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PROSPECTS FOR THE DEVELOPMENT OF LIVESTOCK PRODUCTION IN MONTSERRAT AND ANTIGUA

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Background

The islands of Montserrat and Antigua have traditionally had an agriculture based economy. Antigua produced mainly sugar grown by the larger sugar estates; sea island cotton being the second most important crop grown by small farmers. In Montserrat, the main crop was sea island cotton with limes and vegetables being of some importance. In both islands the agricultural sector was the biggest employer of labour and its export earnings made the largest contribution to domestic revenue.

In this export oriented industry, livestock keeping was of no significant importance; the marginal lands were used for the grazing of farm animals.

The Decline of Agriculture

From the decade of the 1960's agriculture in Montserrat and Antigua steadily declined. The low price for sea island cotton on the traditional market combined with low yields caused the crop to be un-economic and consequently this once lucrative industry was considerably reduced.

Vegetable production also declined in Montserrat due primarily to difficulties in marketing the produce overseas. This caused the industry to be reduced by over 50 per cent between the years 1960 and 1973.

The most drastic reduction in agriculture was brought about by the closure of the Antigua Sugar industry in 1971. This was decided on after the Industry operated at a loss for many years and it was thought that abandonment of the industry was the best remedy. This action caused over 12,000 acres of land to be put out of sugar production with no new crop to replace it.

Table 1 illustrates the fall in acreage under arable production in both Montserrat and Antigua by comparing production figures for 1956 and 1973.¹

¹ Montserrat Department of Agriculture, *Annual Report*.
Antigua Department of Agriculture, *Annual Report*.

Table 1. Acres Under Production

| Crops | Montserrat | | Antigua | |
|-----------|------------|------|---------|-------|
| | 1956 | 1973 | 1956 | 1973 |
| Sugarcane | 600 | nil | 12,000 | nil |
| Cotton | 2,500 | 150 | 6,000 | 880 |
| Limes | 600 | 100 | nil | nil |
| Foodcrops | 900 | 500 | 1,400 | 2,000 |
| Total | 4,600 | 750 | 19,400 | 2,880 |

This drastic reduction in agricultural production is reflected in reduced export earnings of the islands as shown in Table 2. It is important to note that declining agricultural production was accompanied by a rapidly increasing food import bill. This is illustrated in Table 3.

Table 2. Agricultural Export Earnings for Montserrat and Antigua

| Year | Montserrat EC\$ | Antigua EC\$ |
|------|--------------------|-----------------|
| 1963 | - | 6,000,000 |
| 1964 | - | - |
| 1967 | 52,643 | 1,750,000 |
| 1968 | 57,604 | - |
| 1969 | 59,638 | - |
| 1970 | 276,984 | 430,000 |
| 1971 | 97,579 | - |
| 1972 | 83,971 | - |
| 1973 | 91,087 | 750,000 |

Source: Government of Montserrat Statistical Digest, 1974.

Table 3. Value of Food Imports for Montserrat and Antigua

| Year | Montserrat EC\$ | Antigua EC\$ |
|------|--------------------|-----------------|
| 1967 | 1,500,000 | 6,872,000 |
| 1968 | 1,820,000 | 8,516,310 |
| 1970 | 2,000,000 | 13,104,000 |
| 1972 | 2,583,000 | 14,645,000 |
| 1973 | 2,861,118 | 14,876,000 |
| 1974 | 4,200,000 | - |

Both Montserrat and Antigua have a high rate of consumption of imported meat and meat products,¹ and as shown in Table 4 meat and meat products form a significant proportion of total food imports.

Present Agricultural Production

Agricultural production in the islands continued on a very much reduced scale. Efforts aimed at reviving the sea island cotton industry have not been very successful and present acreages are only a small percentage of what they formerly were.

In Antigua the lands that formerly grew sugarcane are still virtually idle except for the fact that they provide temporary rough grazing for a large number of livestock.

What has been evident in both Antigua and Montserrat is that the decline in arable farming has given way to increased interest in livestock production. It is thought that the increased availability of grazing land in Antigua following the collapse of the sugar industry helped provide some incentive to livestock producers and this is very much evident in the increased numbers of all types of livestock seen roaming over the lands.

In Montserrat many of the vegetable farmers have turned to livestock rearing for they regard it as a less risky enterprise with easier marketability.

There is thus an urgent need to revitalize the agricultural industries of both islands. It is realized that in so doing, the industries must be restructured along new lines so as to cater to the

¹Mayers, J.M. *Meat Production and Consumption Statistics of the Commonwealth Caribbean*. Dept. of Agric. Econ. & Farm Management, U.W.I., St. Augustine, Trinidad, 1970.

Table 4. Food/Meat Products: Imports for Antigua and Montserrat

| Year | Value Food Imports (\$m.) | Food Imports as a Percentage of Total Imports | Value of Meat & Meat Products Imports (\$) | Meat Imports as a Percentage of Food Imports |
|---------------------|---------------------------|---|--|--|
| <u>Antigua:</u> | | | | |
| 1964 | 6.266 | 25% | - | - |
| 1967 | 6.872 | 17% | 1,171,348 | 17.04% |
| 1970 | 13.104 | 18% | 2,586,724 | 19.74% |
| 1973 | 14.876 | 16% | 2,295,975 | 15.43% |
| 1974 | | | | |
| <u>Montserrat:*</u> | | | | |
| 1964 | | 20% | 429,000 | 28.0% |
| 1967 | 1,500 | 22% | 960,000 | 37% |
| 1972 | 2.583 | 23.6% | 1,217,000 | 42.0% |
| 1973 | 2.861 | | | |
| 1974 | 4.200 | | | |

*Excludes drugs and medicines, alcoholic drinks.

food requirements of the populations following a rational plan of import substitution while utilizing the available resources to the greatest national advantage. In such a plan a developed livestock industry has an important role.

Importance of the Livestock Industry

The development of the livestock industries of the islands is of paramount importance. In addition to the obvious income benefits that would accrue to those directly involved, by reducing imports, considerable foreign exchange savings can be effected while at the same time ensuring that the populations are better fed.

The land utilization aspects are important especially following the drastic reductions in arable farming. There are large amounts of unutilized land in both islands more so in Antigua where idle land tends to have a demoralizing effect on some people and it is felt that livestock production on these lands would have a positive demonstration effect and encourage its greater utilization.

It is indeed likely that the void would be filled by an expanded livestock industry for it is in this area that many farmers have shown some confidence and a willingness to invest. This is probably also due to the

fact that there are still some of the deep seated prejudices against arable farming. No such attitudes are apparent towards livestock production.

The livestock industry also creates subsidiary industries. Tanning and leather craft industries are being promoted in Montserrat and hides and skins from livestock would provide the raw materials for these trades.

Livestock would also utilize other agricultural products such as cotton seed meal which is a cheap but valuable source of protein for livestock.

It must be remembered too that livestock keeping complements arable farming and is often a standard practice in a system of rotations. Current trends of increasing prices and world shortages of fertilizers make farmyard manure another marketable by-product of the livestock industry.

Present Livestock Production

The livestock industries of both Antigua and Montserrat make very valuable contributions to domestic production. Table 4 shows the livestock populations of the islands¹ and Table 5 shows the estimated rates of slaughter² and their market values.

Livestock Production in Antigua

Cattle are the most important group of farm animals in Antigua in terms of their contribution to the Gross Domestic Product. They are kept mainly for beef and very little interest is shown in milk production. The main breeds kept are Senepol Zebu but various mixtures of the different breeds are to be seen.

Management standards are very low. Most of the animals are owned by landless farmers who either tether them wherever grazing is available or allow them to roam freely over unused land. Few farm animals are fenced in paddocks though there are two Government-run communal grazing areas in which, for a small fee, the cattle are allowed to graze within fenced paddocks. Fees collected are not adequate to cover maintenance costs, and as a result the fences are poorly maintained and grazing poor.

For the most part cattle are reared on indigenous grasses and little attempts are made to establish improved pastures or provide adequate watering facilities. Indeed, apart from the Government livestock farms there has been practically no planting of grass and livestock production has evolved on a system of free grazing.

Price control measures in Antigua are severe. It is thought that the recently revised control price of beef (1974) of \$1.50 per pound does not provide the necessary incentive for investment in beef production.

¹ Agricultural Census Montserrat, 1972.
Antigua Agricultural Census

² Mayers, *Op. cit.*, 1970.

Table 5. Estimated Numbers of Livestock Slaughtered in Antigua and Montserrat

| Country | Year | Cattle | Sheep | Goats | Swine |
|-------------|------|--------|-------|-------|-------|
| Antigua: | 1970 | 971 | 793 | 683 | 1,320 |
| | 1971 | 1,688 | 1,018 | 774 | 1,882 |
| | 1972 | 1,573 | 667 | 274 | 1,641 |
| | 1973 | 1,528 | 440 | 231 | 1,683 |
| | 1974 | 1,484 | 319 | 172 | 852 |
| Montserrat: | 1971 | 484 | 680 | 480 | n.a. |
| | 1972 | 475 | n.a. | n.a. | n.a. |
| | 1973 | 550 | 820 | 750 | n.a. |
| | 1974 | 530 | 975 | 620 | n.a. |

Table 6. Some of the Main Items of Meat Imports for Montserrat and Antigua; 1973

| | Antigua | | Montserrat | |
|---|-------------------|---------------|-------------------|---------------|
| | Quantity (lb.) | Value (\$) | Quantity (lb.) | Value (\$) |
| <i>Beef:</i> Fresh-frozen | 164,000 | 371,457 | - | 84,344 |
| Salted | 34,759 | 43,313 | 3,585 | 52,094 |
| Canned | - | - | 63,707 | 142,489 |
| <i>Pork:</i> Fresh-frozen | 85,320 | 80,898 | 10,754 | 13,186 |
| Salted | 254,793 | 295,181 | 13,470 | 10,556 |
| Canned | 77,075 | 141,000 | - | - |
| <i>Mutton:</i> Fresh-frozen | 44,530 | 81,779 | 10,000 | 16,800 |
| <i>Poultry Meats</i> | 600,433 | 504,625 | 354,600 | 341,813 |
| <i>Other Meats</i> | 308,349 | 777,690 | 83,707 | 181,118 |
| <i>Milk:</i> Evaporated or Condensed | - | 722,794 | 341,394 | 176,393 |
| <i>Other Dairy Products</i> | - | - | - | 61,000 |

The Antigua Livestock Development Authority is in the process of creating a number of commercial livestock producers by establishing a few 100-acre tenanted farms under semi intensive systems of management.

Milk production is very low estimated to be 35,000 gallons per annum. Most of it is produced and marketed under questionable hygienic standards.

Sheep and goats are kept under much the same conditions as cattle and are subject to the same conditions of poor management. Flocks of sheep and goats roam freely throughout the countryside often damaging cultivated crops. Overgrazing in certain areas is a problem. This is due to reluctance of farmers to sell or slaughter animals at the onset of the dry season. Most of these animals are kept as security or for prestige.

Broiler production has expanded since Government provided protection by restricting importation of poultry meat. Data are not available on actual poultry meat production but since import restrictions were imposed, the value of poultry meat imports fell by over EC\$400,000.

Locally produced poultry is the only meat that does not have a maximum control price. Consequently the producers are in a position to pass on increased cost of production to the consumers.

Egg production is at a low level and most of the island's requirements are imported. This is due to high cost of production and the absence of import restriction.

Pig production is of no significant importance and remains on a small backyard operation due no doubt to the high cost of imported feed and the rigid control price of \$1.30 per pound for pork.

Livestock Production in Montserrat

The increase in livestock numbers in Montserrat has not been as marked as it has been in Antigua (Table 7). Livestock keeping however has become more important as it changed from casual grazing to a more permanent industry.

Much of the land that was formerly under arable crops now grows improved pastures for livestock. It is estimated that about half of the island's livestock population is within fenced paddocks of pangola pastures. The remainder are either tethered on a temporary basis wherever grazing is to be had or are on unimproved pastures within fenced areas.

Like Antigua, most cattle kept are for meat, and beef type animals are more numerous - chiefly Senepol, Jamaica Reds, Zebu and the numerous crosses between the three breeds. Some commercial beef production is also done. There are two farms of over three hundred head, a few herds of 20 to 30 head, but the most frequently found is the small farmer who has less than five head.

Standards of management vary in Montserrat. Some of the more enterprising producers who have improved pastures show some promise of being good producers. However, there are also many who regard

their cattle as a capital asset that offers security and display reluctance to sell them, unless there is a pressing need to do so.

Until within recent times livestock production in Montserrat was restricted by controlled retail prices. This was revised and control removed on the better cuts of beef. A grading system was also introduced which paid higher prices for better quality carcasses, so as to encourage producers to improve their production of beef.

The export of live cattle to the French islands has also contributed to agricultural export earnings. Exports were discontinued for some time but were revived recently. In 1974 over 80 head valued at \$55,000 were exported.

During the first quarter of this year over 110 head valued at \$82,000 were shipped.

Milk production is on a very small scale. Until recently no attempt was made to provide a dairy industry. However, there are a few small farmers who have started producing milk. The standards under which it is retailed is low and much still needs to be done to improve milk handling.

Sheep and goat rearing has increased significantly in Montserrat and sheep are by far the most numerous type of farm animal.

Many small stock are kept on a backyard scale being tethered wherever grazing is available and penned at night. The vast majority, however, are grazed extensively on marginal lands. In some areas they encroach on protected forest areas as well as cultivated lands and cause considerable damage. Such uncontrolled grazing is illegal and is actively discouraged. The high cost of fencing of a type suitable for small stock is a deterrent to improvement in the management of sheep and goats.

The poultry industry in Montserrat has declined considerably. The rapid escalation in prices of imported feed in recent years caused broiler production in Montserrat to cease. The industry receives no protection and competition from cheaper imports makes local poultry meat production uneconomic. The island is however self sufficient in eggs.

Pig rearing is on a small scale. There are no commercial pig farms due to the high cost of imported feeds. Pig raising is therefore a small backyard operation, imported feed being used only to supplement domestic wastes and crop and vegetable residues.

Production Restraints

There are several factors that limit livestock production in the islands and removal of these restraints is vital to the development of the livestock industry. These restraints include:-

Land Availability

The small sizes of the islands impose obvious limitations to the

expansion of the livestock industry. However, even within these limitations there is scope for expanding production by increasing the livestock populations and also increasing productivity.

Land is a major productive resource in livestock production and access to and availability of land are of prime importance. The state of landlessness as prevails in Antigua hinders development and is a major obstacle to the improvement of livestock management.

A similar problem exists in Montserrat where though not as severe there are farmers unable to expand production because of lack of access to suitable land.

A necessary pre-requisite is land reform, and reallocation of land to persons willing and able to utilize the land resources to the fullest. Such allocation of land with security of tenure would provide the incentive for livestock producers to provide the necessary input to increase productivity.

Poor Management and Lack of Training

Poor management and lack of training is another factor that hinders progress in the livestock industry. As has been mentioned earlier, management levels are low due among other things to lack of knowledge.

Development of the industry implies not merely an increase in livestock numbers under the existing low levels of management but rather an improvement in management so that production and productivity are increased; it therefore entails training to impart technical skills and managerial abilities to the people involved in the industry. Such training would involve all aspects of livestock production including pasture management, fodder storage and conservation, milk handling and processing as well as meat cutting and packaging.

The provision of adequate animal health services is also needed. Veterinarians or veterinary assistants capable of seeing to the health requirements of the livestock population should be provided.

Lack of Incentives

This is demonstrated in Antigua by rigid price controls on livestock products that tend to be restrictive; and makes production economic only under conditions of free grazing with no capital investments other than the herd. Under these conditions there is no incentive for increasing productivity or improving the quality of product.

Scope for Development

The major objective for expanding livestock production in both these islands must be to reduce importation of meat and meat products by import substitution. Based on present import figures it is estimated that meat production will have to be more than doubled before existing import displacement is provided.

Both Montserrat and Antigua are small islands and land acreage would be a limiting factor in expansion of livestock production. It has been shown however, that there has been considerable reduction in acreage under crop and consequently some of this land could be made available for the growing of livestock. In view of the importance of livestock products in food import bill (Table 3) it is believed that livestock production can justify use of some of the more productive areas.

In Antigua it is estimated that there are about 37,000 acres of agricultural land about half of which is considered suitable for crop production, the remainder constitute scrub and rough grazing area. Not more than 4,000 acres of arable land is presently under crop production and the remainder available could be put into improved pastures. This land if properly utilized by improved pasture management including proper forage conservation, its carrying capacity could be increased appreciably.

There is limited acreage available for expansion of livestock in Montserrat but carrying capacity of existing acreages could be greatly improved by a higher level of herd and pasture management.

There are still large amounts of unutilized land in Montserrat and the most obvious way of profitably utilizing them is for an expanded livestock programme.

In Montserrat there are 9,300 acres of agricultural lands of which 1,800 acres are considered arable, 2,500 suitable for improved pastures and 3,000 for rough grazing. All of these categories of land are presently grossly underutilized. Only about 800 acres of the arable acreage is utilized and there is scope for using the remainder for semi-intensive livestock production. The enterprise chosen should be capable of high returns per acre to be competitive with returns from crop production. Dairying, it is thought could provide such returns and every effort should be made to promote this industry.

Table 6 shows the main items of meat and meat products imported in Montserrat and Antigua. This list serves to pinpoint the size of market there is for livestock products and demonstrates very vividly the need for expanded livestock production.

Table 4 shows that meat and meat products constitute a very large proportion of food imports - as high as 42 per cent in Montserrat. Efforts should therefore be concentrated in this area in a rational, import substitution programme.

The present acreages available would suggest that output could be more than doubled by increasing the livestock populations, upgrading the livestock (especially dairy animals), and by improving management and efficiency.

The high importation of poultry meats into Montserrat indicates that some protection should be given to the local industry in order to make them more competitive. Increased poultry production also will bring some income and employment benefits.

Summary and Conclusion

The need to revitalize agriculture in both islands is realised. The rapid increases in the cost of living has helped to bring this thinking to the forefront and points out the role agriculture must play in meeting the needs of the population.

It has been stressed that the populations of the islands eat large quantities of imported meats and meat products and these commodities constitute a large proportion of total imports.

It is clear that in revitalizing agriculture emphasis should be placed on the livestock industry especially as the farming population of both islands have demonstrated a greater willingness for involvement in livestock production than arable farming.

A prerequisite to the development of the livestock industry is land reform so that producers with the necessary potential could expand. Capital for farm development is available through the various development agencies, the major obstacle being that one of the main productive resources - land is not available to those willing to invest.

Intensive and semi-intensive methods of production are necessary in view of the land shortage, and livestock enterprises that give the highest returns per acre should be given priority.

If some of the constraints to development of the livestock industry are removed, there is no doubt that expanded production would do much to reduce the outflow of foreign exchange, but also to reduce the rate of imported inflation.

Table 7. Livestock Population of Antigua and Montserrat

| Country | Year | Cattle (heads) | Sheep (heads) | Goats (heads) | Pigs (heads) |
|-------------|------|-------------------|------------------|------------------|-----------------|
| Antigua: | 1961 | 6,138 | 5,790 | 5,170 | 2,843 |
| | 1974 | 7,471 | 11,089 | 6,856 | 2,878 |
| Montserrat: | 1960 | 2,000 | 5,000 | 3,600 | 2,300 |
| | 1972 | 2,800 | 6,300 | 4,200 | 2,600 |

Sources: Antigua: Census of Agriculture in Antigua, 1961 and 1973/74
 Montserrat: Dept. of Agriculture Annual Report 1960
 Montserrat Agricultural Census 1972.