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The Pattern of Crop Production in Guyana

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The pattern of crop production that obtains in Guyana today can be directly related to three factors:-

1. The social and economic history of the country;
2. The geophysical nature of the country;
3. The pattern of distribution of the various soil groups.

The majority of the Guyanese population inhabit the flat low-lying coastal strip that extends across the width of the country and occupies just about 10% of the total land area. It is significant that, in addition to being the only area of coastline possessed by the country, these soils collectively are considered to be agriculturally superior to most of the other large soil groups that have been classified. Crop production therefore, is virtually a coastal occupation.

Little incentive is available to farmers who wish to move off the coastland due to poor communications and a paucity of information and techniques on the cultivation and management of soils lying behind the pegasse swamps that delimit coastal and hinterland areas. The need for crop diversification in a country whose economy relies on agriculture is now being forcibly realised. The area of the country in which diversification will create the greatest impact is on the virtually unpopulated hinterland behind the coast.

It is therefore convenient to treat this discussion under two sections:-

- (a) Coastal Agriculture - dealing with production of mainly traditional crops on established coastal areas.

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(b) Interior or hinterland agriculture - involving attempts

being made to bring areas behind the coast under cultivation.

Coastal Agriculture: The flat low-lying heavy clays of the coastal area of Guyana, although generally fertile, require an intensive system of drainage before being brought under cultivation. These soils support sugar and rice which constitute the backbone of the agricultural economy of the country. Coconuts is next in importance. Fruits, food crops and vegetables are grown widely on a peasant scale.

Sugar: The sugar industry is dominated by two large companies with an efficient and well organized system of production. Lands under sugar are restricted mainly to the Demerara and Berbice sections of the coastal area and have been under sugar in some cases for several decades. The system of drainage and irrigation canals and the method of water transport of the harvested cane from the fields are peculiar to Guyana.

Of considerable significance is the recent introduction into the industry of the "small cane-farmer" - individual growers who with the help and guidance of the National Cane Farming Association, produce cane which is sold to the factories and milled by the estates. The gradual increase both in numbers and in output of these farmers is an indication of the lucrative nature of this occupation. The present contribution of about 25,000 tons of sugar (1969 figure) from this source is about 7% of the national output.

In several instances lands under permanent or semipermanent crops is being brought under sugar because of the relative ease of cultivation and the ready market available. Harvesting poses the usual problems.

Rice: The rice industry in Guyana has evolved from a small scale peasant operation based on family labour to a viable operation involving several farmers of variable status, and a huge national infrastructure with a potential of further streamlining the industry.

Soils on the coast are on the whole well suited to large scale production, however the attitude of this area (6 ft. below sea level) and heavy rains experienced at certain periods during the year generally pose problems of flooding and water control.

Size of rice fields varies from fractions of an acre still cultivated in the traditional peasant fashion, to several hundred acres of highly mechanised cultivation. Certain land Settlement schemes e.g. Black Bush Polder in the Corentyne and Anna Regina and Tapakuma in the county of Essequibo are devoted mainly to the cultivation of rice on holdings ranging from 5 to 20 acres. The Mahaica/Mahaicony/Abary area is considered the mecca of rice production and it is in this area that research facilities are to be centered.

The formation of the Rice Development Corporation can be considered the first major step toward streamlining of the industry. This organization is expected to be responsible for all aspects of the industry - production marketing and research. The primary objective is increasing the average yield per acre by the use of improved varieties and by improvement of cultural practices.

Coconuts: The estimated acreage under coconuts at the end of 1969 was 46,000 acres comprising estates and numerous scattered plantings in villages and along dams of drainage and irrigation canals. The free draining nature of the sand reef soils along the coast makes those soils ideal for coconuts and it is here that the best crops are seen.

There does not seem to be any significant expansion of cultivated area under coconuts. General neglect of estates and poor harvesting techniques may be responsible for decline in oil production in recent years. The increasing importance of the water-coconut industry is also a contributory factor.

The Ministry of Agriculture is responsible for the production of seeding nuts for sale distribution to farmers. Dwarf coconut seedlings are also now being produced to cater for the water coconut industry.

Research into the two major pests - Red ring disease and the Palm Weevil are being done by the research staff of the Ministry of Agriculture.

Citrus: Citrus production is concentrated in the North West District and the Pomeroy and Canals polder areas. Generally the riverain soils and the rolling soils of the North West District are suited to this crop. The cultivated acreage is estimated at 5,000 acres with the largest and most productive estates in the North West District. Small growers however, account for the majority of the annual production of 20 million pounds of fruit - mainly oranges - to satisfy the local fresh fruit market and a small canning industry.

The variety most widely cultivated is Valencia, however several other types are distributed by the Ministry of Agriculture to farmers. These include Parson Brown, Washington Navel, Ruby and Pineapple. The Marsh variety of Grapefruit and West Indian limes are also grown on some scale. In the North West District a lime-oil industry has been initiated by one of the large producers.

On the coast, the heavy soils have contributed to rapid decline of bearing trees. Root stock testing is in progress for compatibility between stock and scion with regard to resistance to virus diseases,

Pineapples: This crop is becoming increasingly important. Traditionally, pineapples are grown in the Canals Polder area on lands immediately behind the coastal area and on other free draining sandy soils on the coast. The predominant variety is Montserrat.

The acreage under cultivation still remains small (about 400 acres) however the recent construction of the Timehri/Linden highway has made accessible several thousands

of acres of White and Brown sand soils which are well suited to pineapple cultivation with moderate fertilization.

Other orchard Crops: Cocoa production satisfies only a small market. There has been no significant increase in acreage over the past few years.

Coffee is grown in the hilly North West District and in the Pomeroun. The crop is of little significance on the flat coastal area. The variety cultivated is Liberica which yields well under prevailing environmental conditions and is also tolerant to poor management practices.

Production of other fruits - mangoes, avocados, bananas etc. is geared toward providing for the local market. These are grown on the typical small mixed farm and are seasonal in production.

Grapes: With the implementation of restrictions on the importation of grapes into the country efforts are being made to encourage production of local varieties of this fruit. These varieties have been collected from individual growers and propagated by cuttings. A plant distribution programme has been arranged by the Ministry of Agriculture and this is concentrated in the first instance, on homesteads in and around Georgetown. A team of trained technicians is available to service and advice on cultural practices for vines planted at various locations.

Food Crops: With the exception of rice, food crops grown for local consumption and for the export market are produced on small cultivations by individual farmers. Collectively this amounts to large quantities especially of plantains and ground provisions which are marketed in the urban areas. Table 1 shows production figures of some of the more important items of food crops for 1969.

Table 1 - Acreages and annual production of important food crops (1969)

CROP	ACREAGE UNDER CULTIVATION	PRODUCTION (LBS.)
Plantains	14320	48860900
Bananas	2940	12684700
Corn	2598	3900000
Black Eye Peas	348	279600
Peanuts	60	63800
Cabbages	148	698700
Tomatoes	798	3412900

A system of shifting cultivation or land fallowing is generally practiced in certain areas for cultivation of food crops. Virgin lands generally give good yields and as the soil fertility is depleted the crop is shifted to a new area.

Hinterland Agriculture: Within the virtually undeveloped hinterland of Guyana lies a vast potential for agricultural development. Exploitation of this potential has been hitherto restricted by difficulty of communication and sparseness of the interior population.

The Intermediate Savannas: This area of white and brown sands which is low to extremely low in natural fertility possessed probably the greatest exploitable potential for large scale production of food crops. Crop research has been in progress on these soils for the past eight years and data has indicated that leguminous crops - Soybeans and Peanuts are well suited to the area.

The major limiting factor to cultivation of this area is fertility. Drainage problems as encountered on the coast are insignificant or non-existent on these

free draining soils with rolling topography. The predominant grass vegetation can be easily cleared, and taking in of virgin land for cultivation is an extremely cheap operation.

In 1970 the Kibilibiri project was initiated in the savannahs. This project involves the cultivation of about 1,500 acres to hybrid Corn, Soybeans, Sorghum and Peanuts. Heavy fertilization is required initially, however it is expected that yields would improve with continuous cropping due to increase in levels of Organic Matter: Phosphorus and Trace Elements in previously cropped soil.

The Intermediate Savannahs also hold promise as a major beef producing area. The Beef Research Unit at the Ebini Research Station established since the early 1949s is engaged in a study of the response of beef herds to grazing on rangs and on range and on improved pastures. Several hundreds of acres of improved pastures have already been established at Ebini.

The Rupununi Savannahs: This is another area of poor sandy soils and savannah type vegetation. Cattle ranching is the main occupation, however excellent crops of vegetables (Tomatoes and cabbages) have been produced on the deep rich soils of the mountain valleys. Due to the rainfall pattern in this area where flooding of the savannahs occurs during the long rainy season, most food crops are grown during the dry periods of the year. Crops grown in these relatively inaccessible areas necessarily have to be air freighted to markets in Georgetown.

The North West District: This area has been briefly mentioned in the first section of the paper. Most of the area constitutes heavily forested hills and swamps. The soils are of good texture and generally of medium to low fertility.

The North West District has the potential of becoming a large producer of citrus and avocado. Presently, some of the best crops pf avocados originate from

this area. Efforts to encourage movement of inhabitants into the interior are reflected in the two land settlement schemes - Wauna Yarakita and Matthews Ridge/Kaituma/Arakaka. Some food crops are cultivated mainly for local use. The emphasis however, will be on permanent tree crops which are well adapted. A programme involving large acreages of corn and peanuts is now being implemented at Matthews Ridge - an area that was formerly involved in Manganese Production.

Other areas: Several thousand square miles of virgin rain forest exist in southern and central areas of the country. For the most part soils in these areas are derived from sandstone material resulting in acid soils of low fertility. However pockets of deep rich soil occur in mountain valleys and along river courses. Good crops of high priced vegetables have been produced on some of these areas but problems of marketing and reliable communication have been encountered.

Conclusion: It is clear that the crop diversification programme vital as it is to the country's economy must necessarily be synonymous with interior development. Improved communications and a greater incentive to leave the coastlands are a vital necessity.

There still exists a great deal of scope for further development of crops on the coastal clay soils. However the incentive of good reliable markets and keeping the farmers well informed on production and handling techniques is necessary for further significant development.