

COMMENTS OF THE MINISTER OF FOOD PRODUCTION AND MARINE RESOURCES

This "Sector Policy for Food Production and Marine Resources - 2001-2005" document identifies the challenges, presents the policy direction and policy issues and outlines the core strategy for facilitating agricultural development over the next few years. The agricultural sector is viewed as comprising production, processing and marketing activities in the crop, livestock and fisheries sub-sectors, and activities associated with sustainable management and conservation of the country's farm land and water and renewable natural marine resources. The agricultural sector so defined is consistent with the responsibilities of the Ministry of Food Production and Marine Resources (MFPMR).

Broad consensus on policy and strategy is crucial for enhancing agricultural development and optimising the benefit to stakeholders and the country. Thus, the input of stakeholders has been included in this final version of the document. More than 300 stakeholders participated in a national consultation on the draft version of this document on March 27, 2001. Stakeholders present at the national consultation included farmers, fisher folk, input suppliers, marketers, processors, consumers, conservationists, interested parties in other agencies and nongovernmental organisations, and the rural and wider national community.

This sector policy document furthers the process of national economic planning - it is subsidiary to the Medium Term Policy Framework 2000-2002 (Ministry of Integrated Planning and Development). This sector policy document will itself give rise to subsidiary documents. Subsectoral development plans for crops, livestock and fisheries, will be developed to identify the issues and more concretely lay out strategy for stimulating growth of target commodities. Another document, the 'MFPMR Strategic Plan 2001-2005', will set out the activities and actions to be undertaken by the MFPMR in support of the policy and core strategy. The MFPMR Strategic Plan 2001-2005 will influence the programme of work and budget of the Ministry beginning with the financial year 2001-2002.

This policy document is one milestone in a continual and coordinated process of policy formulation for the agricultural sector. The benefits to be derived from this coordinated process of policy formulation will occur if the Ministry and the agricultural sector can surpass the challenge of transforming policy into concrete implementable programmes, projects, activities and actions.

Honourable Minister

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1. BACKGROUND

For most of its history, Trinidad and Tobago has devoted the majority of its agricultural resources to producing export commodities - principally sugar, cocoa, coffee, citrus and copra. Export agriculture was profitable; profitability and international competitiveness facilitated by significant institutional support in the form of research, extension and credit. More importantly, export agriculture benefited from preferential marketing arrangements that assured a ready market, relatively stable prices and reduced risk for producers.

The past 30 years has been witness to considerable change in the agricultural sector - export agriculture has declined significantly; domestic agriculture has surpassed export agriculture in employing productive resources and in value of output; and the sector has further diminished in relative importance within the economy. Globalisation and international trade developments pose a more recent challenge to the growth of the agricultural sector. Events over the past 30 years and the current challenges emphasise the need for increased productivity and competitiveness if the agricultural sector is to increase profitability and attract investment.

2. INTRODUCTION

Trinidad and Tobago has a land area of 5130 square kilometres. The country is responsible for a marine area (i.e., the archipelagic waters, territorial sea and Exclusive Economic Zone) that is more than 11 times its land area. Farmlands accounted for just over 25% (131,572 ha.) of the country's land area when enumerated in the last agricultural census conducted in 1982 (CSO, 1986). Land use on the 131,572 ha. of farmland, in 1982, was recorded as follows: cultivated cropland - 62.1%, cultivated grassland - 3.4%, resting/fallow land - 6.6% and new land being prepared for crops/pastures - 3.4%.

The country has considerable ecological diversity that includes mountains, plains, forests, swamps and wetland areas, savannahs, rivers and waterfalls, and a rich flora and fauna consisting of species from both South America and the Antillean islands. The country's marine area includes at least 300 marine fish species, numerous species of crabs, shrimp and lobsters, up to 200 species of molluscs and the leatherback, green and hawksbill turtles.

In 1999, 46,800 persons or 9.1 % of the national labour force were employed in farming (crop and livestock production) fishing and forestry (Ministry of Finance, Planning and Development; Review of the Economy, 1999). Tens of thousands more were employed in activities that supplied inputs or marketed or processed the outputs of farming, fishing and forestry. Additionally, agriculture has the potential to stimulate growth and employment in other sectors such as tourism and agro-industries. As the major economic activity in rural areas, agriculture plays an important role in the process of rural development.

The broad objective of the Government of the Republic of Trinidad and Tobago (GORTT) is to manage the resources of the country to maximise output for the benefit of present and future citizens. The government envisions an agricultural sector that is modernised and internationally competitive, that generates sustainable income levels for producers comparable to those obtained in other sectors of the economy, that enhances the country's renewable natural resources and bio-diversity, and that enriches the lives of all citizens.

The agricultural sector is viewed as comprising production, processing and marketing activities in the crop, livestock and fisheries sub-sectors, and activities associated with sustainable management and conservation of the country's farm land and water and renewable natural marine resources. The agricultural sector so defined is consistent with the responsibilities of the Ministry of Food Production and Marine Resources (MFPMR).

The MFPMR being the premier agricultural development institution in the country has several responsibilities in fulfilling the vision of the GORTT. The MFPMR is responsible for promoting the efficient production, processing and marketing of food and non-food farm products and food products harvested from the marine resources of the nation. The MFPMR is also responsible for sustainable management of the nation's marine renewable resources, and the land and water resources devoted to farming.

3. REVIEW OF THE PERFORMANCE OF PRODUCTION AGRICULTURE

3.1 Agricultural GDP

The relative contribution of the agricultural sector to the value of goods and services produced in the country - i.e., agriculture as a share of national gross domestic product (GDP) - show a declining trend over time. As evidence, the relative contribution of agriculture to GDP was 5.0% in 1985; it was 2.2% in 1999 - see Column 5 of Table 1 in Annex I for additional data. The average annual rate of growth of agricultural GDP was lower than that of the national GDP 1995-1999 rates of growth were estimated to be +0.7% and 3.6% for the agricultural and national GDP respectively (Nagy, 2000).

The performance of sub-groups within the agricultural GDP can be examined with a classification convention used by the Central Statistical Office (CSO). This classification disaggregates the agricultural sector data into Export Agriculture, Domestic Agriculture, and Sugar. Export agriculture comprises cocoa, coffee and citrus. Domestic agriculture comprises forestry, fisheries and the other agricultural commodities, excluding sugar. In 1999, export agriculture, domestic agriculture and sugar cane production contributed \$33.2 million (5.1%), \$399.3 million (61.1%) and \$220.8 million (33.8%) respectively to agricultural GDP (CSO; Annual Statistical Digest, 1999). Nagy (2000) estimated the 1985 -1999 average annual rates of growth of the value of output from export and domestic agriculture and sugar to be -0.5%, +0.1% and -0.9% respectively.

The CSO also disaggregates the agricultural sector data into crop, livestock, forestry and fisheries sub-sectors. The crop subsector contributes the most to the value of agricultural GDP; for example, it contributed 64% in 1999 compared to 22% and 10% for the livestock and fisheries sub sectors respectively. The crop sub-sector includes sugar production, the traditional export crops of cocoa, citrus and coffee, and domestic crops such as rice, coconuts, bananas, tobacco, vegetables and rootcrops.

GDP figures understate the contribution of agriculture to GDP. The national accounts data used to calculate GDP omit some agricultural activities, such as floriculture, and undercount others such as citrus production. GDP data also ignore activities related to sustainable management of the renewable natural resources. Additionally, most marketing and processing (of agricultural produce) activities are recorded as part of the distributive or industrial sectors.

3.2 *Employment in Agriculture*

The share of the labour force in agriculture declined from 10.8% in 1985 to 9.1 % in 1999 -- see Column 7 of Table 1 in Annex I for additional data. Nagy (2000) estimates that during the period 1986 - 1998 employment in Trinidad and Tobago grew at an average annual growth rate of +1.8%; in the agricultural sector the average annual growth rate of employment was -0.9%. However, the unemployment rate in agriculture has been below the national average - see Table 2 in Annex 1. For example, in 1986 the national unemployment rate was 17.2% while the unemployment rate in agriculture was 3.2%; in 1998 the national unemployment rate was 14.2% while the agricultural unemployment rate was 5.8%.

3.3 *Agricultural Incomes*

Average incomes in the agricultural sector are the lowest in the country. GDP per worker is a measure of the surplus available for distribution to the factors of production, including labour. In 1986, average GDP per worker was \$44,759 for the nation when measured in 1985 constant prices; in agriculture it was \$9,444. In 1998, average GDP per worker in the nation was \$40,323 when measured in 1985 constant prices; in agriculture the value was \$13,707. Within the agricultural sector, the sugar industry followed by export crops provides the highest returns - in 1998, average GDP per worker was \$18,933 in the sugar industry, \$13,521 in export agriculture and \$11,721 in domestic agriculture. Table 3 in Annex I provides data on GDP per worker for the period 1986-1998.

3.4 *Agricultural Trade*

Trinidad and Tobago is a net food importer and has been for decades. Table 4 in Annex I provides food import and export data for the 34-year period 1966-1999. In 1999, the value of food imports was 181% of the value of food exports; in 1984, it was 887.8%. In the past 34 years the lowest value of 116% was achieved in 1968. The total value of food imports in 1999 was TT\$1.7 billion; approximately the same value in 1998. The value of food exports was TT\$938.3m in 1999; TT\$959.0 in 1998 (Source: CSO, Overseas Trade Bulletin, October 1999).

3.5 *Agricultural Production*

As shown by the FAO's Index of Agricultural Production in Figure 1, the total output of the agricultural sector declined during the 1970s and 1980s with a partial though shaky recovery during the 1990s. The FAO's Index uses 1979-1981 as the base period; thus, all index numbers should be read as indicating the level of agricultural production relative to this base period. The base period has an average value of 100.

Decline of the agricultural sector in the 1970s and 1980s was largely a result of falling output in the crop sub-sector. The decline in crop production was partially compensated by growth in the livestock sub-sector. Though the decline in crop production ceased in 1985, the agricultural sector has not recovered to previous levels of production.

Figure I Agricultural Production Indices for Trinidad and Tobago

4. EXPLAINING PERFORMANCE OF THE FARM SECTOR

Three economic forces can help explain the decline in relative importance of the overall agricultural sector in Trinidad and Tobago. These economic forces are (i) structural transformation of the economy, (ii) Dutch disease, and (iii) international trade developments. Within agriculture, these economic forces provide a more cogent explanation for performance of the farm sub-sector; much less so for the fishery sub-sector. These economic forces also provide a partial explanation for several inherent contradictions operating in the farm sub-sector, viz.,: (i) difficulty in obtaining farm labour in an economy with a 13% unemployment rate; and (ii) a high demand for farm land existing alongside a high rate of abandoned farm land.

4.1 Economic Structural Transformation

Economic structural transformation refers to change in the structure of the economy as development proceeds. As development proceeds the (primary production) agricultural sector comprises a smaller and smaller share of national GDP and employs a smaller and smaller share of the national labour force. Decline in the relative importance of the agricultural sector is in part motivated by increasing competition and loss of resources (land, labour and capital) from production agriculture to the expanding and new sectors of the economy, e.g., manufacturing, tourism, services. These changes occur slowly but are clearly evident in the long-term, such as in data for a 20 or 30-year period. Trinidad and Tobago is not alone in experiencing economic structural transformation; it affects all countries.

Economic structural transformation poses several challenges to the process of agricultural development. One challenge is to avoid a reduction in agricultural output in the face of loss of land and labour as development proceeds. The USA, many European countries and many countries in Asia, have successfully overcome this challenge. The solution involves increasing the productivity of the land and labour used in agriculture. However, increasing productivity commonly requires more capital-intensive production - such as mechanisation to increase labour productivity on large farms or a switch to higher-valued commodities and more intensive production methods to increase land productivity on small farms. Such strategies may require supportive policies on the availability, accessibility and cost of credit. Additionally, the existing distribution of farm sizes and availability of land within Small Island Developing States (SIDS), such as Trinidad and Tobago, can constrain the choice of mechanisation as a viable strategy.

Economic structural transformation poses another challenge to the process of agricultural development - the need to attract investment and quality human resources and retain quality land. Increasing the profitability of agriculture, relative to profitability in other sectors of the economy, is an important strategy in meeting this challenge. Consequently, economic structural transformation provides justification for increasing the productivity and efficiency of the resources used in agriculture until returns compare favourably with returns in other sectors of the economy.

Improving the productivity and efficiency of resources employed in agriculture can increase national income. In Trinidad and Tobago, in the region of 9% of the labour force and 25% of the land area is in the farm sector. Clearly, receiving lower than average productivity and returns or abandoning these resources will not maximise national income.

4.2 Dutch Disease

Dutch disease¹ is an economic phenomenon in which rapid expansion (a boom) in one foreign exchange earning sector of the economy negatively affects the performance of other foreign exchange earning sectors (notably agriculture). The oil-boom of the 1970s and early 1980s caused Dutch disease effects in Trinidad and Tobago. During the oil-boom sharp increases in petroleum prices caused increased demand for goods and services (and thereby land, labour and capital) in the economy. During this period production activity in agriculture declined because of a cost-price squeeze - cost of production increased particularly due to increasing labour cost while at the same time producers were unable to obtain countervailing higher prices because of 'cheap' imports (Jacque, 1996). At present Dutch disease, motivated by the relative strength of the tourism industry, affects the performance of the agricultural sector in Tobago.

The structure of agricultural output, in Trinidad and Tobago, changed dramatically under the influence of Dutch disease during the 1970s and 1980s. Production of vegetables, rice, poultry, pork and other items under quantitative import restrictions (largely the output of small farms) increased. The traditional export commodities of cocoa, coffee, copra, citrus and sugar (largely the output of large farms) declined dramatically.

Many farms, particularly large farms, were under-utilised or abandoned during the 1970s and 1980s. These farms were not profitable to cultivate yet extremely attractive investments given land price-appreciation. Also owners were often unwilling to lease or rent because of existing legal provisions that favoured the lessee or renter.

¹ This name derives from the experience of Holland in the 1970s when the discovery of natural gas led to a decline in manufacturing.

Dutch disease and economic structural transformation highlight a major challenge for the agricultural sector - viz., price expectations (i.e., wage rate, land prices and rental rates, and returns to investment) within the agricultural sector increasingly will be dictated by comparable prices and returns available in other sectors of the economy. During the 1970s and 1980s the agricultural sector was not competitive with other sectors of the economy, e.g., in terms of relative returns on investment and returns to labour.

4.3 International Trade Developments

Significant international trade developments include trade liberalisation, higher food safety standards, and new measures for sustainable resource management as requirements for export. Agricultural trade liberalisation, in Trinidad and Tobago, was initiated at the beginning of the 1990s with the structural adjustment programme. The trade reform component of the structural adjustment programme moved commodities from quantitative protective measures to a tariff schedule with declining rates over time. The tariff schedule for agricultural commodities was revised in 1996 as a conditionality of the IDB-funded Agricultural Sector Reform Programme.

International trade developments present significant challenges (and opportunities) to developmental efforts in the agricultural sector. Trade liberalisation was expected to erode preferential access to export markets and increase competition in domestic markets. At this point, preferential markets have not been substantially eroded and the impact to domestic production is yet to be determined. Increased food safety standards in export markets have affected fish and fish products and are a potential threat to commodities such as vegetables, fruits and poultry. Sustainable resource management requirements such as turtle excluder devices in fishing have affected exports of fish products.

4.4 Conclusion

Economic structural transformation, the Dutch disease and international trade developments all highlight a central issue in explaining decline of the agricultural sector - loss of competitiveness. Economic structural transformation and the Dutch disease emphasise loss of competitiveness with other sectors within the economy and the great influence of non-agricultural events on agricultural performance. The international trade view suggests relative lack of competitiveness with the agricultural sectors in other countries and the influence of events in the international arena.

Efforts to increase agricultural development and exploit international trade opportunities will require a greater focus on reducing the negative effects of economic structural change and the Dutch disease. Regardless of our skill and fortunes in the negotiating arena, our capacity to exploit the international trade opportunities will be constrained by the capacity and competitiveness of domestic production. Thus, it is increased productivity, competitiveness, profitability and incomes within the agricultural sector that will drive agricultural development forward. This clearly requires a focus on issues and constraints within the sector.

5. CHALLENGES IN MANAGING THE RENEWABLE NATURAL RESOURCES

5.1 Marine Resources

Marine ecosystems are under environmental threat from land-based and marine activities. Issues of concern include, over-exploitation of fish species, destruction of wetlands, degradation of marine habitats and ecosystems, and pollution from land-based sources. Moreover, the need to sustainably manage the marine ecosystems sometimes conflict with demands for recreation, tourism, food production and transportation.

For purposes of management, the living marine resources are separated into the inshore coastal fisheries and the offshore fisheries. These two fisheries present different challenges in sustainable management.

There are several challenges to management of the inshore coastal fisheries. Several species of fish are over-exploited. Over-exploitation is a consequence of the open access nature of the inshore fisheries, weak resource management and over-capitalisation. The consequences for fisher-folk have been increasing fishing effort, falling yields and declining financial returns. In addition, the coastal marine environment is being degraded as a result of land-based activities such as destruction of wetlands and pollution from agricultural, industrial and residential sources.

Challenges to sustainable management of the offshore fisheries include data limitations on the resource, the absence of adequate monitoring mechanisms and inadequate enforcement against illegal fishing.

Trinidad and Tobago is bound by several international conventions including multi-lateral and bilateral agreements that institutionalise new approaches to fisheries management. Of particular importance are The 1982 United Nations Convention on the Law of the Sea (UNCLOS III); Agenda 21 and the Convention on Bio-diversity of the United Nations Conference on Environment and Development (UNCED, 1992); and the 1995 Convention on the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks. The Code of Conduct for Responsible Fisheries is also a voluntary non-binding "soft law" that is being promoted by the United Nations Food and Agriculture Organisation (FAO).

The many conventions and agreements mean that Trinidad and Tobago has an obligation to exploit, conserve and manage the fish resources and its waters. Moreover Trinidad and Tobago, because of the close proximity to neighbouring countries such as Venezuela, Guyana, Barbados, and Grenada has an obligation to manage shared stocks. "The combined effect of these international developments is to provide a common legal framework within which Trinidad and Tobago is directed to develop its marine fisheries, and which will provide significant and increasing costs/sanctions for non-conformity, including non-competitiveness in external trade if present commercial harvesting practices continue" (Policy Directions for Marine Fisheries of Trinidad and Tobago in the 1990s; MALMR 1994).

There are several avenues for growth of the fisheries sub-sector. Targeting under-utilised and unutilised fisheries for increased fishing effort is one growth avenue. Development of the ornamental fish industry and aquaculture presents other avenues for growth. Additionally, improvements in marketing and post-harvest infrastructure and technology can support continued growth of exports.

5.2 Terrestrial Resources

The MFPMR has responsibility for sustainable management and conservation of the land and water resources used in farming.

In the farm sub-sector current production methods are cause for concern because of the negative impact on the quality of land, biological diversity, human health, rivers and the marine environment. Sustainable management of farmlands pose two major challenges. First is the need to maximise output without significantly reducing soil fertility. Another challenge is to minimise the negative impact of production on downstream ecosystems and human health.

6. CORE STRATEGY FOR AGRICULTURAL DEVELOPMENT

6.1 Production Agriculture

At the center of efforts to enhance agricultural competitiveness in Trinidad and Tobago will lie strategies for increasing the profitability of private production (the fundamental incentive for entrepreneurs), in an economically acceptable and sustainable manner. Critical components of this core strategy will involve:

1. accessing, developing and promoting the adoption of appropriate technology to reduce production costs;
2. developing and promoting the adoption of more profitable higher-valued commodities or commodity production systems;
3. promoting the adoption of improved husbandry and management practices;
4. implementing more effective agricultural health and food safety standards and systems;
5. facilitating improved marketing systems and strategies;
6. promoting linkages with and development of agro-industry.

Items 1 - 3 above aim to improve the technology of production. Improved technology can reduce production costs, allow the productivity of land and labour to increase, compensate for labour shortages, reduce drudgery, and offer more profitable alternative commodities. Improved management is an important complement to technology. Consequently, the quality and effectiveness of the research and extension systems available to producers will be critical resources for success.

Items 4 and 5 are also important for success. Agricultural health and food safety issues are an important element of international trade and competitiveness. The efficiency of the domestic and export marketing systems and strategies, the capture of value-added opportunities and the flow of information among market participants can help to increase farm revenues.

The core strategy (of technology, higher-valued commodities, improved management, agricultural health and food safety, marketing, and agro-processing) will be complemented by other strategies that seek to reduce the constraints to agricultural production. Major constraints to production include deficiencies in land tenure systems, infrastructure (e.g., access roads, water management, and beach landing facilities), credit and praedial larceny control. Thus, complementing the core strategies will be efforts to:

- 7 improve security of land tenure;
- 8 rehabilitate and increase infrastructure;
- 9 increase access to credit;
- 10 reduce risk in production and marketing (including the risk of praedial larceny).

Efforts to enhance the competitive position of the agricultural sector will address a number of fundamental policy and sectoral management issues. Policy issues include, the role of the state, the relationship between national and sectoral policy, the need for and extent of regulation of markets (for inputs, resources and commodities), the role and nature of incentives, and the social and cultural conditions that would be supportive of agricultural development. Sectoral management issues include the need for (i) mechanisms to increase stakeholder participation in policy formulation and decision-making, and (ii) a commodity-industry approach (covering input supply-farm production-marketing-processing-consumption) to sectoral management rather than a production (farm) approach.

Focusing resources in an environment of limited financial, human and physical resources is an important strategic issue in the management of agricultural development. Focussing resources (research, extension, incentives) on commodities that possess or have the potential to be internationally competitive or that meet some other strategic criteria will contribute to a relatively rapid turnaround of the agricultural sector.

6.2 Renewable Natural Resources

The primary objective with respect to the renewable natural marine resources and the land and water resources used in farming is sustainable management and protection of the environment.

Priorities in the marine fisheries include implementing strong management practices that take account of the many interests while ensuring sustainability of the renewable resources, and enhancing income levels and return on investment. Primary strategies include managing access to the fisheries, improving data collection for stock assessment, engaging in stock rebuilding and ecosystem enhancement activities, training of fishermen and re-equipping fleets for activities in fisheries in international waters and introducing co-management approaches with stakeholders and other countries particularly Barbados and Venezuela. Further, aquaculture and aquaculture products will be developed as an alternative and to complement marine fisheries. Another critical strategy is the use of multi-sectoral approaches to address landbased activities that negatively impact the marine ecosystems. The effectiveness of enforcement Efforts even under the constraints of limited resources within the MFPMR will receive attention.

The objectives of increased farm production and environmental protection are not mutually exclusive. Greater attention will be given to soil (including the fertility aspect) conservation and use of more environmentally friendly production methods.

7. POLICY ISSUES

7.1 Role of the State/MFPMR

The 'role of the State' is a fundamental policy issue-area, since it reflects the philosophical orientation of government policy. It is also pervasive in influence on the orientation of goals and actions in other policy areas.

The last two decades has witnessed a revision of thinking on the appropriate role of the State in its efforts to foster national and sectoral development. There is mounting evidence that the State is a relatively inefficient producer of private goods and services and further, that its activities often crowd out the private sector. Increasingly, the practice is to restrict State activity to the set of goods and services that it can best produce

- i.e., the public goods and services. The major characteristic of a public good is 'non-exclusivity', i.e., once produced it is impossible or very costly to exclude individuals from benefiting from the good.

The State will facilitate private sector activity by producing public goods and services in support of private sector activity and improved livelihoods for citizens. The MFPMR considers the aspect of enforcement of regulations and provision of certification, including but not limited to public health and food safety, as essential. The Ministry will accommodate the needs of stakeholders for speedy and transparent decisions and actions in the conduct of its regulatory and certification responsibilities. The facilitative role of the State includes its functions with respect to development and enforcement of regulations and standards for quality assurance, together with its efforts to protect the public interest in environmental matters. The State will also intervene in markets, for limited periods, to assure the supply of some 'strategic' private goods not provided by the private sector.

In implementing this policy, Government will identify those goods and services that are inherently 'public' in nature and essential to activities in the private sector, or that are 'private' in nature but for strategic reasons require state production for a limited (transition) period. Further, the MFPMR will evolve, through its Agricultural Sector Reform Programme (ASRP), into an agency that is more facilitative of private sector activity and that more efficiently produces public and 'strategic' private goods and services. The MFPMR has identified for the most part, the goods and services that it wishes to 'transition' to the private sector.

7.2 Scope of Responsibilities of the MFPMR

The MFPMR has oversight and regulatory responsibilities for the production, marketing and (to a more limited extent) processing of primary agricultural (farm and fisheries) commodities. Thus, its primary clientele is comprised of farmers, fisher-folk, marketing intermediaries and processors. However, production, marketing and processing of primary agricultural commodities is a sub-set of the wider commodity system or industry. The entire commodity system comprises input suppliers, primary producers, distribution and marketing intermediaries, processing firms, hotels and restaurants, individual consumers, and economic agents involved with similar commodities in other countries.

The ultimate objective of the commodity system is to satisfy the needs of the final consumer. Thus, it is unwise to treat primary production as an isolated sub-system. In consequence, the challenge for the MFPMR is to influence oversight and regulatory responsibilities for entire commodity systems through effective implementation of its mandate and strategic relationships with other Ministries and institutions. Managing commodity systems that span the input-farm-marketing-processing-consumer chain, as opposed to merely primary production activities, will be the strategic way to drive development of the sector.

The MFPMR is the primary agency with responsibility for the sustainable management of the renewable natural marine resources and land and water resources used in agriculture. Several Divisions of the MFPMR - such as Fisheries, Extension, Research, the Land and Water Development Division and the Regional Administrations - have responsibilities in ensuring the sustainable management of resources. Other branches of government, principally the Ministry of the Environment and the Ministry of Infrastructural Development have responsibilities in this area.

Inter-ministerial collaboration will be an important element in the MFPMR's strategy to fulfil its responsibilities more effectively. The Ministry will prepare the mechanisms and structures to ensure effective collaboration at all levels.

7.3 Macro-Economic and National Policies

Agricultural sector policies are implemented within the framework of macro-economic and national policies and strategies. These policies affect the competitiveness and performance of the agricultural sector. For example, overvaluation of the foreign exchange rate provides a disincentive to exports and an incentive to imports; interest rates affect investment decisions; labour policies affect the availability of labour and wage rates in agriculture; land policies influence the availability and price of agricultural land. National policies will also influence critical issue areas proposed in this document such as the extent and legal basis of (i) inter-Ministerial collaboration for purposes of managing commodity systems and natural resources; (ii) stakeholder participation in policy formulation and sectoral management; and (iii) community and stakeholder participation in management of natural resources.

Agricultural performance, in light of the foregoing and discussion of the Dutch disease and economic structural transformation, is influenced to a high degree by policy and developments that occur outside the sector. In light of this, the MFPMR will adopt a more proactive role in influencing the formulation of national policies with potential to affect the agricultural sector.

7.4 Relationship with the Tobago House of Assembly

The Tobago House of Assembly Act provides the Tobago House of Assembly with direct responsibility for most matters pertaining to the development of food production and marine resources in Tobago. The relationship between the Agriculture Division of the Tobago House of Assembly and the Ministry of Food Production and Marine Resources has not been institutionalised to the extent of collaboration in policy initiatives or sharing of resources in mutually beneficial areas - such as policy formulation, disease control, training, research and development of appropriate technology, and management of renewable natural resources. Institutionalising collaboration between the two organisations will require clarification of collaborative mechanisms and initiatives at the highest levels of government.

The MFPMR will seek to establish institutional arrangements and enhance and expand collaboration with the Tobago House of Assembly in order to facilitate more efficient use of institutional resources and a coordinated approach to agricultural development in both islands. The Ministry will continue collaboration at the technical level.

7.5 Stakeholder Participation

The State is a facilitator of private-sector activity and supplier of essential public goods and strategic private goods. Agricultural production is carried on primarily by the private sector. The renewable natural resources are utilised by, and managed for, the benefit of individuals, communities and producers.

The State, because it is mainly facilitator and not producer, will seek increased stakeholder participation as a means to more effectively complement the production activities of the private sector. The State also will collaborate with producers and stakeholders to sustainably manage the renewable natural resources. This will be accomplished by institutionalising participation of the private sector in the processes of planning and implementation of policy, and management of the renewable natural marine and farm resources. From a practical standpoint, a few highlevel stakeholder committees will be established to advise on the implementation of agreed development plans for the crop, livestock and fisheries sub-sectors.

The MFPMR recognises that increased stakeholder participation is a more time-consuming and involved management process. In consequence, efforts will be made to nurture, support and institutionally strengthen stakeholder representative groups. The flow of relevant and accurate information and analyses among

stakeholders will be improved in order to enhance the quality of the participatory decision-making. Efforts will be made to ensure equity (e.g., large versus small farms) in the selection of stakeholders sitting on committees. Further, the MFPMR will insist that representative groups involved in the participatory process adhere to democratic principles in the selection of executives and representation of members' views and display acceptable standards of transparency and accountability.

7.6 Agricultural Production Growth

The agricultural sector declined during the 1970s and early 1980s; output of the sector has had a partial though shaky recovery since then. The sector has difficulty attracting new investment and labour and getting abandoned land into production in part because of relatively lower sectoral returns to these factors. International trade developments pose a more recent challenge but at the same time offer opportunities for improvements. There are also environmental concerns associated with production activities in the farm sector, in particular issues associated with waste pollution, maintenance of soil fertility, and excessive use of pesticides.

The sugar industry will be accorded special attention in the strategy to increase agricultural output. Sugarcane farming contributed 33.8% of agricultural GDP and employed approximately 25% of the persons employed in the agricultural sector in 1999. The sugar industry, in addition, is the major foreign exchange earner in the agricultural sector. The industry has large proportions of the resources of land - and in particular flat agricultural land - , labour and capital currently invested in the agricultural sector. Obtaining increased output from these resources is a critical component in increasing agricultural output. Most of the resources in the sugar industry are concentrated in a state enterprise, Caroni (1975) Ltd.

The core strategy for agricultural growth, proposed in this document, emphasises (i) accessing, developing and adopting appropriate technology, (ii) introducing new more profitable and higher valued commodities, (iii) influencing improvements in management, (iv) implementing more effective agricultural health and food safety measures, (v) exploring marketing opportunities, and (vi) promoting linkages with agro-industry. The elements of the core strategy are the means to improve the viability and profitability of private production. This strategy will be complemented by improvements in infrastructure and targeted incentives. An essential step in implementing this more comprehensive strategy involves identifying the set of commodities in which the country has or reasonably can develop international competitiveness. Then, public sector resources will be directed accordingly and appropriate signals sent to the private sector. In addition, attention will be paid to reducing the constraints posed by infrastructure, praedial larceny, deficiencies in the supply of credit, and weak land tenure systems.

There is a need to obtain rather dramatic increases in productivity and competitiveness in both cane farming and sugar processing, if the sugar industry is to become internationally competitive. In cane farming, the core strategy outlined above will allow special focus to be placed on:

- (a) Increasing the performance of the research and extension infrastructure to facilitate the development and adoption of improved cane varieties and improved husbandry;
- (b) Identifying and developing more profitable alternative commodities that can utilize the resources currently devoted to cane farming;
- (c) Encourage greater private sector participation and investment in cane farming.

At the processing level, special attention will be paid to upgrading facilities and increasing private sector participation and investment in refining as a means of increasing profitability and competitiveness.

7.7 Agricultural Income

Increasing the incomes of participants in the agricultural sector is an extremely important policy objective given that agriculture provides the lowest returns of all sectors in the economy. As evidence of the low returns in agriculture, the 9.1% of the national labour force in agriculture earned 2.2% of the national income in the year 1999. In part, low incomes in agriculture reflect the low productivity of the labour employed. Thus, the productivity of labour and other resources in agriculture must be improved. The core strategy outlined in this document appropriate technology, improved management, better marketing strategies, and incorporation of value-added activities - will lead to increased productivity and sustained income increases in agriculture. Reducing land tenure insecurity and production and marketing risk, and increasing access to land and credit also will contribute to increased incomes. In addition, intensive farming and inter-cropping will contribute to increased incomes accruing to farmers.

Hitherto, incentives such as guaranteed prices and input subsidies have augmented the profitability and competitiveness of domestic production and provided an income transfer to producers. However, many of these measures are rapidly losing favour in the arena of international trade. These measures also distort the market signals guiding production decisions such that existing favoured commodities are provided with a clear advantage over nontraditional and new commodities. Additionally, these measures have proven to be economically unsustainable as they tend to escalate in value over time and are difficult to continue when fiscal prudence dictates restraint in the formulation of the national budget.

7.8 Agricultural Employment

The percentage of the labour force employed in primary agricultural production decreases over time. This is an international phenomenon. Public policy must recognise this international trend and appreciate the implications for employment creation in the food production sector. Further, a strategy of increasing farm labour would conflict with the strategy to increase labour productivity - the primary solution to combat low agricultural incomes - unless new or abandoned agricultural land came into production.

From a technical and agricultural development standpoint, 'increased employment would be an achievable policy goal if employment in activities outside of primary agriculture - such as in agro-industries and other new industries - were included. These areas have the potential to absorb substantial increases in labour without negative effects to productivity and competitiveness. New industries also will include activities based on the sustainable development, use and conservation of the marine and farm resources - including recreational uses. Given the foregoing, employment creation as a facet of agricultural policy would involve inducing more land into cultivation, encouraging the development of agri-businesses and promoting linkages with the tourism and hospitality sector.

7.9 Food and Nutrition Security

There are three important aspects to food and nutrition security policy - (i) **food availability** sufficient to meet the national demand, (ii) **food accessibility** by households (the quantity of food intake issue), and (iii) **household nutrition** (the quality of food intake issue).

Trinidad and Tobago, like other Caribbean countries, has sufficient available food at the national level although domestic consumption outstrips domestic production and only a few staple commodities are produced in any significant quantity. In effect, adequate food availability depends on an adequate supply of foreign exchange. Whether this is an acceptable situation depends on cost, risk and population acceptance relative to other alternative strategies for assuring national food availability.

Household food accessibility and household nutritional security are continuing problems. These aspects of food and nutrition security have not been adequately and systematically addressed with agricultural policy or national policy. From a MFPMR perspective, adequate resolution to problems of household access and nutrition require the implementation of strategies that address issues of prices, income distribution, access to resources, the adequacy of social safety nets, and domestic food consumption patterns. This requires inter-Ministerial collaboration.

Strategies of food self-sufficiency cannot assure food availability, food accessibility and household nutrition security in Trinidad and Tobago. The constraint of land and uncompetitiveness in the production of staple food items means that it is near impossible to produce food in quantities sufficient to meet national demands. Strategies of food self sufficiency have also been viewed as a means of protecting against the event of a sudden disruption in food supplies. However, the national (and international) experience highlight that 'self sufficiency' is not an optimal strategy for addressing the likelihood of such a small probability event. Additionally, a strategy of food self-sufficiency will not address household accessibility and household nutrition issues.

In consequence the MFPMR will develop and implement strategies to assure food availability. Strategies for assuring national food availability, such as storage and risk-reduction have not been explicitly explored in the past. Other strategies for assuring food availability, such as fostering local consumption of nutritious domestic produce and influencing consumption patterns - e.g., through product development and education programmes - will be more aggressively pursued. As part of this latter strategy the School Nutrition Programme affords an excellent opportunity to more closely integrate domestic supply and demand and influence consumption patterns. There will be greater collaboration with the Ministry of Community Empowerment, Sports and Consumer Affairs in order to influence consumption patterns.

The Ministry will also focus its attention on the role of agriculture in food, nutritional and income security of the small farmer and rural households. The Ministry will advance this issue in its trade negotiation agenda.

7.10 Foreign Exchange

Trinidad and Tobago is a net food importing country. This deficit position in the balance of payment account for food items has existed and been financed for decades by foreign exchange earned in other sectors. The government will seek to reduce this imbalance in the balance of payment account for food items. In reducing this deficit, the State will focus resources on increasing the international competitiveness of those agricultural commodities with the potential to compete in both domestic and foreign markets. The potential for competitiveness and not its historical position as an export or domestic commodity will be central in decisions to expend resources - extension, research, incentives - on a commodity.

7.11 International Trade

Increasingly exports and domestic production are subject to international conditions and standards specified in bi-lateral or multi-lateral agreements, international food safety standards, and resource management conventions. The MFPMR will focus on developing the institutional capacity to allow the country to enjoy greater benefits from these international relationships and the changing environment for trade. Areas of

priority will include (i) enhancing the country's negotiating capability, (ii) understanding how existing agreements and conventions impact agricultural trade, (iii) enhancing the international competitiveness, including increasing the capacity of domestic producers to meet international standards (including food safety standards), and (iv) developing niche markets.

Trade liberalisation presents challenges and opportunities. The several international trade agreements - such as the WTO, FTAA and the CARICOM Single Market and the Economy and bilateral trade agreements - such as with Venezuela, Cuba and the Dominican Republic will result in freer trade in both exports and imports. The Ministry will support the efforts of farmers in making the productivity enhancing changes required to compete more effectively in the global market place. Additionally, the concerns of small farmers in the environment of a small island developing state will be presented at international fora.

7.12 Incentives

Incentives have not had the impact of stimulating production without creating dependence on the subsidies, and, in fact, in many cases incentives have not stimulated sustained production increases as envisaged. Further, the State has not been able to maintain incentives as a longterm mechanism because of changing budgetary considerations and escalation of the total outlay on subsidies. This has been the experience of the 1970s and 1980s in Trinidad and Tobago. The international experience is similar. More recently, international trade developments have placed several constraints on the use of incentives in the agricultural sector. At the same time however, the Ministry is mindful that many countries, in the developed world are engaged in shifting support for the agricultural sector so that they meet the requirements of the WTO green box provisions.

The long-term consequences for the performance of target commodities will be taken into account when incentives are applied. Incentives can aid the competitive position of commodities and incomes of producers, particularly in the short-term, and stimulate the adoption of more appropriate technology in the longer-term. However, incentives can also work against the longterm competitive position of commodities by distorting prices (the signals for production and optimal choice of technology) and thereby inducing production that is of higher cost or with less than optimal technology for the long-term outlook on prices. In Trinidad and Tobago, the poultry industry provides an example of an industry that improved its long-term competitive position in the presence of subsidies. Rice paddy production in the 1970s, is one example of an industry that expanded rapidly in the presence of subsidies and rapidly regressed with the removal of the subsidies.

The MFPMR will use incentives as targeted and transitional instruments to (1) compensate for specific identified deficiencies that mitigate against food and fisheries production and marketing, or (2) achieve other specific developmental objectives such as technology transfer. In providing incentives, the MFPMR will take account of the constraint to be minimised or objective to be achieved and utilise incentives of a form that will directly address the constraints and/or objectives. The time-frame for removal of the incentive and procedures to minimise administrative costs will be clearly stated before initiating incentive programmes. The Ministry will explore options for providing incentives to the farming community that meet the obligations of international and bilateral trade agreements in addition to being consistent with the criteria established above. The MFPMR will enhance its administrative procedures to improve payment delivery time to stakeholders.

7.13 Private Investment

The agricultural sector is involved in a competition for investment with the other sectors of the economy. Private investment is critical to agricultural growth and development particularly since this policy document

advocates reliance on the private sector for the production of goods and services and the adoption of appropriate technology as the principal means of increasing competitiveness within the private sector. Agriculture's capacity to compete in the market for investment capital is heavily influenced by the existence of profitable (risk adjusted) opportunities within the sector relative to other sectors. Motivating the young to invest in agriculture is related to, in addition, the perception of agriculture and drudgery associated with it, the availability of training opportunities and access to resources of land and capital.

The MFPMR will utilise several strategies to encourage private investment in food production and exploitation of the renewable marine resource within the framework of sustainable resource management. Public-private sector collaboration will be promoted as a means to reduce bureaucratic delays, identify investment opportunities and provide support services - such as training opportunities or technical assistance to meet international health and food safety standards and marketing opportunities. The profitability of agriculture will be increased by promoting more appropriate technology, improving the efficiency and effectiveness of marketing systems, increasing access to affordable credit and land markets, improving infrastructure, and reducing risk, including praedial larceny. Private sector investment and participation in resource management, primary production, agro-processing and value-added activities, and accessing markets for agricultural products will also be encouraged and supported. The investment activities of stakeholder cooperatives will be encouraged.

Efforts to encourage investment will seek to be broad-based but will give some priority to sectors that have comparative advantage and potential for profitability. Thus, investment into small, medium and large-scale farming and fishing will be encouraged and supported with research that seeks to promote production of higher-value commodities and more intensive farming on small and medium scale farms and further augment production on large farms.

7.14 Agricultural Risk

Production and marketing activities in the agricultural sector have difficulty attracting investment because of lower profitability and higher risk relative to activities in other sectors of the economy. The relatively uncontrolled environment in which agricultural production occurs mean that floods, droughts, wind and pest and disease damage are ever-present dangers. The perishable nature of agricultural produce result in relatively high levels of financial risk as a result of post-harvest losses and changes in market conditions. Additionally, the risk borne by farmers is compounded by the prevalence of praedial larceny.

The MFPMR will seek to reduce the level of risk inherent in agricultural production and marketing activities in order to increase the attractiveness of agriculture for investment. This will be accomplished in part by improving the knowledge (management and husbandry practices) of producers and marketers to allow better management of the production and marketing environments, reducing the negative effects of pest infestation, and decreasing post-harvest losses. The Ministry will maintain and provide infrastructure (water management, access roads and marketing) to reduce risk. Efforts will continue to reduce the incidence of praedial larceny. The Ministry will explore measures such as agricultural insurance in order to insulate producers against some production risks.

7.15 Praedial Larceny

Praedial larceny is a serious threat to agricultural production. Farmers have consistently ranked praedial larceny high on the list of problems affecting the viability of agricultural production. This concern continues in spite of the legislative, educational, communal and legal enforcement (policing) efforts spearheaded by the Ministry and farm groups. The MFPMR is committed to reducing and eradicating praedial larceny.

The Ministry is of the view, that there is urgent need to review the various strategies legislative, educational, communal and legal enforcement (policing) - of the praedial larceny reduction programme. This review would aim to more effectively enforce the provisions of the existing legislation. One hoped for outcome would be increased pooling of the capabilities and resources of all stakeholders into a coherent programme that assures efficient use of resources.

7.16 Rural Development

Farming, fishing and natural resource-based activities are important to economic and social developmental efforts in rural areas. Land and the renewable natural resources are often the primary assets of rural communities. Thus, increased profitability of farming and fishing, greater agricultural value-added opportunities, and improved household and community access to resources (such as land, capital and opportunities to sustainably use or manage renewable natural resources) can contribute to improved household wealth and rural development.

Rural development involves much more than agricultural development. Rural communities have needs for increased educational, social and economic opportunities and improved infrastructure, utilities and services. At the same time, the areas of responsibility of the MFPMR make it a leading agency in implementing rural development programmes.

The MFPMR will collaborate and pursue strategic relationships with (i) communities, (ii) civil society, (iii) local government bodies, and (iv) other government ministries and institutions to more effectively meet the needs of rural communities and to promote their development in a more holistic manner.

7.17 Youth in Agriculture

Several factors may serve as barriers to the increased involvement of youth in agriculture. Some of the disincentives which have a greater impact on youths are, (i) the capital intensive nature of farm ownership and operation, and (ii) the difficulty to obtain financing (and credit) given the fact that capital accumulation and access to capital tend to increase with age. Other disincentives that more equally affect all segments of the population include, (a) the unattractiveness of agriculture because of its relative low profitability, high risk and drudgery; and (b) the long gestation period of many agricultural projects. Policy and strategies to encourage youth in agriculture will aim to reduce the disincentives that have a disproportionate impact on youths. The term 'Youth' is defined as a person between the ages of 12 - 25 years, based on the definition used by the Ministry of Human Development, Youth and Culture in its policy on youth.

The MFPMR will examine and implement strategies to encourage the involvement of youths in agriculture. In this regard, the development of more vibrant land markets for the lease of land, and the development of credit products tailored to the circumstances of youths will facilitate their involvement. The strategies implemented will recognise that the unattractiveness of agriculture is a more pervasive problem, which if corrected would substantially increase investments, including youth participation in agriculture.

7.18 Gender

The MFPMR is cognisant of the contribution of both men and women to food production. It recognises that each of these groups is affected differently by policy decisions and experiences particular problems. A recent study undertaken by IICA pointed out that there are specific problems which women farmers experience. Some of these include (i) less access to land and ownership of land - in joint ownership cases, they do not always have decision making authority, (ii) lower incomes relative to men, (iii) fewer support services, (iv) greater association with subsistence agriculture.

The Ministry will seek to reduce the factors that cause gender inequity in agriculture.

7.19 Cooperatives

Farming and Fisheries co-operatives and other institutions of stakeholder cooperation - in input supply, marketing and processing - can increase the returns that accrue to producers and rural communities. These institutions can also play a role in managing the natural resources, and contribute to rural development. The experience in Trinidad and Tobago is that agricultural cooperatives have not had the longevity or success to significantly benefit rural communities. There is a need to more closely examine the reasons for failure and success and determine specific support measures that can be implemented.

Government will seek to foster the development of stakeholder co-operatives in areas of input supply and agricultural production, marketing and processing. Government also will explore the possibility of stakeholder co-operatives as an avenue of micro-financing to the agricultural sector. The MFPMR will collaborate with other relevant Ministries and allocate resources towards institutional strengthening of stakeholder co-operatives.

7.20 Sustainable Management of the Renewable Natural Resources

The MFPMR is responsible for the conservation of farmland and sustainable management of the renewable marine resources for the benefit of present and future sector participants and citizens. These resources can be degraded through overexploitation or improper use, such that the benefit to future generations can be greatly reduced.

The MFPMR will implement strategies, including research and education programmes, and collaborate with the Ministry of the Environment and other Ministries to reduce negative environmental effects of agricultural production and enhance soil fertility. The Ministry will collaborate with communities and groups in efforts to sustainably manage the natural marine resources. The MFPMR will work with the private sector, other relevant agencies and stakeholders to ensure that adequate facilities are provided for the disposal of unused hazardous chemicals and toxic waste in an environmentally sound manner. The Ministry will also collaborate with other relevant agencies to enhance the regulatory and institutional framework for the control, distribution and use of agricultural chemicals.

7.21 Conservation of Biological Diversity

This country possesses a rich and diverse collection of flora and fauna with new species of plants and insects being discovered every year. The country is special because its flora and fauna collection include species from both the South American mainland and the Antillean islands. However, several species are threatened as a result of over-exploitation, pollution and habitat destruction. A comprehensive inventory has not been undertaken and extraction of species is not adequately regulated. The National Bio-diversity Strategy and Action Plan (NBSAP, 2000) a report prepared by the National Bio-diversity Task Force presents a strategy for conservation that emphasises harnessing the contributions of stakeholders, and all Ministries including the MFPMR.

The MFPMR will contribute to the conservation of biological diversity by reducing the negative environmental effects of farm production, ensuring sustainable management of the marine resources and will promote the management and sustainable exploitation of genetic resources for food and agriculture. Particular attention will be directed to the conservation and development of genetic resources and development of new areas of farming activity such as medicinal herbs and non-traditional livestock. The

MFPMR will implement the relevant recommendations of the NBSAP's report in collaboration with other Agencies.

7.22 Biotechnology

The newer technologies, in particular Biotechnology and information technology, are impacting significantly on food and agriculture. Their influence on commodity production and trade issues is increasing, as is their impact on yield and quality. Important advances in Biotechnology, while affecting positively the issues of production constraints and germplasm enhancement, bring with them concerns of safety in respect of the environment and human health. The issues of biosafety, more particularly in the areas of genetically modified organisms (GMO) and genetic pollution are also areas of concern.

The Ministry will examine the need for, and seek to implement, the infrastructure needed to ensure that these new technologies contribute positively to increasing agricultural productivity and competitiveness.

7.23 Science, Technology and Information

The development and adoption of productivity-enhancing, cost-reducing technologies is an integral aspect of the core strategy for increasing competitiveness and fostering agricultural development being proposed in this document. For this to be accomplished, a priority area of attention and effort must be on increasing the accountability, effectiveness, efficiency and responsiveness of the existing research and extension institutions in the country such as those at the tertiary levels, state enterprises and government agencies. The MFPMR will explore various mechanisms to achieve this objective. One such mechanism will be to stimulate increased competition among researchers and research institutions (including non-MFPMR institutions) through the establishment and operation of a competitive research fund to finance research projects that meet strategic national agricultural development objectives. The competitive research fund will be accompanied by a stringent monitoring and evaluation system to assess the performance of researchers and research institutions in their conduct of research projects. Another mechanism will involve according priority to a review of the operations and organisation of the State-funded research and extensions institutions and systems with a view to instituting required changes in organisation and systems. In addition, an Agricultural Research and Development Council will be established.

The availability, accessibility and flow of information to and among sector participants is a fundamental requirement for encouraging the application of science in the agricultural sector and increasing the level of entrepreneurship. The Ministry will collaborate with other agencies and the private sector to gather and disseminate information to stakeholders. The MFPMR will enhance the information technology infrastructure servicing the food production and marine resources sector with the aim of allowing ready and speedy access by stakeholders. The flow of information will also be encouraged by development of databases (e.g., on new technology) in its Research, Extension and Planning Divisions and will enhance greater collaboration with the CSO.

7.24 Education and Training

The concern is that, the education and training system is not providing the knowledge and skills necessary for the development of the agricultural sector. This situation contributes to the relative lack of competitiveness of the domestic agricultural sector, with the agricultural sector in other countries. Institutional strengthening of the education and training system is necessary to increase the productivity, competitiveness and profitability of the sector.

The MALMR will intensify collaboration with development partners and stakeholders to promote appropriate changes in the education and training system.

7.25 Marketing

More effective and efficient marketing systems for farm produce can make significant contributions to agricultural development in Trinidad and Tobago by reducing the time producers expend in marketing activities, increasing agricultural incomes and reducing the food import bill. Often in Trinidad and Tobago, different marketing channels exist for imported commodities and domestically produced commodities. Supermarkets, hotels and large processors show a preference for dealing with the marketing channel for imported commodities (even when those commodities are produced domestically) because of consistent supply at relatively stable prices and relatively convenient (e.g., one phone call) purchasing. The marketing system for domestically produced commodities must be developed to meet the needs of large-scale purchasers while satisfying the requirements of producers.

The MFPMR will further develop the domestic marketing systems by focussing on strengthening the linkages between producers and processors, hotels, exporters and consumers. This will be accomplished by fostering development of private sector marketing intermediaries wholesalers, packinghouses, retailers-, facilitating an environment conducive to the exchange of domestic agricultural produce, allowing easy access to market information, supporting private sector efforts to access and penetrate markets (and in particular niche markets), and providing physical infrastructure to facilitate domestic and export marketing.

7.26 Agricultural Land

The agricultural sector is characterised by a high incidence of abandoned land and high rate of informal land tenure. The 1982 agricultural census data suggests 11.7% of private, and 9.5% of the total farmland was abandoned; Tahal (1992) estimated 24% of the total farmland was abandoned in 1990. The abandoned land is almost entirely in the large farm sector, which accounts for less than 8 percent of farm units but occupies over 48 percent of the agricultural land, (i.e., defining large farms as those with five hectares or more). Stanfield and Singer (1993) report relatively high levels of informal (“insecure” in their words) tenure in Trinidad and Tobago. Their analysis indicates that 25.7% of landholders had no documentation (legally registered or otherwise) for the agricultural land they occupied. An additional thirty-six percent (36%) of landholders had some form of documentation (such as a rent receipt, tax receipt, private purchase document or receipt, or a deed or lease registered in the name of someone other than the landholder). Deeds of ownership and leases were held by 38.3% of landholders. Land held under informal tenure arrangements face considerable difficulty in securing credit from the formal financial institutions.

The functioning of the land system partly reflects deficiencies in the land registration/administration system and land legislation. Deficiencies in the land registration/administration system contribute to the high incidence of informal tenure. The Agricultural Small Holdings Act and the Agricultural Contract Act allow occupancy for long periods at unattractive prices. Further, in an environment of land price appreciation these pieces of legislation contribute to land abandonment by serving as disincentives to the release of lands through rental and lease arrangements for agricultural purposes by private landowners.

The Ministry is currently working towards legislative reform, regularising tenure on State lands and improving the national land registration/administration system. Further, the MFPMR recognises the urgency of extending the land tenure regularisation programme to private lands in an effort to foster development of active markets for the sale, lease and rental of agricultural land. The Ministry considers this a priority area in its land policy and strategy. Additionally, the Ministry hopes that continued development of land markets will facilitate increase in farm sizes by allowing farmers to lease, rent or buy additional acreage.

The issues of abandoned agricultural land and conversion of agricultural land to non-agricultural uses require attention. The Ministry will collaborate with other relevant agencies to reform fiscal measures in order to encourage greater use of agricultural land. The MFPMR will also seek to influence land use policies and the enforcement of regulations for the purpose of preserving land for agriculture and restricting its alienation.

7.27 Credit

Credit to finance capital investment is an important input for transforming agriculture in Trinidad and Tobago particularly given the proposed strategic focus on technology, management and marketing. Producers and marketers are supplied with credit from institutional and noninstitutional sources. The Agricultural Development Bank (ADB) and the commercial banks provide the supply of credit from institutional sources. Informal lenders, input suppliers, contractors (for example in poultry), family and own resources are non-institutional sources of credit. A comprehensive study has not been undertaken to determine the contribution and relative importance of the various sources of financing, or to establish the characteristics of demand for credit by producers and marketers.

Several shortcomings in the credit system negatively affect the availability or ease of access to institutional sources of credit by producers and marketers. A deficiency of long-term credit is a primary shortcoming on the supply side. Long-term credit is important for financing on-farm infrastructural works, investment in equipment, and technology, and stimulating investment in new activities such as sustainable management of the renewable natural resources and reducing environmental degradation. A lack of credit products designed to take account of the special needs or circumstance of producers is another major shortcoming. Commodities that begin providing revenues 4 or 5 years later require special financing arrangements. The high incidence of informal tenure insecurity means that significant percentages of the agricultural population are unable to access credit from formal credit agencies, or are subject to higher interest rates than persons with secure tenure.

The MFPMR will encourage financial institutions, including Credit Unions, to develop and market credit and other financial products that meet the specific, needs of the agricultural community. The Ministry will explore mechanisms for ensuring that tenure-insecure and resource-poor producers have access to credit from institutional sources and are shielded from 'penalty' conditionalities. Leasing and other mechanisms, e.g., for equipment, will also be examined with a view to reducing the capital requirements for successful operation and as an incentive for cooperative development. The role and operations of the ADB will be reviewed with a view to making it (i) a more effective and efficient supplier of credit and financial products to the agricultural sector in collaboration with the other financial institutions in the private sector, and/or (ii) a provider of funds (or guarantees) to commercial banks and other financial institutions for on-lending to the agricultural sector.

7.28 Equity in Services Offered

The MFPMR faces a dilemma in the orientation and delivery of research and extension services to producers. The roots of the dilemma lies in the skewed pattern of farm sizes, a dualistic production pattern that characterises the farm sector, and differences between resource rich and resource poor producers.

A skewed pattern of farm-sizes is one in which a few large farms occupy a significant proportion of the land, while many small farms occupy a small proportion. Trinidad and Tobago is characterised by this skewed pattern of land holding, with a range of farm sizes. The 1982 Agricultural Census data for private land show that 31.54% of the parcels were below half hectare (1/2 ha) and 47.2% less than one (1) ha. in area. Parcels less than 2 ha., though comprising 64.06% of the total number of parcels (there were 27,786 such parcels in 1982) occupied 17.63% of the agricultural land area. On the opposite end of the scale parcels larger than 50 ha, even though comprising 0.30% of the total number of parcels (there were 130 such parcels in 1982), occupied 17.65% of the agricultural land area.

A highly dualistic production pattern – specifically, large farms producing the traditional export crops, while small farms produce domestic and short-term cash crops – is closely associated with this skewed pattern of farm-sizes. This situation is further compounded by differential access to resource-rich between and resource-poor producers resulting in significant differences in production technology across farms even when the same commodity is produced. The resulting differences in crop selection and optimal choice of technology of production on private farms make it difficult for the Ministry to adequately satisfy the research and extension needs of all groups. In the more recent past, the MFPMR, ostensibly, has favoured small producers if only because of their sheer numbers and in part reflecting an underlying aim of increasing incomes.

The MFPMR will seek to reduce bias in its operations. The resource-poor/rich differences will be addressed directly with policy aimed at reducing these differences - such as easier access to credit from institutional sources, removing deficiencies in land administration and land markets, and increasing opportunities for training. The farm size differences are much more difficult to erase; the Ministry will adjust its programmes to explicitly deal with these differences - for e.g., serve all groups by explicitly targeting specific commodities from large, medium and small farms for research and extension activities. The Ministry will also encourage marketmediated amalgamation of small-holdings, support the development of intensive production systems and production of higher-valued commodities on small farms, and encourage the adoption of productivity increasing technology on all farms.

7.29 Infrastructure Investment

The MFPMR is faced with demands for infrastructure the cost of which far outstrip its limited budget. Earlier parts of this document argued that technology, management and marketing were the major elements in the core strategy to increase international competitiveness in the agricultural sector. These elements are important because they directly attack the reasons for low international competitiveness of the agricultural sector - relatively high production cost. Infrastructure is viewed as an element in support of the core strategy of technology, management and marketing. Infrastructure by itself can reduce cost of production and increase competitiveness and profitability, but only to a very limited extent. Notwithstanding, infrastructure is important in providing access to land, allowing year round production and increased land productivity as a result of improved water management and flood control measures. Infrastructure investment will also facilitate fishing activities.

The MFPMR will use economic analyses as the basis for selecting the infrastructure projects to be funded each year by its limited budget. Economic analyses that explicitly evaluate the costs and benefits of individual projects will facilitate the comparison and selection of infrastructure projects and ensure that the investment makes the greatest contribution to farm production and fisheries development. The Ministry will also collaborate with the Ministry of Infrastructure Development to satisfy needs in the agricultural sector.

7.30 Water Management

Water management (drainage and irrigation) is a critical risk-reducing, yield-increasing and production-enhancing strategy in agricultural production. A very small percentage of farmland in Trinidad and Tobago is irrigated. Inadequate drainage results in flooding and salt-water intrusion.

There are technical, economic and environmental issues associated with increasing the acreage under adequate water management. Most of these issues are associated with irrigation rather than the drainage component of water management. Technical issues include the appropriate irrigation systems to be utilized for specific commodities and agro-climatic conditions. Some of the environmental issues include increased rates of leaching into the water table, soil fertility reduction and other environmental impacts. Economic issues include, the impact on yield and profits for different commodities.

Policies with respect to irrigation must recognize the need for a holistic treatment of water for agriculture. These policies must address issues that include: availability and distribution including farm rights to win water; cost including the need for subsidisation of capital and/or operational costs; and environmental considerations.

8. POLICY GOALS

Role of the State/MFPMR

The State/MFPMR will be (i) a facilitator of private sector production, and (ii) an efficient producer of public goods and services in support of private sector and improved livelihoods for citizens.

Scope of Responsibilities of the MFPMR

- (i) The MFPMR will seek to influence the entire food system through a focus on managing commodity systems and strategic relationships with other Ministries and agencies. The MFPMR has oversight and regulatory responsibilities for the production and marketing of primary agricultural (farm and fisheries) commodities.
- (ii) The MFPMR will effectively manage the renewable natural marine resources and the farm land and water under its jurisdiction.

Macro-Economic and National Policies

The MFPMR continuously will seek to influence the formulation of macroeconomic and national policies that affect the agricultural sector.

Relationship with the Tobago House of Assembly.

The MFPMR will seek institutional arrangements with the Tobago House of Assembly in order to facilitate more efficient use of institutional resources and a coordinated approach to agricultural development in both islands

Stakeholder Participation

The MFPMR will increase stakeholder participation in the processes of policy formulation, and the planning, implementation and monitoring of programmes.

Agricultural Production Growth

Increase agricultural production while sustaining the renewable natural resources and ecosystems

Agricultural Income

Increase incomes using strategies that are sustainable and consistent with international trade and environmental agreements and market-oriented agricultural systems

Agricultural Employment

Promote development of agro-industries and the sustainable utilisation and conservation of ecosystems and species as sources of employment

Food Security

Enhance food security in the country by developing and implementing an appropriate strategy.

Foreign Exchange

Reduce the imbalance on the balance of payment (foreign exchange) account for food.

International Trade

Increased capacity to exploit the benefits and opportunities of international trade, and increased competitiveness in export and domestic markets

Incentives

Provide incentives as targeted, transitional instruments to assist in agricultural development.

Private Investment

Promote and facilitate private investment in agriculture

Agricultural Risk

Reduce the level of risk faced by agricultural producers and marketers

Praedial Larceny

Reduce the incidence of praedial larceny

Rural Development

Contribute to developmental efforts in rural communities

Youth in Agriculture

Increase the involvement of youth in agriculture by reducing the disincentives to their active participation

Gender

The MFPMR will seek to promote gender equity in the formulation and implementation of all its policies, programmes and projects

Cooperatives

Foster development of stakeholder cooperation and cooperatives for the benefit of sector participants, rural development efforts and resource management

Sustainable Management of the Renewable Natural Resources

Sustainably manage the renewable marine resources and conserve farm land for the benefit of the present and future citizens.

Conservation of Biological Diversity

Contribute to conservation of the biological diversity of the country for the benefit of present and future citizens

Biotechnology

To ensure that Trinidad and Tobago successfully exploits the biotechnological revolution and promote the development of a sufficient biotechnological research and development capacity and institutional mechanisms to confront and manage the attendant challenges

Science, Technology and Information

Foster development and application of cost-effective technologies that meet the needs of stakeholders

Education and Training

Strengthen the education and training system to improve the quality and relevance of agricultural education and training

Marketing

Enhance the efficiency and effectiveness of agricultural marketing systems by strengthening the linkages between producers and end-users, fostering the development of private sector marketing intermediaries and facilitating an environment conducive to the exchange of domestic agricultural produce.

Agricultural Land

Enhance the efficient functioning of sale, lease and rental markets for agricultural land by reducing deficiencies in legislation and improve the operation of the land registration/administration system.

Credit

Increase access in the supply of credit to producers.

Equity

Facilitate the development of both the large farm and small farm sectors.

Infrastructure Investment

Include economic analyses as a requirement for the selection of infrastructure projects

Water Management

Increase the acreage of agricultural land under adequate and environmentally sustainable irrigation and on-farm drainage programmes within the framework of a national water resources policy

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9. PRINCIPAL IMPLEMENTATION STRATEGIES

POLICY AREA	POLICY GOAL	PRINCIPAL IMPLEMENTATION STRATEGY
Role of the State/MFPMR	The Sate will: facilate private sector activities, and efficiently produce public goods and services	<ol style="list-style-type: none"> 1) For (i), Increase participation of the private sector in policy formulation, implementation and developmental issues – See “Stakeholder Participation” for more details. 2) For (ii), MFPMR will: <ol style="list-style-type: none"> a. Identify the set of essential public and strategic private goods to be supplied by the public sector; Regulation and certification for food safety and public health is an important public good provided by the State. b. Identify the set of private goods to be supplied by the public sector during a transitional period; and c. Define strategies to effect a smooth transfer of activities from the public to the private sector while considering the interests of employees and producers; d. Restructure and refocus MFPMR operations to more effectively achieve the policy goal. The MFPMR will formulate a Ministry Strategic Plan and Divisional Strategic Plans to increase focus, coordination and effective management of the MFPMR in support of private sector-led agricultural development.
Scope of MFPMR Responsibilities	The MFPMR will (i) seek to influence entire commodity systems, (ii) effectively manage the renewable natural resources under its jurisdiction	<ol style="list-style-type: none"> 1) For (i), MFPMR will: <ol style="list-style-type: none"> a) Establish Stakeholder Committees – See “Stakeholder Participation” for more details b) Establish institutionalised strategic relationships with other Ministries and State agencies – e.g., committee meetings a few times per year – to co-ordinate developmental activities with other State Agencies that have responsibilities in the commodity system, e.g., Ministries of Enterprise Development, Consumer Affairs, Health, Infrastructure Development, and Human Development. Terms of Reference and implementation mechanisms for committee decisions would be clearly defined. 2) For (ii), MFPMR will: <ol style="list-style-type: none"> a) Audit the renewable natural resources under MFPMR jurisdiction and identify/clarify responsibilities; b) Formulate scientific approaches to achieve management and conservation objectives; 3) Establish collaborative mechanism for management – See “Stakeholder Participation”.
Macroeconomic and National Policies	Influence macroeconomic and national policies that affect the agricultural sector	<ol style="list-style-type: none"> 1) Establish/strengthen capability within the MFPMR Planning Division to review and analyse the impact of macro-economic and national policies on agricultural performance and recommend ways for agriculture to respond. 2) Establish mechanisms to influence formulation of macro-economic and national policies. In particular: <ol style="list-style-type: none"> a. Have formal presentations to/meetings with (1-2 per year) relevant Ministies – e.g. Finance, Integrated Planning, Central Bank, Labour, Enterprise Development, Community Development, Education, Human Development, Infrastructure Development, Environment, etc., to represent the interests fo the agricultural sector. These meetings would aim to influence policies and budgets of those Ministries, foster support and collaboration for MFPMR programmes and projects, and initiate/monitor/evaluate collaborative projects. b. Hold persentations/meetings (1-2 per year) with stakeholders to inform of relevant national and macro-economic policies, and develop recommendations and actions.
Relationship with the Tobago House of Assembly	Pursue institutional arrangements with the Tobago House of Assembly for a co-ordinated approach to agricultural	<ol style="list-style-type: none"> 1) Pursue strategic relationships with the Tobago House of Assembly to co-ordinate critical activities and share resoruces for mutual benefit in agricultural development. Relationships would be institutionalized via for e.g., exchange of reports of committee meetings. Tems of Reference and implementation mechanisms would be clearly defined. 2) The MFPMR would seek to have these relationships formalised and accepted at the highest levels of government.

POLICY AREA	POLICY GOAL	PRINCIPAL IMPLEMENTATION STRATEGY
	development	3) The Ministry of Food Production and Marine Resources would be responsible for representing the unitary state of Trinidad and Tobago at international fora on national issues, taking into account the views of the THA.
		4) The Ministry will continue collaboration at the technical level with the THA in the interest of coordinated agricultural development in both countries.
Stakeholder Participation	Increase stakeholder participation in policy formulation and implementation	<p>1) Establish a National Agricultural Development Advisory Committee (NADAC) with stakeholder participation to advise on policy formulation, implementation and developmental issues. Standing Sub-committees will advise on implementation of agreed Development/Management plans for each of the areas identified below:</p> <ul style="list-style-type: none"> a. Crop production (committee focus – developing/managing commodity systems) b. Livestock production (committee focus – developing/managing commodity systems) c. Fisheries (committee focus – developing commodity systems and natural resource management) d. Agricultural Research and Development Committee (committee focus – increasing the efficiency, effectiveness and accountability of the research system) <p>The crop and livestock production and research committees will comprise relevant stakeholders from the private sector – input suppliers, producers, marketers, supermarkets, processors, and consumers – the MFPMR and relevant institutions (e.g., Ministry of Enterprise Development, the UWI). The Fisheries committee will have, in addition, representatives from communities, user groups and conservation groups.</p> <p>2) Establish Ad-hoc Committees for particular purposes as the need arises.</p> <p>3) The MFPMR would have the concept of stakeholder participation accepted at the highest levels of government.</p> <p>4) Establish a Stakeholder Focal Point within the Ministry to nurture and support development of representative stakeholder organizations within the agricultural sector. The focal point will:</p> <ul style="list-style-type: none"> a. provide/or channel secretarial, administrative and technical support to the NADAC and its committees; b. assist the committees in effective decision making by channelling relevant data, information and analyses; c. provide technical assistance (using MFPMR resources or collaborating with other Ministries and agencies) to support and enhance management capabilities within representative stakeholder organizations in the country.
Agricultural Growth	Increase agricultural production while sustaining the renewable natural resources and ecosystems	<p>1) <u>Immediate Action</u> –</p> <ul style="list-style-type: none"> a. Formulate development plans for (i) Crops, (ii) Livestock Production and (iii) Fisheries. b. Identify the set of commodities in which the country has or is likely to develop comparative/competitive advantage. Also collect data/information on productivity (land and labour), production costs, and critical constraints in input supply, production, harvesting and marketing. <p>2) <u>Short-term Strategy</u> – Where needed, provide agricultural incentives to aid development of selected commodities (identified in 1 above), since technology is a longer-term solution. See “Incentives” for more details</p> <p>3) <u>Medium/Long-term Strategy</u> – Focus MFPMR Research and Extension resources to produce, adapt and disseminate technologies (appropriate to small and to large farms) that can increase the profitability of selected commodities (identified via 1 above). Technologies should be developed to:</p> <ul style="list-style-type: none"> a. reduce unit costs of production – e.g., by increasing land and labour productivity; b. reduce pest control costs – e.g., through IPM technologies, weed science; c. provide producers with profitable commodity alternatives;

POLICY AREA	POLICY GOAL	PRINCIPAL IMPLEMENTATION STRATEGY
		<ul style="list-style-type: none"> d. make production systems more profitable through production and farming systems research; b. minimise harvesting cost and labour requirements; c. provide commodities that meet the characteristics of consumer demand and the School Nutrition programme
		<ul style="list-style-type: none"> 4) Focus MFPMR Extension resources on improving husbandry and management; 5) Improve marketing systems to reduce post harvest losses and increase efficiency – See “Marketing” for more details; 6) Reduce abandoned agricultural land as a way to increase national output – See “Agricultural Land” for more details; 7) Encourage private investment in production agriculture – See “Private Investment” for more details 8) Reduce the risk in agricultural production and marketing – See “Agricultural Risk” for more details. 9) Continue providing infrastructure to facilitate agricultural production and marketing – See “Infrastructure” for more details 10) Cane farming: increase research and extension to facilitate adoption of improved varieties, husbandry and alternative commodities 11) Cane farming: encourage greater private sector participation and investment 12) Sugar processing: upgrade facilities and encourage private sector participation and investment in refining.
Agricultural Incomes	Increase agricultural incomes using strategies consistent with a market-oriented system	<p>MFPMR will adopt measures to:</p> <ul style="list-style-type: none"> 13) Increase profitability of selected commodities – See Items 4 and 5 of “Agricultural Growth” for more details 2) Increase producers’ returns from marketing – See “Marketing” for more details; 14) Increase access to resources of land and credit – See “Agricultural Land”, “Credit” and “Equity” for more details;. 15) Encourage stakeholder involvement in value-added activities, in particular post-harvest and agro-processing activities.
Employment	Promote development of agro-industries and the sustainable utilisation and conservation of ecosystems and species resources of employment	<p>MFPMR will:</p> <ul style="list-style-type: none"> 16) Encourage private investment in agro-industries that utilise domestically produced commodities – See “Private Investment” for more details. 17) Formulate a strategy to encourage development of agro-industries that utilise domestic raw material <i>The strategy will be the outcome of study and consultations with the aim of creating an environment conducive and supportive of agro-industrial business development particularly for small and medium sized agro-industries. The study and strategy will pay attention to the requirements of agro-industries for : raw material; equipment; finance and credit; supportive utilities and infrastructure (i) at factory site, (ii) to and from market centres, (iii) at market centres; training, research and development funding; improved management; supportive legislation; training and support with packaging and presentation of products; transportation; and meeting food safety requirements in export markets.</i> 18) Assist the private sector in meeting domestic and international health and food safety standards. 19) Formulate, in collaboration with TIDCO and other relevant agencies, strategies to encourage sustainable use of natural resources – i.e., Agro-tourism policies and strategies; and Recreational use policies and strategies 20) Increase the acreage of agricultural land in production – by reducing the acreage of abandoned agricultural land and making land available, within the confines of the Ministry’s land distribution policies, for food production

POLICY AREA	POLICY GOAL	PRINCIPAL IMPLEMENTATION STRATEGY
Food Security	Enhance food security	1) Food Availability – MFPMR will develop a strategy to address food availability. <i>The strategy will be developed following (i) identification and quantification of the specific threats to national food availability, and (ii) consideration of applicable and acceptable alternative strategies that can provide some degree of assurance of secure national food availability. The benefits, cost, degree of risk, and risk-compensating strategies for each alternative will be identified.</i>
		2) Food accessibility and nutrition security – MFPMR will: <ul style="list-style-type: none"> a. Reconvene/formulate the National Food and Nutrition Co-ordinating (NFFC) and Advisory Body so that it can update the recommendations dealing with household accessibility and nutrition security contained in its policy document “A Food and Nutrition Policy for Trinidad and Tobago (October, 1995)” b. Collaborate with other relevant Ministries, e.g. Consumer Affairs and Health, to fashion policy and strategies to deal effectively with the aspects fo food accessibility and nutrition security. 3) Establish a Food Security Focal Point within the MFPMR with responsibility fo r(i) ensuring that items (1) and (2) above are accomplished, (ii) implementing the required follow -up activities, and (iii) monitoring international developments with the potential to affect domestic food availability.
Foreign Exchange	Reduce the imbalance on the balance of payment (foreign exchange) account for food.	1) Pursue strategies that will increase the international competitiveness of domestic production by improving profitability and the effectiveness fo the maketing system – See “Item 4 of Agricultural Growth” and “Marketing” for more details; 2) Stimulate development of agro-industries that utilize domestic produce – See “Employment” for more details 3) Pursue strategies that will increase domestic market share of food used in the tourism sector; 4) Increase exports of non-traditional high valued commodities, e.g., by targeting niche markets; 5) Increase the competitiveness of local alternatives to improt items
International Trade	- Increased capacity to capture the benefits fo international trade. - Increased competitiveness in export and domestic markets	The MFPMR will: <ul style="list-style-type: none"> 1) Establish a Trade Focal Point within the Ministry to: <ul style="list-style-type: none"> c. strengthen the negotiating capacity of MFPMR; d. assist the private sector with compliance on trade agreements, export market requirements, domestic quality standards, food safety standards – See also “Private Investment” and “Marketing” for more details; e. channel assistance for the Ministry’s Agricultural Health Divisions to agribusiness for compliance with international health and food safety standards – See “Private Investment” and “Marketing” for more details. 2) Develop and enforce grades and standards for domestic and export marketing – See “Marketing” for more details 3) Pursue strategies that will increase the international competitiveness of domestic production and marketing – See “item 4 of Agricultural Growth” and “Marketing” for more details. 4) Provide, in the context of SIDS, the necessary information for the protection of small farmers’ interest in international negotiating fora.

POLICY AREA	POLICY GOAL	PRINCIPAL IMPLEMENTATION STRATEGY
Incentives	Provide incentives as targeted, transitional instrument to assist in agricultural development.	21) As a general policy – Incentives will be provided, if required, to commodities that have or can reasonably achieve competitive/comparative advantage. Incentives will be ‘short-term/transitional’ to foster sustained development. 2) Assess the impact, efficiency and effectiveness of the existing incentive programme. 3) Reformulate the existing incentive programme for consistency with (1) above; also see item 1 “Agricultural Growth”. 4) Improve administration of incentive programmes to increase efficiency, cost-effectiveness and delivery times. 22) Explore options for providing incentives that meet the obligations of multi-lateral and bi-lateral trade agreements in addition to being consistent with the incentive policy outlined above.
Private Investment	Promote and facilitate private investment in agriculture	MFPMR will: 1) Establish an Agribusiness Focal Point within the Ministry to provide information to existing and potential entrepreneurs on opportunities in input supply, production, marketing and processing. 2) Establish programmes within the MFPMR agribusiness focal point that:
		a. assist business with the cost of technical assistance (e.g., sourcing information, hiring consultants) associated with business development; b. develop or assist business to develop technology packages appropriate to their needs. The MFPMR may also provide assistance – in the form of grants or technical assistance – with research and training activities; c. channel assistance from the MFPMR Agricultural Health Divisions to assist the private sector in achieving compliance with domestic and international health and food safety standards; d. work towards improving contract relationships between primary producers and processors 3) Establish public-private sector collaborative mechanisms to reduce bureaucratic constraints and identify opportunities for private sector investment in input supply, production, marketing and processing 1) Improve access to competitive credit and other production resources – See “Credit” and “Agricultural Land” for details. 2) Increase the international competitiveness of domestic produce via strategies that increase the profitability of domestic production and improve the domestic marketing system – See “Item 4 of Agricultural Growth” and “Marketing” for details.
Agricultural Risk	Reduce the level of risk faced by agricultural producers and marketers	3) Improve the knowledge (management, husbandry and post-harvest practices) of producers and marketers to enhance management of the production and marketing environments, reduce the negative effects of pest infestation, and reduce of post-harvest losses; 4) Provide market information as a way of reducing price risks faced by producers; 5) Develop a national IPM policy and strategy and implement IPM projects for selected competitive commodities; 6) Maintain and provide infrastructure (water management, access roads and marketing) to reduce risk. 7) Reduce pradial larceny via strategies that increase the effectiveness of education and enforcement efforts; 8) Explore mechanisms, such as agricultural insurance, in order to insulate producers against some production risks – the Ministry will undertake a study to identify the risks, alternative the risks, alternative strategies, costs and benefits of various strategies.
Praedial Larceny	Reduce the incidence of praedial larceny	9) Establish a Praedial Larceny Focal Point within the Ministry – including detailing the operational and reporting responsibilities of the focal point. 10) Review the effectiveness and efficiency of the existing praedial larceny prevention programme with a view to implementing better-targeted, effective and efficient programmes and strategies. 11) Hold stakeholders consultation to assist in developing strategies.

POLICY AREA	POLICY GOAL	PRINCIPAL IMPLEMENTATION STRATEGY
Rural Development	Contribute to development efforts in rural agricultural communities	<p>The MFPMR will:</p> <ol style="list-style-type: none"> 1) Focus it's rural development activities on: <ol style="list-style-type: none"> a. assisting communities and community-based organisations in rural agricultural communities to implement initiatives that will be of benefit to the community. Given the limitations of its resources, preference will be given to agriculture-based projects and activities. b. Participating with other Ministries, local government, State agencies and non-governmental organisations (NGOs) to implement <i>integrated</i> rural development projects that benefit rural agricultural communities. 2) Establish Rural Development Focal Points at the level of it's county offices. These County focal points will serve to: <ol style="list-style-type: none"> a. spearhead the Ministry's involvement in rural development work in counties and communities b. establish and maintain strategic relationships, in support of MFPMR rural development activities, with local government bodies, NGOs, County Offices of other relevant Ministries and agencies. c. Foster development of stakeholder representative organisations, producer co-operatives and other forms of private organisation in rural areas that contribute to the development of the agricultural sector.
		<ol style="list-style-type: none"> 3) Assist rural communities to exploit value-added opportunities in agriculture, by assisting in identifying business opportunities, and providing training production, processing, marketing and entrepreneurship. 4) Assist rural communities to develop linkages with tourism (e.g., agro-tourism). 5) Pursue strategies that improve household access to resources of land and credit – see “Agricultural Land” and “Credit”. 6) Increase profitability of agriculture and agricultural incomes – see “Agricultural Growth” and “Agricultural Incomes”.
Youth in Agriculture	Increase the involvement of youth in agriculture by reducing the disincentives to their active participation	<p>In the short and medium term, the MFPMR will:</p> <ol style="list-style-type: none"> 12) Give preference points to youths in the selection process for leased land; 13) Examine the feasibility, with a view to implementing, a system of guarantees to allow youths access to credit; 14) Develop and implement monitoring and/or technical assistance programmes for 'new' youth in agriculture 15) Review agricultural training programmes at the post-secondary level with a view of ensuring availability and access on a level with other technical trades and skills; 16) Develop and implement training programmes with the post-secondary institutions, e.g. UWI, COSATATT, YTEPP etc. <p>In the longer term, the Ministry will:</p> <ol style="list-style-type: none"> 17) Facilitate the development of land markets for the leasing of land so as to remove one of the impediments to the involvement of youth in agriculture (see Agricultural Land); 18) Encourage the development of credit products which will address the needs of resource poor potential farmers, and will reduce another impediment to the involvement of youth in agriculture (see Credit for more details); 19) Collaborate with the relevant agents and agencies to provide on-farm training and internship programmes in science-based agriculture. The agents and agencies selected must have good practices in human resource management. 20) Seek to increase the profitability and reduce risk and drudgery in order to increase the involvement of all age groups in agriculture – (see policies and strategies on Investment, Agricultural Growth, Income)

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Gender	The MFPMR will seek to promote gender equity	21) The MFPMR will collaborate with relevant Ministries, Agencies, and interest groups in addressing gender issues. 22) The Ministry will initiate programmes targeting women in food production.
Cooperatives	Foster development of stakeholder cooperatives in agriculture	MFPMR will: 23) Foster development of business-oriented agricultural cooperatives as a means to (i) relieve constraints and exploit opportunities that enhance development of agricultural communities, and (ii) increase incomes of producers and other stakeholders – see Rural Development Focal Point, item 2 (c) of “Rural Development”. 24) Pursue strategies to support business initiatives and strengthen the operations of business-oriented cooperatives – see “Private Investment” and items 2-5 of “Rural Development” for relevant information. 25) Encourage private sector development of credit/finance products that meet the special need for agricultural cooperatives. 26) Undertake a study to more clearly understand the reasons for past failures of agriculture cooperatives and identify ways of strengthening cooperatives.

POLICY AREA	POLICY GOAL	PRINCIPAL IMPLEMENTATION STRATEGY
Sustainable Management of Renewable Natural Resources	Sustainably manage the renewable natural marine, agricultural land, and forest resources and ecosystems for the benefit of present and future citizens.	<p>MFPMR will take the following actions to sustainably manage the farmland and fishery resources:</p> <p>1) <u>Farmland:</u> Define strategies to conserve the fertility of farmland and reduce negative environmental and health effects of activities in the farm sector;</p> <p>a. Establish/Identify a Farm Environmental Focal Point within the Ministry to provide leadership and coordinate development and implementation of effective programmes (by the Research, Extension, Forestry, LWD, AP&H Divisions) to ameliorate negative environmental and health Impacts of crop and livestock production.</p> <p>a. Collaborate with the private sector and stakeholders to provide adequate facilities for the disposal of unused hazardous chemicals, toxic waste and farm residues.</p> <p>b. Collaborate with other agencies to enhance the regulatory and institutional framework for the control and distribution of agricultural chemicals.</p> <p>2) <u>Fisheries:</u></p> <p>a. <u>Marine Fisheries:</u></p> <p>c. Define strategies for sustainable (effective) management of the marine resources and environment;</p> <p>d. Collaborate with other institutions, e.g., the Coast Guard, to strengthen enforcement activities;</p> <p>e. Establish a stakeholder committee (see “Stakeholder Participation”) to facilitate sustainable management of marine resources and ecosystems within the framework of the approved development plan and to resolve conflicting issues, interests and objectives;</p> <p>f. Explore opportunities to involve communities in the use and sustainable management of marine renewable natural resources.</p> <p>g. Collaborate with other countries, particularly Barbados and Venezuela in managing shared stocks;</p> <p>h. Increase training of fishermen in new technology to equip them for activities in off-shore fisheries.</p> <p>i. Explore opportunities to increase private sector investment in off-shore marine fisheries and processing activities.</p> <p>j. <u>Aquaculture and Ornamental Fishery:</u></p> <p>i. Encourage existing producers to establish producers cooperative for (a) aquaculture and (b) ornamental fishery to (1) expand the production base, (2) facilitate cooperative marketing and exports (3) develop markets, (4) provide training, advice and information to existing producers and new entrants, and (5) establish standards;</p> <p>ii. The Ministry will assist the establishment and operation of the aquaculture cooperative and the ornamental fishery cooperative – see items 1-3 of “Cooperatives” for more details;</p> <p>iii. The Ministry will provide critical support services through its Extension and Fisheries Divisions to private individuals and firms.</p>
Conservation of Biological Diversity	Contribute to conservation of the biological diversity	<p>MFPMR, in consultation with stakeholders, will:</p> <p>1) Develop mechanisms to reduce the negative environmental consequences attendant upon farm production;</p> <p>2) Develop mechanism to promote the conservation and beneficially sustainable exploitation of genetic resources for food and agriculture.</p>

POLICY AREA	POLICY GOAL	PRINCIPAL IMPLEMENTATION STRATEGY
Biotechnology	To ensure this country successfully exploits the biotechnological revolution	27) In collaboration with appropriate agencies, promote the development of the necessary institutional capacity and other resources for the effective implementation of the stated policy. 28) Develop mechanism for the use, regulation and control of biotechnology and biotechnological products.
Science and Technology	Foster development and application of science and technology appropriate to the agricultural environment	29) MALMR will seek to establish a culture of science-based innovativeness within the agricultural sector, promote widespread involvement in and a more positive image of agriculture within the populace. Innocation is critical for an efficient and internationally competitive agricultural sector and also for addresssing the constraints and opportunities, including increasing profitability and reducing drudgery. More widespread involvement and a positive image are important in increseasing the attractiveness of agriculture. The MFPMR will seek to accomplish these through (i) increased efficiency, effectiveness and acountability of research and extension systems in the country, and (ii) increased agricultural education and training opportunities for citizens. 30) <u>Research and Extension</u> – to increase efficiency, effectiveness and accountability, the MFPMR will: <ul style="list-style-type: none"> a. Establish a competitive research fund to provide funding to selected research projects in agriculture and agribusiness that accord with national strategic research objectives or (to a smaller extent) the more immediate ‘demand-driven’ research needs fo stakeholders; b. Establish a stakeholder oversight body, the Agricultural Research and Development Committee (ARDC) as a sub-committee of the NADAC – see “Stakeholder Participation” – to advise on selection, funding, monitoring and evluation of research projects in agriculture and agribusiness. This sub-committee will serve to increase stakeholder participation and orientation of research activities; c. Support the activities of the ARDC with (i) secretarial/administrative assistance through the Stakeholder Focal Point – see “Stakeholder Participation”, and (ii) technical support through the Planning Division of the Ministry. The technical support will evaluate project proposals before submission to the ARDC, making initial recommendations on project proposals submitted to the ARDC, and perform monitoring and evaluation activities and reports on research projects approved by the Permanenet Secretary. d. Establish within the Office of the Director or Research economic expertise to add an economic dimension to research projects and research work. The economic expertise will assist researchers with preparation of project proposals, evaluate the potential impact of research findings on private profitability, evaluate the impact of projects, and augment the capability for project management within the Research Division; e. Seek to effectively collaborate with other research and development insitutions in the country and harness the capabilities of citizens with appropriate expertise, through for example, contracting of research projects; f. Restructure and upgrade, if needed, the MFPMR research system with particular attention to increasing the productivity of staff and research units and strengthening research capability; g. Ensure effective linkages between the research and extension systems; h. Establish procedures and systems to evluate the efficiency and effectiveness of the State-funded Research and Extension systems, e.g., through annual reviews conducted by an independent unit within the MFMPR.. 31) <u>Training:</u> <ul style="list-style-type: none"> a. Promote and faciliate, agricultural science education in schools and communities through the MFPMR Rural Development Focal Points and in collaboration with the Ministry of Education, other relevant Ministries and State agencies (e.g., YTEPP and COSTAAT), NGOs, community groups, and the UWI.

POLICY AREA	POLICY GOAL	PRINCIPAL IMPLEMENTATION STRATEGY
		<p>b. Promote training opportunities in products and skills that utilise domestically produced agricultural produce- e.g., handicraft, culinary arts, food preservation and processing, floral arranging, etc.</p> <p>a. Identify and Education and Training Focal Point within the Ministry for the purposes of 2 (a) and 2 (b).</p> <p>4.) <u>Information:</u></p> <p>a. Develop information technology infrastructure to enable ease and speed of access by all stakeholders, especially producers;</p> <p>b. Provide databases of information for sharing with stakeholders on appropriate technology, markets, pests and disease control, fertiliser use, seeds, and relevant statistics.</p>
Education and Training	Strengthen the education and training system to improve the quality and relevance.	<p>i. Conduct education and training needs assessments of the agricultural sector.</p> <p>ii. Review and revise as necessary the curricular of the institutions in the education and training system.</p> <p>iii. Develop action plans for implementation of revised education and training.</p>
Marketing	Enhance the efficiency and effectiveness of agricultural marketing systems....	<p>1) The MFPMR will focus on strengthening the linkages between producers and end-users (processors, hotels, exporters and consumers) by fostering the development of private sector marketing intermediaries and facilitating an environment conducive to the exchange of domestic agricultural produce. This will be accomplished by:</p> <p>a. Strengthening, supporting and facilitating development of private sector marketing intermediaries;</p> <p>b. Providing technical assistance and training in post harvest technology and food safety to producers and all marketing intermediaries, including retailers such as roadside vendors and supermarkets;</p> <p>c. Supporting the efforts of private sector marketing intermediary institutions to develop export markets and marketing expertise;</p> <p>d. Providing technical assistance, and other support, to assist marketing intermediaries and processors to modernise and upgrade facilities to international standards, particularly health and food safety standards.</p> <p>e. Providing infrastructure (such as wholesale markets, collection and grading centres, or export facilities) to facilitate the operations of marketing intermediaries;</p> <p>f. Developing and facilitating linkages (including contract relationships) between producers and large buyers such as processors, exporters, supermarkets and hotels;</p> <p>g. Developing, promoting and enforcing grades and standards;</p> <p>h. Providing market information to market participants;</p> <p>i. Designing the NAMDEVCO as the Ministry's Marketing Focal Point with responsibility for achieving the above.</p>
Agricultural Land	Enhance the efficient functioning of sale, lease and rental markets for agricultural land.	<p>The MFPMR will:</p> <p>32) Extend the land tenure regularisation and land registry modernisation programmes, currently underway on State lands, to private lands in an effort to : (a) reduce the high rates of abandoned agricultural land and informal tenure; and (b) develop active markets for the sale, lease and rental of agricultural land.</p> <p>33) Ensure the enactment of a new ASHTA to remove the disincentives to the rental and lease of agricultural land created by the 1965 legislation.</p> <p>34) Facilitate development of site-based taxation of agricultural land as a means to reduce tendencies to hoard land.</p> <p>35) Improve infrastructure – in particular access roads – as a means to reduce the incidence of abandoned land.</p> <p>36) Encourage the amalgamation of holdings into larger parcels;</p> <p>37) Distribute larger parcels to farmers where feasible.</p>

POLICY AREA	POLICY GOAL	PRINCIPAL IMPLEMENTATION STRATEGY
Credit	Increase access and reduce bias in the supply of credit to producers	<p>The MFPMR will:</p> <p>38) Encourage financial institutions, including Credit Unions, to develop and market credit and other financial products that meet the needs of the agricultural community – including resource-poor and tenure-insecure producers.</p> <p>39) Provide mechanisms to ensure that tenure-insecure and resource-poor producers have access to credit from institutional sources and are shielded from penalty interest rates or conditionalities. As one mechanism, the MFPMR will evaluate the possibility of bearing the burden (either in the form of grants, subsidies, security guarantees or concessionary terms) of the ‘penalty’ portion of the interest rates or security requirements for tenure-insecure and resource-poor producers.</p> <p>40) Review the role and operations of the ADB to make it more effective and efficient as a provider of credit and financial products to the agricultural sector; and</p> <p>41) Explore other avenues, e.g., commercial banks and other financial institutions such as credit unions, for supplying credit to the agricultural sector.</p>
Equity	Facilitate the development of both the large-farm and the small-farm sectors.	<p>42) The MFPMR will serve all groups – small, medium and large- farms – by adjusting its programmes to deal with all groups. More specifically, it will target specific commodities from large, medium and small farms for research and extension activities.</p> <p>43) Differences between resource-rich and resource poor farmers will be attacked directly with policy aimed at reducing the sources of these differences, viz., (a) access to credit from institutional sources, (b) deficiencies in land administration and land markets, and (c) the quality of producer management skills.</p>
Infrastructure Investment	Include economic analyses as a requirement in the selection of infrastructure projects.	<p>MFPMR will:</p> <p>44) Include economic analyses that explicitly assess the benefits and costs of investment projects as a requirement for the selection of infrastructure projects.</p> <p>45) Increase the participation of stakeholders in the planning, design and implementation of infrastructure projects.</p>
Water Management	Increase the acreage of agricultural land under adequate and environmentally sustainable irrigation and on-farm drainage programmes within the framework of a national water resource policy	<p>The MFPMR will:</p> <p>46) Spearhead efforts to address the issue of water agriculture.</p> <p>47) Collaborate with other relevant Ministries, agencies and stakeholders to formulate a sectoral policy for water for agriculture.</p> <p>48) Seek to increase the irrigated acreage in a cost-effective and environmentally sound manner.</p> <p>49) Initiate information gathering and dissemination on technical and economic research studies which will address the farm-level and commodity-level issues associated with water management in agriculture.</p>

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ANNEX I

Table 1 GDP, Agricultural GDP and Percentage Changes at Factor Cost (Current Prices)

Year	Gross Domestic Product (GDP) TT\$m	Agricultural GDP (TT\$m)	Annual change of Agric. GDP%	Agric. as Share of GDP (%)	Agric. Labour Force	Agric. Share of Labour (%)
1985	18,157.2	911.2	0.6	5.0	44,900	10.8
1986	17,478.3	631.0	-30.8	3.6	45,500	11.1
1987	17,271.9	613.1	-2.8	3.5	47,700	11.7
1988	17,284.7	613.4	0.0	3.5	51,800	13.0
1989	18,372.9	591.9	-3.5	3.2	55,600	13.8
1990	21,539.3	737.1	24.5	3.4	50,590	12.4
1991	22,558.6	762.2	3.4	3.4	51,100	11.7
1992	23,117.6	801.6	5.2	3.5	49,100	10.8
1993	24,490.5	815.6	1.7	3.3	45,675	10.8
1994	29,311.7	651.4	-20.1	2.2	52,590	11.7
1995	31,697.0	733.1	12.5	2.3	47,800	10.1
1996	34,448.1	668.7	-8.8	1.9	42,275	9.0
1997	36,552.4	864.7	29.3	2.4	46,900	9.3
1998	38,197.1	828.3	-4.2	2.2	41,200	8.1
1999	41,044.9	891.3	7.6	2.2	46,800	9.1

Sources: Source: CSO Annual Statistical Digests - Various Years; Review of the Economy 1999

Table 2. National and Agricultural Sub-sectoral Employment Numbers and Unemployment Rates

	EMPLOYMENT (Numbers)					UNEMPLOYMENT (%)				
	National	Total Agric	Domestic Agric	Export Agric	Sugar Industry	National	Total Agric	Domestic Agric	Export Agric	Sugar Industry
1986	390,500	46,800	33,700	3,400	9,700	17.2	3.2	0.6	10.5	9.3
1987	372,300	43,600	30,400	3,200	10,000	22.3	5.0	1.5	13.5	12.3
1988	371,600	48,400	32,900	2,200	13,300	22.1	7.1	5.5	8.3	10.7
1989	366,600	51,000	35,700	2,100	13,200	22.0	8.9	6.8	16.0	13.2
1990	367,800	46,400	33,500	2,200	10,700	20.0	9.0	7.0	15.4	10.8
1991	401,000	47,100	31,900	3,500	11,700	18.5	8.2	6.4	10.2	11.9
1992	405,900	47,400	30,400	3,100	13,900	19.6	10.8	10.3	5.1	12.7
1993	404,500	46,100	30,700	2,800	12,600	19.8	9.6	7.5	10.5	14.5
1994	415,600	51,800	35,600	3,300	12,900	18.4	8.2	7.6	9.3	9.7
1995	431,500	46,200	30,400	3,100	12,700	17.2	9.2	7.6	12.4	12.6
1996	444,200	42,800	28,300	3,100	11,400	16.2	5.3	5.1	5.2	5.6
1997	459,800	44,000	28,800	1,400	13,800	15.0	6.6	5.7	17.6	6.9
1998	479,300	39,300	27,200	1,700	10,400	14.2	5.8	4.6	10.5	8.0
Growth rate										
1995 - 1997	2.7%	0.2%	-4.0%	2.0%	-2.7%	-2.9%	-15.5%	-15.1%	-15.9%	-15.9%

Source: Naggy 2000. "Trinidad and Tobago Agricultural Sector Performance Evaluation (1985 - 1999)" Texas A&M University /ASRP

Table 3. Average GDP per worker Nationally and in the Agricultural Sector (TT\$): 1985 Constant Prices

Year	National GDP/Worker	Total Agriculture GDP/Worker	Domestic Agriculture GDP/Worker	Export Agriculture GDP/Worker	Sugar Industry GDP/Worker
1986	44,759	9,444	8,481	8,294	13,196
1987	44,805	10,532	9,882	9,625	12,800
1988	43,131	9,140	8,368	12,409	10,511
1989	43,429	9,680	8,157	13,524	11,258
1990	34,490	11,928	10,134	15,909	16,729
1991	41,315	12,072	10,505	6,886	17,897
1992	40,144	11,673	10,826	6,065	14,777
1993	39,697	12,325	10,222	11,679	17,595
1994	40,015	11,463	8,475	10,455	19,969
1995	40,065	12,688	10,332	11,032	18,732
1996	40,410	14,748	11,583	13,226	23,117
1997	40,250	14,248	11,145	27,571	19,370
1998	40,323	13,707	11,721	13,521	18,933
Growth rate 1995 - 1997	3.2%	-13.9%	5.2%	-4.9%	0.3%

Source: Nagy 2000. Trinidad and Tobago Agricultural Sector Performance Evaluation (1985 - 1999), Texas A&M University/ASRP

Table 4 Total Imports and Food Imports and Exports (Current Prices)

Year	Total Imports TT\$m	Food Imports TT\$m	Food as a Share of Total Imports %	Total Exports TT\$m	Food Exports \$TTm	Food as a Share of Total Exports %	Food Imports as a Share of Food Exports %
1966	778.6	89.7	11.52	717.2	54.9	7.65	163.39
1967	725.3	87.0	12.00	752.7	57.0	7.57	152.63
1968	856.5	87.6	10.23	923.9	75.3	8.15	116.33
1969	968.5	106.2	10.97	935.8	77.2	8.25	137.56
1970	1,087.2	103.4	9.51	963.3	81.5	8.46	126.87
1971	1,329.2	114.5	8.61	1,041.5	80.1	7.69	142.95
1972	1,471.1	132.9	9.03	1,071.5	92.3	8.61	143.99
1973	1,564.0	161.0	10.29	1,374.9	87.8	6.39	183.37
1974	3,777.8	250.3	6.63	4,166.3	158.8	3.81	157.62
1975	3,243.7	284.9	8.78	3,878.5	232.1	5.98	122.75
1976	4,908.8	321.3	6.55	5,394.9	190.2	3.53	168.93
1977	4,371.7	366.6	8.39	5,241.9	163.6	3.12	224.08
1978	4,721.0	438.2	9.28	4,895.1	138.0	2.82	317.54
1979	5,067.1	536.0	10.58	6,264.7	171.0	2.73	313.45
1980	7,626.4	707.8	9.28	9,784.8	176.9	1.81	400.11
1981	7,498.9	834.7	11.13	9,025.9	159.7	1.77	522.67
1982	8,873.1	904.7	10.20	7,372.4	125.5	1.70	720.88
1983	6,196.7	929.8	15.00	5,646.3	107.6	1.91	864.13
1984	4,605.9	894.1	19.41	5,216.2	100.7	1.93	887.88
1985	3,739.0	764.1	20.44	5,247.1	88.4	1.68	864.37
1986	4,939.9	786.7	15.93	4,988.6	160.6	3.22	489.85
1987	4,387.5	833.4	18.99	5,264.6	190.4	3.62	437.71
1988	4,291.5	720.2	16.78	5,423.5	241.7	4.46	297.97
1989	5,195.4	863.8	16.63	6,706.9	331.6	4.94	260.49
1990	5,361.8	859.9	16.04	8,842.0	363.5	4.11	236.56
1991	7,084.8	895.1	12.63	8,436.4	383.2	4.54	233.59
1992	6,096.5	896.7	14.71	7,898.0	373.9	4.73	239.82
1993	7,495.3	938.9	12.53	8,800.9	498.5	5.66	188.35
1994	6,867.2	1,017.8	14.82	11,607.2	669.3	5.77	152.07
1995	11,363.3	1,345.9	11.84	14,512.1	882.8	6.08	152.46
1996	12,989.1	1,422.9	10.95	15,028.9	823.7	5.48	172.74
1997	18,934.4	1,560.8	8.24	15,902.9	979.6	6.16	159.33
1998	18,966.8	1,699.6	8.96	14,220.5	959.0	6.74	177.23
1999	18,965.6	1,700.8	8.97	17,661.2	938.3	5.31	181.26

Source: Central Statistical Officer Overseas Trade Report - Various Years

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