NATIONAL DEVELOPMENT STRATEGY (2001-2010)

A POLICY FRAMEWORK

ERADICATING POVERTY AND UNIFYING GUYANA

A CIVIL SOCIETY DOCUMENT

ANNEX 10

RICE

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The Annexes to the National Development Strategy: An Explanatory Note

In June 2000, the National Development Strategy (NDS) of Guyana was formally presented to the President of Guyana and the Leader of the Opposition in the form of a core document, a 348 page distillation of the main elements of the analysis of the Guyana situation and the resulting strategy for action drawn from material prepared by 24 sectoral committees of the National Development Strategy Committee (NDSC). While Chapter 1 of the core document provides an outline of the origins of the NDS and the methodology of its preparation, the purpose of the present note is to explain the Annexes to the core document.

The Annexes are edited versions of the original drafts that the sectoral committees prepared, using a format that facilitated systematic thinking, though at the cost of some repetition. They are therefore longer than the corresponding Chapters of the core document, and also differ from them in other ways:

1. While the Annexes were individually edited in terms of their content, in the core document, disagreements or dissonances between Chapters were removed; for example, if the Chapter on the Private Sector proposed a strategy for Education that was in contradiction with a strategy proposed in the Chapter on Education, the two were rationalised.

2. While the core document was updated with the most recent data where possible, the Annexes generally retain their original data; for recent economic and social statistics, the attention of readers is particularly drawn to the recently completed *1999 Guyana Survey of Living Conditions.* In addition, again because of differences in when they were prepared, what was a Bill at the time of the original draft may have become an Act by the time the core document was being edited. This type of difference may be footnoted in the Annexes.

3. The treatment of the Annexes as historical documents occasionally produced another kind of difference, the main example of which is the Annex on Energy which was written before the privatisation of the Guyana Electricity Corporation, and whose strategy was largely preempted by that privatisation; while the edited Annex deliberately relied on the original material, new material was developed for the core document. These differences may also be footnoted.

It is worth noting that the updates found in the core document usually demonstrate the soundness and continued applicability of assessments made on the basis of earlier data or other information.

There are fewer Annexes than there are Chapters in the core document. For various reasons, some sectoral committee drafts were finalised in the same format as the Chapters of the core document, and there would therefore be little difference between the Chapter and the corresponding Annex. (Examples of this are the Macro-Economic Strategies and the Management of the economy; Sugar; Urban Development; Land; Housing; and The Family). The core document also includes Chapters for which there were no corresponding sectoral committee drafts; the first three Chapters of the core document (Origins and Methodology, National Objectives and Governance) are examples.

For those sectors where there are both separate Annexes and core document Chapters, the titles and numbering of the two correspond except in two cases: one, the corresponding Annex for the Chapter on Manufacturing is titled Manufacturing and Technology and includes material on

Science and Technology that the core document had placed elsewhere; and two, the corresponding Annex for Chapter 4, Macro-Economic Policy, is Annex 4, Financial Sector Policy, because the material prepared for the Financial Sector Policy Annex was incorporated into the Chapter on Macro-Economic Policy.

The National Development Strategy was published in summarised form (the core document) for the practical reason that few people would have the time to read the over 700 pages represented by the Annexes. Yet the Annexes have a clear value. They include background information and assessments that were too detailed for inclusion in the core document, but which trace the process that shaped the strategy. Above all, they preserve for us and for posterity the earlier thinking, and the full range of thinking, of the women and men whose work provided the foundation of the NDS. In doing so, they honour the labour which the sectoral committees put into distilling their own work and life experience and the views of the public they consulted in the process. It is this foundational material that is now being published, making the National Development Strategy of Guyana available in both summary and extended forms.

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RICE

I. Basic Features of the Sector

A. Background

The rice industry is the second most important agricultural industry in Guyana. It is second only to sugar in terms of foreign exchange earnings; in 1996 and 1997, its foreign exchange earnings were US$93.7m and US$84.2m respectively, although they fell to US$73.3M in 1998 because of a drop in tonnage and depressed prices. The industry contributes approximately 20 percent of agricultural GDP and 12 percent of export earnings. Rice is also the largest user of agricultural lands, with some 80,000 hectares presently being double-cropped. It is estimated that some 12,000 farmers are involved in rice production and that the industry supports at least 10 percent of Guyana's population directly and many more indirectly. It is the major source of income and employment in rural areas. Further, it is the main staple of the population, with consumption being estimated at around 50 kg per capita. Its by-products – bran and broken rice – are the main constituents of locally-produced animal feed. Broken rice is also used in the brewery industry. The hull (shell) is used as fuel for padi dryers and also for electricity generation. The effect of the recent El Nino phenomena has brought into focus the need for more use to be made of rice straw as fodder for livestock.

Padi production has increased rapidly in recent years from 156,000 tonnes (equivalent to 93,444 tonnes of milled rice) in 1990 to 568,186 tonnes (equivalent to 340,911 tonnes of milled rice) in 1997. This has been achieved through increases in acreage and yields. Harvested acreages have increased from 126,878 acres in 1990 to 352,678 acres in 1997 and yields from 1.23 tonnes to 1.61 tonnes during the same period. Because of the effect of El Nino on the first crop of 1998, there was a reduction in the acreage harvested and in production; the acreage harvested was 319,789, production was 522,907 tonnes of padi (equivalent to 339,890 tonnes of rice), and the average yield 1.63 tonnes per acre.

Production is in the hands of both small and large farmers with holdings varying from less than 10 acres to over 1,000 acres. There are some ninety-eight (98) mills operating within the industry with a total milling capacity of 242 tonnes of padi per hour. The capacity of mills ranges from ½ tonne to 20 tonnes of padi per hour.

The institutions specific to this sub-sector are: the Guyana Rice Development Board (GRDB), the Guyana Rice Producers' Association (RPA), the Guyana Rice Millers and Exporters' Development Association (GRMEDA), the Burma Rice Milling Complex, and the Caribbean Rice Association. Although the focus will be on these institutions, it is recognised that the development of the rice sector depends heavily upon the general macro policy environment and upon other institutions that impinge on the rice sector. The development of rice institutions and of the rice sector in general, needs to be set in the context of exchange rate

and trade policy, and of the continued or improved performance of other key institutions such as the Ministry of Agriculture, the Drainage and Irrigation Board, training institutions such as the University of Guyana's Faculty of Agriculture, the Guyana School of Agriculture, regional and local authorities, and commercial banks.

Parastatals in the rice sub-sector have a long history in Guyana. In 1946, the British Guiana Rice Marketing Board (RMB) was established, bringing together Government officials and farmers to develop policy for the sub-sector. After Independence, farmer representation diminished and by 1973, there were no farmers on the Board. The Rice Regulation of Manufacturing and Marketing Act of 1985 dissolved the GRB and in its place created three separate entities, namely, the Guyana Rice Export Board (GREB), the Guyana Rice Milling and Marketing Authority (GRMMA) and the National Padi and Rice Grading Centre (NPRGC). The original functions of the GRMMA were to purchase and sell padi and rice and it had its own mills from which it supplied rice for domestic and export markets. Purchases were made at prices fixed by Government according to a formula based on cost of production. From the early 1980s, some private millers were authorised to buy and sell into the domestic market at fixed prices, and from the mid 1980s, they were allowed to export.

The GREB was charged with the regulation of rice for export. It also arranged for the export of GRMMA rice. From 1985, it was responsible for licensing exporters and approving the quality and price of each export transaction. For this, it received a fee equal to 3 percent of the value of the export price received by the exporter. The NPRGC was given responsibility for grading and certifying padi and rice for domestic use and export. It established national standards for grading and assigned personnel to the mills to monitor the grading process.

The combined activities of these three agencies amounted to significant intervention by the Government in the rice sector. In addition, there were restrictions on internal trade in rice, with farmers being constrained to sell rice only within certain geographical areas. There were further restrictions on the amount of padi or rice which farmers could hold - a measure to combat "hoarding."

Of all the policies and institutional arrangements that were put in place, it was the pricing formula that most severely distorted incentives to rice farmers. The 1985 Act had established that the Ministry of Agriculture was responsible for setting the legal price for transactions in different grades of padi and rice. Farmers could sell their padi to the GRMMA or to millers. Millers were then able to sell to wholesalers or to sell abroad at prices negotiated with the buyer but approved by the GREB. Wholesalers sold to retailers at prices not higher than the maximum wholesale price and in turn the retailers sold to consumers at Ministry-set prices.

The padi price was determined by calculating the cost of purchased inputs and adding a multiple of this total to represent non-purchased, farm-supplied costs. To arrive at the post-mill price, milling costs were added to the rice-equivalent price of padi. The wholesalers' price was calculated by adding a gross mark up to the millers' price, typically 12 percent, and the retailers' price was determined by adding a further gross mark up to the wholesalers' price.

By the late 1980s, the policy framework was clearly not working and Government began to dismantle its pricing and institutional structure. The price formula was abandoned and farmers were allowed to sell freely in the market of their choice. The devaluations of the exchange rate in that period also had the effect of dramatically raising rice (and sugar) prices relative to most other prices in the Guyanese economy. Another important development was that Government sold off almost all its rice mills (retaining only one complex under the GRMMA). The improved competitiveness of the sector once again gave farmers and millers the incentive to invest in the industry.

Accompanying these major policy changes and institutional arrangements, much-needed foreign exchange was made available to the sector to rehabilitate rice mills through an IDB loan for the procurement of fertiliser through the CIDA programme, and for the procurement of such inputs as field equipment, spares and agrochemicals through the IDB Rehabilitation Programme.

The 1994 Rice Act streamlined the previous institutional arrangements. The Guyana Rice Milling and Marketing Authority (GRMMA) was dissolved and a small parastatal rice company was created to operate the Burma mills, the only mills that remain State-owned. The GREB and NPRGC have been merged into the new Guyana Rice Development Board (GRDB).

Other factors that constrained rice production in the past included inferior quality of seed, lack of adequate maintenance for drainage and irrigation systems, poor access to credit, uncertain land tenure arrangements, and lack of foreign exchange to purchase inputs.

B. The Guyana Rice Development Board

The role of the Board, as stated in the Act is:

- to develop the rice industry in Guyana and to promote the expansion of the export trade in that industry;

- to establish facilities for the conduct of research, and to conduct research relating to rice and extend to rice farmers through an established system the benefits derived from such research;

- to engage in such promotional and development activities as the Board deems necessary for developing the rice industry.

Its specific functions are:

1. Grading

The functions of the Board in this area are to grading are to grade and certify rice and padi and to train and license persons, who are, in the opinion of the Board, qualified to grade. The objective of the Board is for grading to reach international standards.

2. Marketing

The Board is in a unique position to monitor developments in the rice industry at home and abroad. Much of this information is not easily accessible to those within the industry and until such information networks are developed, the Board must play an important role in the provision of information. One aspect of this situation is that the Board has developed guidelines for rice exporters and for the preparation of contracts. Compliance with the contracts is vital to the maintenance of international contacts and to competitiveness and credibility in the export market.

3. Research and Extension

The responsibility for research and extension activities relating to rice has been removed from the National Agricultural Research Institute (NARI) since 1995 and brought under the Guyana Rice Development Board. These activities are funded from the GRDB's commissions. The research activities provide for the development of high-yielding varieties, with good milling and cooking qualities, and resistant to blast.

C. Other Sectoral Institutions

Besides the GRDB, two other institutions play an important role in the rice sector. These are:

1. Guyana Rice Millers and Exporters Development Association (GRMEDA)

GRMEDA was established in 1992 as the successor to the Rice Millers and Exporters Association. The following roles for the Association are set out in its Memorandum of Association: (a) representative; (b) developmental; the objective here is to promote the development, growth and expansion of the rice industry through the design and implementation of appropriate programmes, and to act as a conduit for chanelling assistance, technical and financial, to rice industry operators.

2. Rice Producers' Association (RPA)

The Guyana Rice Producers' Association was established in accordance with the Guyana Rice Producers Ordinance, #7 of 1946. The Association is principally a statutory body, but it also qualifies as a non-Government organisation. The RPA functions to promote, protect and advance the interests of rice producers generally. It facilitates GRDB's efforts in the operation of research and extension services by mobilising and informing rice farmers of meetings, for example. It also has the vital function of collecting information from the farmers. The RPA receives financial support for its activities from the Guyana Rice Development Board.

D. Rice Marketing

The spectacular growth of the industry during 1991-1996 was facilitated by very favourable prices on the export market. This was due mainly to the preferential access to the

E.U. market. During this period, the bulk of Guyana's rice export went to the European Union, and from 1993 to 1996, most of the exports to the European Union went via the Overseas Territories (OCT) of the E.U. Export of semi-milled rice through the OCT attracted no levy and there was no quota. On the other hand, exports of ACP rice direct to the European Union attracted a levy of 50 percent of the levy paid by third world countries, and there was a quota of 125,000 tonnes for semi-milled rice and 20,000 tonnes for polished brokens. From July 1998, the levy on semi-milled rice as from July, 1998 was reduced to 35 percent.

Preferential access contributed to an increase in exports from 51,000 tonnes in 1990 to 262,000 tonnes in 1996, with 90 percent of the exports going through the OCT. With the imposition of the safeguard mechanisms in 1997 and the establishment of a quota of 160,000 tonnes in 1998 (125,000 tonnes by the direct route and 35,000 tonnes through the OCT), exports to the European Union have declined. More of the exports to the European Union are now going via the direct route. In 1998 some 97,951 tonnes (41 percent of total exports) went by the direct route and 22,093 tonnes (9 percent of total exports) went through the OCT. Prices of semi-milled rice to this market have declined from a high of US$400 (FOB) per metric tonne in 1996 to a low of US$290 (FOB) in 1990.

The reduction of exports to the European Market has forced the industry to seek other markets in the Caribbean (Haiti) and Latin America. The prices in these markets are much lower than those obtained in the European market; furthermore, there is competition from rice imported from the USA and the Far East.

Guyana's exports of rice to the Caribbean, primarily to Jamaica, have always felt the pressure from United States' exports of rice under the PL480 Programme, which is sold at concessional prices.

However, with the reduction of the PL 480 programme and its eventual disappearance, Guyana will no longer face the threat of US exports through the PL 480 Programme. In fact, Jamaica has now become the single largest buyer of Guyana's rice within CARICOM. The cost of shipping in containers from Guyana to Jamaica is between US$45-50.00 per metric tonne and in bulk, US$35-40.00 per metric tonne. The cost of shipping from the United States to Jamaica is only US$25/mt. The lack of draught for larger ships in Guyana's harbours works to the country's disadvantage in this regard.

Another export market is that of parboiled rice. The CARICOM market provides for the export of some 50,000 metric tonnes of rice while the market in Trinidad is for 30,000 metric tonnes. Guyana has established three modern parboiling facilities and others are in the pipeline to meet the growing needs and preference of CARICOM and other markets. However, access to the CARICOM market has been slow because of concern over quality, the continuing importation of rice from extra-regional sources, and the fact that the CET is not being applied in these transactions. The establishment of specifications for parboiled rice traded in the region will address the quality issue.

II. Issues and Constraints

A. Institutional Framework

An appropriate institutional framework is required to support the development of the rice industry. The broad functions that the rice institutions need to carry out are regulation, promotion, service provision (collection and diffusion of information), policy development and planning, and marketing assistance.

A framework is required which is fully representative of the rice sector community (producers, millers, exporters, input suppliers, etc.), fiscally sustainable, fully integrated into the Guyanese economy with inter-sectoral linkage and linked strongly with international markets and development institutions (such as international research institutions).

1. Regulation of Quality

The privatisation of the rice industry has not been sufficiently complemented by the development of regulations and standards to regulate the operation of the private sector as a whole. The most serious consequence of this is that the reputation of Guyana as a rice exporter is at risk from exporters entering into contracts which they are not always able to fulfil, inconsistent quality of rice exports, a quality and quantity of exports inconsistent with contracts, and standards of grading which are not acceptable to some overseas markets. It should be noted that because of this, some overseas buyers have established their own grading facilities in Guyana. A number of international agencies also grade rice and padi in Guyana on behalf of overseas buyers.

2. Analysis and Planning

A further issue is the lack of capacity for analysis and strategic planning for the expansion of the rice industry. It is important to supply the industry at regular intervals with assessments of developments and trends in the sector and issues that require special attention.

3. Provision of Services

Despite the general shift towards divestment and market liberalisation in the rice sector, many services are still provided through the public sector institutions, including research and extension, and the grading of rice and padi.

4 . Financing of GRDB

Over the long run, GRDB is in an unsustainable financial situation as it depends heavily upon its commission, that is, an export tax, to finance all of its operations. Other cost recovery alternatives need to be explored.

5. Role of RPA and GRMEDA

As representatives of producers and millers, these institutions need to play a more active role in the development of the rice industry, including participation in expert assessments of economic conditions in the industry and other issues affecting its performance.

6. Institutional Linkages

a. Inadequate linkages with international research institutions restrict productivity gains and could lead to duplication of research programmes.

b. Rice institutions are currently isolated from related agencies such as Lands and Surveys, and Hydraulics, as well as from institutions outside the sector that do business with it, such as commercial banks.

B. Marketing

1. Export Marketing

a. The European Market

Past access to the European Union may have given the industry a false sense of security; prices were remunerative and access unlimited. However, developments within the last two to three years indicate that this market will become less profitable. Further, with the present quota system in place, Guyana may not be able to export more than 80,000 – 90,000 tonnes of rice to this market annually up to the year 2000. The total quota for EU rice is 160,000 tonnes of semi-milled rice, 35,000 tonnes for the OCT and 125,000 for ACP route. The annual ACP husked rice quota is available in three tranches of 41,666 tonnes each in January, May and September, while the OCT quota of 35,000 tonnes is available in January.

The proposals being put forward by the industry for the Post Lome IV negotiations provide for a post-2000 quota to be fixed initially at 250,000 tonnes, increasing by 20 percent annually up to the year 2005, at which point ACP rice from traditional suppliers should be able to enter the EU market free of quotas or other quantitative restrictions. The proposals also provide for further varying the levy on ACP rice exported.

b. The CARICOM Market

In 1997, because of problems with the EU market and in particular with the OCT route, some 80,000 tonnes of rice (28 percent of the total rice export) were exported to CARICOM. Jamaica, with 57,000 tonnes and Trinidad and Tobago, with 19,000 tonnes, were the two main buyers. However, in 1998 rice exports to CARICOM dropped to 59,890 tonnes (25 percent of total rice exports) because of CARICOM's importation of the commodity from extra-regional sources.

The CARICOM market provides for the importation of some 160,000 tonnes of rice – 110,000 tonnes of white rice and 50,000 tonnes of parboiled rice. The imposition of the CET on rice from extra-regional sources should offer some protection to the Guyana industry. However, the tariff may be inadequate to protect against the import of cheap Asian rice, particularly from Vietnam.

c. The African Market

This market provides for the export of low quality rice, e.g., brokens, and has the potential to absorb over 50,000 tonnes annually.

d. Other Caribbean Markets

Cuba imports up to 400,000 tonnes of rice annually, practically all of which is sourced from Vietnam; the lack of foreign exchange restricts Cuba's ability to pay cash for its rice. Haiti imports up to 200,000 tonnes of rice annually; in 1997, Guyana exported some 22,000 tonnes to that country but in 1998, exports were at a reduced level. When Haiti becomes a member of CARICOM and the CET is imposed, Guyana's rice will benefit from preferential access. The Dominican Republic imports some 50,000 tonnes of rice annually, but Guyana has not yet been able to access this market.

e. South and Central America

Limited exports have been made to Colombia, Ecuador, Peru, Nicaragua, Honduras and Mexico. The potential for increased exports lies in the Latin American countries where a market exists for some 2.0 million tonnes including Brazil (1.0m), Columbia (200,000 tonnes), and Peru (170,000 tonnes). Access to these markets would be facilitated by Guyana becoming a member of the Andean Pact and Mercosur.

f. Exporting Costs

Costs of exporting are high due to insufficient export facilities (wharves, and bulk and bond facilities) and high handling and transport costs. The constant siltation of Guyana's rivers restricts the size of the ships that can use existing wharf facilities. Guyana's shipping costs to Europe could be reduced to around US$30.00 per metric tonne if larger ships could enter its harbours and bulk facilities were available. This would also reduce transportation costs to other markets.

2. Domestic Marketing

The domestic market is characterised by variable supplies and consequently fluctuating prices, and by a limited availability of packaged parboiled and white rice.

C. Productivity and Technology Development

1. Milling

a. Electricity supply

"Black outs" during milling contribute to an increase in post-harvest losses. Variations in the supply of electricity (no. of cycles - 50/60 c.p.s. and voltage - 110/220V) can lead to complications in operations and to serious damage to rice milling equipment.

b. Finance

There is insufficient investment, and therefore improvement, in the milling sector, particularly in the areas of drying and storage. Millers are finding it difficult to access financing to upgrade their mills at low-interest rates.

2. Field Productivity

a. Credit

Farmers have restricted access to credit, mainly because of the insistence of commercial banks on freehold title as loan collateral, and their reluctance to accept leasehold land, especially short leases, or field equipment instead. The risk-adverse attitude of the banks has arisen partly because of the poor repayment record of farmers. The high interest rates charged by the financial institutions are contributing to farmers' inability to service their loans.

b. Land Issues

(i) Access

Despite the large increase in the acreage of land under rice cultivation in recent years, the general constraints to the transfer of lands have restricted the producers' ability to access these lands. The setting up of the Lands and Surveys Department as a semi-autonomous commission will remove some of the present constraints.

(ii) Size of Holdings

Holdings for rice should be at least 100 acres, i.e., sufficient to support a household and to keep rural incomes above a certain minimum level.

(iii) Security of tenure

Time delays in the processing of lease approvals and extensions, the granting of short-term leases without renewable options, and the constraints on the transfer of leasehold land into freehold, are factors

which have contributed to the lack of security of tenure experienced by rice farmers occupying State lands. Lack of security is associated with short-term resource allocation of producers who are unwilling to make long-term investments in the land, and therefore the sustainability of the land and future productivity gains are jeopardised.

c. Drainage and Irrigation

The deterioration of the drainage and irrigation network over the past twenty years has been a considerable constraint on increased production and productivity, but this has been eased by the rehabilitation and improvements done during the last six years. Much more work needs to be done, although it is feared that this might be restricted by financial shortfalls.

d. Farm machinery and equipment

Companies importing reconditioned machinery and equipment do not always have the necessary spares for repairs. Guyanese farmers seem to be overeager to invest in machinery when the modest size of their holdings may make such an investment uneconomical. Opportunities for machinery rental are insufficient.

3. Research Agenda

Farm productivity must be increased through the development of high-yielding varieties that are resistant to blast diseases, and which have with good milling and cooking qualities. The varieties need to be of different grain lengths, e.g., extra-long grains, long grains and medium grains, to meet the needs of the different markets. The milling potential of the varieties should be between 55-70 percent.

4. Extension

The transfer of technology is of fundamental importance to the future of the rice industry in order to increase productivity, reduce costs and make the industry internationally competitive. The main effort of the GRDB extension staff is concentrated on areas including increasing yields, improving quality, reducing costs, transferring technologies developed by research, and producing high-quality seed.

D. Environmental Concerns

The current strategy of increasing rice production through the utilisation of more land, greater intensity in input use, and expanded milling facilities is being implemented within a general void of environmental legislation, enforcement and monitoring. The Pesticide Control Bill now under consideration and the Rice Factory Act will address some of the concerns.

III. Sectoral Objectives

The overriding objective for the rice sector must be to ensure its sustainability in the face of reduced preferential access and falling export prices. The industry must move to become internationally competitive. All action in the sector must be oriented towards the fulfilment of this objective. Failure to achieve this will lead to drastic reductions in rural incomes and a sharp increase in rural poverty, the abandonment of the land by rice farmers, a decline in production, and a reduction in foreign exchange earnings. On the other hand, achievement of the objective will provide for the continued prosperity of the industry and as a consequence, of the Guyanese economy as a whole.

The primary route to this achievement of this objective is reduction of costs at all levels, as a result of increased efficiency. Specifically,

1. The unit cost of production must be reduced. Primarily, this means increasing yields per acre so that the unit cost per bag falls. The national average yield of around 26 bags per acre needs to be increased to at least 35 bags per acre. The achievement of the higher yields is dependent on the use of good quality seed of the high-yielding varieties, proper land preparation, efficient water management, effective control of pests, diseases and weeds, proper use of fertilisers, and timely harvesting.

2. At around 45-60 percent, present milling yields are low. Improvements in the milling yields to a level comparable to the USA standard (55-70) will add a 30 percent value per bag of padi. With this improvement in milling yield, the FOB cost of 20 percent white rice would decrease to US$289 per metric tonne.[1]

The increase in milling yields is dependent on growing varieties with high milling yields, timely harvesting (harvesting to be done between 18-22 percent moisture), proper drying and storage, and efficient milling.

3. Transportation costs need to be reduced by the development of export facilities, including bulk-loading facilities. This will permit the loading of larger vessels and the quicker turn-around of vessels.

IV. The Strategy

A. Institutional Framework

1. <u>Regulation</u>

a. The capacity of the GRDB to develop a set of regulations and standards relating to contractual procedures, payment mechanisms, rice quality, etc., will be strengthened.

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[1] Cramer (1998). *Rice Pricing at Farm, Mill and Export Levels in Guyana*.

b. This action will be supported by a widespread campaign for building awareness and training where necessary, especially for millers and exporters. GRDB will work with GRMEDA to conduct seminars to demonstrate the correct procedures for entering into export contracts and maintaining quality control.

Two mechanisms which have been developed will assist this process:

(i) With assistance from the IDB, the GRDB has developed a standard sales agreement to be used by exporters as a guideline when negotiating terms and conditions for a sales agreement. Exporters/buyers need to follow these guidelines to avoid delays in executing contracts.

(ii) The Bureau of Standards, in collaboration with the GRDB, has developed a programme for certifying the scale at rice mills. GRDB and GRMEDA will work closely with the Bureau of Standards to ensure that the programme is implemented on a regular and timely basis.

c. There is no satisfactory mechanism for arbitration for contractual disputes. GRDB currently does this on an informal basis. Through assistance provided by the IDB, draft arbitration rules have been drawn up for the industry. The draft is being reviewed by legal personnel and will be enacted following acceptance by operators within the industry.

2. Analysis and Planning

a. New mills

The re-enactment of the Rice Factories Act provides for the establishment of rice factories, the regulation and control of rice factories and the manufacture of rice. New mills will only be established in areas where the need exists.

b. Expansion of rice lands

There is clearly potential for the expansion of agricultural lands in Guyana. This requires close coordination between relevant agencies, so that the lands offering the most potential for agriculture are identified.

The average allocated to rice cultivation will be increased. Possible areas for expansion, given the suitability of the soils are:

Region 6		
Potoco, Left Bank Canje River	-	45,000 acres
Black Bush Backlands	-	15,000 "
Manarabisi	-	8,000 "

Jackson/Moleson Backlands	-	17,000 "
Region 5		
MARDS – South of Jagdeo Canal	-	20,000 acres
Region 3		
Hogg Is.	-	10,000 "
Region 2		
Akawini/Pomeroon	-	5,000 "
South of Supernaam R.	-	5,000 "

3. Provision of Services

a. The provision of services will to be rationalised, taking into account the relative merits of different institutions and agencies in both the public and private sectors. GRDB (whose functions include regulation and promotional activities) will concentrate on providing services which the private sector cannot perform, including research and extension.

(i) Research is a fundamental activity that is not easy to privatise and for which it is difficult to implement direct cost recovery, although it benefits the entire sector. GRDB has good research facilities at Burma, and money collected from the commission (which in itself represents indirect cost recovery) is being used to improve their facilities (human and physical). Linking up with regional and international agencies for research collaboration is vital for the increased competitiveness of the rice sector.

(ii) The involvement of the RPA and GRMEDA in extension work in collaboration with GRDB is a step in the right direction. RPA and GRMEDA are potentially in a good position to have close and widespread contact with producers and millers. GRDB is, in effect, contracting RPA and GRMEDA to perform these services and this is reflected in the financial support given to these organisations. There is an important need for extension services to extend beyond the traditional role of providing information on production techniques and inputs (seed, agro-chemicals) and to include farm management as a core activity. As GRDB is the main developmental institution, it has to implement this change in focus through comprehensive training of extension workers.

(iii) Marketing research, which serves to link the consumer and customer to the industry through the provision of information, is a critical function of the GRDB; while the marketing department of the Agency is already making a sterling effort to conduct a programme of information-gathering, it will be strengthened with more personnel and equipment. The research programme will be reorganized along the lines of the marketing function performed.

(iv) GRDB will transfer responsibility for the grading of padi and rice to the millers/exporters, who should set up their own grading facilities and employ licensed graders. GRDB will train and license graders and monitor the operations of the licensed graders at the mills. It will concentrate its efforts on export certification at the point of export and/or the transfer of ownership from the exporter/miller to buyer.

4. Financing of GRDB

Other options for the financing of the GRDB will be examined; a request for a study of such options has been submitted to IDB.

5. Role of RPA and GRMEDA

a. RPA and GRMEDA will be strengthened and provided with new and assured sources of financial support over the longer run. In the meantime, in return for the support which they now receive from the GRB, these institutions will put in place systems for the full representation of their members, including transparent and democratic elections.

b. The organisations will also move towards increased cost recovery for the services they offer. This can be done through subscription fees (in which case only those subscribers would be represented); a fixed levy on production (charging a nominal fee for padi production and/or milled rice); or the introduction of more direct forms of cost recovery. They should aim at eventually becoming self-financing.

6. Institutional Linkages

a. The Board will intensify efforts to set up a Market Information System, and a staff member is currently being trained overseas to head this department. International linkages are especially vital to the future prosperity of Guyana's rice sector, particularly in the areas of market intelligence and research, and GRDB has an important role to play in linking up with international markets to promote Guyana’s rice and gather information on qualities and quantities demanded.

b. A formal mechanism for linking the primary institutions and officials of the agricultural sector will be established to address such issues such as land use, the need for new infrastructure (D&I, roads, etc.) for opening new rice lands, competition for scarce water resources, and environmental issues.

B. Marketing

1. Export Marketing

a. The industry will continue to access the markets of the EU and CARICOM, as well as the market in Africa for low quality rice (brokens). At the same time,

efforts will be made to further develop the market in the broader Caribbean in particular Haiti and Cuba, and to pursue the potential for increased, exports to Latin American countries such as Colombia, Brazil, and Peru. The achievement of these objectives requires the following action:

- development of marketing strategies
- membership of the Andean Pact and Mercosur
- developing the infra-structure to load larger vessels, e.g., dredging of channels, deep harbour ports, and bulk loading facilities
- establishment of a "consortium" with the capacity to export large shipments
- international recognition of local quality certification
- development of a market intelligence service
- regular and planned visits to the market place
- the development of a mechanism for "futures" marketing.

b. In addition to the rehabilitation of the Water Street wharf facilities, including the installation of bulk loading facilities, bulk and bond facilities will be installed at Corriverton, Rosignol and Essequibo.

c. Drying and storage is crucial in the maintenance of quality and for obtaining high milling yields. The present system of drying and storage will be urgently reviewed. A consultant will also be employed to review operations within the milling sections and develop a programme to assist millers establish a more efficient mechanism for bulk handling and transportation.

d. Improving and control by combating the variable quality of rice exports will be controlled by the following measures:

(i) Issuing and enforcing regulations to ensure that the quality of rice exported is as stated on the export contract.

(ii) Providing incentives to encourage millers to invest in equipment to improve processing facilities. To support this, further tax exemptions will be granted for rice processing and packaging equipment. All developments leading to the additional processing of rice within Guyana will be placed within the context of greater market intelligence.

2. Domestic Marketing

Arrangements will be made for the domestic market to be adequately supplied with rice. Market information system will be put in place to determine the likely availability and demands for rice on local markets (including quantity and quality).

C. Diversification

The rice industry will be diversified. Further processing of the raw material can yield products such as rice flakes, popped rice, rice straw (for mushroom production and as a ruminant feed) and the use of hulls as a fuel and in concrete. GRMEDA will play a prominent role in researching other alternative uses of rice, determine the feasibility of establishing the corresponding technologies in Guyana, and advise millers and other processors accordingly. Through assistance provided by CDI, GRMEDA has already initiated a study on the production of rice-based products. In conjunction with the Institute of Applied Science and Technology, a pilot project is being initiated on utilisation of rice husk, e.g., briquetting.

D. Productivity and Technology Development

1. Milling

a. While measures are being undertaken to improve the national electricity supply, assistance will be provided to the milling sector to enable millers to assess whether or not self-generation of electricity is feasible. This is consistent with the earlier recommendation for a greater emphasis on business management in the rice extension services.

Millers will be educated and advised on the installation of equipment, to ensure that the voltage requirements of machinery are met. Further, they will be shown the demonstrated gains of installing voltage-regulating equipment and surge protectors, so they can understand that the initial investment in such equipment will be more than offset by the extension of the life of their milling equipment.

b. Dialogue will be held with commercial banks to discuss alternatives for increasing the flow of loans to the milling sector and new forms of collateral. As this problem of accessing credit is a problem across the agricultural sector, such discussions may include producers from other sub-sectors.

c. Millers will be educated in financial management, and in the operation of letters of credit and other methods of payment. This is the responsibility of GRMEDA and GRDB. A programme to cover these areas has been initiated.

2. Field Productivity

a. The following options to overcome the basic collateral constraint that is preventing greater credit flow to the rice producing community will be pursued:

(i) Bank loans to groups of farmers who effectively guarantee one another.

(ii) Bank loans to millers for on-lending to producers. Millers who have developed long term relationships with certain producers may be willing to lend to them without collateral. Alternatively, legally binding contracts between millers and producers, committing producers to sell to a particular miller in return for loans, may overcome the collateral problem.

This "assignment of proceeds" approach provides security for the miller (and hence the lending bank).

(iii) The conversion of existing leaseholds to long-term, transferable leases and the removal of the barriers to land rental.

b. On land issues, see the recommendations of Chapter 22 of the Strategy.

c. On drainage and irrigation, see Annex 15. Briefly, recommendations that are critical to the rice industry include:

(i) Major rehabilitation of the D&I.

(ii) Greater coordination of the D&I services. The National Drainage and Irrigation Board, established in 1994, assumed responsibility for D&I. However, the functions of O & M are still being executed by the Regions and NDCs.

(iii) The introduction of appropriate fiscal and institutional arrangements, including greater farmer participation, to ensure that the D&I system is operated and maintained in an efficient and sustainable manner.

d. A machinery/inputs pool will be established to reduce costs of production by promoting a co-operative approach to their ownership.

There are two other points related to machinery which merit consideration:

Importers of machinery should be required to import a certain value of spare parts for every unit of machinery imported, thus reducing the wastage of machinery from the lack of basic spares. In practice this may be difficult to carry out. A better approach may be for the Bureau of Standards to endorse and certify importers who can prove that they have a sufficient stock of spares.

Farmers need to be educated and supplied with information before making major purchases. For instance, they need to be advised on whether the machinery is appropriate for their holding depending on the likely economic returns from their investment, and if so, what type of machinery is required. They also need to be aware of the servicing and repair services offered for the different makes of machinery they are considering to purchase. Suppliers should be required to supply warranties for their products.

3. Research Agenda

A research programme based both on market demands and the experiences of farmers will be developed and implemented. It will be designed to be relevant to farmers' perceptions of field-level problems, and to lead to long-run sustainability of the rice sector, concentrating on increasing productivity, decreasing variability of yields, increasing pest resistance, and developing and maintaining characteristics demanded by export markets and domestic consumers. Economic analysis of research proposals (cost-benefit analysis) will determine the feasibility of research projects. However, priority areas already include:

a. The introduction of improved germplasm which will lead to the more efficient use of resources to produce a desirable grain. This is being done through the introduction of germplasm lines from other parts of the world and the breeding of desirable varieties. The varietal development programme now being implemented provides for the development of varieties with the rustic characteristics and resistance to blast diseases, varieties with other grain types, aromatic and scented varieties and salt-tolerant varieties. Introduction of new varieties will result in increased productivity, reduced production costs, and more competitive exports. The production of varieties with different grain types will also enable the industry to access different markets.

b. The integrated pest management approach, which includes plant breeding as a means of pest and disease control, combined with cultural practices and the strategic and judicious use of approved pesticides. Further research is required in this area.

c. Studies in integrated crop management to determine crop and livestock combinations and/or rotations that will make better use of resources. There is need for collaboration between NARI and GRDB in this area.

4. Extension

a. Towards rice extension workers reaching the entire rice-producing community, including small farmers, the role of the RPA in rice extension activities will be expanded.

b. To improve the extension service it offers, GRDB will supplement the current methods it uses with new methods; tools will include the written word, meetings and demonstrations, television, and radio.

c. The training programme for extension workers will be oriented to ensure that the interface between extension workers and farmers results in a two-way flow of information. Information obtained from farmers should dictate the research agenda for rice, and also enable the GRDB to monitor the status of field operations. Closer collaboration between extensionists and researchers will continue to be promoted.

d. Business management will be emphasised as part of extension services. Rice farming is a business, and unless farmers perceive it as a business and have the

skills to become business managers, the ability of Guyana's rice industry to increase productivity and efficiency will be hampered.

e. The present system of financing rice extension work mainly from the GRDB commission will continue, as it appears to work reasonably well as long as funds from the commission are assured.

E. Environmental Concerns

Agro-chemicals

a. The Pesticides and Toxic Chemical Control Bill will be enacted, providing for regulation of the importation, sale, and use of pesticides and toxic chemicals. [2]

b. Extension workers will be trained in environmentally-sustainable cropping activities for padi production. Private sector, agro-chemical suppliers can play a role either in supplying information to farmers through the established extension network, or providing information on agro-chemical use directly to users. There is always a concern that input suppliers will recommend higher, more potentially damaging applications of agro-chemicals. Encouragement needs to be given to NGOs to become involved in methods of sustainable agriculture, and donor support will be sought in this area as well.

c. Monitoring will be carried out under the Environmental Protection Act, which creates an Environmental Protection Agency with powers to establish a regulatory regime for pollution control. The development of laboratory facilities is an important investment priority for this agency.

[2] This was subsequently enacted.

APPENDIX 1

ACTION PLAN, 1999-2000

Main Activities	1999	2005	2010
1. Increasing Yields	27 bags per acre	32 bags per acre	36 bags per acre
2. Improve milling yields	45/60	50/65	55/68
3. Reduce transportation cost		Rosignol	Corriverton
4. Establishment of bulk loading facilities	Georgetown	Essequibo	
4. Expansion		Completion of phase II & III of MMA Hogg Is. Akawini/Pomeroon	Canje Jackson/Moleson

APPENDIX 2

PROJECTED PRODUCTION AND EXPORTS (1999-2010)

Production	1999	2000	2005	2010
(i) Acreage	350,000	360,000	400,000	420,000
(ii) Average yield (bags/acre)	27	28	32	36
(iii) Padi production (M/t)	600,000	640,000	813,000	969,000
(iv) Rice equivalent (M/t)	360,000	384,000	528,000	650,000
Exports (M/t)				
E.U.	100,000	100,000	100,000	100,000
Caricom	100,000	100,000	120,000	130,000
Haiti	30,000	40,000	50,000	80,000
Africa	20,000	30,000	30,000	30,000
Latin America (Colombia/Peru, Brazil	30,000	30,000	100,000	160,000
Total	**280,000**	**300,000**	**400,000**	**500,000**

Achievement of the above levels of production and export is dependent on the sectoral objectives being achieved.