply structure and how this structure has developed over the years.

The data seems to indicate that the order size factor, or rather the maximum order size, has a dominating influence on the organisation of the supply structure. It seems, therefore, realistic to assume that for the "top four" food crop products, one would need a marketing structure completely different from the one that ships some thyme, turnips, breadfruits, etc. The "top four" require a system which can carry bulk, to a certain extent, because the individual orders range, as in the case of pineapples, from a minimum of 70 pounds to a maximum of 159 pounds. For the other "top four" products, the range is even greater. Simultaneously, the system shall be geared for high delivery frequency in many cases due to the perishability of the product. This would indicate that the supplies have to come from a few large suppliers rather than from a proliferation of small suppliers. Also, from the hotel's point of view, it must be advantageous, while having high frequencies of deliveries, at least to be able to reduce the number of business parties involved. This small group of large volume suppliers seems to have established itself in Montego Bay and is supplying the hotel industry from there. Some of these suppliers are, perhaps, not much more than voluntarily abdicated, but business-minded farmers; others, however, are wholesale dealers in agricultural products. The "top ten" products from the food crop sector are being supplied via 14 main suppliers, within which group one single supplier offers the whole product range. The other suppliers supply only a few of the "top ten" products; there is a considerable group of suppliers that do business in only one product. Such cases, however, may also indicate occasional transactions, and hence should not be over-emphasized. The characteristic aspect of the supply structure is the dominance of one supplier, delivering the whole range of products. In fact, 47 per cent of the food crop sector is being supplied by one single dealer.

Geographic Distribution of Supplies (Figure 3)

A number of geographic, agricultural-economic models could be applied to demonstrate relationships between the single market and the supply areas, taking into account the changes in the market, the transport mechanisms, and the productivity in the farmlands. This investigation is not being pursued to prove or reject such models put forward by V. Thunen and others, but rather to establish the real facts about the functional relationships that we know must exist between the food demands, generated by the hotels, and an existing island-based agricultural sector; in other words, between an operation of quite industrial character and a rural production sector with different sets of values, rhythm of operation, etc. Through these facts, one may hopefully see where improvements or alterations have be be made, or need to be made, in order to make the relationship mutually more beneficial than in the past.

Turning finally to the strictly geographic aspect of the supply organisation for our sample hotel, one can only state that, due to its location, the catchment for food shipments is extremely concentrated. Supply areas further away are really only marginal to the hotels. However, they are very different in terms of transactions, because it is with the suppliers from the outer distances that the hotel establishes more direct business links with the farmer-supplier. The only economic reason for this contact is that the outlying farmer-supplier has succeeded in either outbidding his competitors, or that he has organised a supply arrangement which has distinct economic advantages from the hotel's point of view. This is the only way to explain the fact that we find supplies coming in from quite a distance, at least in a Jamaican context. There are considerable deliveries that move over 20 miles from inland sectors in the South and Southeast over difficult and inaccessible terrain, directly to the hotel. The characteristics of shipments from these peripheral zones lie in their limited product range. One, two, or perhaps three products constitute the range for most zones outside Montego Bay, and the further away from the main market the narrower becomes the product composition. Clearly,this indicates that it is through product specialisation, both by the farmer and market-distributor, that these long distance supply lines can be established and maintained.

Conclusions

The analysis of the hotel data indicates that, in this special case, we have to consider three different supply systems, and that these three systems, with varying degrees, use island-based agricultural food products. The systems seem to operate rather independently from each other, and only with minor overlapping. The metropolitan system deals with hotel food supplies in Jamaica as part of a large world-wide business operation. This system is the most industrialised one, using only minor island-based agricultural raw materials, and rather concentrating on the job they know best, namely, international food wholesaling transactions and deliveries. The island-based systems, both the well established wholesale system operating out of Montego Bay with subcontracts with farmers, etc., and the peripheral independent systems are well entrenched with the Island's agricultural production. Of the two, the peripheral system offers an interesting reality, to which already one explanation has been given -- namely product specialisation. However, a more dynamic explanation could also be suggested; the peripheral system illustrates the dynamic entrepreneurial nature of the relationship -- hotel industry food supply system -- pointing perhaps toward some hopeful directions as to the possibilities for remotely located and widely dispersed small scale agriculture, to benefit economically and positively from the demand intrusions into the local slow-moving economy. Thus, there exists in the Caribbean agriculture the type of swift supply-demand reactions, both in the production end and in the marketing mechanisms, which has been demonstrated by various researchers

in other parts of the developing world.

The case situation presented here illustrates the existence of dynamic, entrepreneurial development types, also in agriculture, which often is regarded as less able to perceive and take advantage of new trends in the internal market.

The peripheral system constitutes more an entrepreneurial fringe which, through different policies, could be persuaded to expand its role, not necessarily at the expense of the wholesale system, but in its own independent capacity. It should be realised that, not long ago, the existing wholesale system entrepreneurs constituted this entrepreneurial fringe.

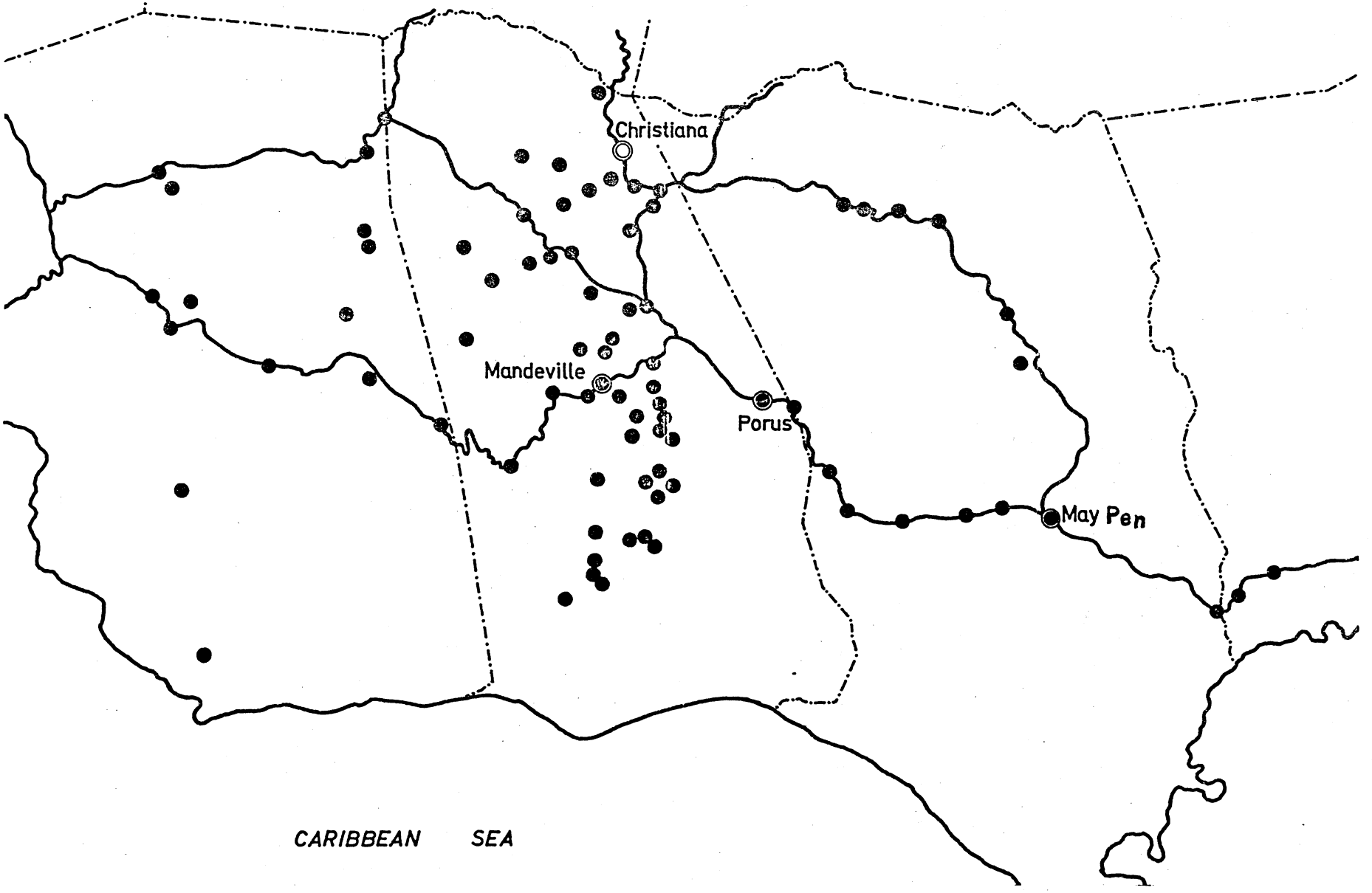
References and Data

Background information has been drawn from a variety of sources pertaining to agricultural marketing in general, and to Caribbean agriculture in particular.

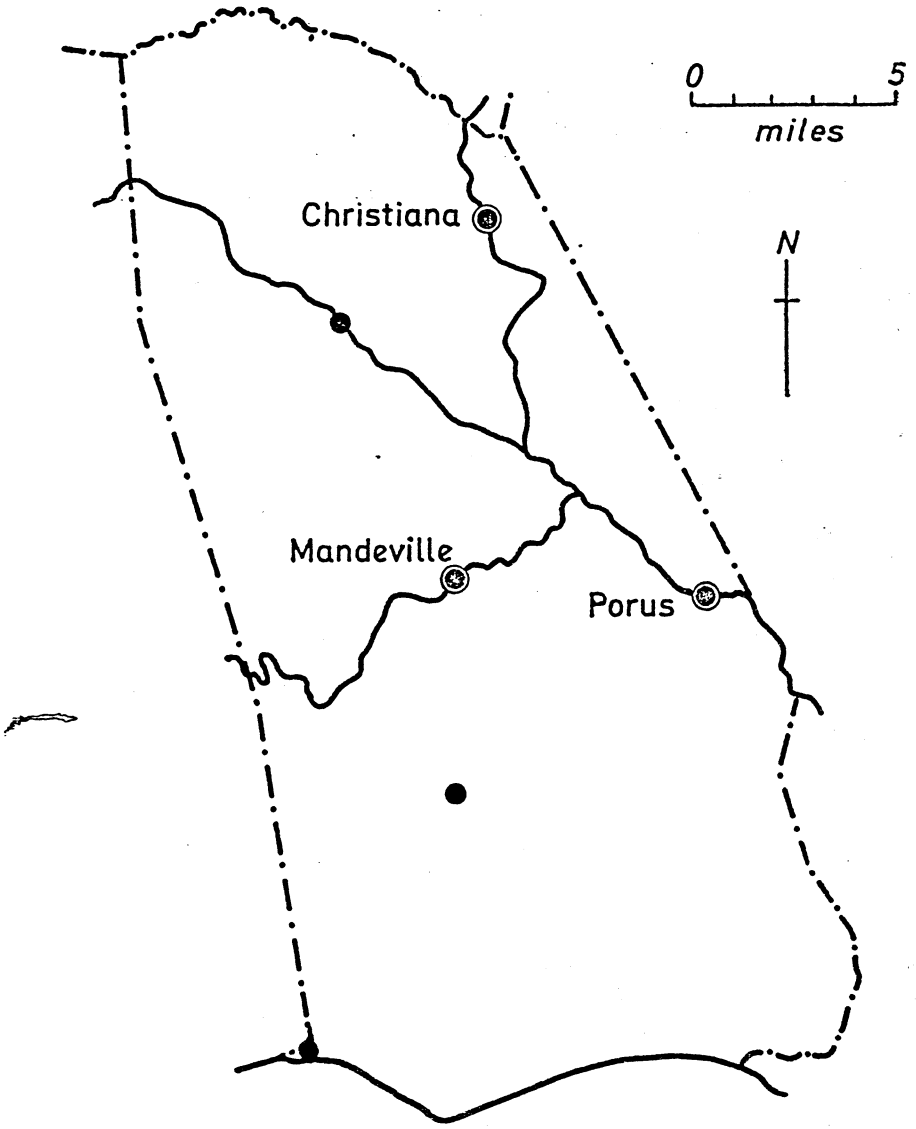
D.T. Edwards's study of small-scale agriculture; P.P. Courtenay's Plantation Agriculture; R. Moyer's Marketing in Economic Development, The Tripartite Report, to mention a few titles, have furnished many useful thoughts to this paper.

The raw data for hotels were made available to Field Assistant Valerie Magnus, student of the University of the West Indies, Geography Department, Mona, Jamaica, through the courtesy of the J.H.T.A., for which I am extremely grateful.

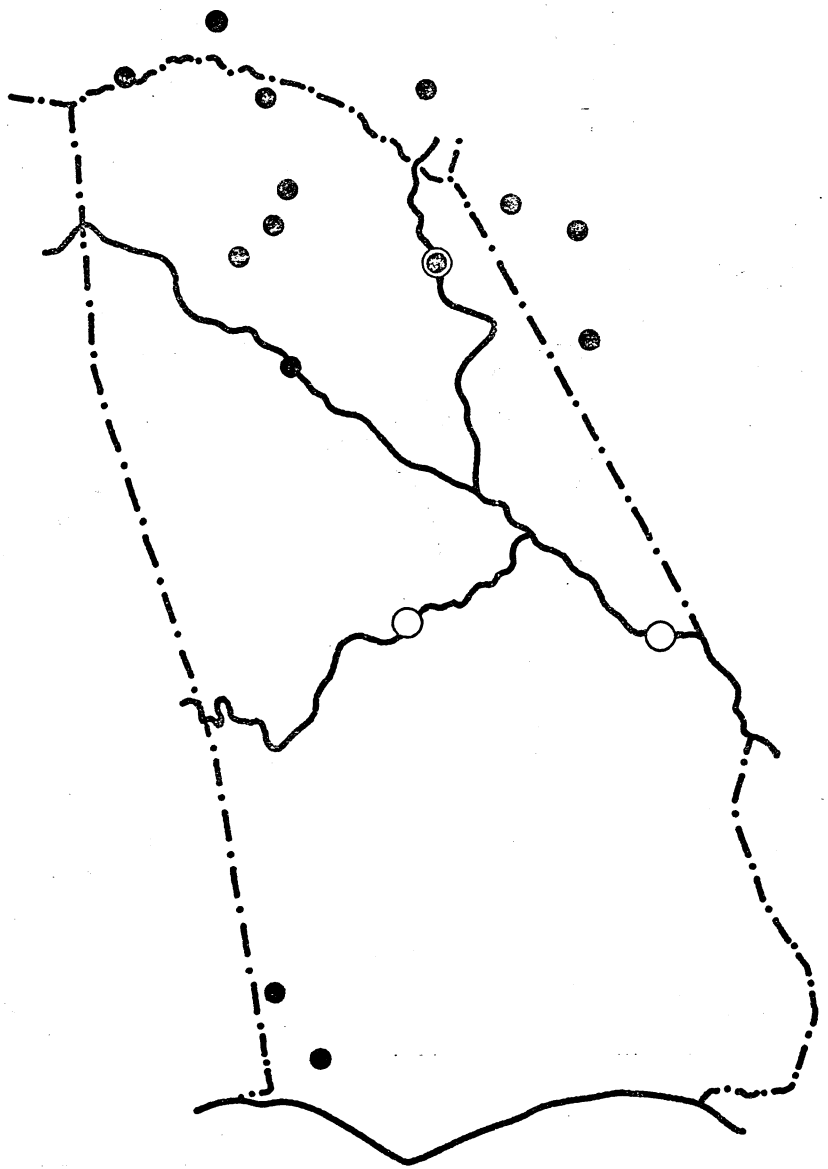
FIGURE 1: Marketing Systems in Manchester and adjacent Parishes, Jamaica.
Collecting Points for Jamaica Milk Products Ltd.



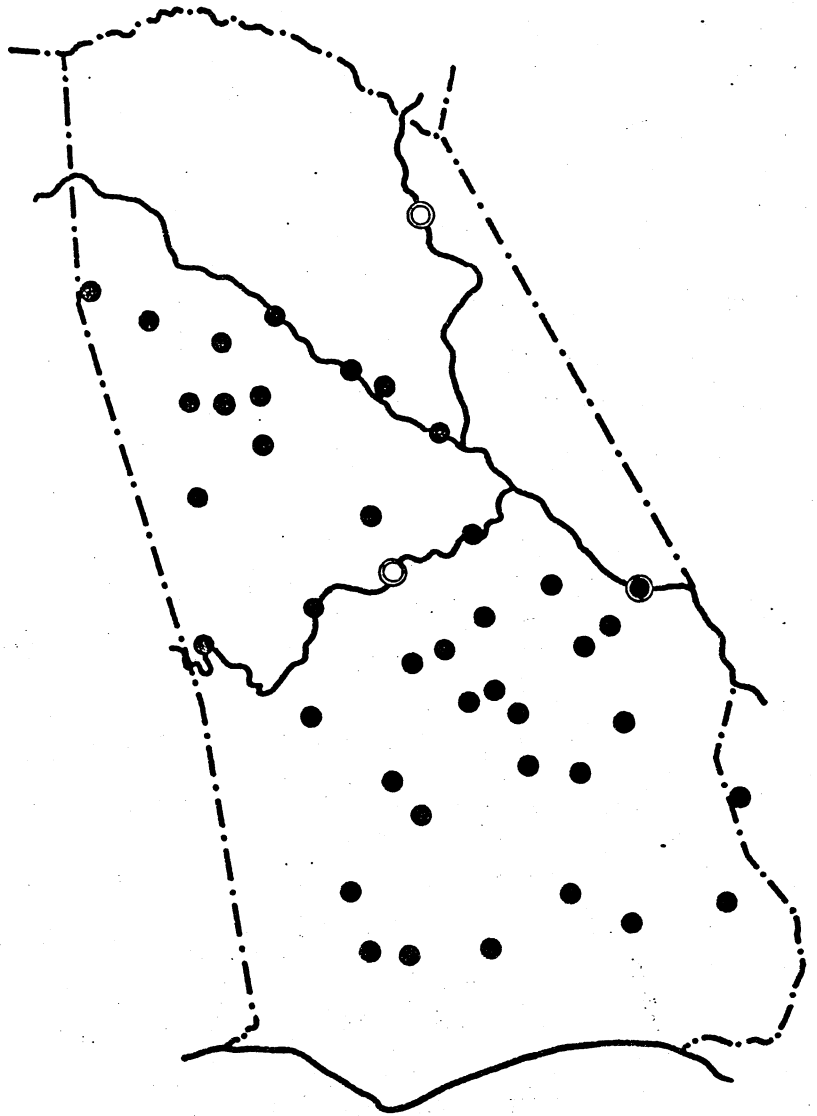
1. Parish Markets



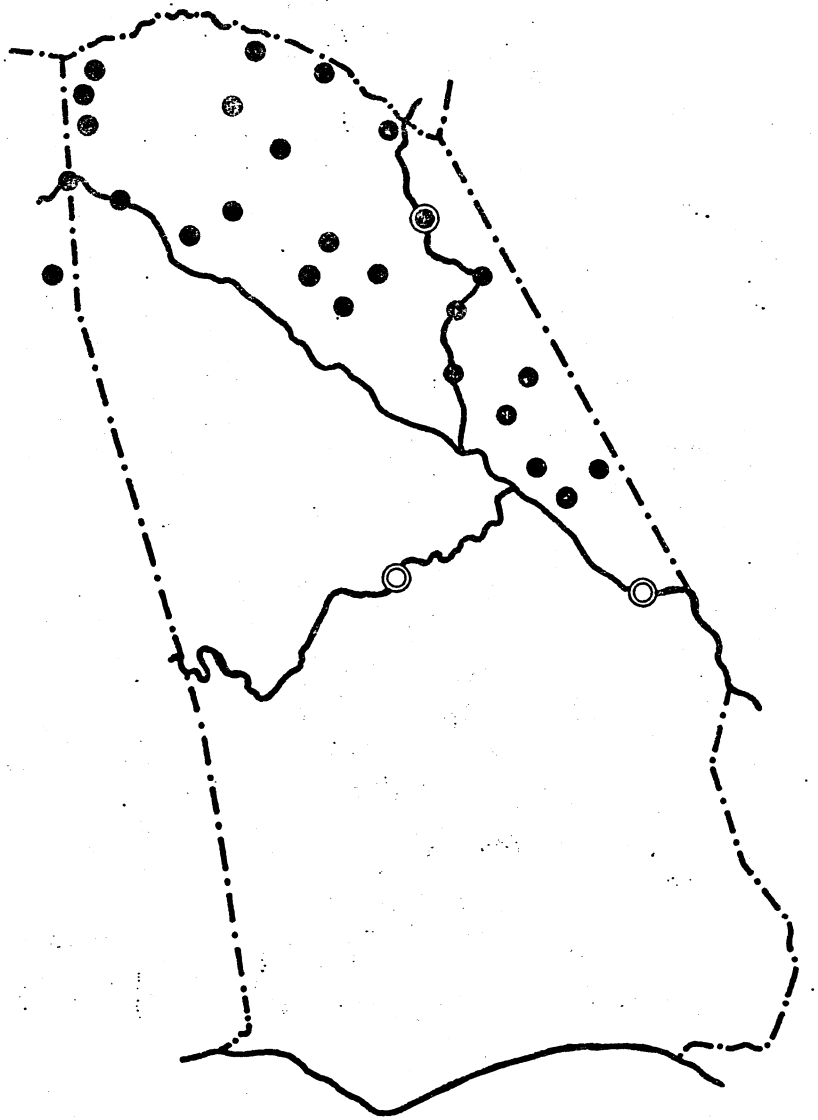
2. Buying Stations



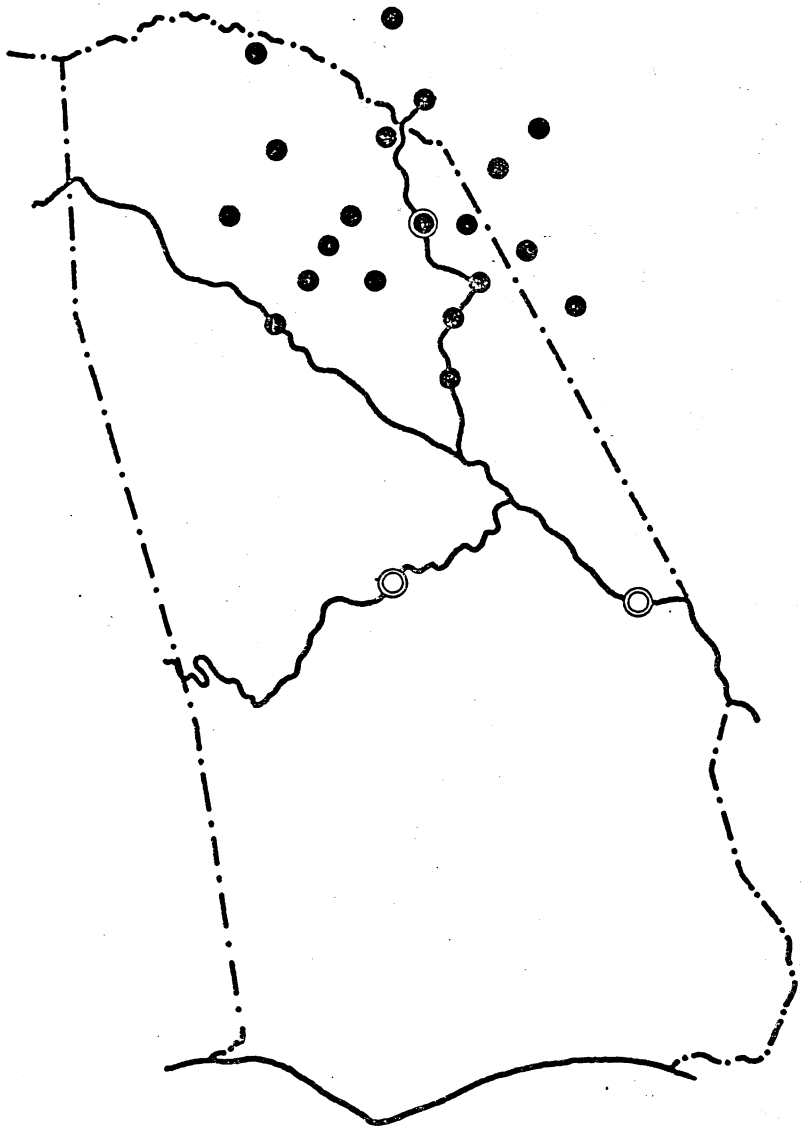
3. South Manchester Coffee Growers Co-op



4. North Manchester Coffee Growers Co-op



5. Potato Growers Co-op



6. Citrus Association Collecting Points

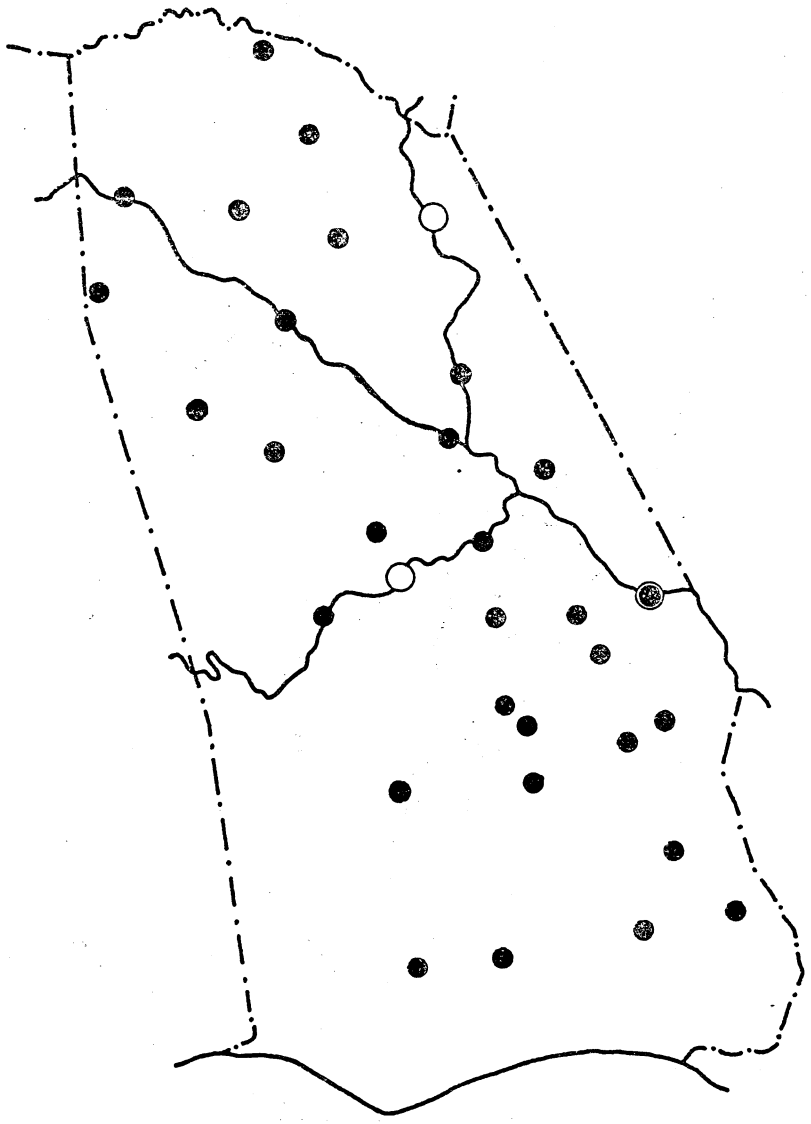
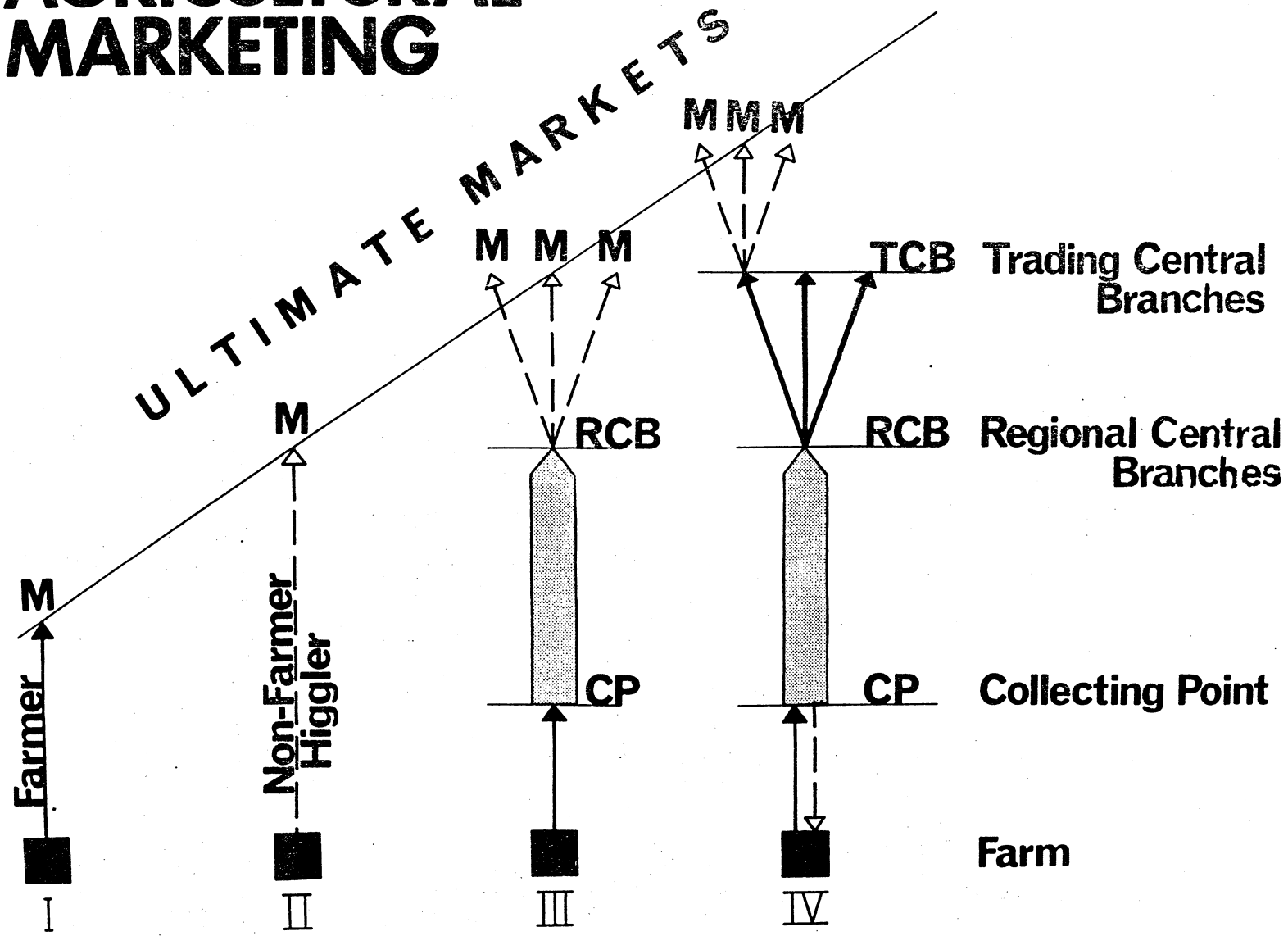


FIGURE 2

AGRICULTURAL MARKETING



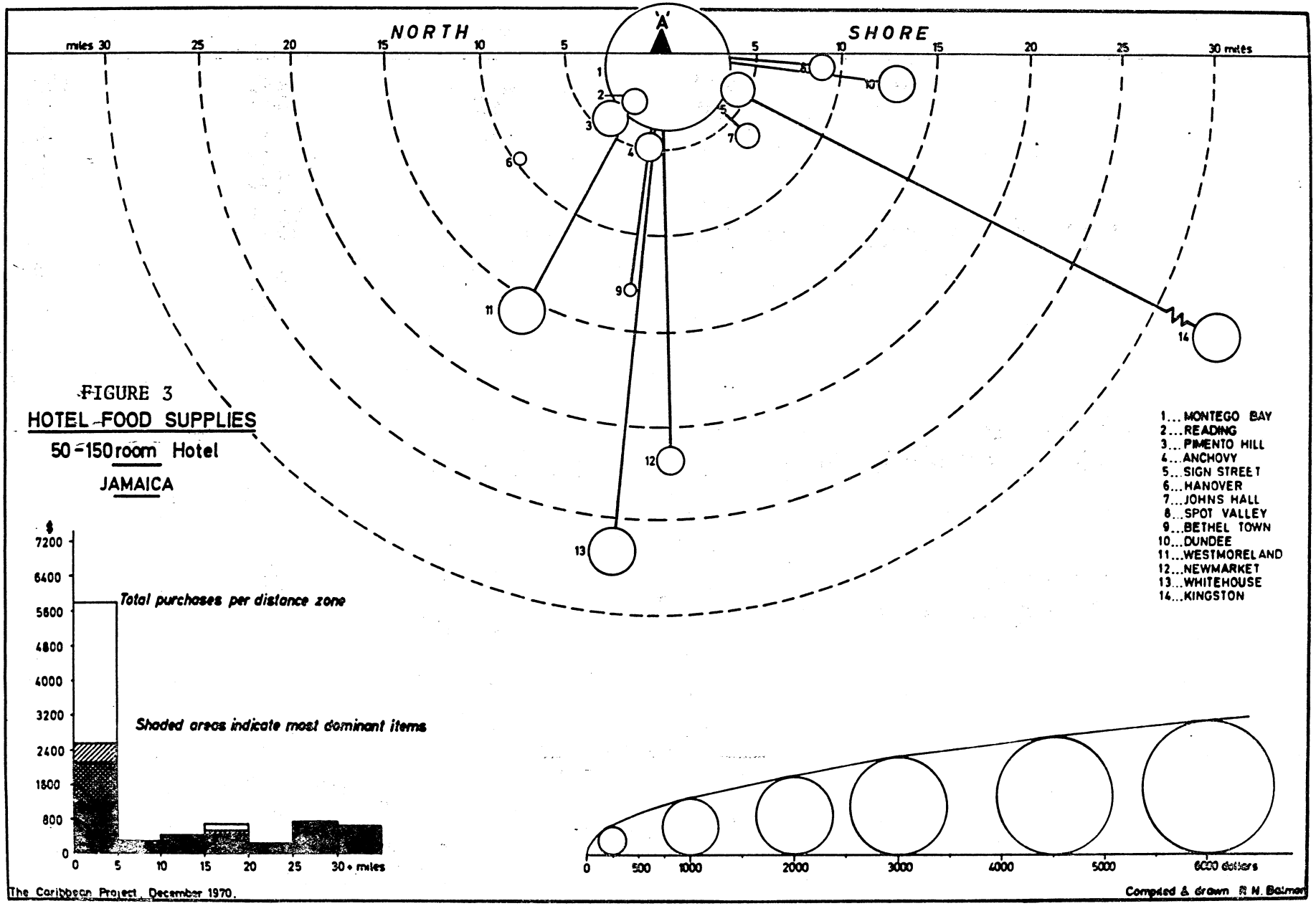


FIGURE 3

HOTEL FOOD SUPPLIES

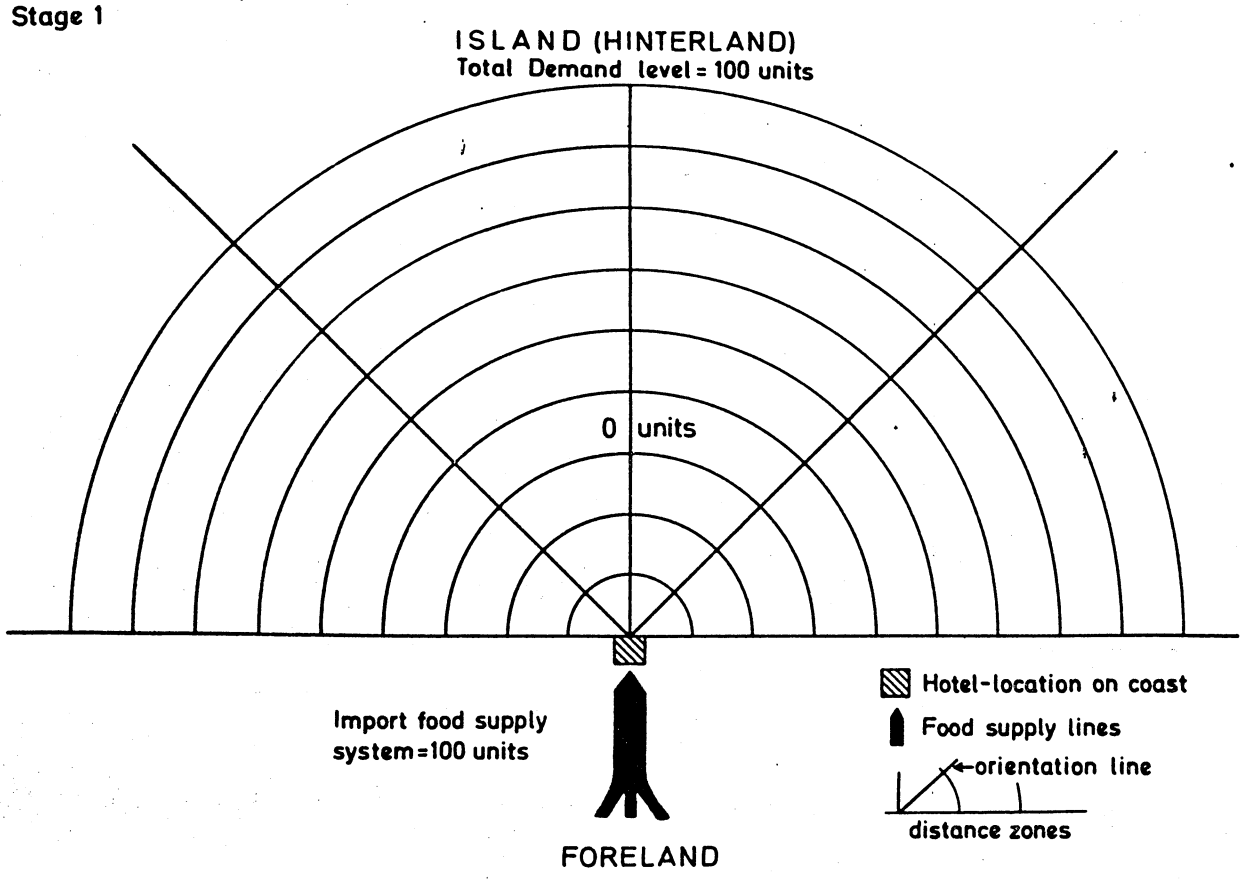
50-150 room Hotel

JAMAICA

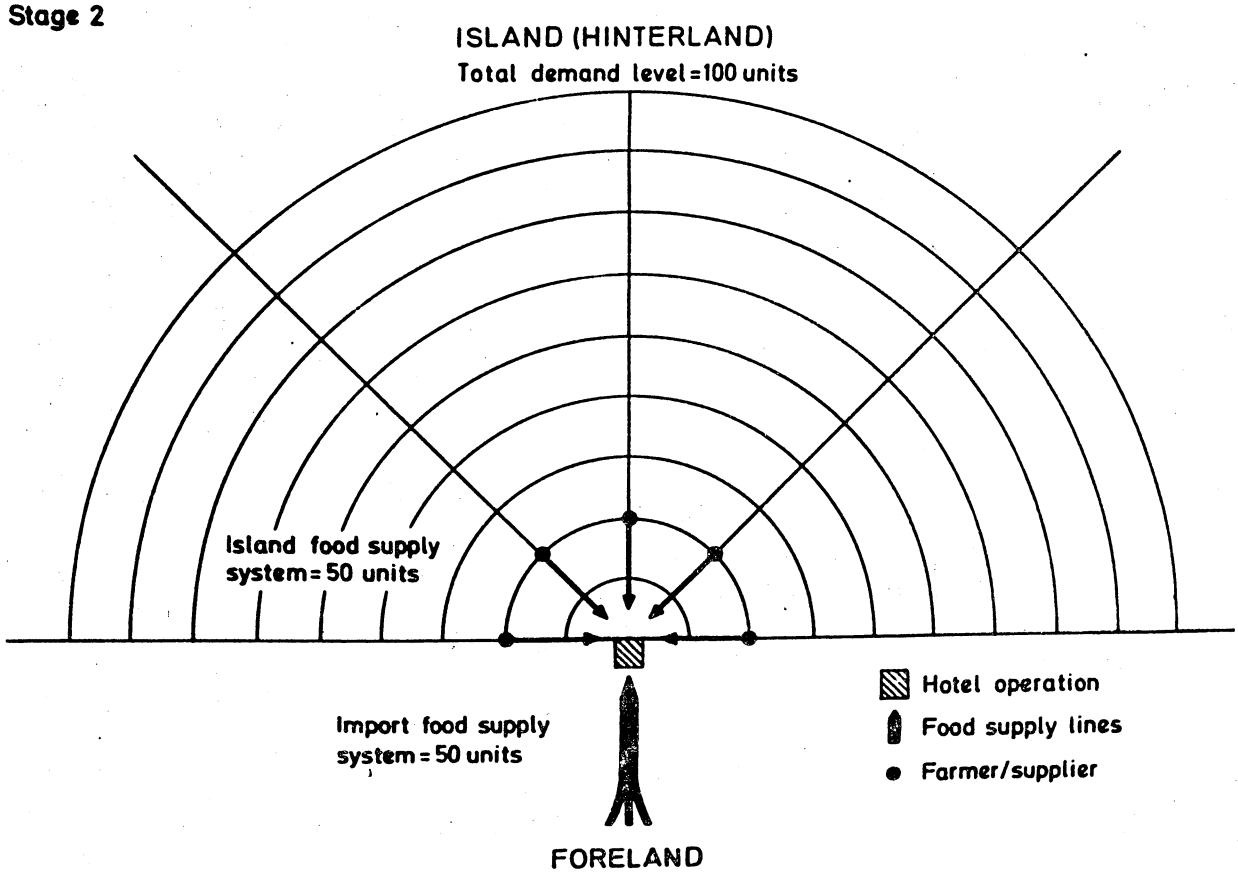
The Caribbean Project December 1970.

Compiled & drawn R. N. Bolman

Stage 1

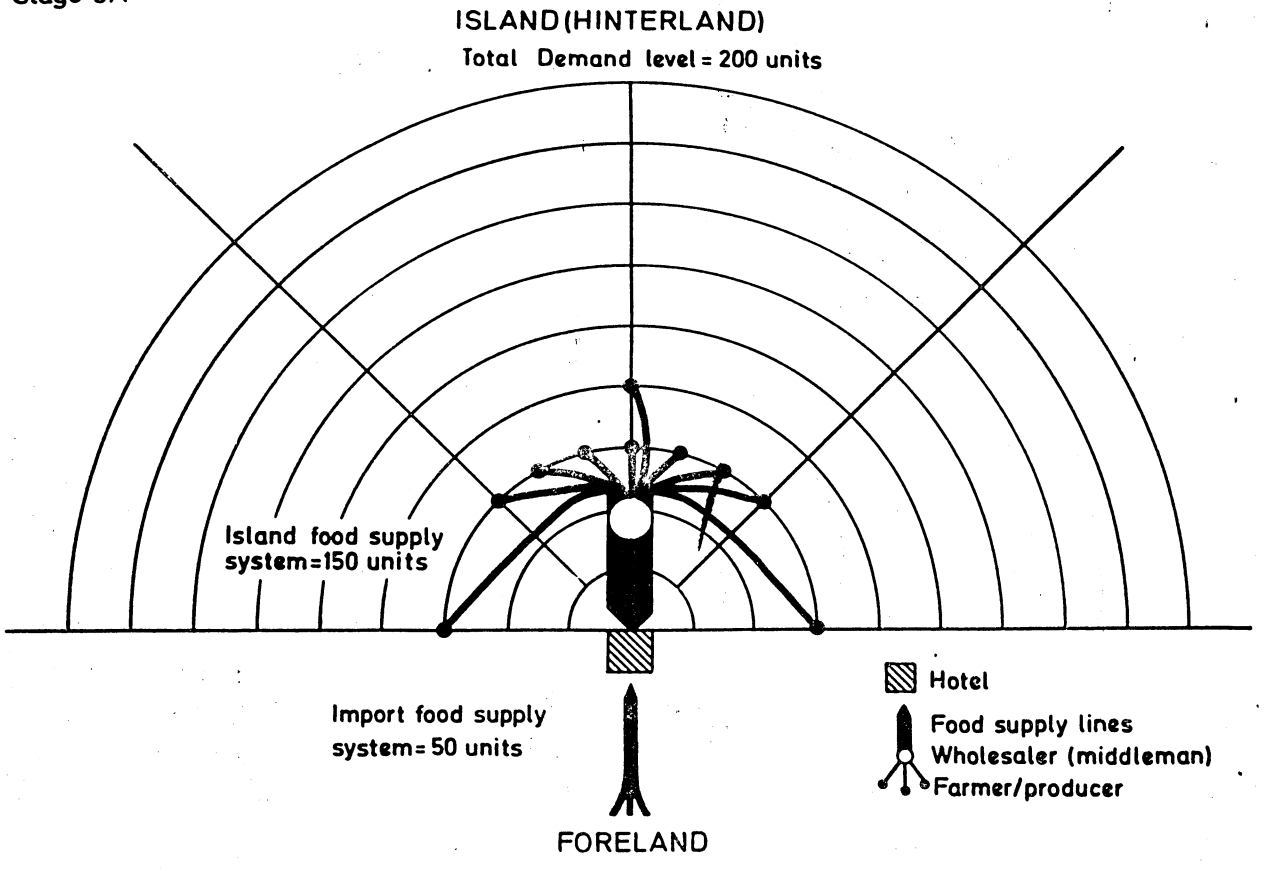


Stage 2



The Caribbean Project McGill University 1971

Stage 3A



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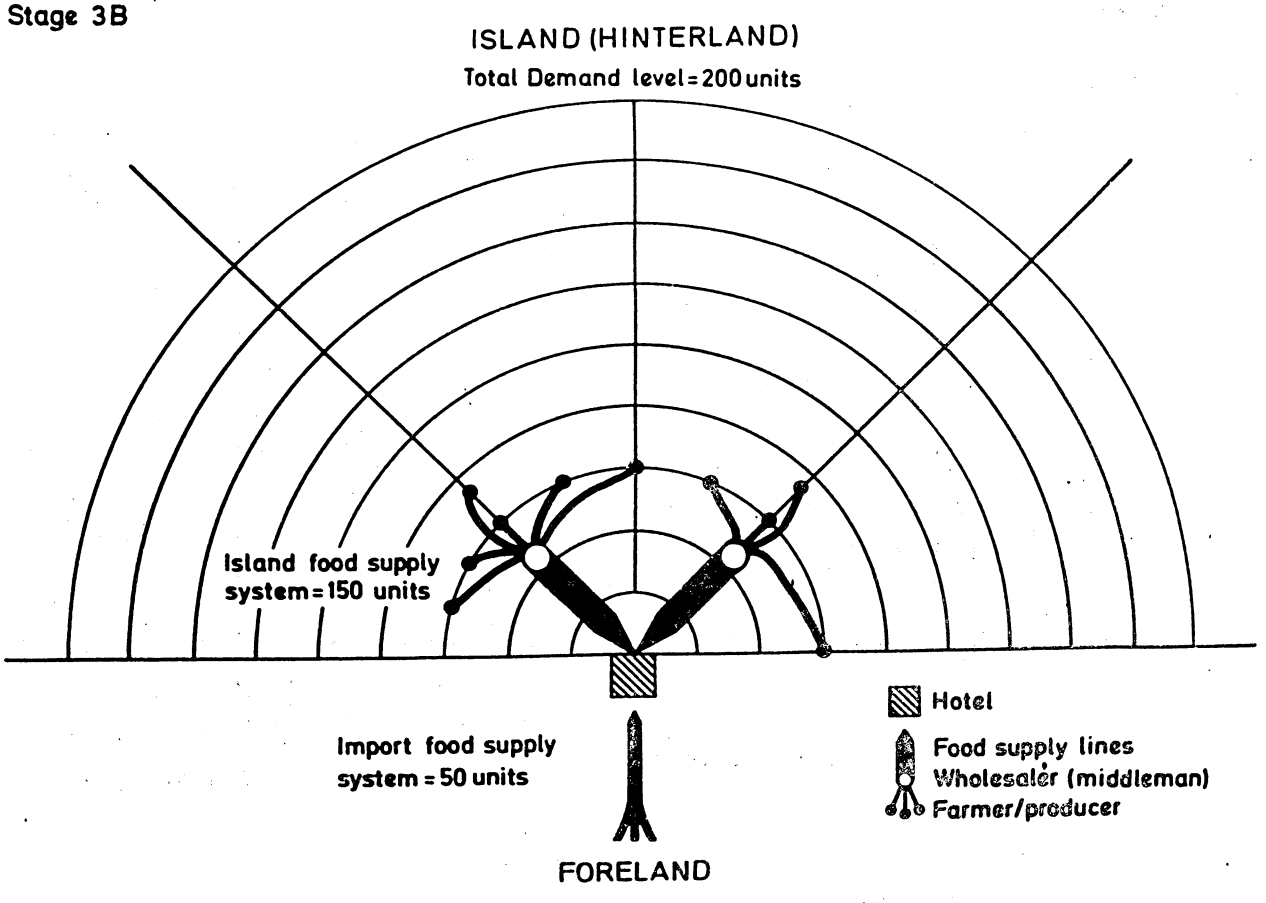
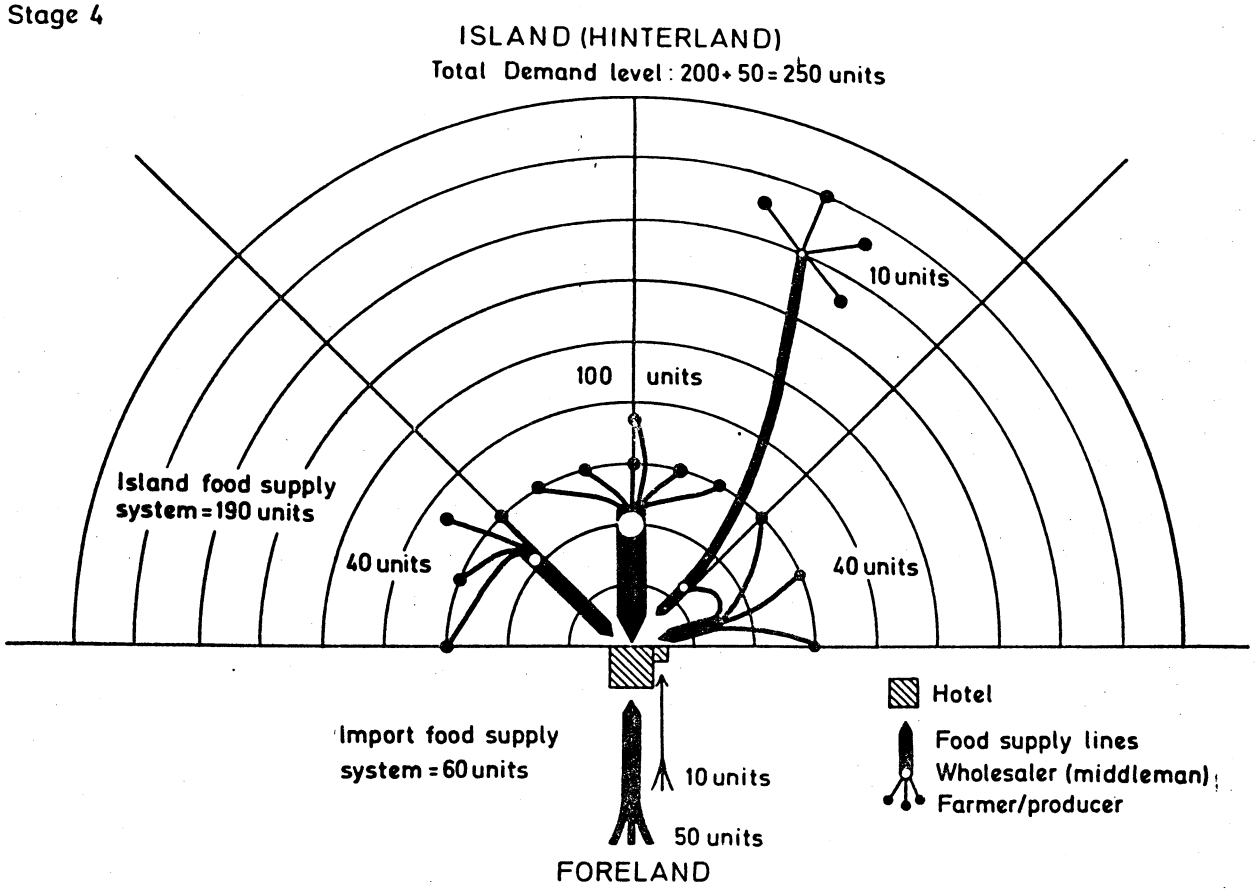
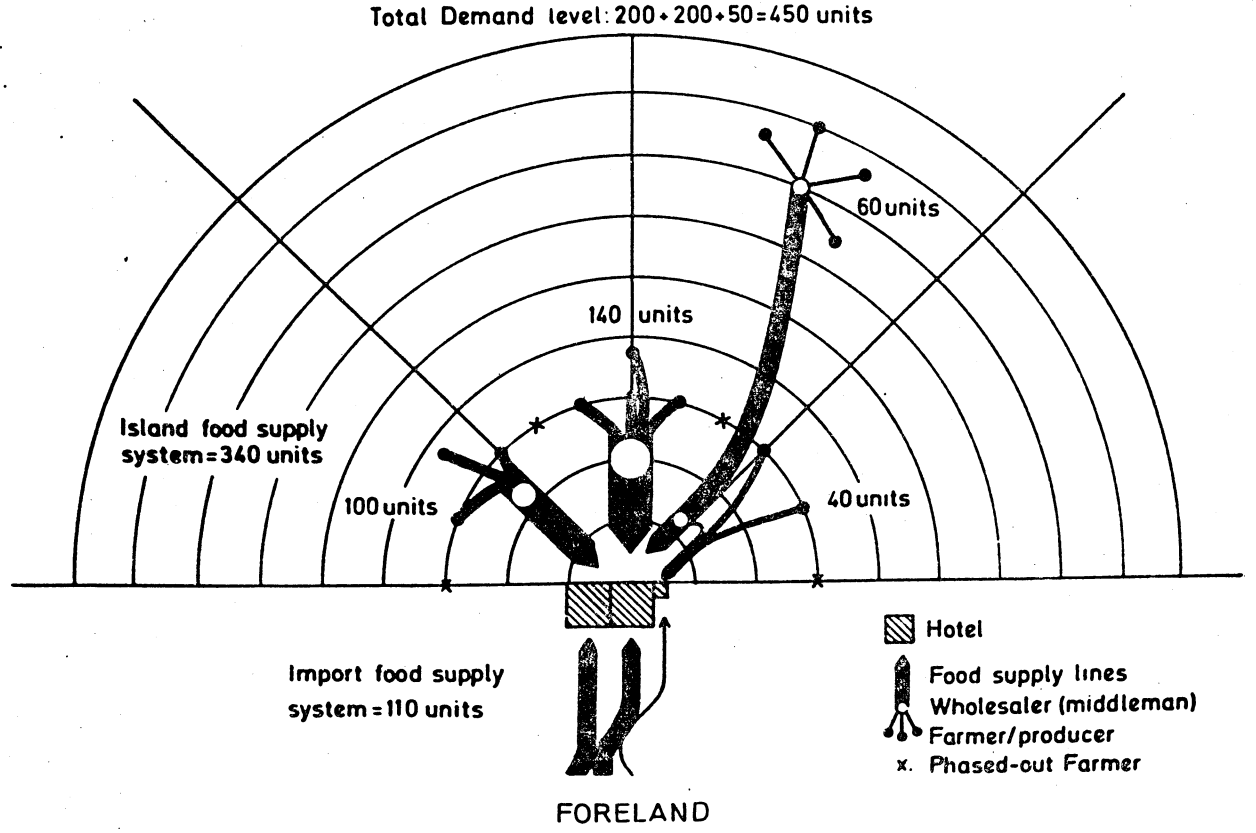


Stage 4



Stage 5



The Caribbean Project McGill University 1971