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MACRO-ECONOMIC AND OTHER POLICY IMPACTS
ON
THE AGRICULTURAL SECTOR
IN THE
COMMONWEALTH CARIBBEAN

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A LITERATURE REVIEW

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and
CARLTON J. BRUCE

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INTER-AMERICAN INSTITUTE FOR COOPERATION IN AGRICULTURE
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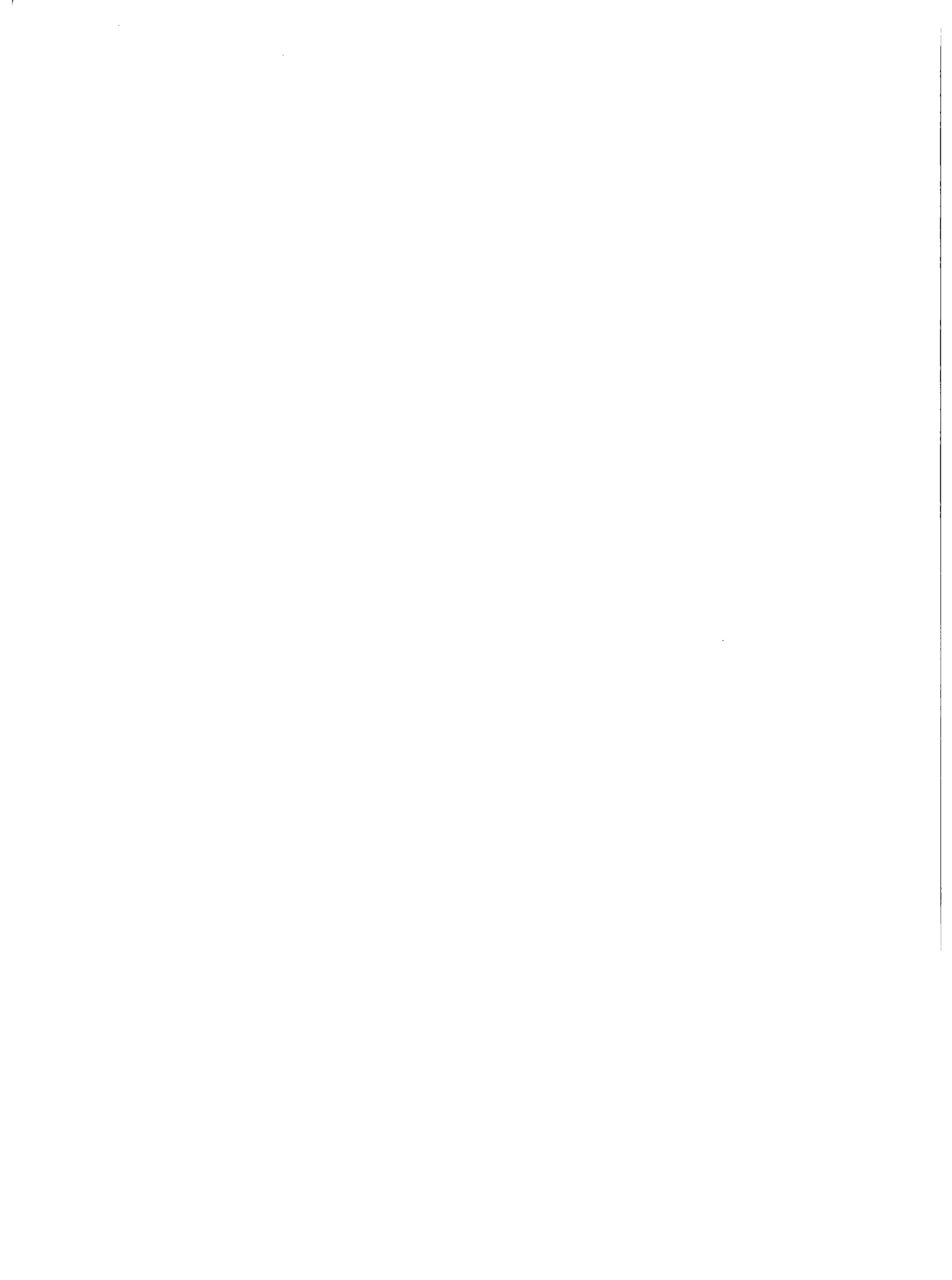
ACKNOWLEDGEMENTS

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1989



MACRO-ECONOMIC AND OTHER POLICY IMPACTS
ON THE AGRICULTURAL SECTOR ON THE CARIBBEAN

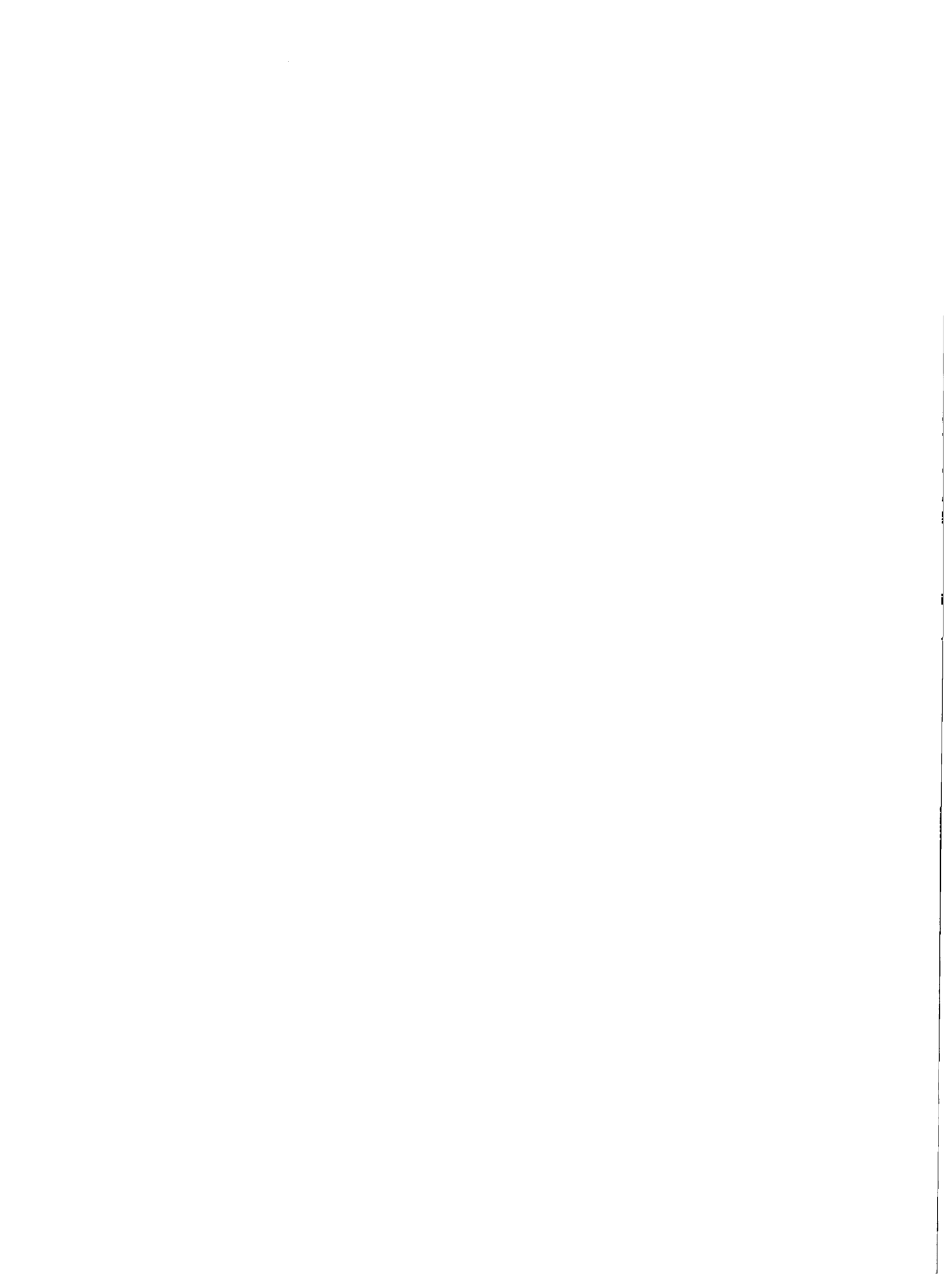
PART ONE

I. INTRODUCTION

The agricultural sector in the Commonwealth-Caribbean has experienced significant changes over the last eight years.* Its role as a major contributor to Gross Domestic Product (GDP) has shown considerable decline. While this is true for the region as a whole, the behaviour of this sector has varied between the countries. In the larger countries such as Trinidad and Tobago, Jamaica and Barbados, this decline has been considerable - the contributions falling from 3.03, 8.2 and 10.30 percent to 2.8, 7.8 and 6.8 percent of GDP, respectively over the period 1977 to 1984. In some of the smaller territories on the other hand, e.g. St. Vincent and St. Lucia, the contributions have shown declines of 18.3 to 17.3 and 15.6 to 13.7 per cent, respectively over the same period.**

* The Commonwealth Caribbean includes Antigua and Barbuda, Barbados, Belize, Dominica, Guyana, Grenada, Jamaica, Montserrat, St. Kitts-Nevis, St. Lucia, St. Vincent and Trinidad and Tobago.

** Contributions to GDP are expressed in current factor cost. In the case of Jamaica the period under consideration is 1977 - 1982.



The above changes can be attributed to a number of factors including the following:

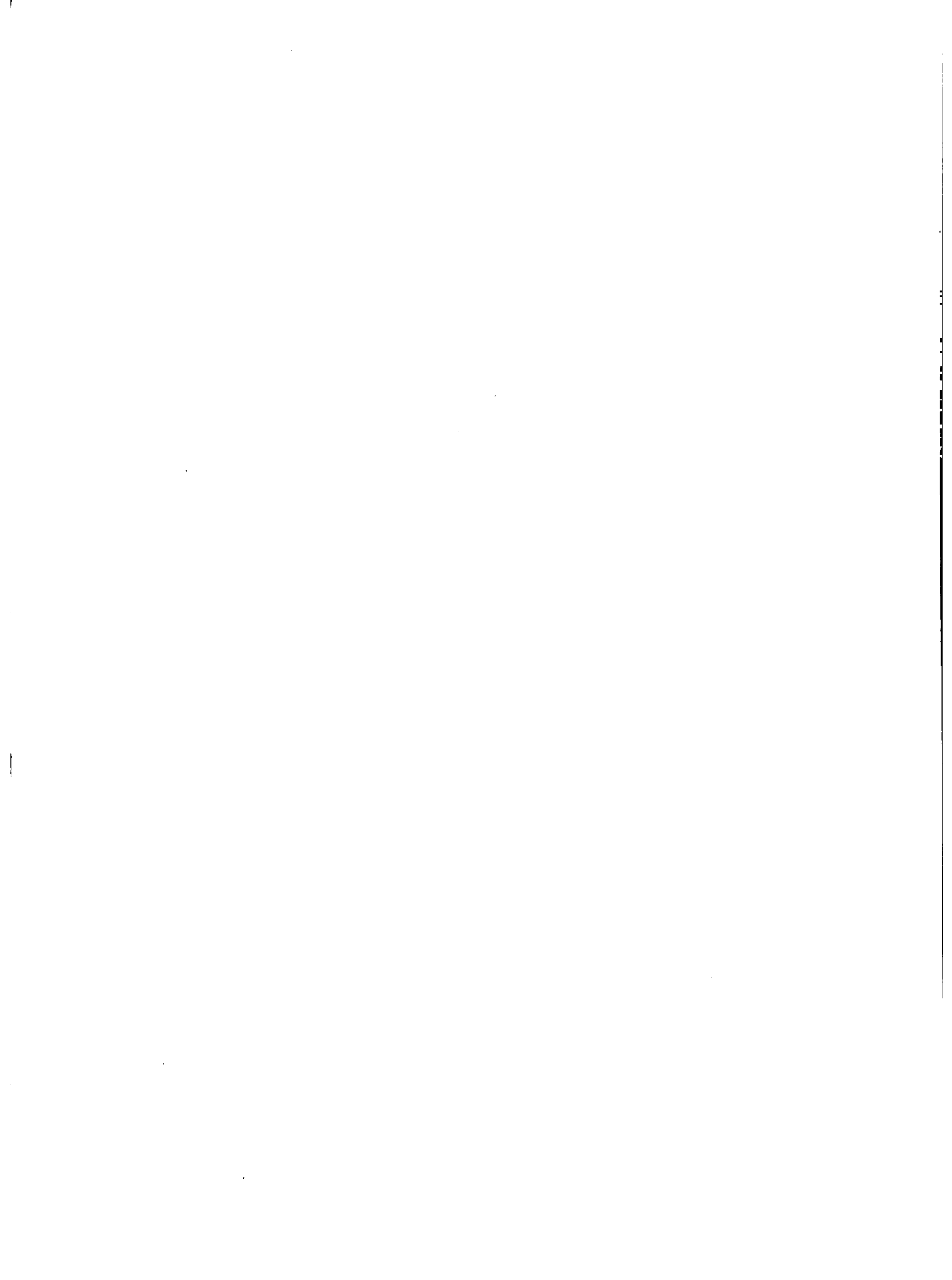
- (i) growth in the non-agricultural sector and in particular, in construction, services, mining and manufacturing;
- (ii) the relative decline in earnings from traditional exports e.g. sugar, cocoa, coffee and bananas;
- (iii) the relative neglect of the sector in certain countries e.g. Trinidad and Tobago;
- (iv) failure of domestic agricultural output to keep pace with growth in income, resulting in over-dependence on foreign sources for certain food commodities. The food import bill for the region has been estimated in various quarters as being close to TT\$2 billion;
- (v) the wide disparity in incomes (wages) in agriculture and in activities in other sectors of the economy;
- (vi) the greater attractiveness of opportunities in other sectors of the economy which has led to a shift in the traditional pattern of capital inflows. In most countries the agricultural sector has now been displaced as the traditional destination of these flows.

- (vii) the escalating cost of agricultural inputs and failure to modernize the sector.

The present situation is rather unfortunate since, given the resource base of the region, it is only to be expected that the sector should effectively fulfill its expected role in the development process. At the very least, agriculture should be expected to maintain its role in earning or saving of foreign exchange, contributing meaningfully to employment generation, providing the necessary inputs to vibrant processing industries and, to the extent possible, improving food security by providing a major share of the region's food requirements.

Achievement of these objectives requires the formulation of deliberate macro-economic and sectoral policies designed to provide the platform from which to push the sector in the approved direction. However, these policies have not been forthcoming for the reasons explained below.

The entire regional economy was in boom in the mid-1970's but since the beginning of the 1980's, it has, along with other third world economies, been plagued by recession. This situation has been exacerbated by the problem of excessive foreign indebtedness. The recession, sharpened by the debt problem, has given rise to the need for two kinds of strategies. The first is a short-term one concerned with the need to solve the resulting balance of payments problem and, in particular, the problem of servicing the foreign debt; and the second is a longer-term

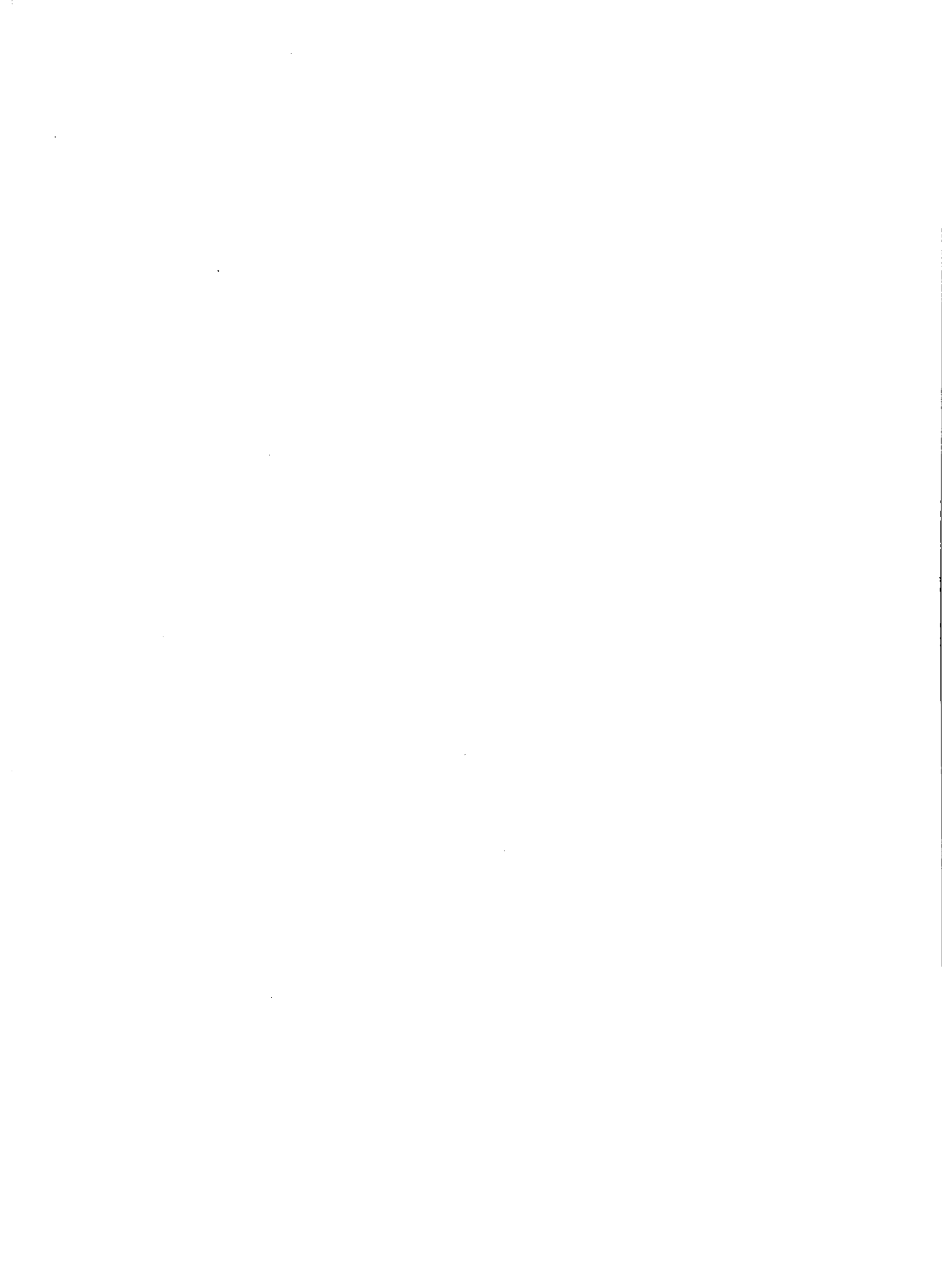


problem concerned with the structural adjustment and transformation of the regional economy.

In the case of the balance of payments problem, its urgency has led to the adoption of measures whose immediate impact on the agricultural sector is ignored. This impact may, in many cases, well be inimical to the advancement of the sector as a whole. For example, certain policies have induced a reallocation of resources within the sector i.e. from domestic food production to non-traditional exports, while others tend to reduce the competitiveness of the sector both locally and abroad.

The structural adjustment policies, on the other hand, should be more oriented to the longer-term development of the sector along paths that would enable it to fulfill the roles articulated earlier. However, the limits on financial resources imposed by present economic circumstances tend to compromise the strategies required for the sector through the assignment of low priority to the provision of incentives for the sector and to improvements in its infrastructure.

It is in this context that it has become desirable to analyse and evaluate the impact of existing macro-economic policies on the agricultural sector and, more specifically, the extent to which they influence the effectiveness of particular incentives provided for the sector. This is the purpose of the present study.



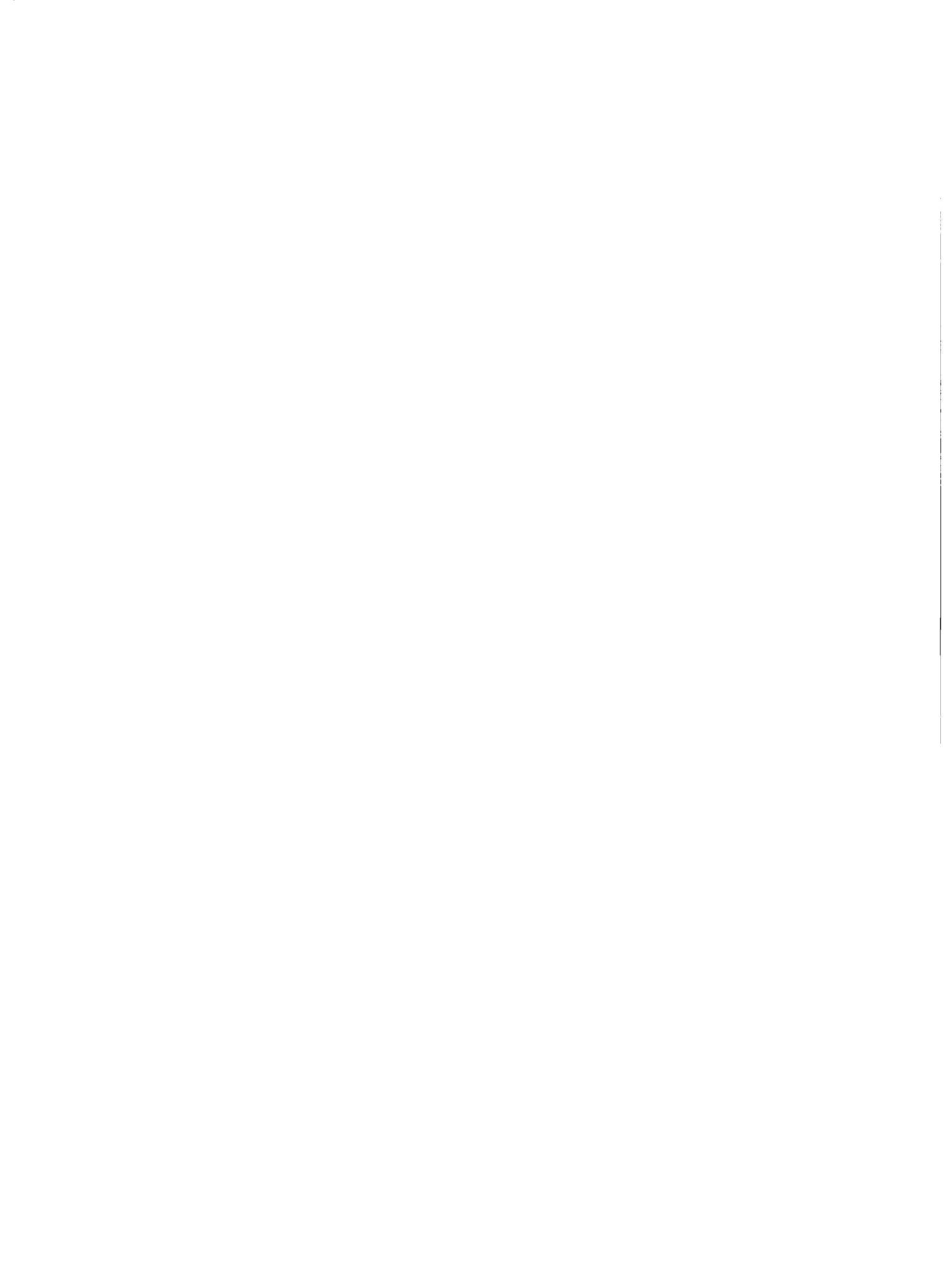
II. TERMS OF REFERENCE

The following terms of reference have been specified for the study: A review of the literature concerning issues on the following nine (9) major policy areas with a focus which relates these issues to the incentive structure for the development of agriculture for the Caribbean Region:

- (i) monetary policy;
- (ii) fiscal and budgetary policies;
- (iii) trade and exchange rate policies;
- (iv) food policy, food supply and food security;
- (v) agriculture and tourism linkages;
- (vi) technology policy for agriculture and agro-industrial development;
- (vii) income and employment policy for agriculture;
- (viii) land and natural resource policy;
- (ix) role of agriculture in the Caribbean macro-economy.

III. METHODOLOGY AND APPROACH

The study is required, through an exhaustive review of the literature, to identify and analyse various issues which have previously been examined in each of the policy areas mentioned above. The focus of the review of each area should relate the issues to the structure of incentives for the agricultural sector in the Caribbean.



The literature required for this review falls basically into two broad categories. The first consists of literature that is likely to surface in traditional library searches inside and outside the Caribbean, such as books, journal articles, dissertations, theses and monographs. The second type consists mainly of government publications, published budget speeches, annual government departmental reports, and reports of special studies commissioned by government and other public sector agencies. Information on these documents is unlikely to become available through normal search methods, especially in those cases where the document has not yet been declassified.

Documents falling into the latter category may well be more numerous and at least as important as those falling in the former category. However, they have proven to be inaccessible within the time frame set for the review. Further, access to these requires an appeal or visit to sites, including Ministries of Agriculture and Finance, Tourist Boards and similar institutions.

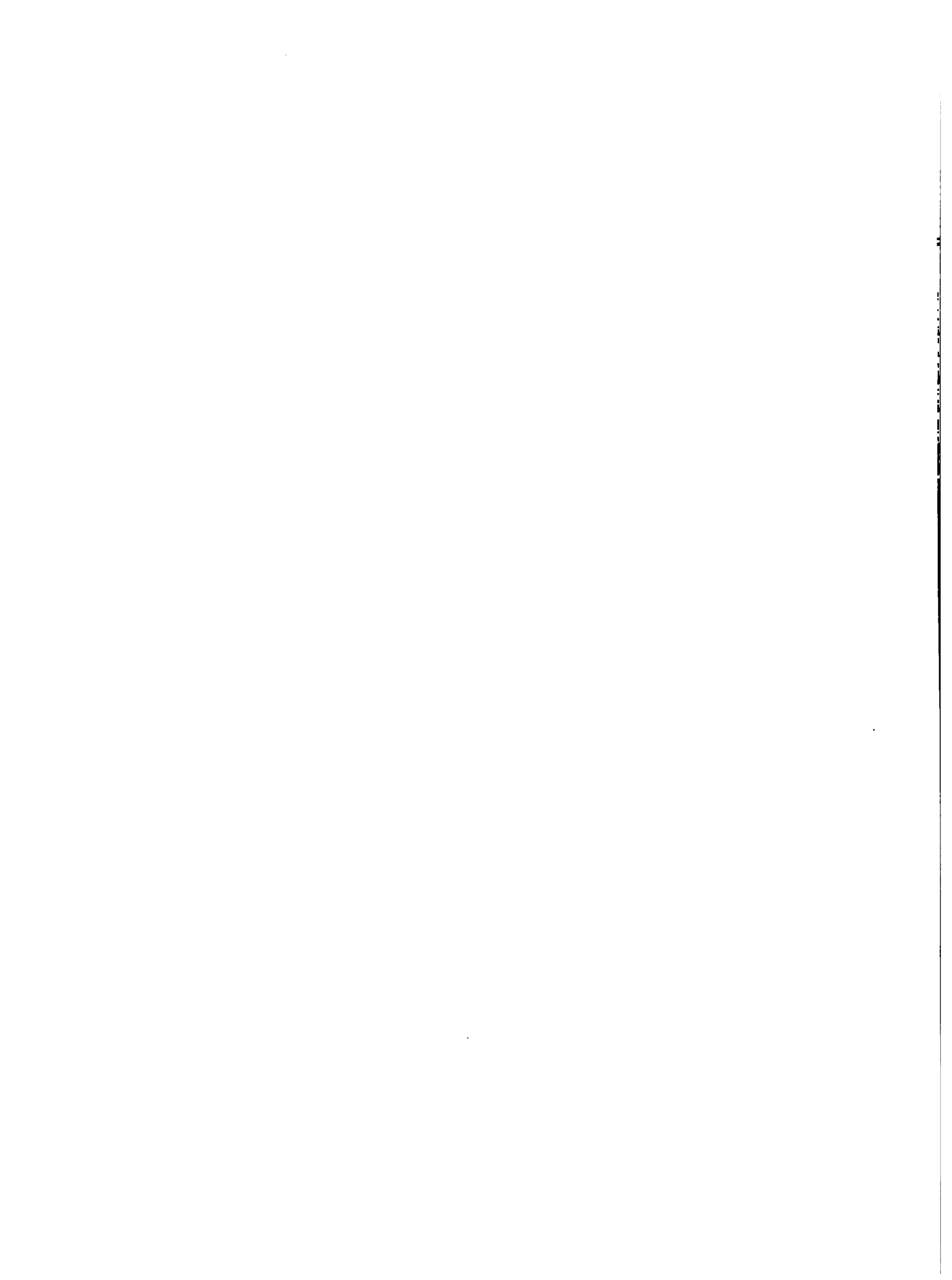
IV. SOURCES OF DATA

While the University Library at St. Augustine was used as the primary source of information, it soon became evident that the information obtained from the initial search conducted there was inadequate with respect to both range of policy issues in question and depth of coverage. It therefore became necessary to conduct searches in external data bases. The major external data

bases tapped were the United States Department of Agriculture (USDA), Economic Commission for Latin America and the Caribbean (UN/ECLA); and The Food and Agriculture Organization of the United Nations (FAO). Other sources identified but not accessed include Research Departments of Regional Central Banks, specialist institutions such as the Development Banks, Caribbean Tourism Research Centre; Secretariats of The Organisation of Eastern Caribbean States and the Caribbean Community and their libraries as well as the national and regional offices of the Inter-American Institute for Co-operation on Agriculture (IICA).

V. ORGANIZATION OF THE PAPER

The report is organized into three parts. This section and those preceding constitute Part I. Part II covers Sections VI to XIV while Part III provides a list of references obtained for the literature review.



PART II

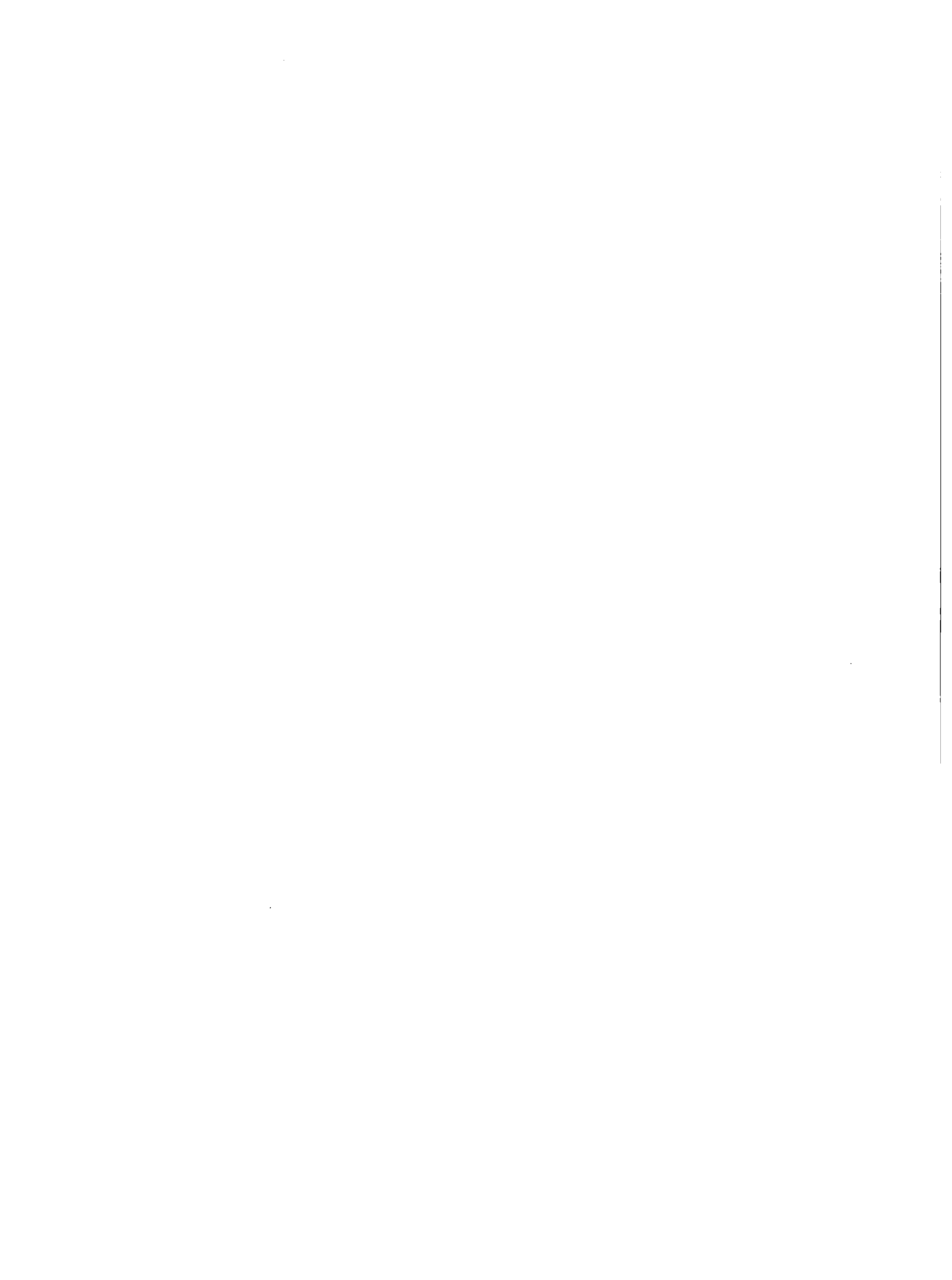
A REVIEW OF THE LITERATURE

VI. INTRODUCTION

Activities within the agricultural sector are influenced not only by decisions taken within the sector itself but, even moreso, by those taken outside over which it has very little control. These influences can conveniently be categorized under the broad policy areas listed under the terms of reference. In what follows, an attempt will be made to articulate in the case of each area, the major policy instruments and mechanisms through which these policies are effected, the way in which they impinge upon the sector, and an analysis of the divergent views which arise in connection with particular elements.

In the context of this exercise an incentive to the agricultural sector will be interpreted to mean any element, or integrated set of elements, of broad economic policy, however implemented, which, by design or coincidence, tends to exercise a positive influence on the sector in terms of expansion of output, increases in productivity, enhancement of its stability, viability and growth or by improving in any other way the relative attractiveness and prospects of the sector.

These policies can impact on any stage of the production process. Thus, they may impact on the input stage by affecting the cost, quality and/or availability of resources, or they may



impact on the production process so as to influence the general level of technology adopted and the choice of specific techniques in particular cases. And finally, they may influence the situation relating to the output stage in terms of pricing, marketing and distribution. In line with this concept, the agricultural sector is seen to embrace not only activities related to primary production, but also those relating to the provision of inputs to that process as well as those concerned with the distribution, processing and marketing of the output from the sector.

VII. MONETARY, FISCAL AND BUDGETARY POLICY

Monetary Policy is concerned with measures which influence the supply and demand for money and credit. In advanced economies there is a wide array of mechanisms, direct and indirect, through which such policies can be implemented. Among these are the use of open market operations, discount rate variation, selective credit control devices, regulation of hire purchase arrangements, funding and debt management operations, etc. Most of these mechanisms are predicated upon the existence of a highly developed and sophisticated capital and financial market system.

In the case of developing economies such as those found in the Caribbean, their financial systems are still at the evolutionary stage and do not exhibit the same level of sophistication. As a result, the authorities have much less leverage in determining the money supply and rates of interest

through traditional market mechanisms. The main orientation of monetary policy is, accordingly, towards influencing the cost and availability of credit through direct means.

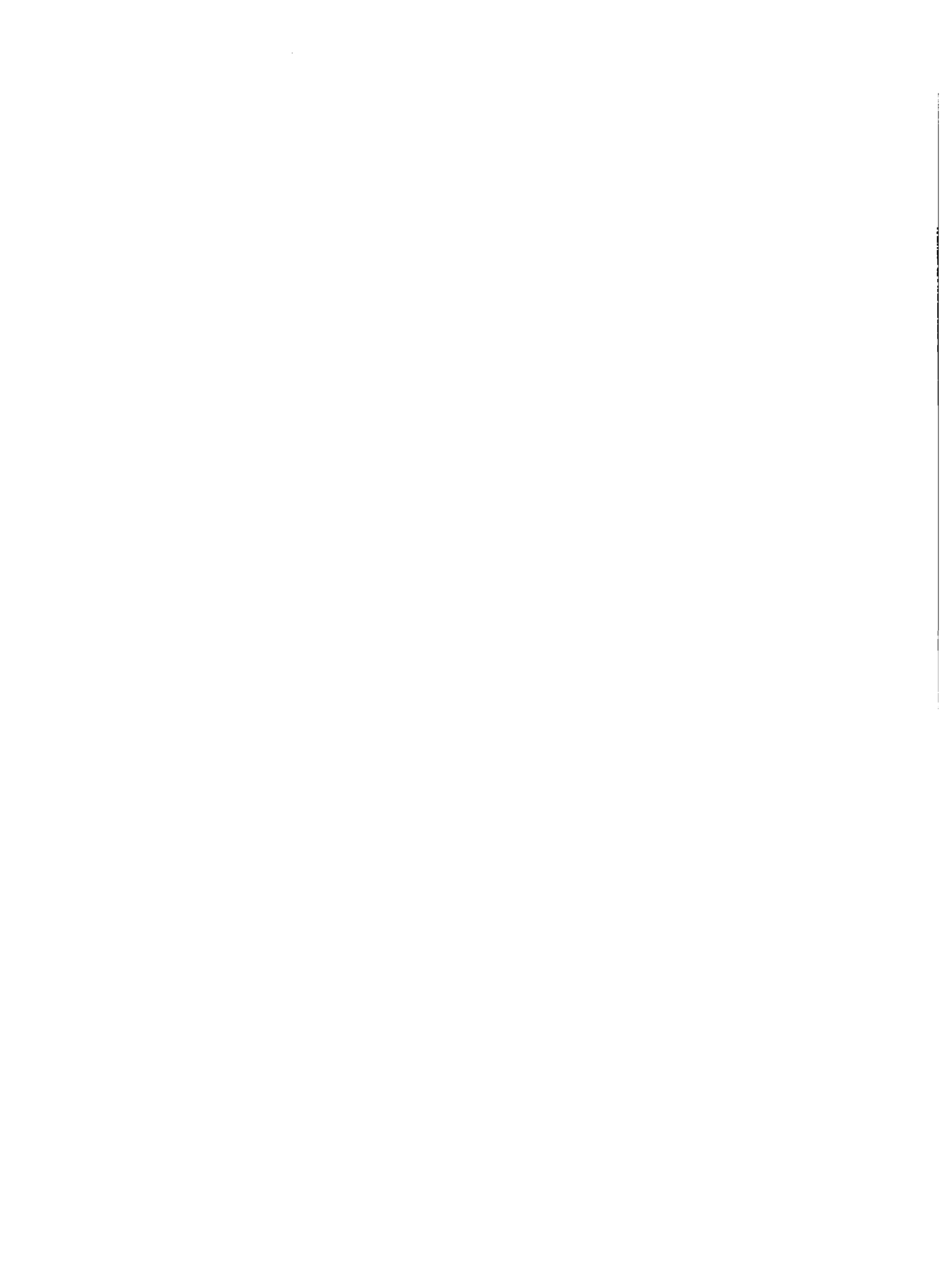
Important among these means is the provision of credit, usually at subsidized rates, to favoured industries or sectors. In the case of agriculture, it has been found that, credit extended by private lending institutions is inadequate to meet the sector's needs and that, where credit is in fact granted, the conditionalities tend to be relatively severe. In these circumstances, it has become the practice in almost all the islands for the Government to take steps to ensure a line of credit at relatively favourable rates to agriculture through the establishment of agricultural development banks and other similar para-statal institutions.

The role of these institutions is to channel funds from the State as well as from external sources to either the farmer directly or to farmers' cooperatives. While farmers in general have found these sources useful in providing capital, on many cases the credit programme itself has suffered because of its high lending cost. Administrative costs, and costs associated with probable loss of funds due to loan defaults, are the major factors responsible for the high lending costs. Investigating the situation in Trinidad and Tobago, Crawford [009] argues that the combination of both lender and borrower costs influences the use of credit and probably serves to make the increased injections of funds to the sector less effective than they could be in normal circumstances.

Another factor influencing the effectiveness of the Agricultural Development Bank's (ADB) role is the attitude to bank's funds displayed by the borrower either as individuals or as members of a cooperative through which the funds are channelled. Tugume [036] cites this as one of the main reasons leading to increase ADB's lending costs, decapitalization of the bank and consequently its ability to continue loans.

It has also been questioned, where special lines of credit are made to the sector, whether standards of credit-worthiness insisted on by private credit institutions should be relaxed. Arguments in favour of a relaxation include the peculiar nature of sector activities, exaggerated perception of risk and the special circumstances of small scale operators. But it should be noted that this relaxation involves a cost to the society in terms of probable loss of funds due to loan default. Additional cost is also incurred in terms of the need for supervision and monitoring to minimize the diversion of funds to other purposes and other sectors. In terms of cost benefit analysis of those programmes, the question remains whether this approach in providing credit to the sector is socially justifiable.

Another issue stems from the subsidization of the cost of credit extended through these programmes to the sector. The effect is that scarce capital is being provided to agriculture at a cheaper (interest) rate than to other sectors of the economy and the issue arises whether this would not lead to distortions in the allocation process. One view is that Government should take steps to provide adequate infrastructure for the sector and

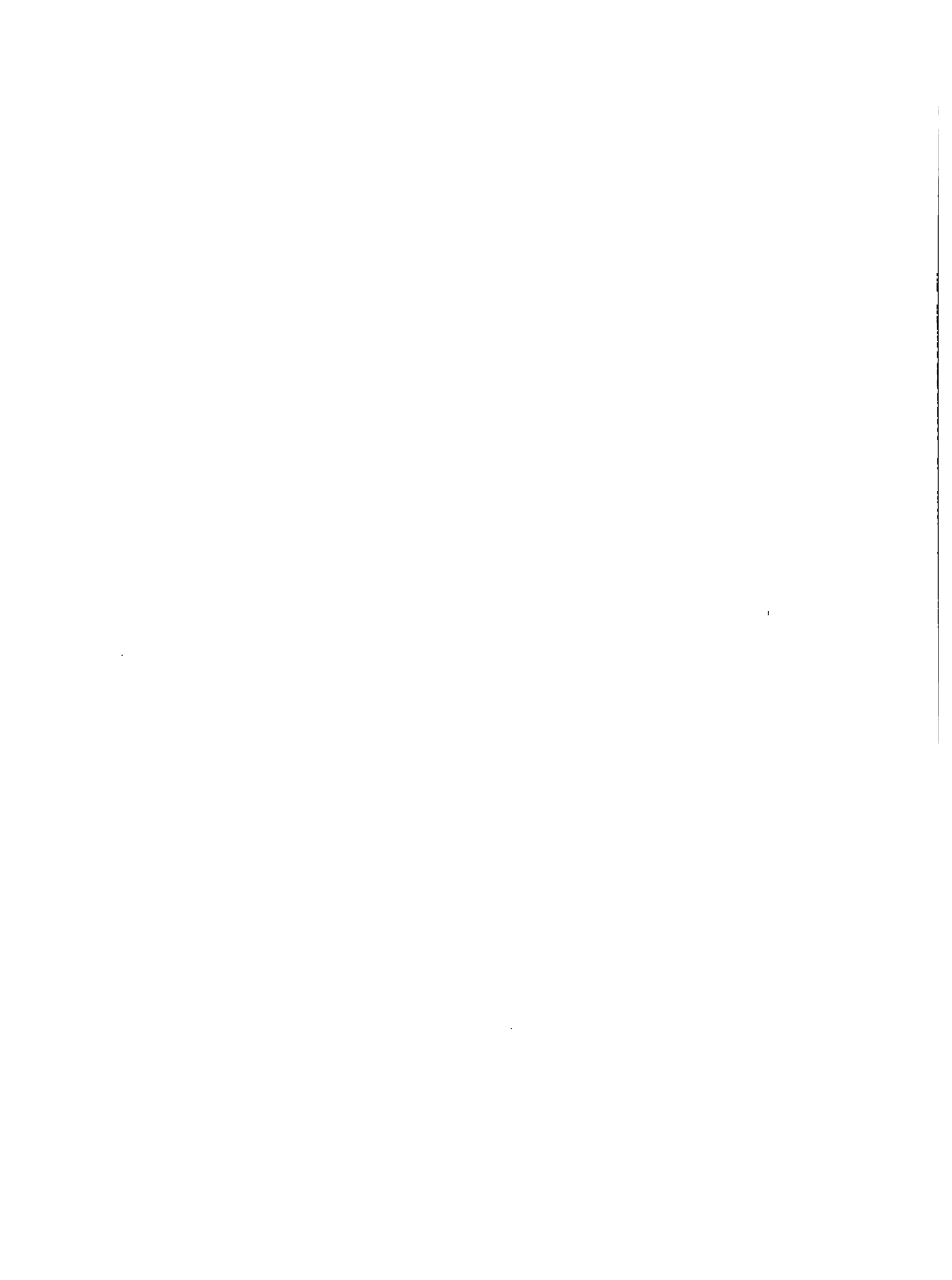


then let the sector compete on even terms with other sectors for its capital needs.

Fiscal Policies deal with Government expenditure and taxation and are usually provided in the State budgets. In the case of the agricultural sector, on the expenditure side, three categories of funds can be identified viz. allocation to the Ministry of Agriculture for the overall management and administration of sector activities, allocation of funding for special purposes such as subsidies and the other represents the portion of the public sector investment programme relating to agriculture. The first two categories are current expenditures while the third is capital.

The main issues with respect to Government expenditure for agriculture follow from the above classification of these expenditures. Firstly, there is the concern for the allocation of funds between agriculture and other sectors of the economy. The problem here is the criteria that should be used in determining the level and adequacy of the allocations to agriculture.

One could relate these criteria to the objectives set for the agricultural sector, i.e contribution to employment generation, relative contribution to Gross Domestic Product (GDP) or to foreign exchange earnings. The fact is that these allocations should reflect weightings to each of the above objectives. It is argued that even in these cases where the importance of the sector has been emphasized in making budgetary



appropriations, the final allocations do not seem to reflect priority accorded the sector.

With respect to the internal allocation, the major issues relate to the priority to be given to various functions and responsibilities of the State and this will vary with time and the particular country in the region under review. In certain situations, infrastructure (feeder roads, irrigation, markets) is paramount, while in others, services and incentives (subsidies) may be accorded high priority.

The issue of subsidies requires special mention. Subsidies by their very nature impose a cost to society and therefore, it is always necessary to consider whether the benefits accruing now or projected into the future exceed the costs. In the case of agriculture, subsidy programmes have as a basic objective, improvement in the viability/profitability of constituent attractiveness of the sector and hence enhancement of the general alternatives of the sector as a whole. Another is concerned with welfare i.e. provision of an important basic need to consumers at an generally affordable prices.

The first objective can be achieved either by minimizing the cost of inputs, or by influencing the choice of production techniques. The second is achieved by influencing the prices of primary and or processed outputs.

The poultry industry in the Caribbean and especially in Trinidad and Tobago represents an example of an industry that has

benefitted immensely from subsidies. The meat and dairy industries are also cases in point. It was shown by the Department of Agricultural Economics and Farm Management of The University of the West Indies (UWI) [0.10] that subsidies contributed significantly to the growth and expansion of these industries, although at tremendous cost, the major element of this cost being that of administering and monitoring the programmes.

An important issue is also concerned with the duration of a subsidy programme. To the extent that the objective of the subsidy is the progressive improvement in the efficiency and competitiveness of the enterprise, the programme should be treated under the infant industry scheme, i.e. it should be discontinued either when the objective has been achieved or when it becomes clear that it is not attainable. The duration of the programme is also affected by changing economic circumstances and political considerations. Where welfare considerations are emphasized, the duration of the subsidy will depend on the success of the programme.

The other component of the fiscal programme lies within the taxation policy decided upon by the State. The main objective of the policy should be the revitalization of the sector and increasing its attractiveness vis a vis other sectors of the economy; the intention here is to induce the flow of private investment funds into the sector through any one or more of the following measures:

- (a) exemption of taxes on agricultural earnings

(b) grant of similar tax concessions for agriculture as for other sectors e.g. tax holidays

(c) duty free purchases of capital equipment and/or raw materials.

One issue is the choice of subsidy or tax remission as the appropriate fiscal incentive to the sector. One school of thought suggests that, where possible, the former should be preferred to the latter since the true cost to the society is more readily calculable. A point stressed by Yankey [040] is that incentives given through either means, can only succeed if they are buttressed by policy support e.g. land policy and price and incomes policies.

Apart from the provision of subsidies to the sector, fiscal incentives to the agricultural sector may also take the form of special tax concessions and privileges to farmers. For example, exemption from income tax may be provided for farm incomes below some maximum level. But while this would provide a stimulus to smaller farmers within this favoured income category, it may reduce motivation on the part of more innovative farmers who would otherwise expand their enterprises beyond this category to take advantage of economies of scale. The literature so far has not addressed these issues, particularly with respect to the net benefit that may accrue from tax policies of this sort. In certain Caribbean countries such as Grenada and Antigua, personal income tax has been abolished and therefore policies of the kind described above will be irrelevant.

It is possible to use other taxation measures to provide incentives to the sector. It is felt however, that these can be categorised more approximately under the heading "Trade and Commercial Policy" and will be discussed in that section.

While the measures outlined above are aimed at providing a positive stimulus to the sector, it is also possible to formulate measures which may eliminate, or at least reduce the extent of underutilization of agricultural resources, especially land. The imposition of a penal tax on land left perennially idle is one possibility. But this practice has not achieved policy objectives largely for two reasons:

- (i) the willingness and ability on the part of some land owners to pay the penalties from the incomes which they earn from sources other than agriculture. In these cases the land is kept purely as a status symbol
- (ii) the problem of definition of idle land in the case where large estates, though virtually neglected, nevertheless continue to produce only token quantities of output.

VIII. TRADE AND EXCHANGE RATE POLICY

These policies are mainly directed at improvements in the external trade and payments position of the individual

countries within the region. There are three ways in which such improvements can be secured:

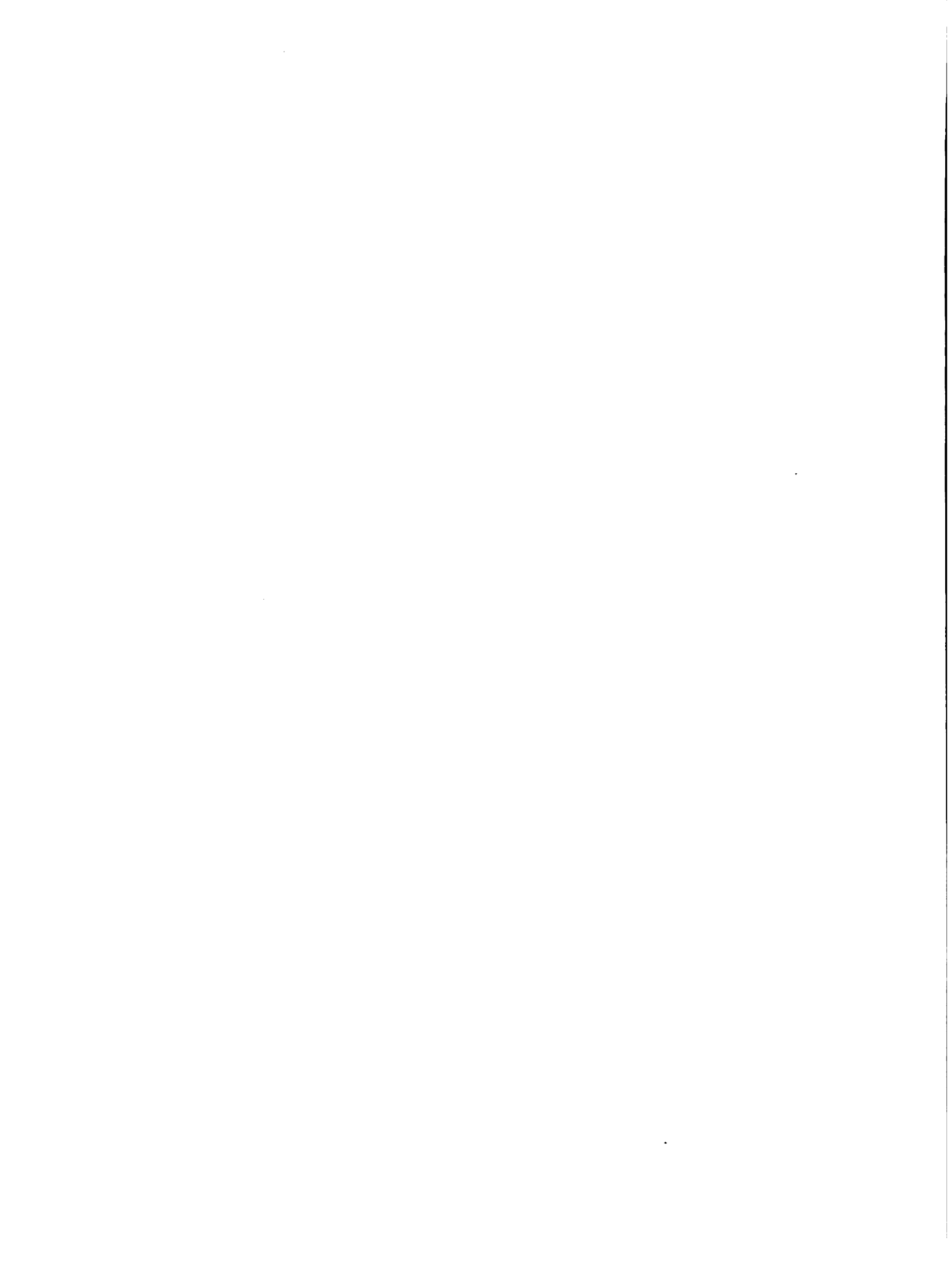
- (i) improving export performance
- (ii) reducing import dependence
- (iii) stimulating the net inflow of capital resources.

The measures that are often used to achieve these improvements include: the adjustment of exchange rates; the imposition of controls on the availability and use of foreign currency; adjustment of tariff rates and other commercial measures such as negative listing and special derogation, and unification of regional markets.

Exchange Rate Adjustment

Conventional theory suggests that reduction in the exchange rate induces an increase in exports and a reduction in imports with the result that, given favourable demand elasticities, the trade balance will improve, at least in the short run. However, the projected increase in export earnings (in foreign currency) is unlikely to materialize for the following reasons:

- (a) on the demand side, the prices of the bulk of regional exports are denominated in foreign currency and cannot be affected by adjustment in the exchange rates.
- (b) on the supply side, quantities may not increase significantly either because of quota restrictions set in foreign markets or rigidities in the domestic



production environment. However, the situation may not be as extreme as this - at least, not in the medium term - because the adjustments in exchange rate may make certain lines of agricultural activity internationally more competitive. And pursuit of these lines may result in some improvement in export performance as anticipated by traditional theory.

In the context of the Caribbean, this policy measure is likely to provide incentives for profitable expansion of non-traditional agricultural exports, provided, of course, that these activities are not constrained by non-tariff protectionist barriers in the foreign countries where markets are sought.

Exchange rate adjustment is also expected to result in a reduction of import requirements in foreign currency by making imports more expensive in domestic currency, thus inducing a switch to domestically produced commodities. But the reduction in imports may fall short of the level anticipated for the following reasons:

- (i) the existence of rigidities in the production system
- (ii) where imports constitute necessary inputs into the production system, production costs are likely to rise thus reducing profit margins to producers.



Such reductions as may be achieved will be obtained through compression of consumer demand and hence will be at the expense of living standards.

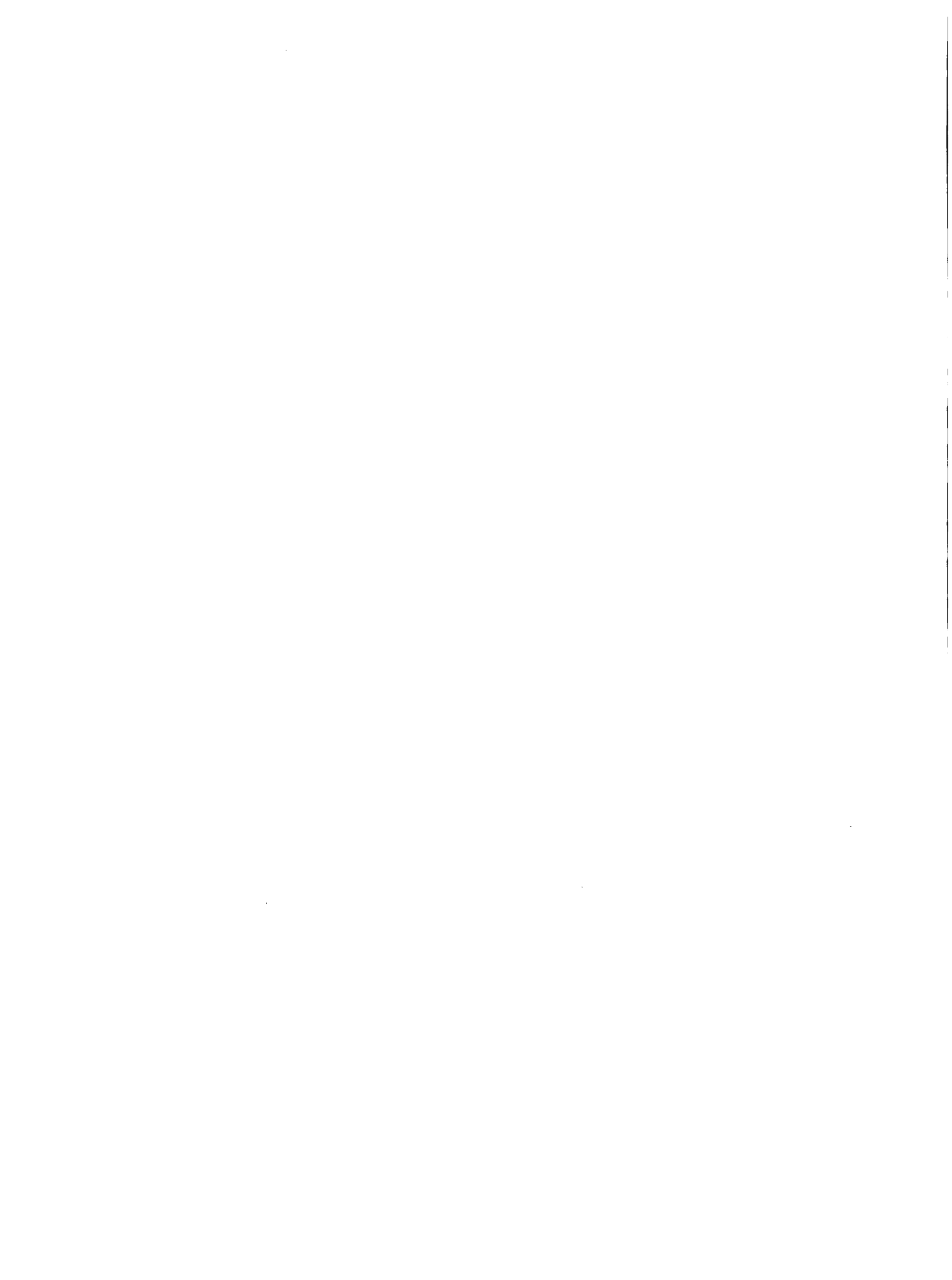
It is generally accepted that the net flow of foreign resources is influenced more by interest rate differentials than exchange rate levels; however, an exchange rate adjustment which is considered adequate and unlikely to require further adjustment over a meaningful horizon can also provide an environment within which such flows of capital can be more easily stimulated. Further, since it is the export and import-substitution components of the agricultural industry which stand to benefit most from the exchange rate adjustment, it is likely that capital flows will be directed to these activities.

Control of Foreign Currency

In a situation where foreign exchange is scarce it may be desirable to set priorities for its expenditure. Thus preference may be given to export-oriented industries. Accordingly, if the overall development strategy provides a central role for agriculture, this sector could be given priority in the allocation of foreign exchange for the purchase of capital equipment and intermediate inputs.

Tariffs

Tariffs in the form of export and import duties may also be used to achieve a certain pattern of resource allocation for



agriculture. It is possible, for instance, to impose duties on agricultural exports which it is deemed desirable to contain and use the proceeds to subsidize production of other agricultural commodities which it is proposed to expand.

Export duties can also be used to provide a system of price support, the proceeds in good times being used to maintain prices and profits in leaner times. Alternatively or additionally, the proceeds may be applied to the financing of insurance schemes or the funding of research activities.

Incentives to the agricultural sector may also be provided through full or partial exemption from import duties on inputs e.g. capital items and certain intermediate inputs used in lines of activity considered strategic to the agricultural development process.

Other Commercial Policies

These include negative lists, quota allocations, special derogation, joint trade import/export policies and unification of regional markets.

Negative listing refers to the instrument by which imports of certain commodities are forbidden. It may be regarded as the extreme case in which either the tariff is infinite or the quota is set at zero. The application of this measure is often directed to the elimination of foreign exchange expenditure on commodities not considered essential to the well-being of the society. In the

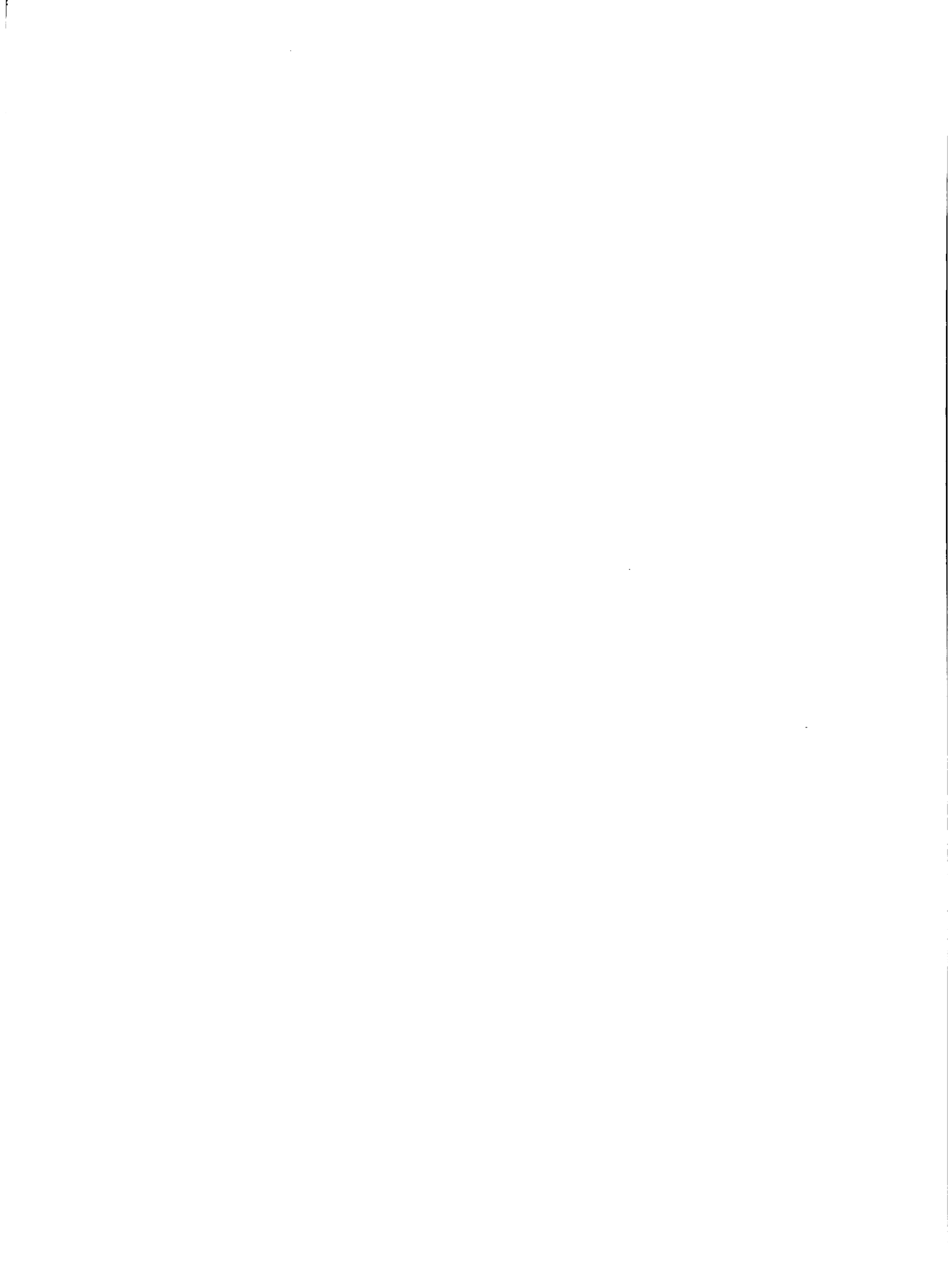
case of agriculture, prohibiting the entry of these imports in this way is usually intended to stimulate the production, and enforce consumption of, local replacements or substitutes.

While these benefits apply in the case of extra-regional imports it should be noted that there also exists some scope for negative listing of intra-regional imports through the principle of special derogation. It is felt in certain quarters that the application of this principle results in trade reduction within the Caribbean Community and runs counter to the goal of unification of regional markets.

Joint marketing of exports has been identified as an area of regional cooperation that can work to the advantage of agricultural producers and exporters. While certain countries have committed themselves to this principle, practical details of the arrangements are still being formulated, particularly with respect to sharing the costs and benefits involved. Similar arrangements are mooted with regard to the purchase of inputs of certain commodities.

IX. FOOD POLICY, FOOD SUPPLY AND FOOD SECURITY:

Throughout the region, there is a marked absence of any meaningful, carefully articulated food policy. Although the Caribbean Food and Nutrition Institute in association with the Caribbean Community Secretariat and The University of the West



Indies, had taken the initiative to devise a comprehensive regional food and nutrition strategy in early 1980's, national governments have so far failed to adopt and implement important elements of this strategy [Caricom Secretariat (068)]. The reason for this inertia may well be the stringent financial situation in which the economics subsequently became mired.

An appropriate food policy for the Region should consist of the following basic elements:

- (i) the guarantee to every household of access to adequate supplies of food, both in quantity and quality;
- (ii) a further guarantee that the supply will be sustainable over some predetermined period of time;
- (iii) the assurance that basic food inventories will be maintained at levels that can tide the society over periods of dislocation arising from natural and other disasters;
- (iv) the entitlement of each individual to minimum dietary requirements to ensure maintenance of productivity, and a socially acceptable quality of life on the one hand and the minimization of the need for health care on the other.

Food policy is primarily concerned with the welfare of the society and indeed, the benefits that will be generated therefrom

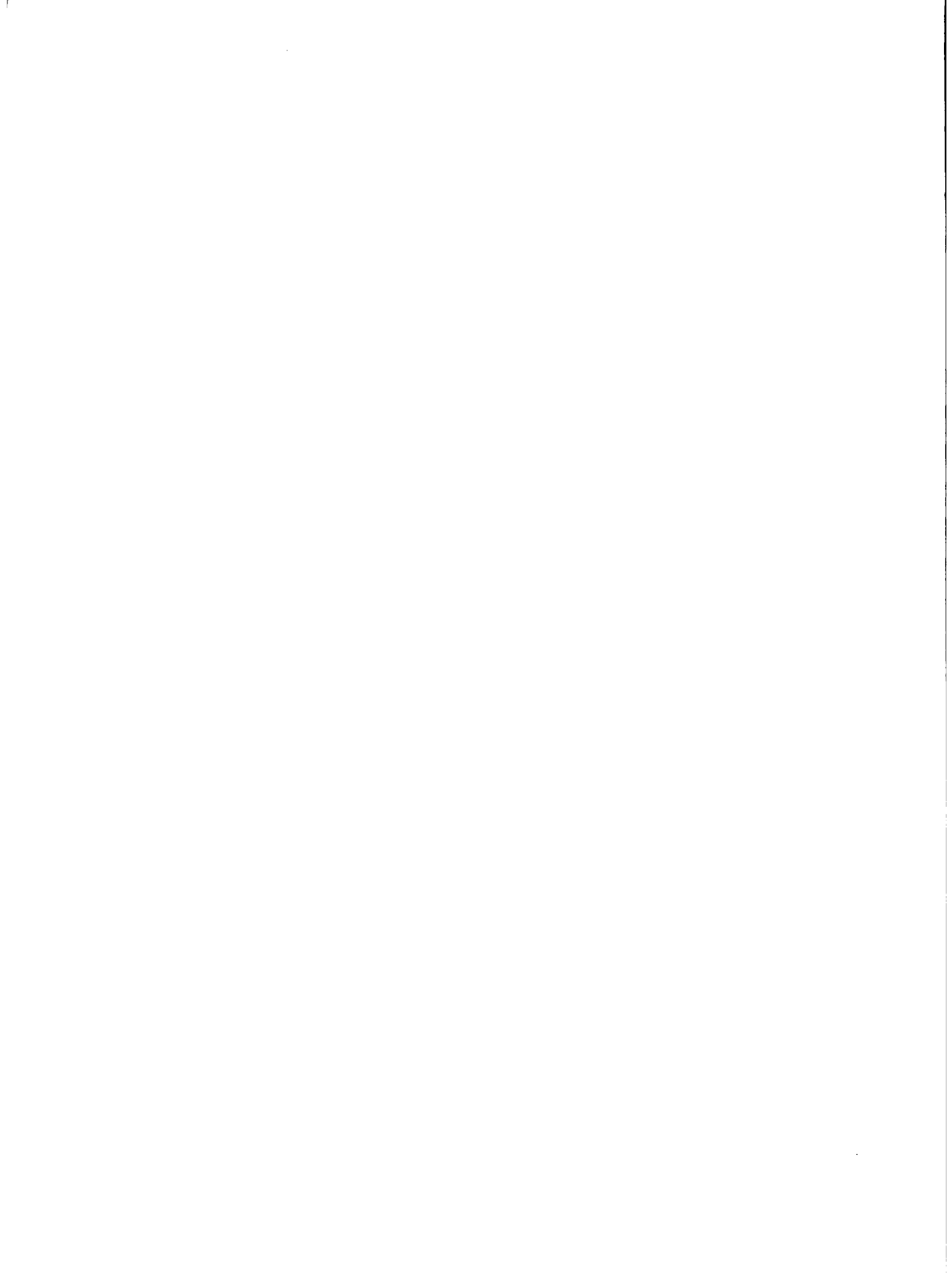
cannot be evaluated purely in terms of monetary considerations since the costs involved in providing these benefits may well be regarded as a long term investment in the human resources of the society.

Access to Adequate Supplies of Food

This depends to a large extent on the purchasing power deriving from the household's real disposable income which, in turn, is determined by the distribution of income among households and the price levels prevailing in the market place. Both of these factors can be influenced by subsidies, direct distribution of food, issue of food stamps, transfer payments and the system of direct and indirect taxation.

Sustainability of Supply

There are two extreme ways of meeting national/regional food requirements: the nation/region may attempt to allocate resources in such a way as to fully exploit its potential for self-reliance through domestic production; or it may meet its requirements by exploiting its comparative advantage to the fullest, i.e. by exporting products in which it has a competitive edge and using the proceeds to satisfy its requirements from foreign sources. Various combinations of these two approaches can be adopted according to the priority assigned to political and economic independence.



Disaster-Preparedness

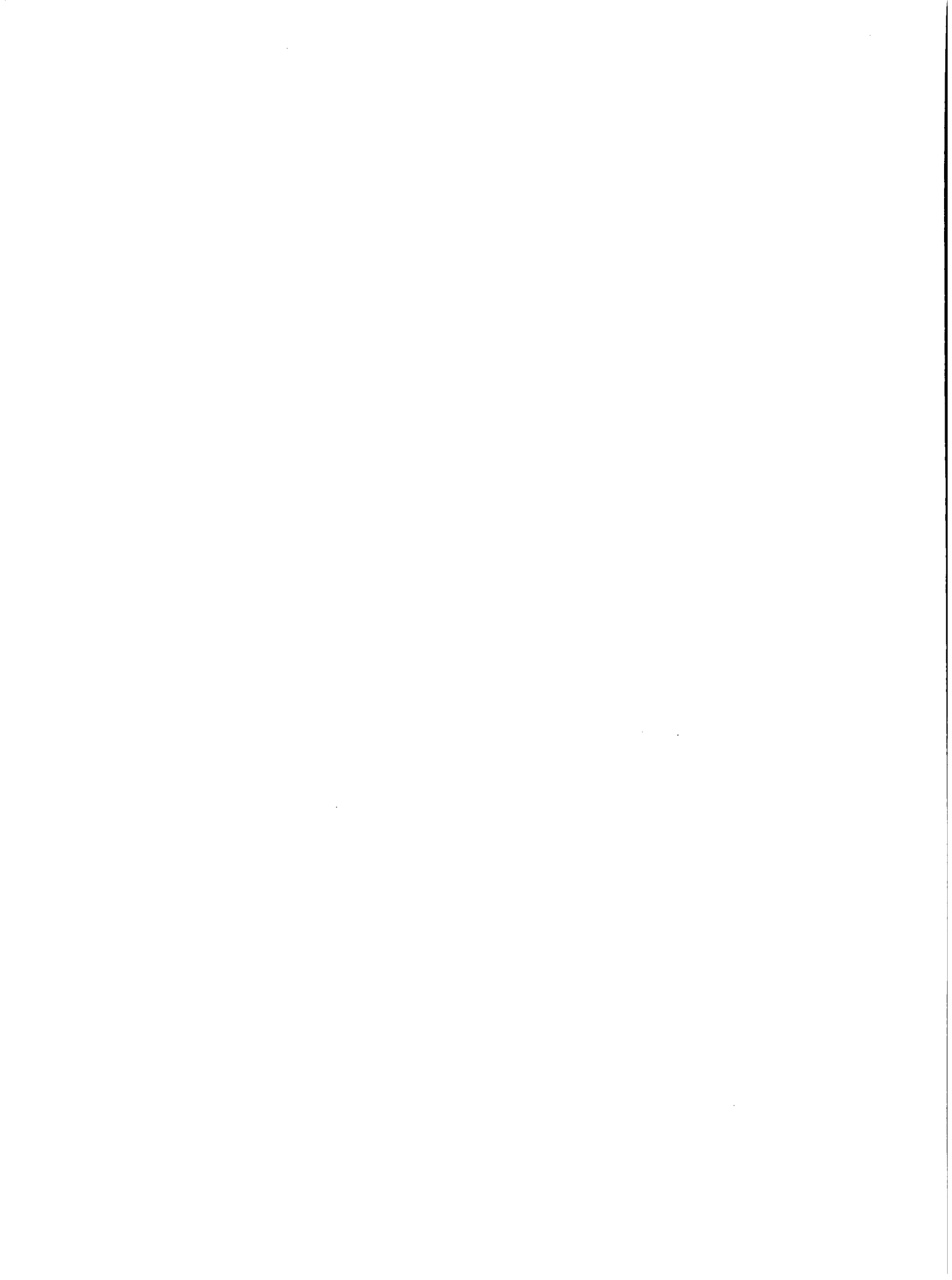
Most countries in the Region are prone to natural disasters especially during the hurricane season. Recent history suggests a high probability that every year, during that season, at least one of the countries in the region will experience severe dislocation in its agricultural activities and food supply.

These circumstances highlight the need for a conscious effort and adequate planning to prepare for such eventualities both on a national and on a regional basis. A major element in such plans should be the establishment and maintenance of stocks to meet the deficiencies in such crises. The plans should also incorporate strategies aimed at minimizing the period and cost of recovery.

Provision of Minimum Dietary Requirements

It has been proposed that there is a direct correlation between nutritional status and the need for health care [Guerney (079)]. The problem of nutrition in the Caribbean is a multifaceted one, some of the more important social and economic issues associated with it being nutritional value of foods relative to their cost, malnutrition due to low income, population migration to urban areas, effect of religious beliefs on food selection, cultural food habits and education levels. [Mayers 085].

The relationship between food, nutrition and health care warrants the inclusion of food and nutrition policy in any



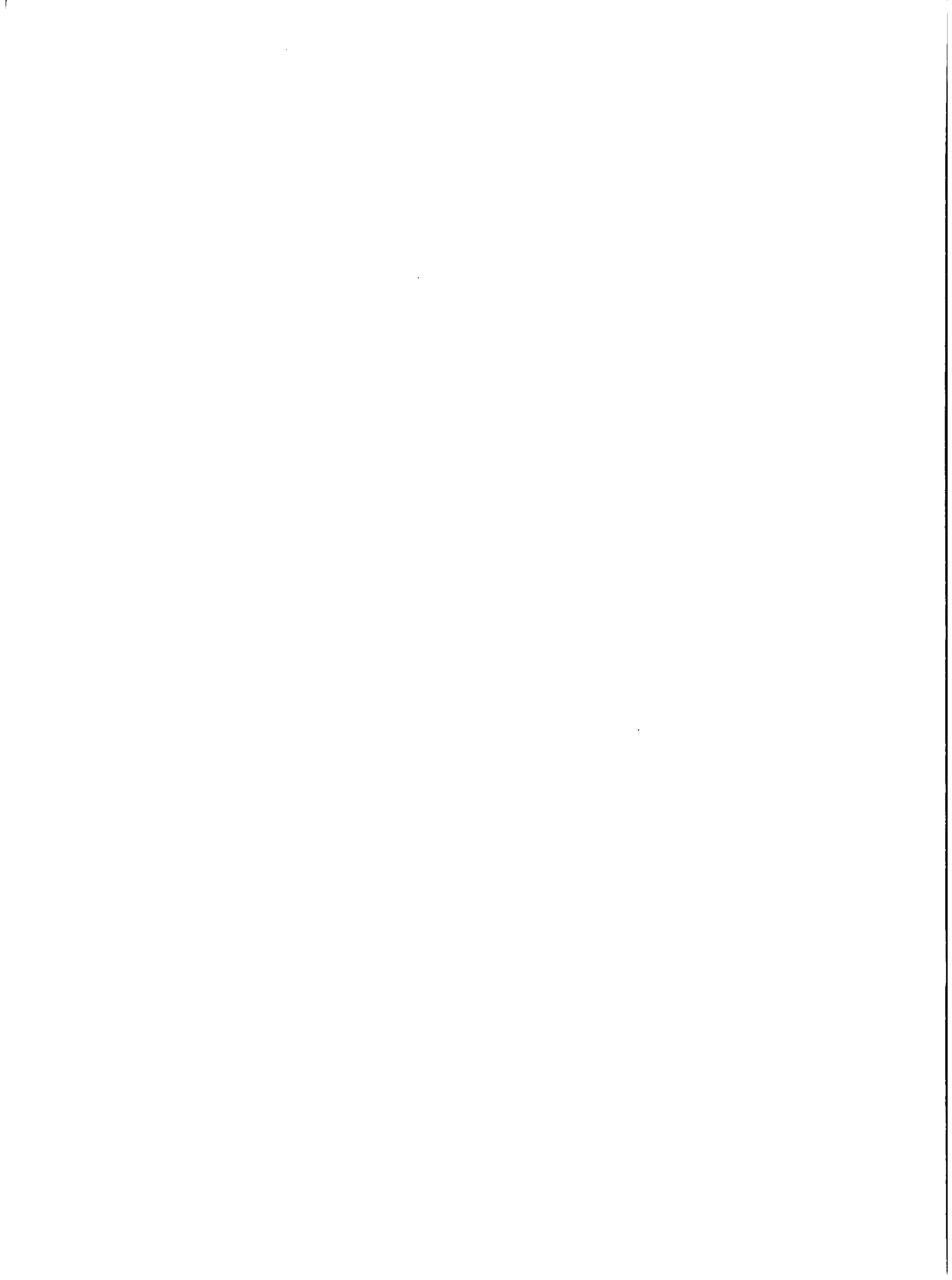
overall national/regional development plan. This need is stressed in Mc Intosh (087).

Formulation of an appropriate food policy addressing the issues adumbrated above, requires a multi-disciplinary approach benefitting from inputs from nutrition, agriculture, health, sociology and economics. Since agriculture will be required to play a critical role in the achievement of the policy objectives, it is expected that the necessary incentives would be provided to enable the sector to meet the implied challenges.

X. AGRICULTURE-TOURISM LINKAGES

Throughout the region the present strategy for economic development gives a leading role to the service sector, and particularly the tourism subsector. Accordingly, it not only attracts a large share of private and public sector resources but also a sizeable share of foreign investment.

The enthusiasm with which the development of the sector is pursued and the amount of resources committed to it may in fact be excessive given the underlying fragility of this subsector. Past experience shows that it takes no more than a mild social upheaval, the outbreak of a communicable disease or the emergence of new political perspectives to halt the progress of the sector [Rosensweig 033]. And in an effort to reduce the incidence of such occurrences, it often becomes necessary to insulate the sector from the rest of the society.



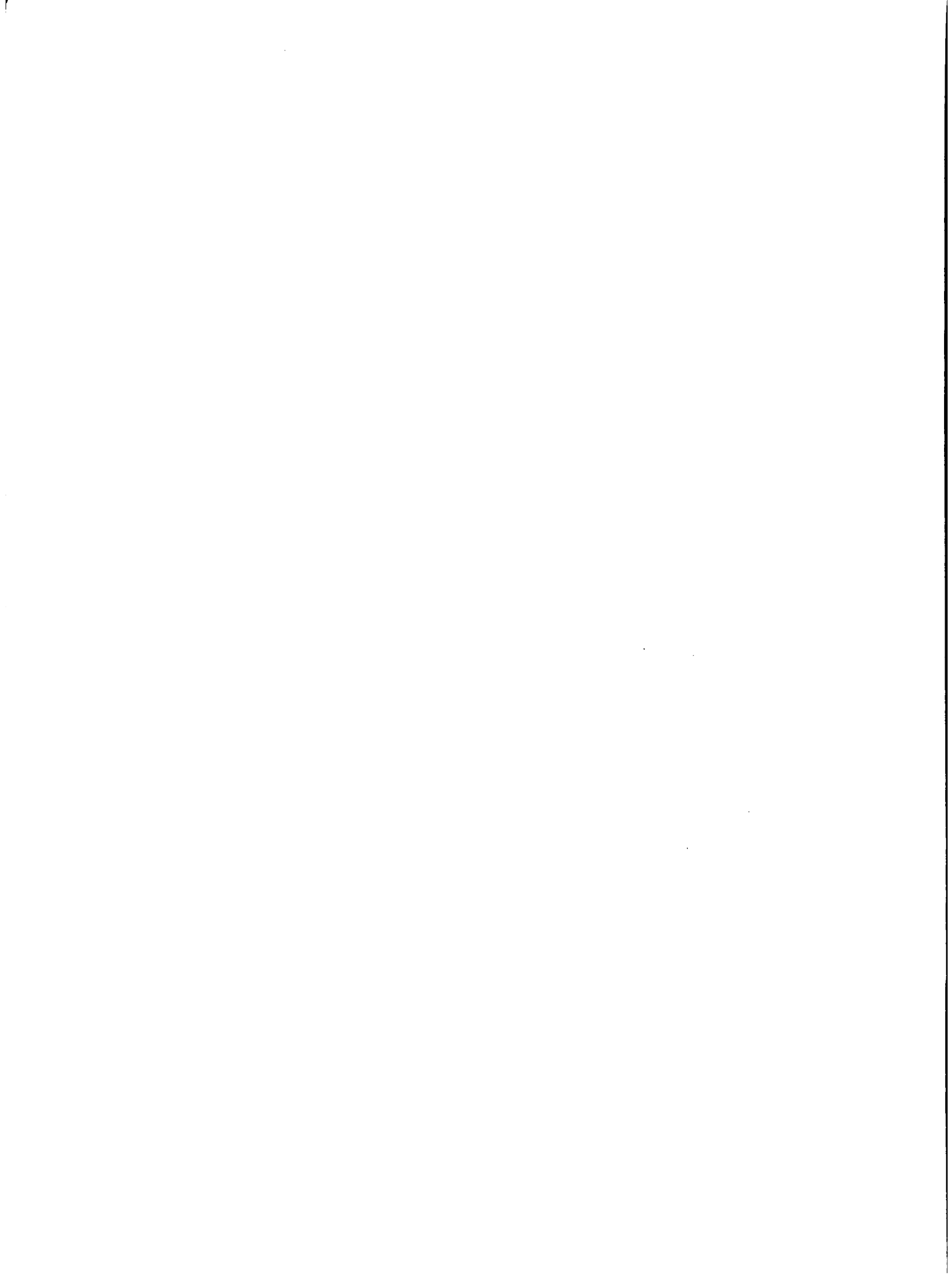
Apart from the commitment of actual resources, the society also gives to the subsector certain concessions. Two of these are waiver of duty on imported construction material and exemption from direct taxes through tax holidays. Despite these concessions, the tourism subsector generally has not been sufficiently integrated into the rest of the economy. In the case of agriculture, for example, linkages have remained particularly weak.

The tourism sub-sector is expected to impact on agriculture in three ways:

- (i) labour availability;
- (ii) labour cost;
- (iii) level of production.

With respect to labour availability, given the aversion to agricultural employment, the growth of tourism tends to attract labour that would otherwise be available to agriculture, particularly the younger generation and thus to create a shortage of labour in the agricultural sector. This shortage of labour, by itself, tends to exert upward pressure on the price of agricultural labour. But additionally, the higher income likely to be earned in the services sector provides a further stimulus to wage increases in agriculture.

A significant part of tourist expenditure goes on food. The proportion of this expenditure going toward domestically-produced food is the main indicator of the strength of the linkage between the tourism subsector and agriculture. Several attempts have



been made to quantify the domestic content of this expenditure. For example, imported tourist sector food consumption in selected countries of the Windward Islands and the Bahamas was estimated at 53.6 percent of total expenditure on food. In the case of St. Lucia, the share was higher, being 75 percent [CTRDC 044]. These data imply that in the case of the former, approximately 47 percent of tourist food requirement was not from local sources and in the case of the latter, 25 percent. This also reflects the limited role for local agricultural production in the visitor trade. This limitation is often attributed to problems on the supply side, both with respect to quantity and quality. On the demand side, the acceptability of local food has never been seriously investigated and therefore remains uncertain, with the result that there has been a cautious approach to integrating such foods into tourist menus.

In order to strengthen the linkage between agriculture and tourism, consideration may be given to ascertaining the true demand for local food by the tourist sector and possibly providing incentives to hotels and restaurants to increase the domestic component of 'tourist food expenditure'.

At the same time it should be noted that expenditure on food represents only a small proportion of total tourist expenditure. Belisle, [042] estimated this proportion to be just under seven (7) percent in the case of Jamaica. His findings suggest that imported foods are a relatively minor, though significant source of foreign exchange leakage associated with tourist expenditure. It thus refutes the view that current



amounts of imported food are a major reason for the lack of economic impact of tourism in the Region and hence the weak linkages between the tourist and agricultural sectors.

XI. TECHNOLOGY POLICY FOR AGRICULTURE AND AGRO-INDUSTRIAL DEVELOPMENT

Policy for the introduction, improvement and application of technology in agriculture and agro-industrial development may usefully be considered from five perspectives. These are:

- (i) those concerned with traditional export crops;
- (ii) those relating to non-traditional exports;
- (iii) exploitation of market opportunities;
- (iv) small-scale agriculture;
- (v) improvements in the genetic material for livestock development;

Traditional Export Crops

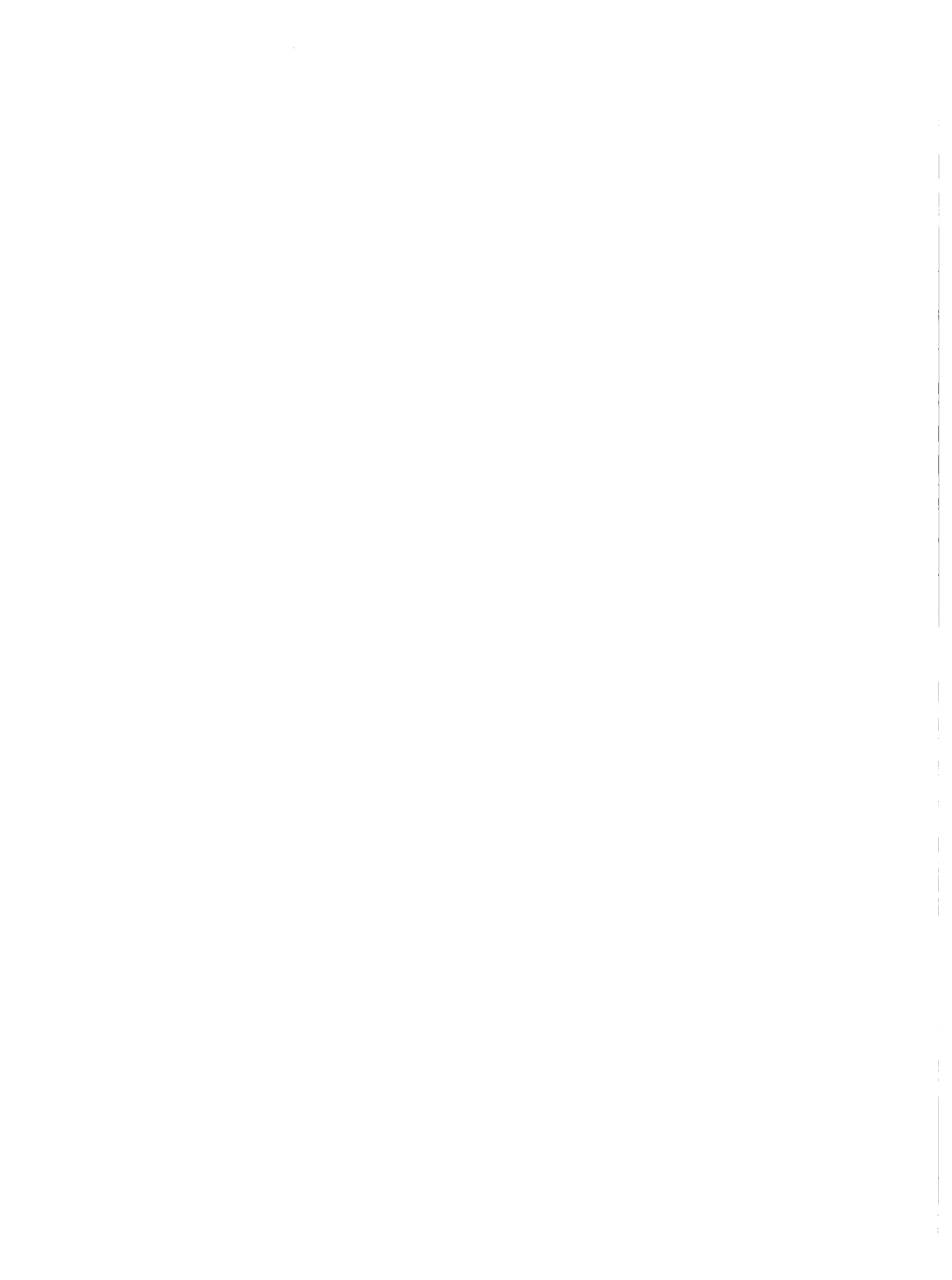
It is generally accepted that, for the foreseeable future, the region will need to place reliance on the production of traditional export crops as the major means of earning foreign exchange. But the trends in output production and productivity of these commodities have been on the decline, either because of wanton abandonment or inadequate maintenance of existing



hectarages. Further, the prices of these commodities have, in some cases, been at levels which were not attractive enough to provide the incentive for the investment necessary to expand activities in this subsector. Additionally, in some cases, land resources traditionally devoted to the production of traditional export crops have been transferred to other subsectors and uses e.g. housing, tourism, recreation and other social and infrastructural purposes.

The technology policy in this case should be clear: it should be directed to a reversal of the existing downward trend in productivity in order to enable expansion of output with the land resources remaining available to the subsector [Caricom 125a]. Innovations directed at reducing production costs should also constitute an important component of such a policy. Elements of this policy will include among other things increased mechanization of operations, the development and widespread introduction of disease-resistant strains or varieties, optimal use of fertilizers and agro-chemicals, and development of the human resource e.g. management and technical personnel involved in subsector activities.

A relevant policy framework will need to provide incentives to the subsector in order to nudge it in directions that will achieve the objectives specified above. Funding of more focussed research, carefully designed subsidy programmes and tax exemption schemes could be the main planks of this framework.



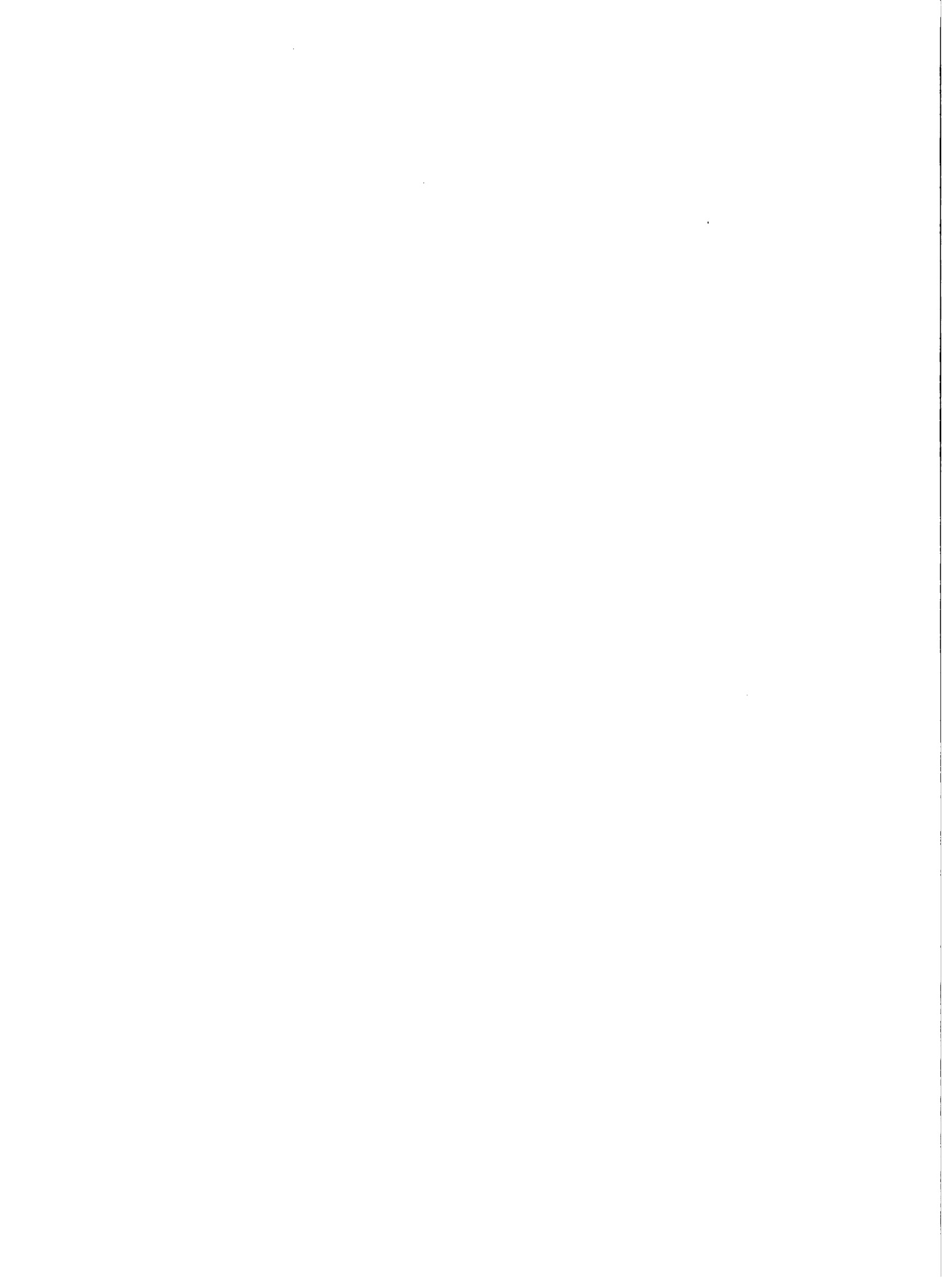
Non-Traditional Export Crops

This subsector represents a rather new activity and hence it is starting from a relatively small base. There is therefore scope for rapid expansion.

Four features of the development of this subsector need to be noted. One is that production tends to take place with the use of high levels of technology. This is true for example, in the case of ornamentals. Another characteristic is that it is an area of activity which is now being pursued by many extra-regional countries and hence, is one in which competition in foreign markets is likely to be severe. Production costs have, therefore to be kept at minimum. The third feature is that risk and uncertainty prevailing in this subsector are likely to be higher than in other agricultural subsectors.

Finally, it is generally accepted that this subsector offers the greatest scope for the development of new products through processing. This extension can provide much needed stimulus to the agri-processing industry.

The policy framework with respect to this subsector must of necessity address these four features. Elements of this framework should therefore include measures which will reduce capital outlays involved in the production of non-traditional commodities, possibly through duty exemptions on imported inputs; and encourage greater collaboration among regional producers and joint exploitation of markets. Success in this requires the adoption of technologies which will improve the logistics of



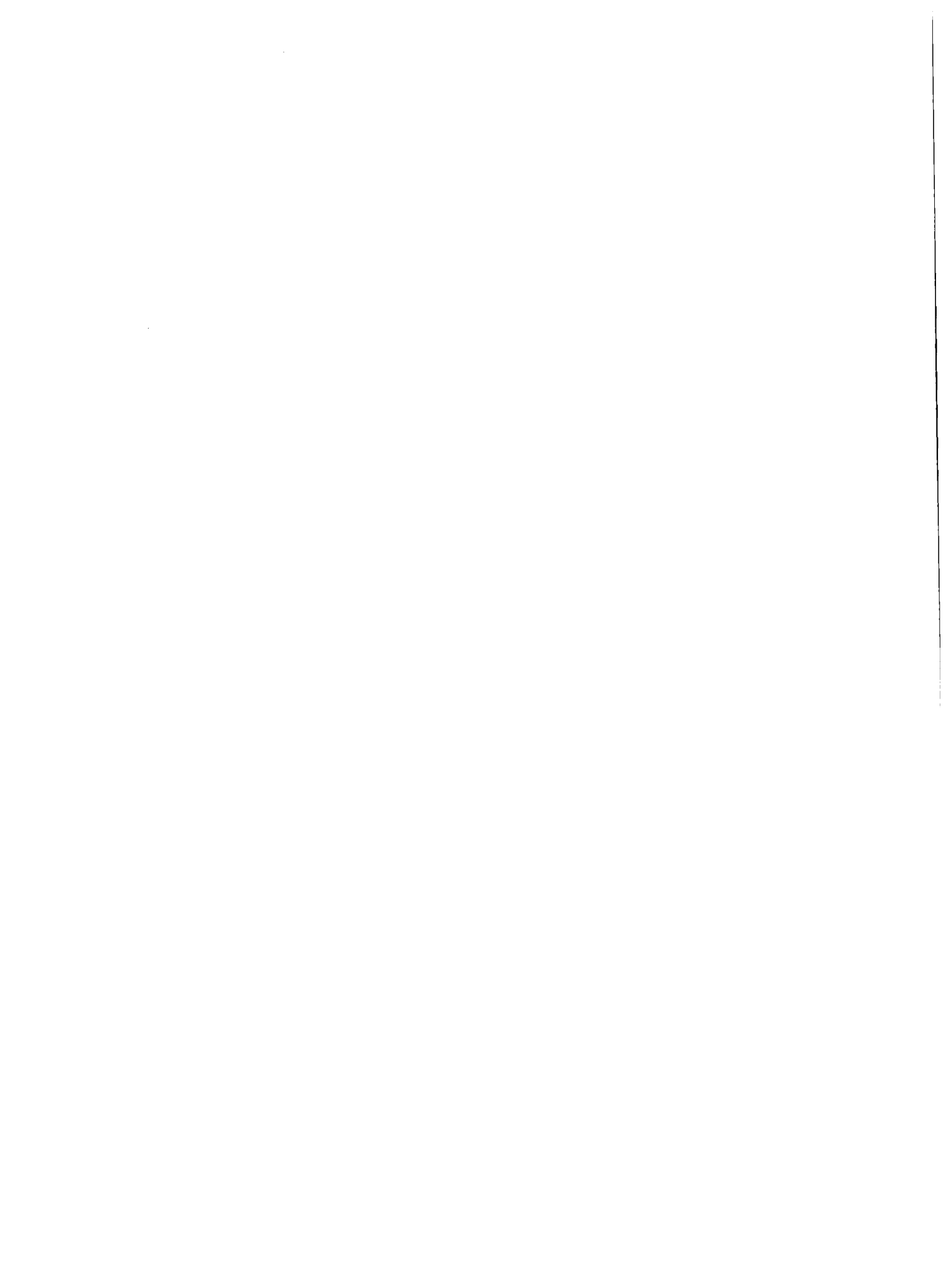
trade in these products. Another important component of this policy framework should be the modification and adaptation of plant and equipment now devoted to traditional crops for processing primary products from this sector.

In this connection it is observed that much of this plant and equipment have to remain idle when traditional crops are out of season. To provide the necessary incentive at the farm level to ensure a supply that is consistent in quantity and quality, the policy framework should include elements which foster a greater degree of vertical integration of farming and processing enterprises.

Small-Scale Agriculture

Small-scale agriculture in the Caribbean is generally considered to be marginalized, not only with respect to land resources but with respect to access to capital and technology as well. Further management skills are generally poor. Technology in current use tends to be rudimentary and therefore offers scope for improvement through the adoption of better cultural practices, and the use of higher quality inputs.

Policy designed to increase productivity in this subsector should rely heavily on the agricultural extension services, improved communication and information services.



Improved Genetic Material

The genetic material now available for development of the livestock industry in the Caribbean is generally described as being of poor quality. This is particularly true in the case of small ruminants e.g. sheep and goats. The technology policy for this subsector must therefore concentrate on the improvement of this material. This may be addressed through the introduction of specialized technologies such as embryo transplantation, genetic engineering, improved methods of artificial insemination, and improved techniques of managing the Region's livestock resources.

XII. INCOME AND EMPLOYMENT POLICY

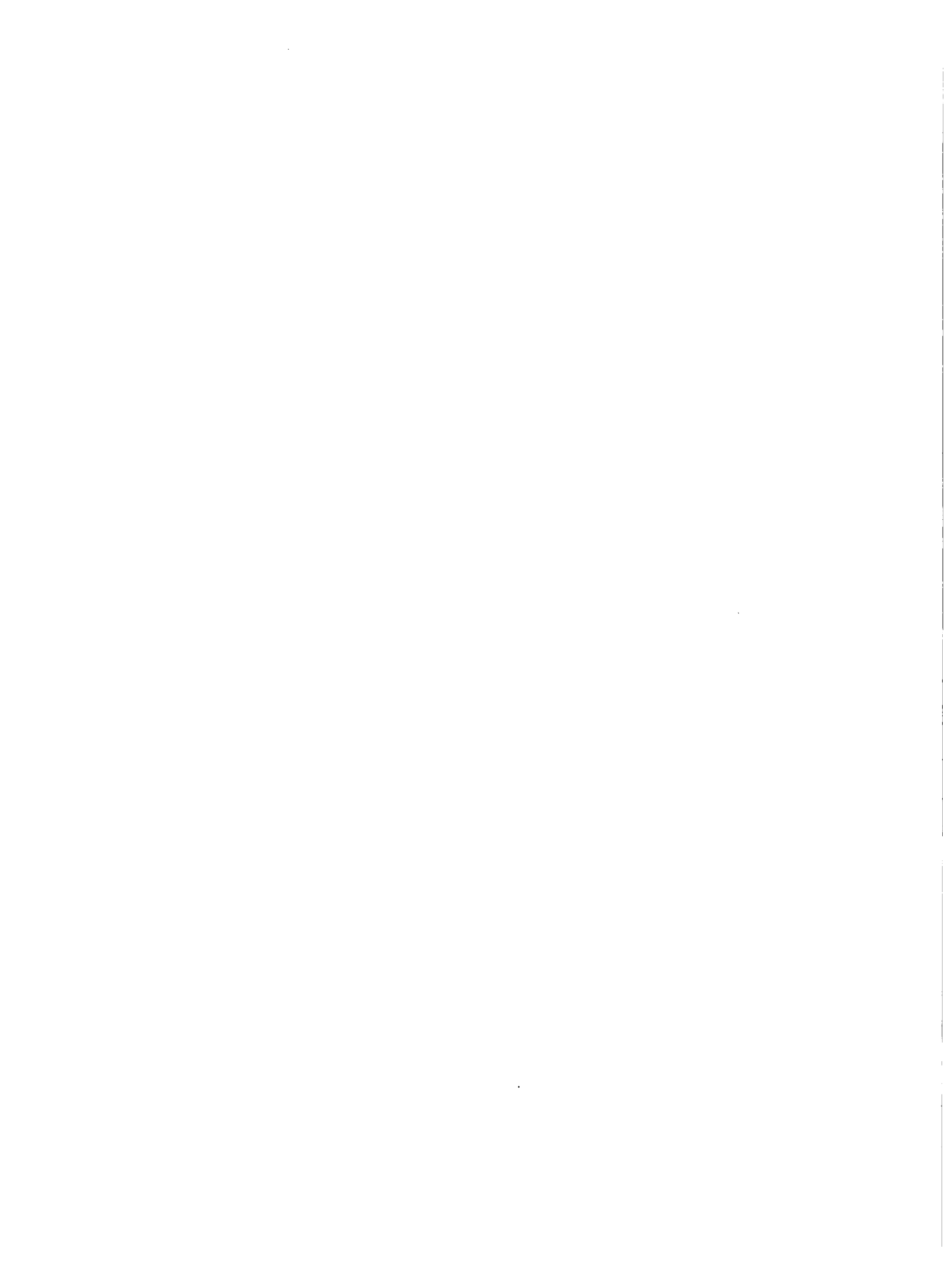
In the region as a whole, there is a marked absence of explicit income policies. Notable exceptions are Guyana and Jamaica where wage guidelines have been imposed at the instigation of the International Monetary Fund. These guidelines apply across all sectors including agriculture. There is also, in most countries, minimum wage legislation which fixes lower bounds for wages across all sectors. However, the effective wage in agriculture is generally above this minimum for two reasons: One is that unionization within the sector tends to be high in certain countries e.g. Guyana, Trinidad and Tobago, and Jamaica with the result that wage bargains use the minimum wage level as the springboard from which to negotiate. The other reason is that, given the sociological aversion to agricultural endeavours, a premium has to be paid in order to attract labour to the sector

in the required quantities.

In the case of farm operators, it is possible to improve their income prospects through special income tax legislation. Apart from those countries in which income tax has been entirely eliminated, full exemption has been granted for farm income below certain specified levels in some other countries. Trinidad and Tobago and St. Lucia are two cases where this concession obtains.

The impact of this incentive on the performance of the agricultural sector is still to be evaluated but, given the monetary value of this concession, it can be expected to increase the financial attractiveness of agricultural enterprises vis-a-vis activities in competing sectors. This optimism must, however, be tempered by a recognition of the severe constraints imposed on profitability in the sector by other significant factors including risk and uncertainty, problems of marketing and institutional factors such as land tenure etc.

With respect to employment in agriculture, the main element of policy is the imposition of guaranteed minimum levels of employment, out of season, in certain agricultural industries. While this guarantee represents a benefit to the agricultural labour force on the one hand, it reduces flexibility on the part of employers, on the other hand, and increases the size of the wage bill and hence costs in the sector.



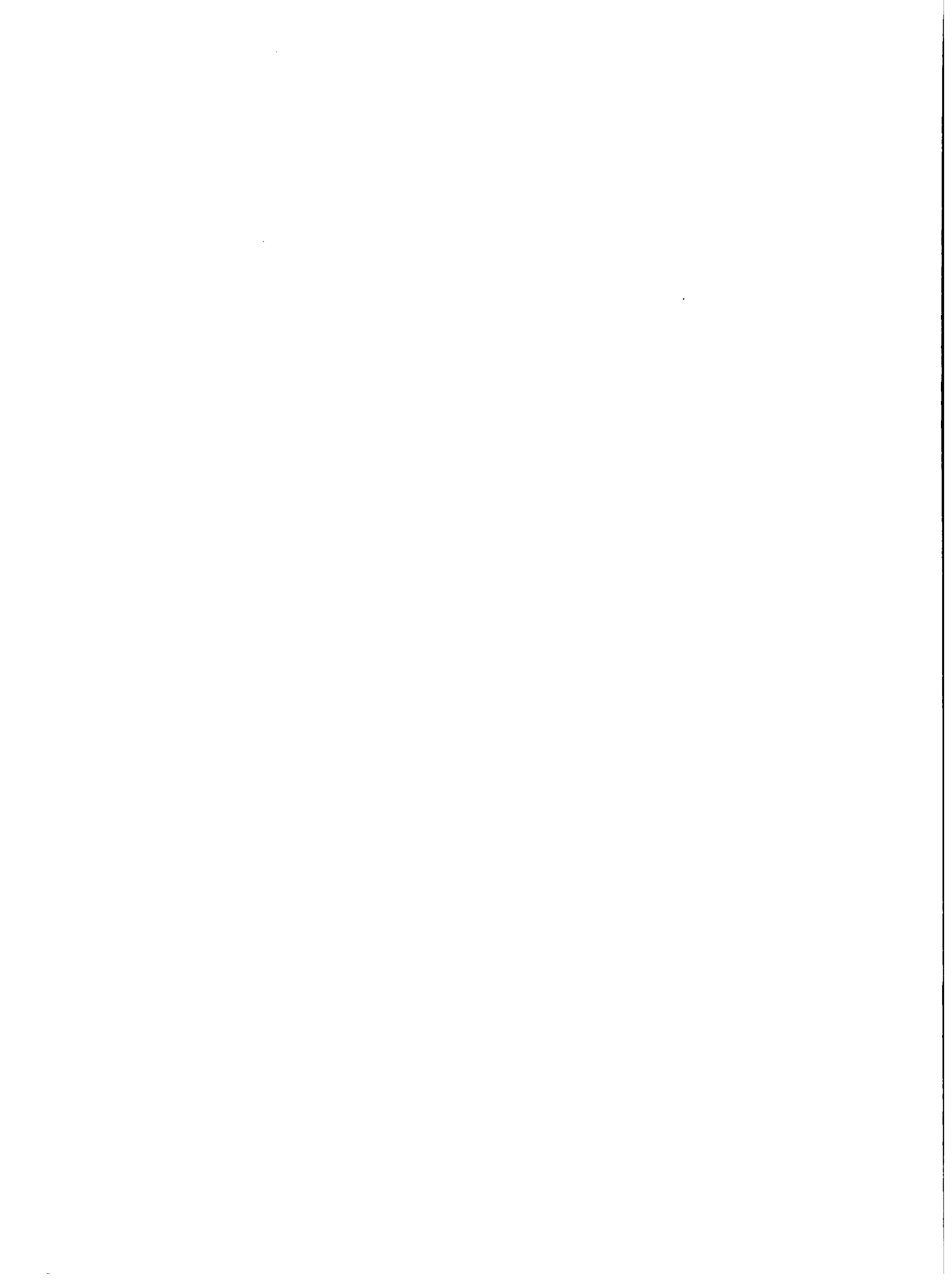
XIII. LAND AND NATURAL RESOURCE POLICY

The availability of arable land within the region is more than adequate to meet the needs of the agricultural sector. However, the distribution is very uneven: while these resources are in excess supply in the largest countries of the region e.g. Guyana and Belize, they are scarce generally throughout the rest of the region. It is particularly to the latter therefore, that only land policy should be addressed. Policies concerned with environmental issues and resource conservation need, of course, to be addressed to the entire region.

In the smaller states, fragmentation, parcelization and insecurity of tenure continue to pose severe constraints to productivity in the sector. Under-utilization of larger holdings is also an important feature of the land use pattern in these states. These problems are compounded by the continuous transfer, in some cases quite unrestricted of agricultural land to uses in other sectors.

The main element of policy directed to resolution of these problems will seem to lie in regulation and enforcement e.g. zoning, streamlining the administration of titles and the imposition of penalties for unwarranted abandonment of productive agricultural land.

There is a general lack of attention to environmental issues in the region. Very few countries have developed policies to deal with these issues. Notable exceptions are Jamaica and St. Lucia. Conservation of forests, watershed management and general



protection of the environment, including the monitoring of effects of chemicals, would constitute major elements of such policies.

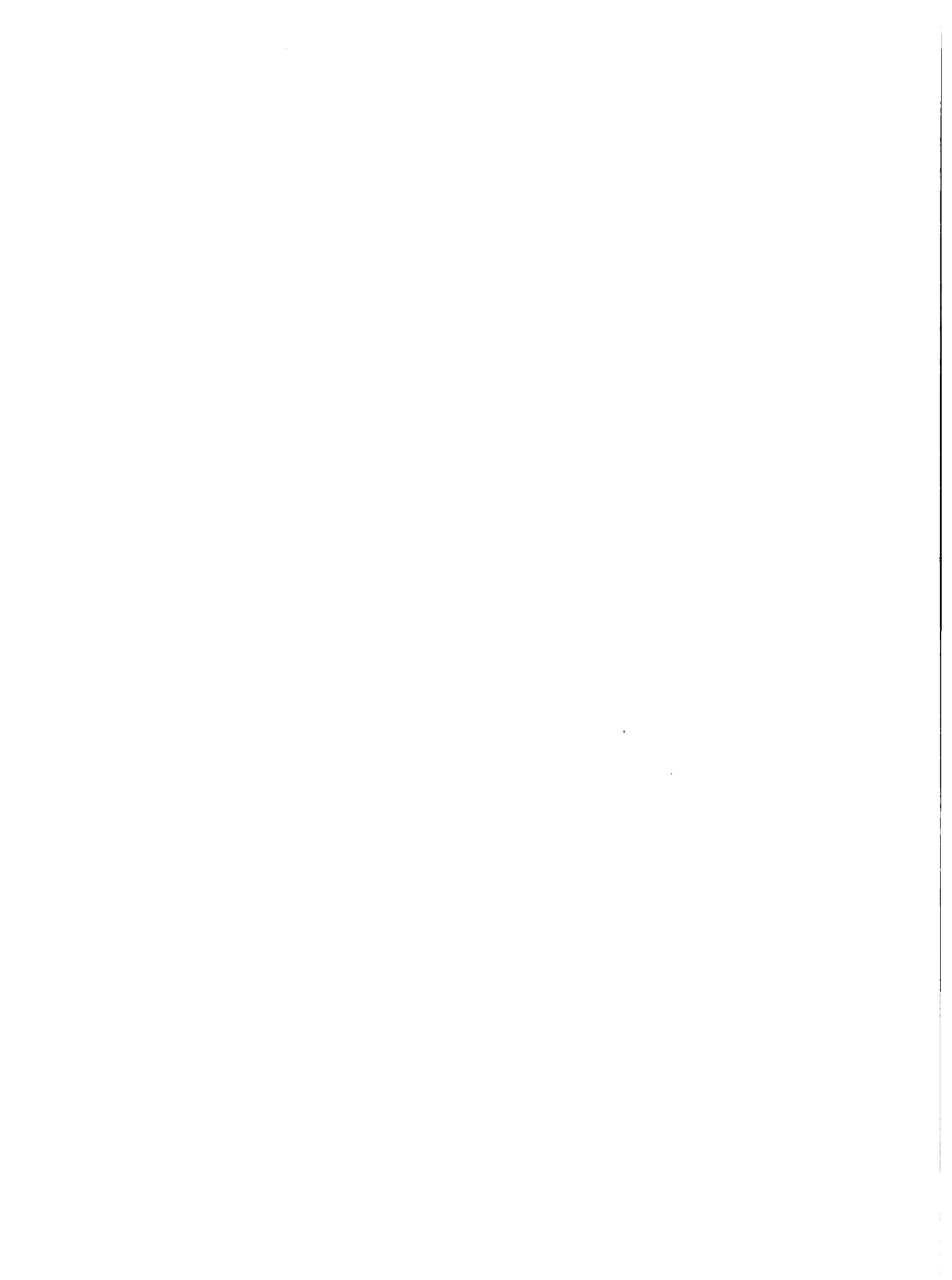
XIV THE ROLE OF AGRICULTURE IN THE CARIBBEAN - MACRO-ECONOMY

For the majority of the Caribbean countries, arable land and population are the basic resources available for the economic development of the region. This implies that agriculture will be required to play a significant role in the development process. This role may be seen in the context of three areas of priority:

- (i) food security
- (ii) income and employment generation
- (iii) net foreign exchange earnings.

The first two areas have been dealt with above as major components of the literature review. The third, net foreign exchange earnings, has been considered as part of the discussion on trade and exchange rate policies. However, there are specific issues which need further discussion within the broad context of the role that agriculture should play in Caribbean macro-economy.

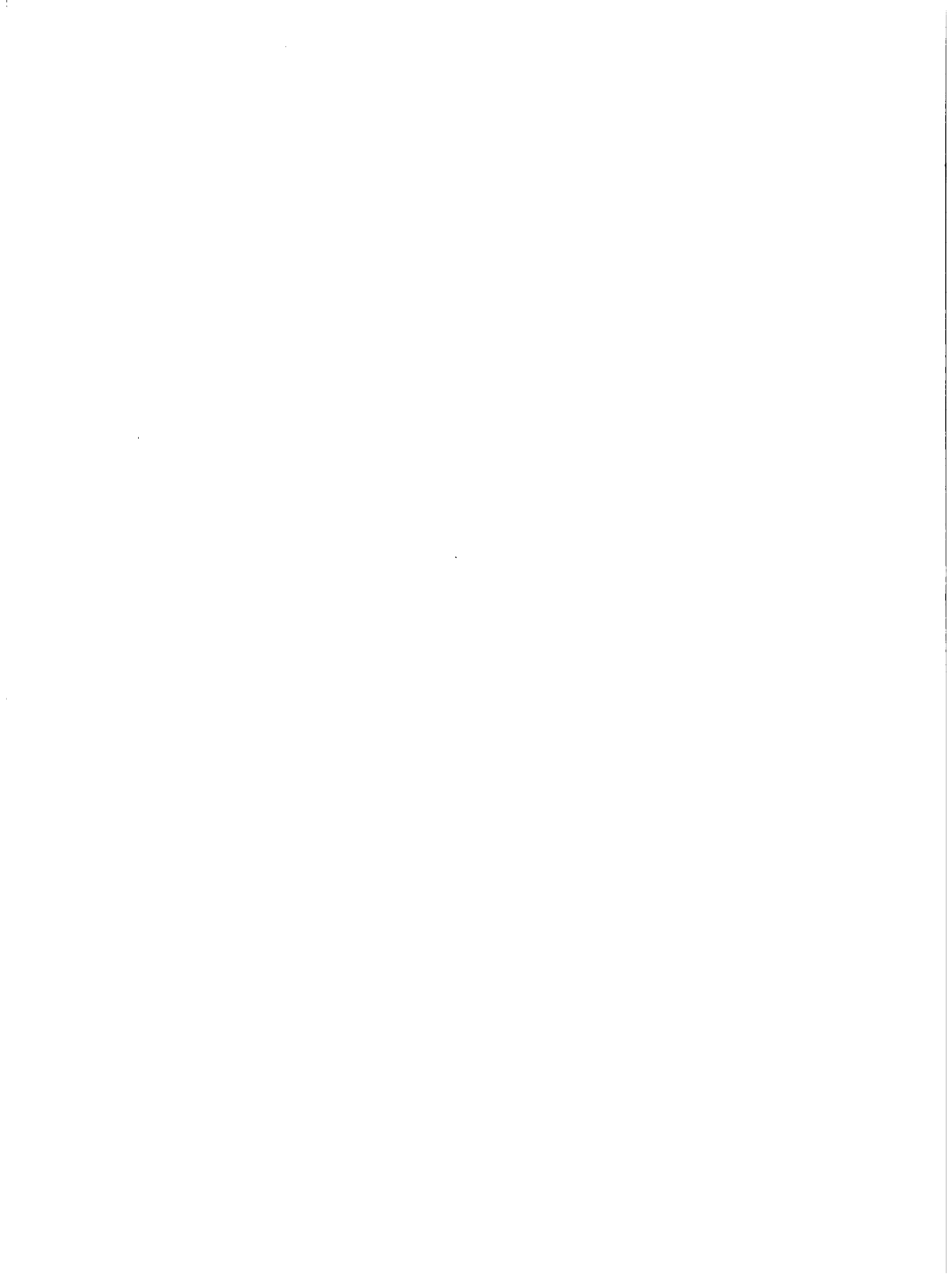
The first issue relates to broad policy support given to the sector to allow it to adequately perform its assigned role. It is often felt that the sector has been assigned lower priority in the allocation of resources compared to others e.g. manufacturing, tourism and other services. This has usually been the case because planners are not sufficiently sensitized to the



peculiar needs of the agricultural sector. Moreover, the agricultural lobby is weak compared to its counterpart in more advanced countries. Thus, macro-economic policies such as interest and exchange rate adjustments are often effected without due regard to their impact on the sector. Similarly, the tax concessions given to agriculture are certainly less liberal (or entirely absent) compared to other sectors. A third reason relates to the need for trade-offs between the quest for food security and the enhancement of net foreign exchange earnings. The greater the amount of resources allocated to production for domestic consumption to achieve the former goal of food security - the smaller is the amount of resources remaining available for allocation to export production to achieve the latter goal of net foreign exchange earnings.

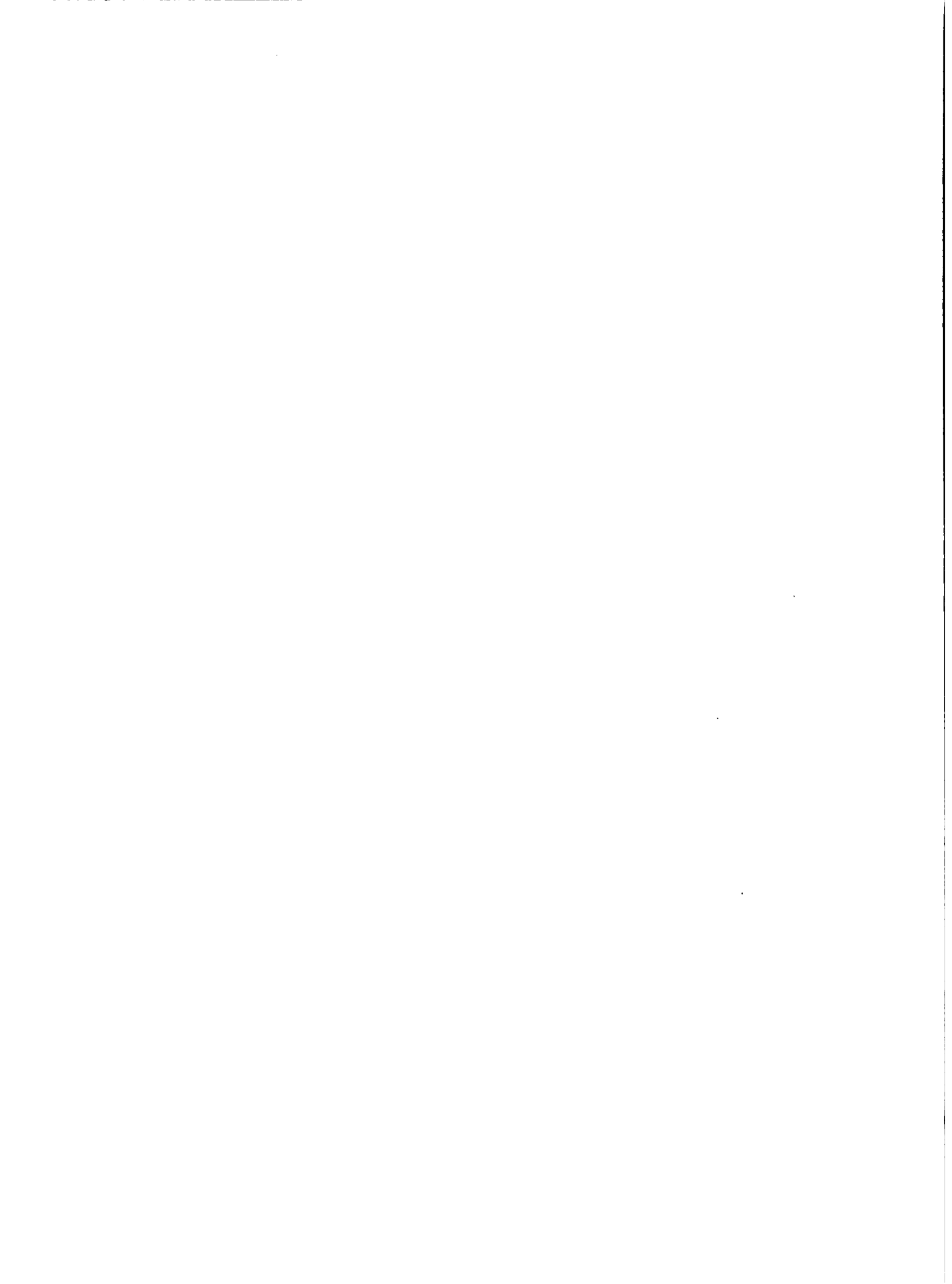
The above dilemma is a common one in economics. The discipline provides for the examination of the range of options and their associated consequences; but in the final analysis, the choice remains a political one. However, once this choice has been made, it is expected that relevant policies will be put in place to give it effect.

The critical importance of foreign exchange often biases the decision against food security. This is especially true in those countries where agriculture is still the major foreign exchange earning sector, since it is then required to provide enough foreign exchange to sustain activity in the rest of the macro-economy. This is indeed the case with most Caribbean economies.



Within the context of the regional economy, the role of agriculture and its contribution to the macro-economy may be enhanced through some degree of specialization and cooperation [Persaud 137]. Although attempts have been made in this direction, results have been minimal and progress slow. This has been attributed to a number of factors, among them, institutional rigidities inherited from the plantation system, global developments in world markets; the emphasis on import substitution rather than export development in earlier years; the increasing scarcity of public sector resources; the difficulty of coordinating a large number of agencies across the region; a weak planning infrastructure; the relatively low level of protection given to agriculture compared to other sectors; past exchange rate practices; and exchange controls and external payments arrangements which have often restricted, albeit unintentionally, the regional trade in agricultural products. [Caribbean Community Secretariat 125a].

The above experience suggests the need for new initiatives which will bring policy makers, producers and consumer representatives together to develop a framework within which the agricultural sector would better be able to discharge the important role assigned to it in the process of developing the region.



XV CONCLUDING STATEMENT

This paper has highlighted what are considered to be the major issues relating to the incentive structure for the development of agriculture in the Caribbean Region. While the searches conducted have thrown up much writing on the subject, certain deficiencies have been identified in the literature. For one thing, coverage was scant under some of the headings specified in the terms of reference.

But even where writings could be assigned to the given headings, they were found in many cases to be only marginally relevant to the issues in question. As a result, some duplication in the classification under the various headings was inevitable. Finally, even in some cases where there was sufficient relevance, the issues seemed not to be fully explored and debated. Indeed, many of the issues and ideas discussed in this review were either distilled from classified material or were developed on the basis of our own perception and interpretation of the current state of Caribbean agriculture. In such cases, the issues have been left un-referenced.

PART III

PART III

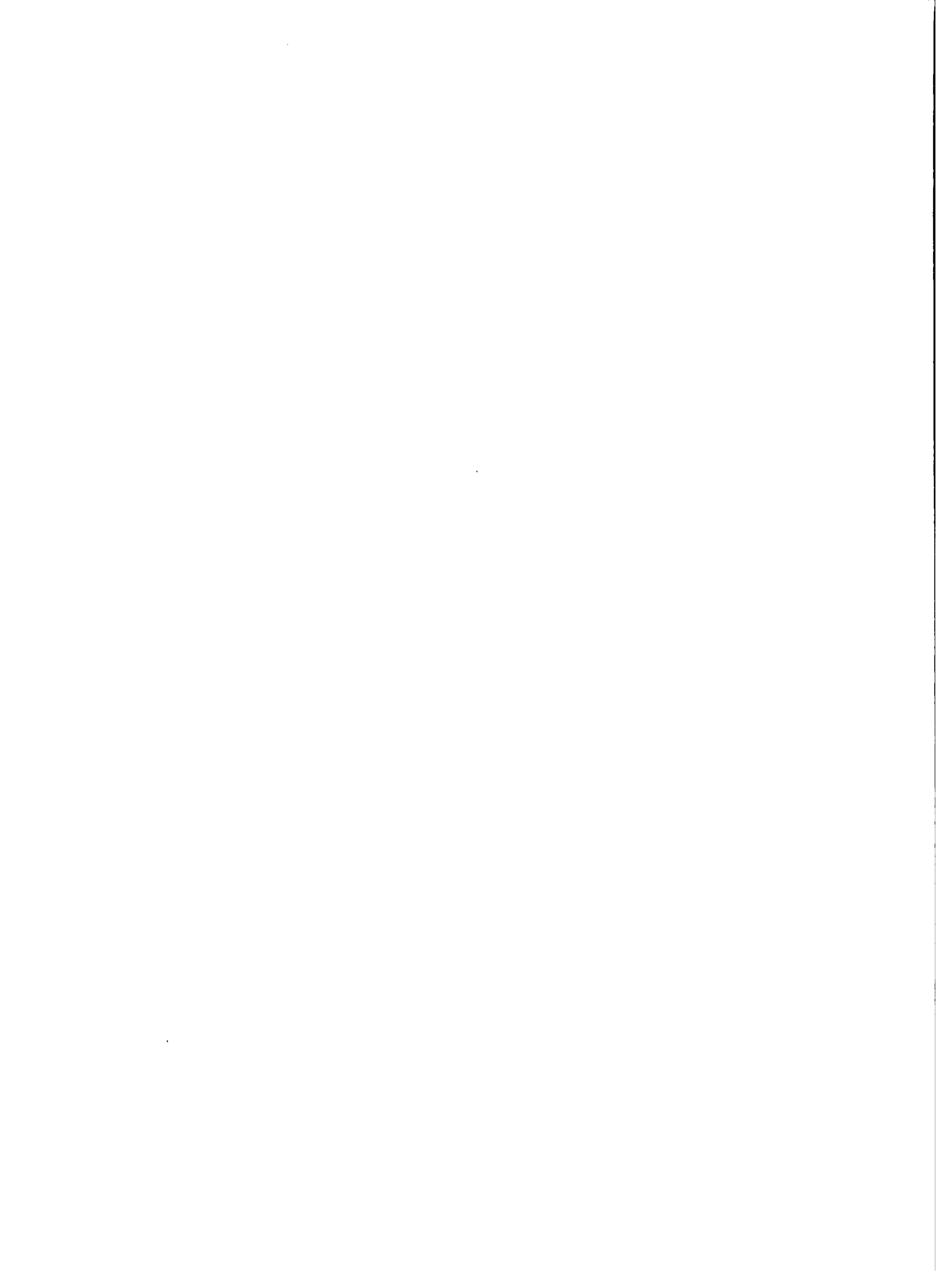
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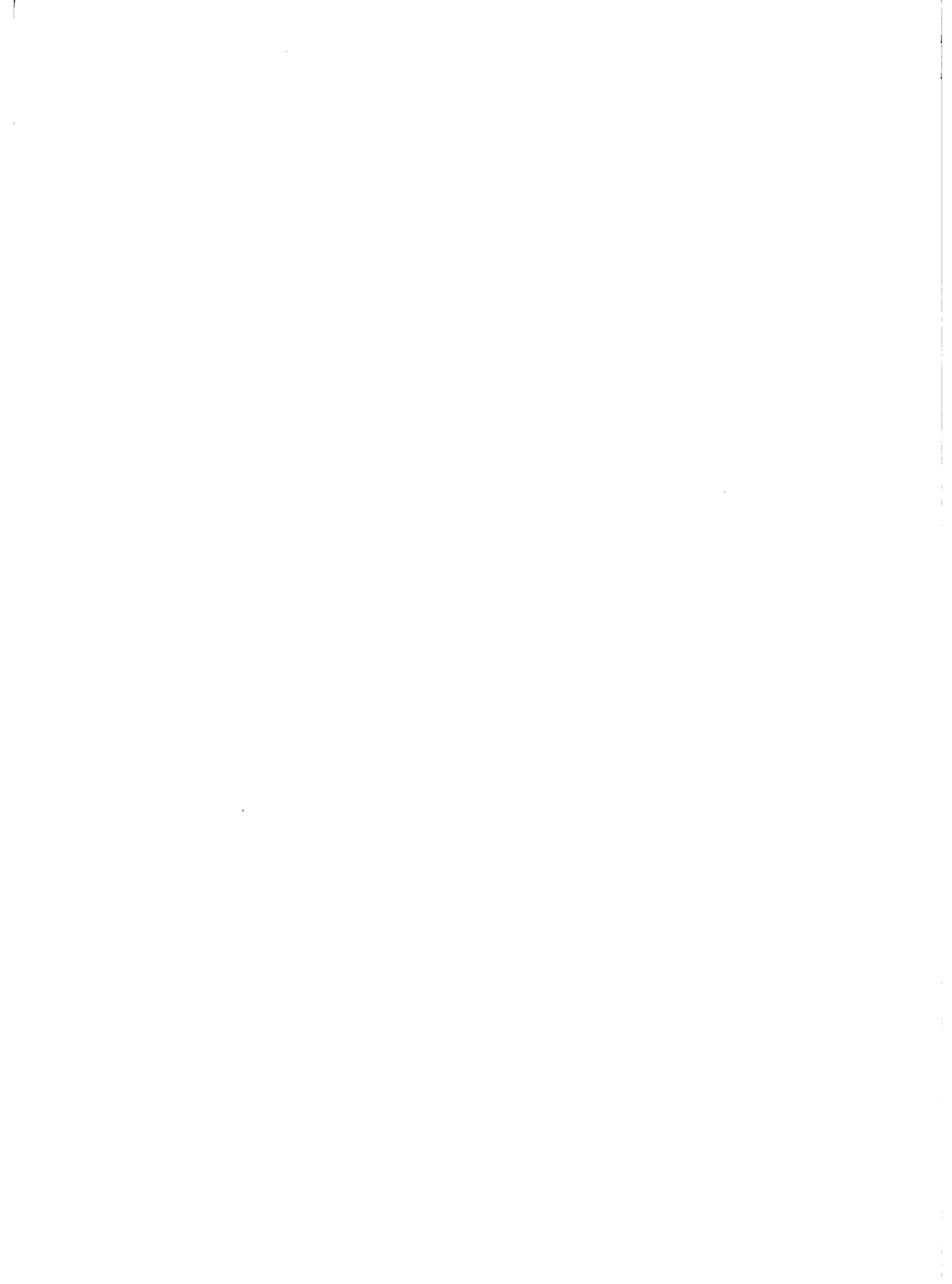
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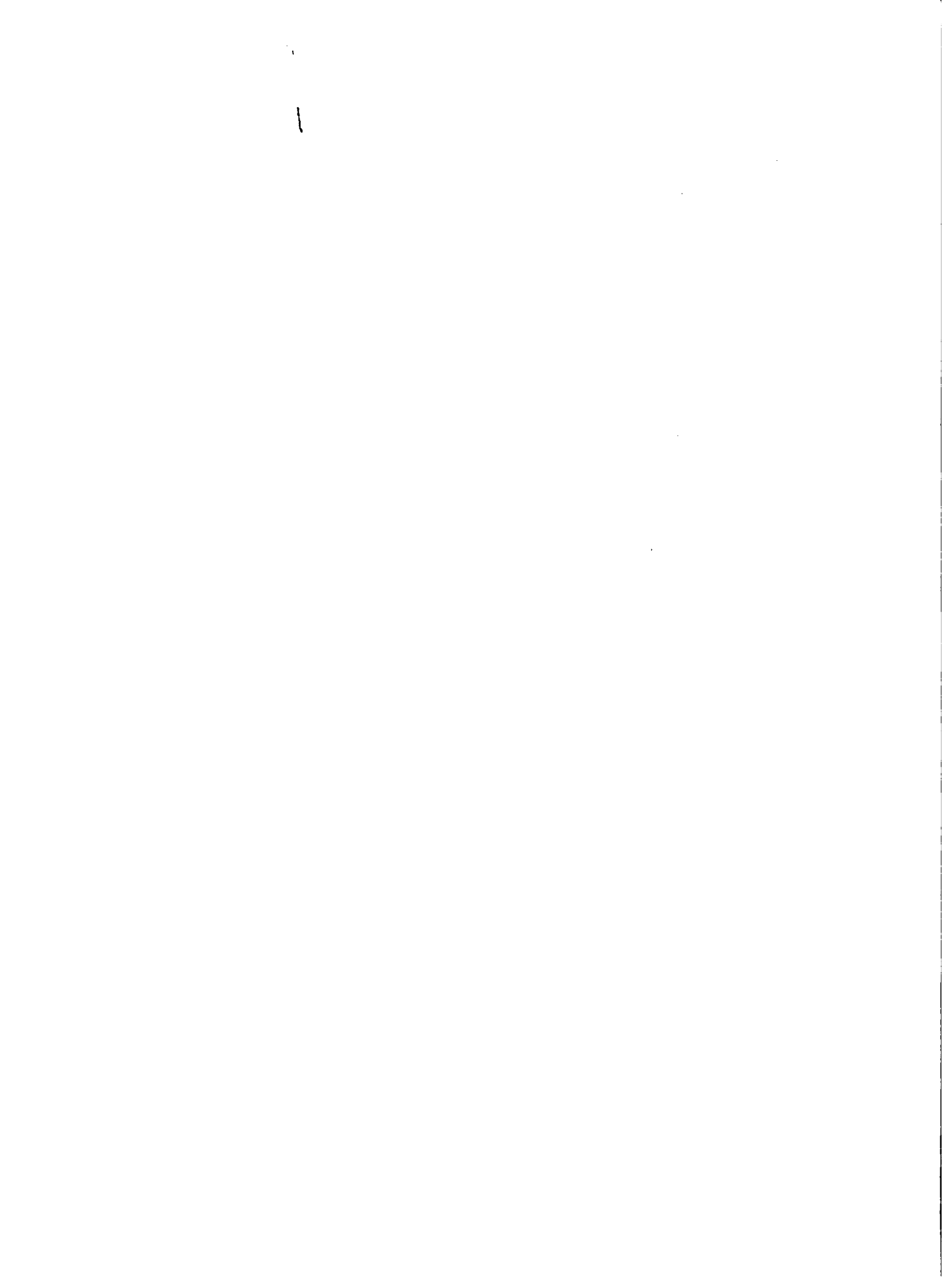
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FOOD POLICY, FOOD SUPPLY AND FOOD SECURITY

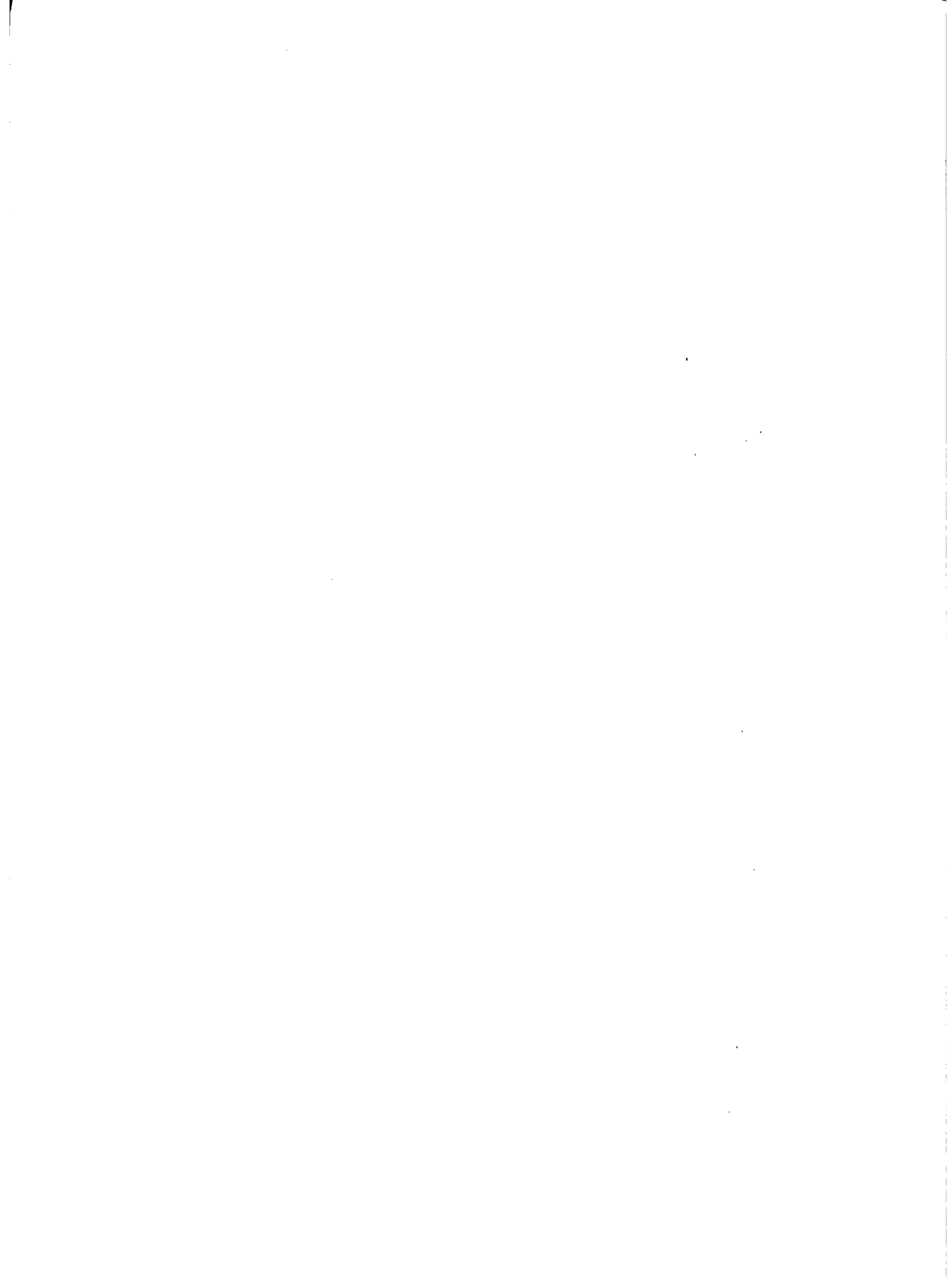
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