Guyana Rice Development Board

Annual Report 2007

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Vision Statement

"An Integrated, sustainable and profitable industry producing and marketing rice for the benefit of all Guyanese"

Mission Statement

To efficiently utilise the resources of Guyana to produce and market high quality rice and rice by products as a staple food for local and international markets while providing employment and foreign exchange earnings

The Functions of the Guyana Rice Development Board

The Guyana Rice Development Board was established by Act Number 15 of 1994 and as provided for under section3 (ii), Establishment, Management, Powers and Functions of the Board, the Board is headed by a General Manager and a Chairman of the Board of Directors.

By virtue of section 4 of the Act, the Board of Directors shall comprise of no more than thirteen members with three members representing the Rice Producers Association (RPA), two members representing Guyana Rice Millers and Exporters Development Association (GRMEDA) and one member representing consumers.

Organisational Structure

The structure is as follows;

1. Finance
2. Administration
3. Marketing
4. Quality Control
5. Research
6. Extension

Finance

This Department consists of an Accountant, Assistant Accountant, Senior and Junior Accounts Clerk, Internal Audit Clerk, Cashier and a Typist/Clerk. The Department is responsible for the collection of levy and fees. These fees are charged for the grading of paddy or rice.

Administration

This Department consists of a Manager who is also the Secretary to the Board. This Department is responsible for the day to day activities of the Board, the hiring of new staff members, conducting training, dealing with any legal matters, staff welfare, issuing of export and producer licenses.

Marketing

This Department is headed by a Manager and has other officers namely a Marketing Assistant, Marketing Clerk, Customs Clerk and a Confidential Secretary. The Department is solely responsible for the preparation of all documentation with regards for the exporting of rice from Guyana.

Quality Control

This Department is responsible for the maintaining of quality in rice among rice millers and exporters. The Department is headed by a Manager and there are Quality Control
Cordinators in all the rice growing Regions. These officers work to make sure that the rice leaving Guyana is of the prescribed and required quality as per international and local standards.

Research

This aspect of the Guyana Rice Development Board, forms an integral part of the operations of the board. It is at the Rice Research Station that new varieties, strains etc.
are developed, so that farmers can have a better grain which can then yield a high volume of grain. Research at the station is done in Plant Breeding, Entomology – which is the study of insects, Weed Management and Pathology. There is a Chief Scientist who oversees the operations of station and other personnel who give leadership to the other departments, they are called Research Assistants.

Extension

This Department is responsible for the transfer of technology from the Research Station to the Farmer. Here Extension Officers in all the regions would meet with farmers and would serve as an advisory body to assist the farmer in new technology available. Where demonstrations are needed the Extension officers serve in this capacity.

All the departments of the Guyana Rice Development Board work together and compliment each other in order to achieve the mission and vision of the organization.

General Manager's Statement.

Mr Jagnarine Singh
General Manager

The year 2007 can be described as one with mixed fortunes. During that year we have seen one of the highest exports since 1997. The year started with one of the largest crop, but due to the extended rainy season we have seen one of the smallest second crop in the last decade. These high exports were mainly due to the increased demand for rice globally and with large carryover stocks from the second crop in 2006 we were able to supply this demand. This trend is expected to continue in the coming years and with a highly proactive farming community we will be able to full fill this increase demand. This increase in the demand for rice and concomitant increase in the prices will bring some measure of relief for the rice stakeholders who have been experiencing some difficulties for the last eight years. While this increase in the prices for the padi and rice will bring some economic relief to the farmers and millers, we need to be aware that the consumer price for rice will increase also.

- Rice exports 2007 – 269,436 mt (US$ 75,251,464.99)
- Rice exports 2006 - 204,576 mt (US$ 54,622,559)
- Increase of 32 % by volume and 38% by value.

Our major export markets continue to be CARICOM and the European Union, with Jamaica and Trinidad & Tobago the larger markets in the former and Holland and Portugal the larger in the latter.

Rice production for 2007 – First and Second crops

	Actual (MT)	Projected (MT)
1st Crop	168,902	173,143
2nd Crop	129,223	176,053
TOTAL	**298,125**	**349,196**

During this year we have seen interventions by the Government that seek to bring some relief to the sector and also try to bring some fairness to the trade in padi. These interventions are as follows:

- Reduction of excise tax on fuel to off-set rising acquisition costs.
- VAT exempted from fertilizers, pesticides and machinery used in rice cultivation
- Zero rate VAT on rice.
- VAT waived on spares for tractors and combine harvesters.
- Rice Factories (Amendment) Act and GRDB (Paddy and Rice Grading) Regulation.

GRDB research work continued with the objective of producing varieties of padi that are high yielding, pest and disease resistant. In the Rice Industry Strategic plan one of the expected outcomes is the increase of yields from its present 4-4.5 mt/ha to 6.5-7.0 mt/ha padi by 2011. GRDB, assisted by the Latin American Fund for Irrigated Rice (FLAR), is actively pursuing this programme. This aim is to provide new rice varieties with much higher potential levels than those currently available in the country and, most importantly with updated sources of resistance to blast and to other prevalent pests and diseases.

Other research activities continued with the following programmes:

- Seed purification and multiplication
- Multi-location on farm performance trials
- Seed rate study
- Fertilizer management
- Weed management
- Insect pest management
- Disease surveillance and management

Farmers Field School continue to be the mechanism for farmers training. This has proven to be successful since it was introduced. In addition to this, the Occupational Health and Safety Officer working with the Extension Officers were successful in taking the message for the prevention and reduction of HIV/AIDS.

During this year GRDB continues the process for the laboratory in Georgetown to have ISO certification in three (3) areas:

- ISO/IEC 17025 Procedure for Testing
- ISO/IEC 17020 Procedures for Inspection
- ISO Guide 65 Procedures for Certification

The quality manuals, along with Seventeen (17) procedures for the ISO/IEC 17025 have been completed.

Marketing Report

As stated above, 2007 was one of the best years for export since 1997, 269,436 tonnes of rice valued at US $ 75,251,464. When compare with the 2006 export this is 31% more by volume and 38 % more by value. During that year there was an increased demand for Guyana's rice from traditional and non-traditional markets. This is a global phenomenon. This increased demand that is outstripping supply has resulted in an almost daily increase in the prices offered for rice globally. This situation is as a result of the following:

1. The lowest rice reserve stocks for the last twenty five years.
2. The high cost of inputs, mainly fuel and fertilizers.
3. Uncertainty in weather, global supply and a vast array of global politics and trading.
4. The use of other feed grains in the bio-fuels sector.
5. The high price for substitute commodities, e.g. wheat, soya beans etc.
6. High consumer demand as a result of more disposable income, e.g. China.

Prices are expected to make further inroads during the year 2008, especially after India and Thailand took action to restrict exports.

Prices:

While exports have decreased and prices increase slightly: we have seen the following increases:

- Cargo rice moved from US $ 235 – US$ 325 per mt.

- White rice moved from US $ 290 – US$ 400 per mt.

Economic Partnership Agreement:

Towards the end of the year we have seen a new trading agreement being finalised between CARIFORUM and the European Union, the Economic Partnership Agreement. This agreement represents a change in the partnership, before in the Lome and COTONOU Agreement it was the Africian, Caribbean and Pacific (ACP) group and the European Union (EU), but now it is the CARIFORUM group and EU.In this agreement we see a change in the trading arrangement. We are moving to free trade of rice by2010.

The agreement provides for:

1. Duty free quota of 187 000 tonnes in husked-rice equivalent for 2008.
2. Duty free quota of 250 000 tonnes in husked-rice equivalent, for 2009.

There was a partnership between the African, Caribbean and Pacific (ACP) group and the European Union in the Lome and Cotanou agreements. It is now a partnership between the CARIFORUM group and the EU. There is a move towards free trade of rice by 2010.

The following tables are shown in the Appendix:

- Appendix 1.
- Appendix 2.
- Appendix 3.
- Appendix 4.
- Appendix 5.
- Appendix 6.
- Appendix 7.

Administrative Department

Organizational Structure:

The Board was established by Act No. 15 of 1994, and as is provided for under Section 3 (ii), Establishment, Management, Powers and Functions of the Guyana Rice Development Board, the GRDB is headed by a General Manager and a Chairman of the Board of Directors.

By virtue of section 4 of the Act, the Board of Directors shall comprise of no more than thirteen (13) members - three (3) members representing the Rice Producers Association, two (2) members representing the GRMEDA and one (1) member representing consumers.

For the year January 01 - December 31, 2007, the following persons were appointed to the Board of Directors: namely:-

LIST OF DIRECTORS FOR THE PERIOD JANUARY 01 - FEBRUARY 28, 2007

NAMES	DESIGNATION
Mr. Neermal Rekha	Chairman
Mr. Jagnarine Singh	Director

Dr. Dindyal. Permaul	Director
Dr. Peter. DeGroot	Director
Mr. Dharamkumar Seeraj	Director
Mr. Leekha Rambrich	Director
Mr. Pariag Sukhai	Director
Ms. Eileen Cox	Director
Mr. Ramsahai Ramnarain	Director
Mr. Rajendra Persaud	Director
Mr. Laxmikant Manroop	Secretary

LIST OF DIRECTORS FOR THE PERIOD MARCH 01 – JULY 31, 2007

NAMES	DESIGNATION
Dr. Dindyal Permaul	Chairman
Mr. Jagnarine Singh	Director
Dr. Peter. DeGroot	Director
Mr. Dharamkumar Seeraj	Director
Mr. Leekha Rambrich	Director
Mr. Pariag Sukhai	Director
Mr. Deo Singh	Director
Mr. Ramsahai Ramnarain	Director
Ms. Savitri Sukhai	Director
Mr. Rajdai Jagarnauth	Director
Mr. Laxmikant Manroop	Secretary

LIST OF DIRECTORS FOR THE PERIOD AUGUST 01 – DECEMBER, 2007

NAMES	DESIGNATION
Dr. Dindyal Permaul	Chairman
Mr. Jagnarine Singh	Director
Mr. Dharamkumar. Seeraj	Director
Mr. Ramsahai Ramnarain	Director
Mr. Leekha Rambrich	Director

Dr. Peter DeGroot	Director
Ms. Shirley Edwards	Director
Mr. Pariag Sukhai	Director
Ms. Rajdai Jagarnauth/Ms. Roxanne LaRoc	Director
Mr. Mohamed Sattaur	Director
Ms. Eileen Cox	Director
Ms. Savitri Sukhai	Director

There were seven (07) statutory meetings of the above Board of Directors.
Section 8 (1) of the Act provides for the appointment of Sub-Committees to assist with the functions of the Board of Directors. Accordingly three (3) Sub-Committees were appointed, namely:

a. FINANCE & ADMINISTRATION
b. MARKETING & QUALITY CONTROL
c. RESEARCH & EXTENSION

Members of the various Sub-Committees were as follows:

LIST OF MEMBERS FOR THE PERIOD JANUARY 01 - FEBRUARY 28, 2007

NAMES	DESIGNATION
Dr. Peter DeGroot	Chairman
Mr. Jagnarine Singh	M ember
Mr. Dharamkumar Seeraj	Member
Mrs. Elaine Reid	Member
Mr. Neermal Rekha	Member
Mr. Laxmikant Manroop	Secretary

LIST OF MEMBERS FOR THE PERIOD MARCH 01 – JULY 31, 2007

NAMES	DESIGNATION
Dr. Peter DeGroot	Chairman

Mr. Jagnarine Singh	Member
Mr. Dharamkumar Seeraj	Member
Mrs. Elaine Reid	Member
Mr. Leekha Rambrich	Member
Mr. Pariag Sukhai	Member
Mr. Laxmikant Manroop	Secretary

LIST OF MEMBERS FOR THE PERIOD AUGUST 01 – DECEMBER, 2007

NAMES	DESIGNATION
Dr. Peter. DeGroot	Chairman
Mr. Jagnarine Singh	Member/Secretary
Mr. Dharamkumar Seeraj	Member
Mrs. Elaine Reid	Member
Mr. Leekha Rambrich	Member
Mr. Pariag Sukhai	Member
Mr. Mohamed Sattuar	Member
Ms. Shirley Edwards	Member

There were four (4) meetings for the above F & A Sub-Committee.

LIST OF MARKETING & QUALITY CONTROL SUB-COMMITTEE MEMBERS

February 1, to July 31, 2007

NAMES	DESIGNATION
Ms. Savitri Sukhai	Chairman
Dr. Peter DeGroot	Member
Ms. Rajdai Ragarnauth	Member

Mr. Brandon Barton	Member
Mr. Osmond Davy	Member
Mr. Robert Badal	Member
Mr. Jagnarine Singh	Member
Mr. Dharamkumar Seeraj	Member
Ms. Allison Peters	Secretary

August 31, to December 31, 2007

NAMES	DESIGNATION
Mr. Dharmakumar Seeraj	Chairman
Ms. Roxanne LaRoc	Member
Ms. Savitri Sukhai	Member
Mr. Osmond Davy	Member
Mr. Robert Badal	Member
Mr. Jagnarine Singh	Member
Ms. Allison Peters	Secretary

There were five (5) meeting for the above Marketing and Quality Control Sub-Committee

LIST OF RESEARCH AND EXTENSION SUB-COMMITTEE MEMBERS

From February 1, to July 31, 2007

NAME	DESIGNATION
Dr. Dindyal Permaul	Chairman
Mr. Jagnarine Singh	Member
Mr. Leroy Small	Member
Mr. Ramsahai Ramnarain	Member
Mr. Lakenauth Bissoon	Member
Mr. Leekha Rambrich	Member
Dr. Mahendra Persaud	Member
Mr. Kuldip Ragnauth	Secretary

From August 1, to December 31, 2007

NAME	DESIGNATION
Dr. Dindyal Permaul	Chairman
Mr. Jagnarine Singh	Member
Mr. Leroy Small	Member
Mr. Ramsahai Ramnarain	Member
Mr. Lakenauth Bissoon	Member
Mr. Leekha Rambrich	Member
Dr. Mahendra Persaud	Member
Mr. Pariag Sukhai	Member
Mr. Ricky Roopchand	Member
Mr. Kuldip Ragnauth	Secretary

There were six (6) meetings for the above Research & Extension Sub-Committee
Organisational Structure

There have been no changes or additions to the structure which remains as follows:-

1. Finance
2. Administration
3. Marketing
4. Quality Control
5. Research, and
6. Extension

Management Committee

The committee meet on a regular basis as need be, and is chaired on a rotational basis.

List of Management Committee Members

NAME	DESIGNATION
Mr. Jagnarine Singh (General Manager)	Member
Mr. Laxmikant Manroop (Administrative Manager)	Member
Ms. Allison Peters (Quality Control Manager (ag))	Member
Mr. Kuldip Ragnauth (Extension Manager)	Member
Mrs. Elaine Reid (Accountant)	Member
Mr. Leroy Small (Chief Scientist)	Member
Mr. L. Bissoon (Farm Manager)	Member
Mrs. Ella. P. Isaacs (Occupational Health & Safety Officer)	Member
Dr. Mahendra Persaud (Plant Breeder)	Member

Staff Complement

A compliment of One hundred and sixty-six (166) employees comprised the staff strength, which is being supervised by their respective Departmental Heads.

Staff- Appointments
Appointments were made to fill vacancies at the following locations, viz:-

Head Office
(Administrative) - Mr. George Jervis
Administrative Manager

	-	Mr. Jabari Cadogan Office Assistant
	-	Mr. Ian Kahani Security Guard
	-	Mr. B. Baijnauth Handyman/Janitor
(Accounts)	-	Ms. L. Dhanraj Accounts Clerk
	-	Ms. Nashree Singh Junior Accounts Clerk
(Extension)	-	Ms. Marlyn Payne Confidential Secretary
(Quality Control)	-	Ms. Shamika Reece Grading Officer
	-	Ms. Melissa Warren Research Assistant
	-	Mrs. G. Roy Research Assistant
(Marketing)	-	Mr. Jermaine Stewart Clerk
Rice Research Station (Extension)	-	Mr. S. Bacchus District Rice Extension Officer
Crane Branch Office (Extension)	-	Mr. R. Arjune Driver
(Quality Control)	-	Ms. L. Manohar Grading Officer
Corriverton Branch Office (Extension)	-	Mr. R. Ramdial Driver
	-	Mr. A. Ally District Rice Extension Officer

Corriverton Branch Office
(Extension) - Mr. Fidel Toolsie
District Rice Extension Officer

Termination, Resignations and Retirement

There were two (2) terminations, eleven (11) resignations and four (4) retirees.

Training and Development

There were several training sessions conducted during the year. These involved staff from the several departments of the Board.

Apart from the above, two (2) other employees successfully completed training overseas namely: Vivianne Baharally (MSc, Entomology - India) and Homchand Ramlall (10th International Training Programme on Strategies for Sustainable Agriculture and Rural Development – India). Additionally two staff have recently commence Post Graduate training overseas, Rajendra Persaud is pursuing his Masters in Plant Pathology in India and Ganshan Payman is pursuing his Masters Degree in Weed Management from ITEC.

Training and Field Days for farmers in Seed Certification, Padi bug infestation, monkey tail and other related matters were also conducted by the Board throughout the rice growing Regions, and at the Rice Research Station- Burma.

Occupational Health & Safety

The Guyana Rice Development Board recognizes that HIV/AIDS is a Global Crisis and Constitutes one of the most formidable challenges to development and progress. The Board has embraced the fact that HIV/AIDS is a workplace issue and has adopted the ten (10) key principles of the ILO Code of Practices on HIV/AIDS and the world of work.

The Board signed on to the USAID/Guyana HIV/AIDS Reduction and Prevention (GHARP) Project, to aid in the fight against this epidemic. A number of training programmes have been conducted throughout the rice-growing regions, resulting in 39 employees being trained as Peer Educators including Senior Staff . Ten (10) Peer Counselors also benefited from the collaborative efforts of ILO/USDOL/GOG, HIV/AIDS Workplace Progamme.

Legal Issues

Matters involving farmers, millers/exporters and buyers were dealt with internally and through the Board's legal advisors, Cameron & Shepherd.

Medical Scheme

Employees contribute to this scheme, which is underwritten by CLICO.

Contributory Pension & Annuity Schemes
The Demerara Mutual Life Assurance Society Ltd., has underwritten these schemes. They are compulsory and are contributed to by employees 5% and the Board 7%, a total of 12%.

Union Recognition

There are two Unions recognised by the Board, namely:-

- General Worker's Union (GWU) which represents staff at Head Office and the four Regional Quality Control Offices; and
- Union of Agricultural and Allied Workers' (UAAW), which represents staff at the Burma Rice Research Station.

During the year, Management met with the two Unions to discuss increase in wages/salaries for the year 2007. The offer of 9% across the Board as stipulated by the Public Service Ministry was also discussed, accepted by the Unions and approved by the Ministry of Finance for payment.

Staff Welfare, Sports, etc.

Female members of staff, Drivers, Laboratory Assistants, Office Assistants and Office Attendants were provided with uniforms.

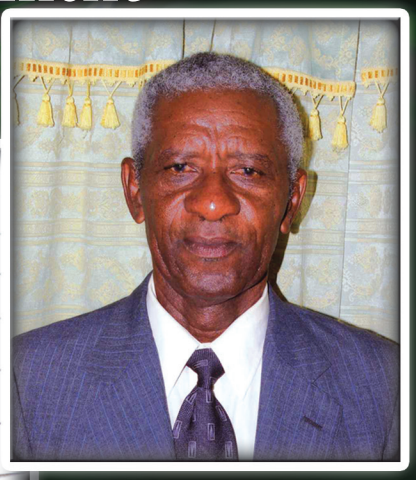
Issuing of Manufacturing and Export Licences

Manufacture and Export licences were renewed for the year 2007.

GUYANA RICE DEVELOPMENT BOARD

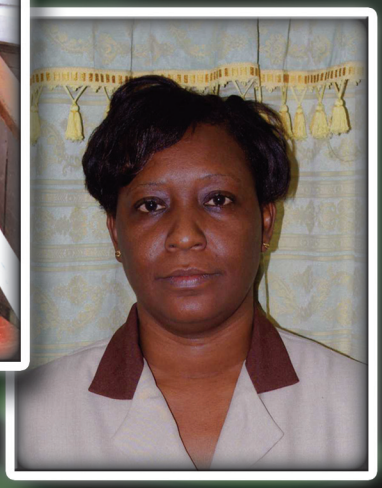
Heads Of Department

George Jervis
Administrative Manager



Leroy Small
Chief Scientist (ag)

Mahendra Persaud
Plant Breeder



Allison Peters
Quality Control Manager (ag)

Elaine Reid
Accountant

Bindraband Bisnauth,
Farm Manager

Kuldip Ragnauth
Extension Manager

Finance Report

OVERALL PERFORAMANCE

A. EXPORT SALES - VOLUME

(M/Tonnes)

COUNTRIES	ACTUALS				Y.T.D.	
	2003	2004	2005	2006	ACTUAL	BUDGET
CARICOM	51,164	65,255	64,003	73,157	89,425	82,640
EEC	108,006	115,593	92,137	101,203	139,411	95,135
OCT	25,962	23,487	9,272	8,474	7,788	13,000
OTHERS	15,300	38,757	16,762	21,742	32,811	37,085
TOTAL	**200,432**	**243,092**	**182,174**	**204,576**	**269,435**	**227,860**

The total export for the year exceeded budget by 41,576 m/tonnes or 18.2% favourable, when compared with the corresponding period for the year 2006, Sales volume increased by 64,860 m/tonnes or 24% above.

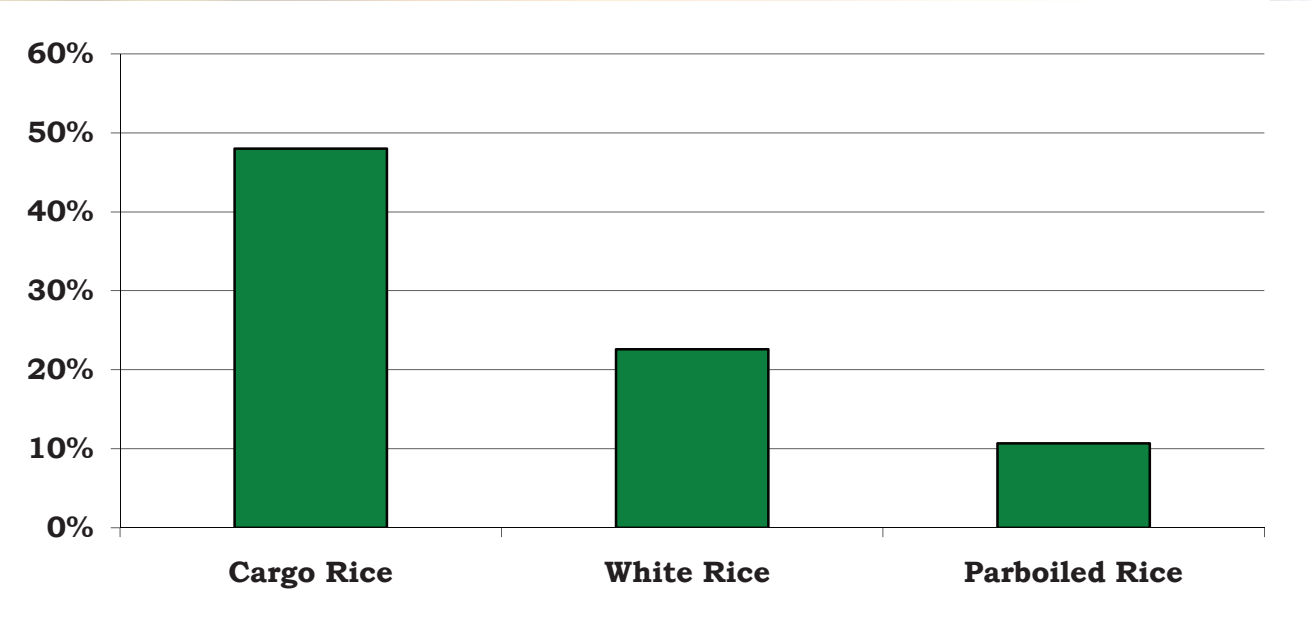
The EEC Countries continued to dominate the Export Market by capturing 51.7% of the total exports, followed by Caricom Market of 33.2 and Other markets 11.9% while OCT 3.2 of the total exports.

Overall, increases were reflected in all the Markets, with the exception of the OCT Market, when compared with previous years. Caricom, the EEC and Other Markets were above budget, while OCT were below budget.

B. EXPORT SALES AS PER PRODUCT

PRODUCT	ACTUALS			Y.T.D	
	2004	2005	2006	ACTUAL	BUDGET
Cargo Rice	120,207	97,868	117,179	128,764	96,000
Cargo Broken	15,391	2,263	3,072	3,968	10,730
White Rice	59,718	41,935	42,501	60,814	74,425
White Broken	15,787	13,564	10,322	26,126	11,540
Parboiled Rice	13,508	16,988	17,804	28,881	15,200
Parboiled Broken	2,037	2,232	3,598	2,097	4,500
Cargo Parboiled Rice	7,326	4,329	6,786	11,360	13,250
Cargo Parboiled Broken	1,256	427	775	2,126	2,215
Padi	3,701	-	36	-	-
Bran	2,582	1,386	1,382	2,586	-
Others	1,579	1,153	1,121	2,714	-
Total	**243,092**	**182,145**	**204,576**	**269,436**	**227,860**

From the table above, one can observe that Cargo Rice exported for the period under review represents 48% of the total, followed by White Rice at 22.6% and Parboiled Rice 10.7%

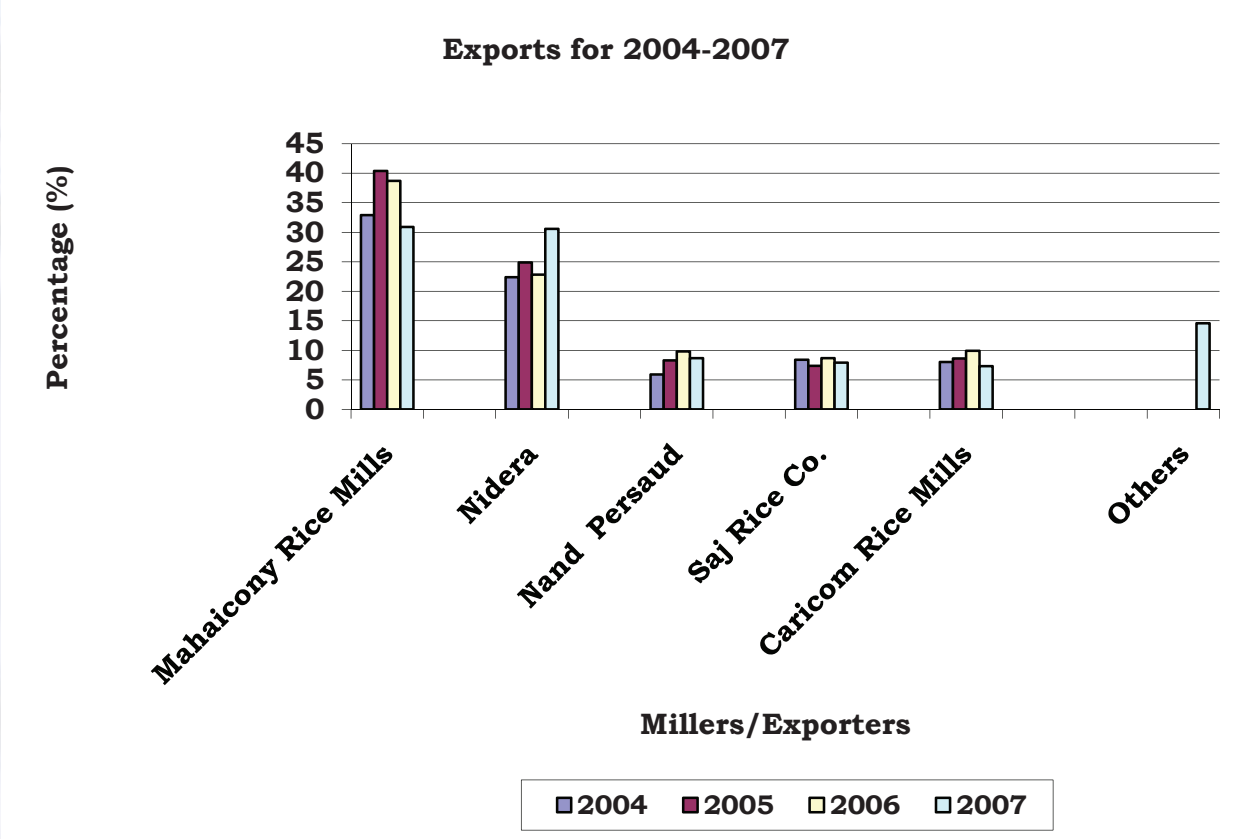


Cargo and Parobiled Rice exported exceeded budget level by 38.7% and 19% respectively, whilst there was a shortfall of 18% with regards White Rice when compared to budget.

EXPORT MARKET SALES

EXPORTERS	2004	2005	2006	2007
Mahaicony Rice Mills	32.9	40.4	38.7	30.9
Nidera	22.4	24.9	22.8	30.6
Nand Persaud	5.9	8.3	9.8	8.7
Saj Rice Co.	8.4	7.4	8.7	7.9
Caricom Rice Mills	8	8.6	9.9	7.3
Others				14.6

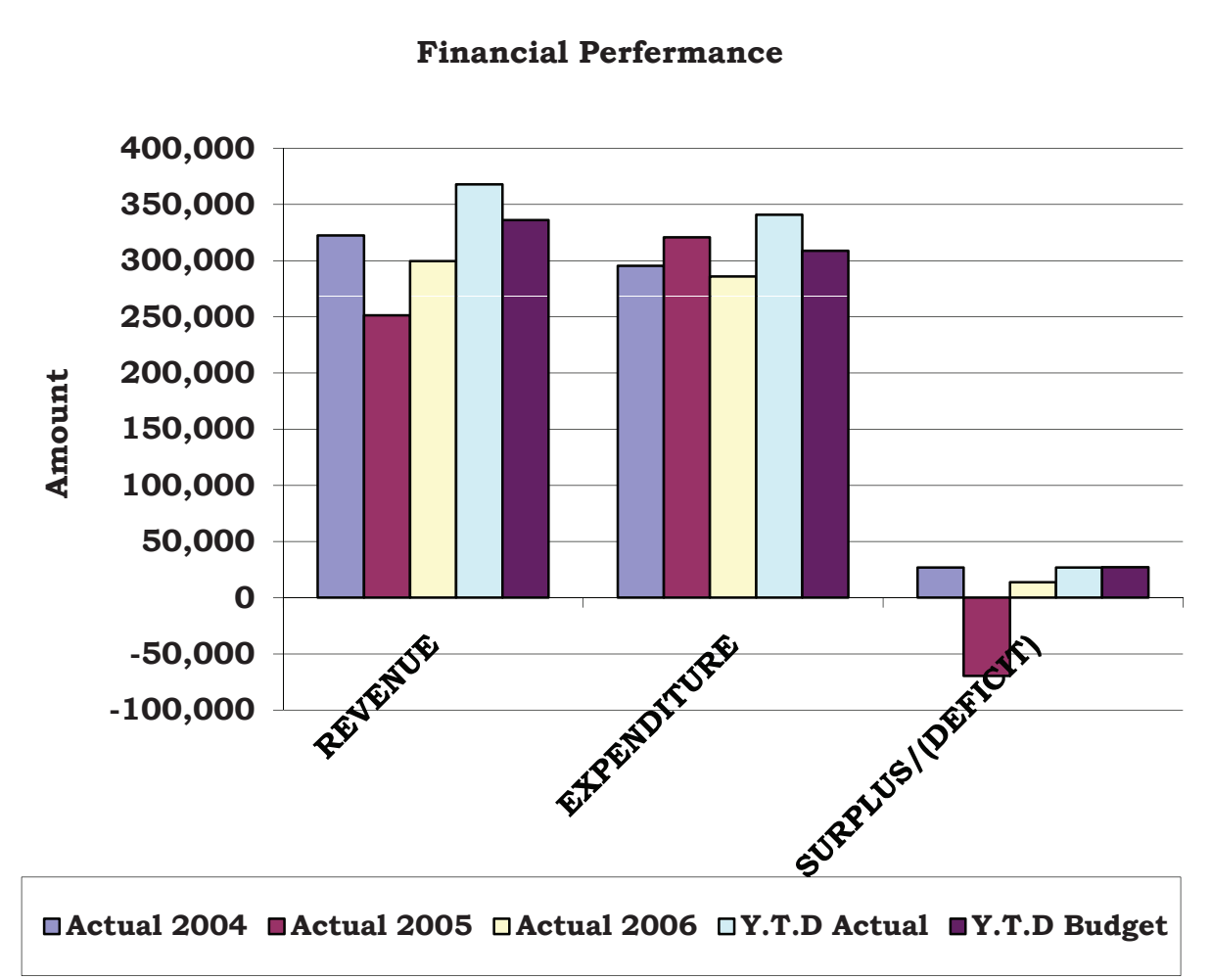
Listed above are the percentages of total exports for the period 2004 - 2007. Mahaicony Rice has maintained the highest level of exports of 30.9%, followed by Nidera (Guyana) Ltd. with 30.6% and Nand Persaud with 8.7%.



C. FINANCIAL PERFORMANCE

(G'$000)

PARTICULARS	ACTUAL			Y.T.D.	
	2004	2005	2006	Actual	Budget
REVENUE	322,355	251,338	299,664	367,852	336,061
EXPENDITURE	295,425	320,891	285,936	340,958	308,802
SURPLUS/(DEFICIT)	**26,930**	**-69,553**	**13,728**	**26,894**	**27,259**



The corporation recorded an operating surplus of G$26,894m or 98.4% of the budget. The increase was mainly due to the increase in Sales Commission.

D. DETAILS IN REVENUE EARNED

	ACTUALS			Y.T.D. 07	
	2004	2005	2006	ACTUAL	BUDGET
Sale Commissions	256,316	200,736	229,066	297,818	256,061
Seed Padi Sales	55,297	40,809	55,652	48,311	60,000
Income from Investment	1,163	277	301	201	1,000
Licences - Mill	3,270	3,615	2,905	3,334	4,000
- Export	525	725	900	575	600
Grading & Inspection	375	556	613	412	1,000
Wharfage & Moorage	3,330	2,051	3,043	2,758	2,000
Gain on Exchange	465	142	148	35	-
Miscellaneous	1,142	1,691	2,611	8,387	6,100
Cleaning of Seed Padi	-	107	-	-	300
By Products	472	629	348	476	1,000
ASSP/RPA Subvention	-	-	3,929	5,545	4,000
TOTAL	**322,355**	**251,338**	**299,516**	**367,852**	**336,061**

Revenue for the period under review exceeded budget by G$31,791m. There was 16.9% increase in Commission, coupled with an increase in Miscellaneous revenue ASSP/RPA Subventions. There was however, a shortfall in Seed Padi sales of 19.5%.

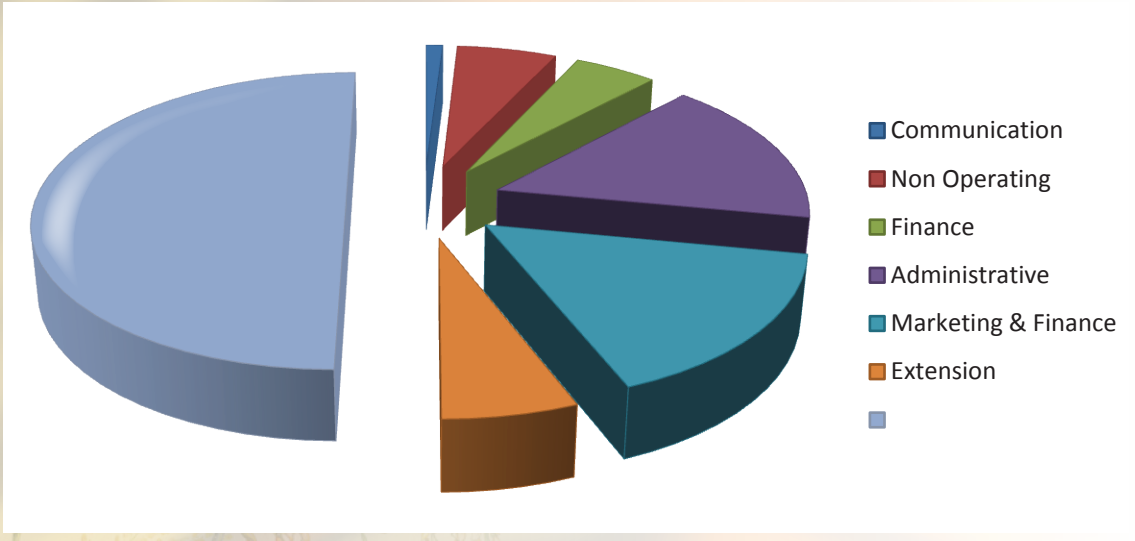
E. CURRENT EXPENDITURE

Current Expenditure for the period under review was G$32,156m or 10.4% above Budget.

F. DIVISIONAL EXPENDITURE

DIVISION	G$'000	%
Finance	15,498	4.7
Administrative	53,496	16.1
Marketing and Grading	51,737	15.5
Extension	21,457	6.4
Research	167,543	50.4
Communication	2,884	0.9
Non Operating	19,943	6
TOTAL	**332,558**	**100**

Divisional Expenditure



Extension Division

The extension services of the Guyana Rice Development Board continued to execute its programme in the four thematic areas during the year, viz.

I. Seed Production and Marketing
II. Technology Application
III. Data Collection and Information
IV. Adhoc/Supporting activities

1. Seed Production & Marketing

a) Marketing of seed produced at Burma Rice Research Station (BRRS)

The Extension division is held responsible for the marketing of all approved seed for sale, from the research station to farmers. To this end a total of 20,602 bags were distributed by extension staff to all the rice growing regions during the year.

b) Monitoring the performance of B.R.R.S seed padi.

Seeds that are sold are monitored for performance, which is germination and overall emergence during the early stages of growth. This exercise revealed that seed fields amounting to 365 acres were found to experience poor germination and establishment of plants. As a consequence, farmers were reimbursed with seeds by the research station amounting to the corresponding acreage found defective.

c) Monitoring of seed fields at B.R.R.S

Seed fields amounting to approximately 500acres were inspected 1-2 times during the growing season to guide research in the production of the intended class of seed.

d) Monitoring/Certification of farmers seed production

Fields grown with seeds supplied by the Research station are monitored to ensure that they achieve the intended class after multiplication. Approximately 2,000acres were inspected during the year. As a result, farmers are producing a better quality seed that is readily utilized by other farmers (Table 1).

Table 1: Volume of seed supplied by seed farmers to other farmers – Autumn Crop 2007

Regions	Rustic	22-4	30-3	196	24-1	135	444	BR240	F710 1	Diwani	Total
2	4,840	4,958	2,080	3,750	310	3,810	1,618	0	0	0	21,366
3	217	1,740	2,224	2,850	170	2,984	145	0	260	250	10,840
4	0	0	1,857	0	0	921	0	0	0	0	2,778
5	1,385	1,265	2,693	1,663	0	750	0	0	0	0	7,756
6	0	0	0	3,810	0	2,425	0	0	0	0	6,235
Total	**6,442**	**7,963**	**8,854**	**12,073**	**480**	**10,890**	**1,763**	**0**	**260**	**250**	**48,975**

a) Extension/Research Collaboration

In addition to routine Research & Extension interactions, the division is also tasked to work with Research in their regional programme. To this end the division assisted in the monitoring of four (4), Bi and Mono Ammonium Phosphate trials, two (2) VIO – FLAR trials, Upland Blast nursery and four (4) regional basic seed production plots. Research provided technical support to the division Six Points Programme.

2. Technology Application

a) Developing competency within the unit.

Extension officers participated in about 26 training programmes during the year. These include Six Points Programme, Grading and Post Harvest Management of padi, preparation of EU financial documents, safe use of pesticides, food safety & HACCP, HIV/AIDS, Rice Factories Act, seed production, initial damage assessment etc.

Additionally, monthly meetings were held to review work programmes and obtain updates on activities in the Regions. Three Extension Officers visited Suriname to observe seed production practices in that country.

b) Technology Transfer

This was primarily focused on the training of farmers through the FFS programme. During the year a total of 40 schools were established with 1,281 farmers participating. (Table 2)

Table 2: Field Schools as per Region

Region	NO of Schools	NO of Farmers participated
2	5	177
3	15	467
4&5	6	282
6	14	355
Total	**40**	**1,281**

Additionally 8 reviews of FFS programmes were held (2 per Region). Ten (10) field days, 7 demonstrations

and 8 exchange visits were also carried out. Fourteen (14) brochures on various aspects of rice production were distributed to field school participants.

3. Data Collection

This is done to inform the management of GRDB, policy makers and other stakeholders in the rice industry on the status of the industry, in various areas of production. The data includes the number of seeds distributed by B.R.R.S, number of fields certified; register of seed growers, utilization of seeds produced by farmers. Data also includes those collected as part of the FFS activity which allows participants to make decisions pertaining to the plot being demonstrated. Crop production data e.g. harvesting, sowing etc, are collected on a weekly basis and collated both weekly and monthly. Schoonard grass survey and data collection are done once per season. Generally data collection is done on a year round basis

4. Adhoc Activities

These are activities that the division is called upon to perform from time to time and require immediate action. It includes visits by senior government functionaries, exhibitions, fairs, field days etc. (Table 3)

Table 3: Adhoc Activities

Activity	Host	Regions	Amount
Mill Monitoring	GRDB	2,3,4,5,6	428
Exhibitions	MOA	2,3,4,5,6	7
Job Fairs	MOA	2 & 10	2
Minister's Visits	MOA	All Regions	7
Investigations	GRDB	All Regions	2
Mobilising Farmers	GRPMU/GRDB	All Regions	4
Sod Turning	MOA	6	1
Police Complaints	RPA	2	1
Loss Assessment (Breach, Leguan)	MOA/GRDB	3	4
Commissioning of Seed Bond (Crane)	RPA	3	1

Quality Control Department

1.0 Introduction

The department saw several changes during the year under review.
The Quality Control Manager, Mr. Brian Greenidge was seconded to the Ministry of Agriculture as the Deputy Permanent Secretary (Administration). A new Manager, was placed to act in that portfolio – Ms. Allison Peters. This movement resulted in the further movement among regional heads in all regions.
In January the Rice Factories Act 1998 was amended and signed by the Minister of Agriculture on 31 January 2007 initiating changes to the Act allowing for the introduction of regulations by the Board and the amendment to the sixth schedule which saw the regularization of payment to farmers.
The New Padi and Rice Grading Regulations (No 8 of 2007) was signed by the Honourable Minister of Agriculture Mr. Robert Persaud MBA, MB, on April 2, 2007 and gazetted on 28 April 2007.
Several awareness seminars were held in all 5 regions to sensitise farmers and millers of the new regulations which were officially implemented during the second crop of 2007.
Additionally, the Board informed stakeholders of the new regulations via television programmes, newspaper advertisement and training of staff members and licensed graders.

2.0 Mill Licencing

Sixty-eight mills were licensed in 2007. Table 1 shows a breakdown of the licensing pattern by region.

Region	2	3	4&5	6	Total
No. of licensed mills	13	17	14	24	68
Milling Capacity (Mt/h)	44.75	28	108	43.5	224.25mt/h

Table 1

3.0 Training

The department conducted four training programmes on "Rice and Paddy Grading and Warehouse Management" in 2007. The aim of these programmes were:
(1) To sensitise operatives within the industry on the procedures involved in grading paddy and rice as well as management of stocks within the warehouses and silos.
(2) To train and license graders to operate at mills countrywide.
Sixty nine (69) persons attended the training programmes with the largest batch (23) being trained in Region 2 and the smallest (9) in Region 3.
The training programme was conducted over a 4 – day period in all rice growing regions as detailed in Table 2. below.

Date	Location	Venue
June26 – 29,2007	Region 2	GRDB Office – Anna Regina E'bo
June 19-22, 2007	Region 3	GRDB Office - Crane W.C.D
June5-8, 2007	Region 5	Burma Rice Research Station
June 12-14,2007	Region 6	GRDB Office - Corriverton, Berbice

Table2: Training Course – Paddy and Rice Grading

4.0 Staff Training

Staff of the department attended several training programmes during the year under review. Training was received in:

(a) Statistical Analysis and Technical Writing.
(b) Quality Management and Food Safety.
(c) STI signs and symptoms and personal risk assessment and several other Quality Management programmes.

Internal training of staff was conducted over several weeks to ensure that staff was in a state of preparedness to implement the new procedures stated in the Padi and Rice Grading regulations.

5.0 Licensed Graders

Twenty-two persons operated as licensed graders during 2007. Of this number, 5 received new licences in 2007.

6.0 Laboratory Certification

The laboratory staff continue to work along with the staff from the Guyana National Bureau of Standards (GNBS) to attain certification.
Training is being conducted in the areas of inspection (ISO /IEC 17020) and certification (ISO Guide 65).
There have been some changes in the procedures and the Quality Manual which is presently being reviewed by the Bureau.
Staff changes at the Bureau and the GRDB have slowed the progress of this certification process.

7.0 Monitoring of trade in Paddy

Staff members of the Quality Control Department were again involved in the monitoring of paddy bought by mills ensuring that a fair trade was conducted.
During the second crop staff was busily involved at mills ensuring that paddy was traded in bulk (per metric tonnes) and that the relevant moisture deductions were implemented as per the Padi and Rice

Activities in 2007

Ms. Coleen Arjune and Mr. Jadunauth Persaud explaining all about rice to some school children at an exhibition held at the Crane Office in Region 3

Extension Manager, (with flap hat) Mr. Kuldip Ragnauth, outlining some important points to farmers at a Farmer's Field School (FFS)

Agriculuture Minister, Robert Persaud, Prime Minister Sam Hinds and Minister within the Ministry of Education Desree Fox visit the GRDB's booth at Guyana Night 2007, held at the Providence Stadium

GRDB's booth at GuyExpo 2007. The booth was designed by Derrick Moore

Activities in 2007

GRDB's booth attracted lots of visitors at Guyana Night 2007, held at Providence National Stadium.

Bursary awardees for 2007 and their parents pose for GRDB's camera.

Farmers inspecting a rice field at an exchange visit held in Essequibo.

GRDB's Employers at a HIV/AIDS workshop.

Grading Regulations 2007.
Millers continued to complain that the farmers were reluctant to adopt the new regulations. However, complaints were reduced towards the latter period of the second crop when stakeholders became more familiar with the regulations. The progress of this implementation will continue to be monitored in 2008.

Staff

HEAD OFFICE

General Manager	Jagnarine Singh, Dip. Agriculture (GSA), B.Sc Agriculture (UG), M.Sc (U.A.R.K)

ADMINISTRATION DIVISION

Administrative Manager/ Company Secretary	George Jervis, BSc Agriculture
Communication Officer	Brushell Blackman, B.So.c. Sc. (UG)
Occupation Health & Safety Officer & Safety (UG)	Ella P. Isaacs, Dip. Occupation Health

FINANCE DIVISION

Accountant	Elaine Reid, Dip. Accounts (UG), B.Soc. Sc. Accounts (UG)
Assistant Accountant	Errol Chester, Dip Accounts (UG)

MARKETING DIVISION

Marketing Assistant	Gloria Chester, Dip. Marketing (UG)

QUALITY CONTROL DIVISION

Quality Control Manager (ag)	Allison Peters, BSc Agriculture (UG)

REGION 2

Regional Supervisor	Dhirendranath Singh, BSc Agri (UG)
Grading Officer	Donellia D'Oliveria, Dip. Agric (GSA)
Grading Officer	Kevin Joseph, Cert. Agriculture (GSA)
Grading Officer	Kishan Indrawattie, Cert. Agri (GSA)

REGION 3

Regional Co-ordinator	Coleen Bailey-Arjune, Cert. Agri GSA)
Grading Officer	Donette Waithe, Dip. Secretarial
Science (GTI)	
Grading Officer	L.Manohar, Dip. Agriculture (GSA)

REGION 4

Regional Co-ordinator	Charles Hope. BSoc. Sc. Economis (UG)
Technical Assistant	Ezekiel Jacobs
Research Assistant	Millissa Warren, B.Sc. Agriculture (UG)
Grading Officer	Uancy Chichester, Dip. Agri (GSA)

REGION 5

Regional Co-ordinator	Errol Joseph, Cert. Agriculture (GSA)
Grading Officer	Beverly Joseph
Grading Officer	Rishal Ramsarran, Dip. Agri (GSA)

REGION 6

Regional Supervisor	Homechand Ramlall, Dip. Agri (GSA)
Grading Officer	Steve Lyte
Grading Officer	Herman Garnett

EXTENSION DIVISION

Extension Manager	Kuldip Ragnauth, Dip Agriculture (GSA) B.Sc. Agriculture (UG)

REGION 2

Regional Rice Extension Officer	Cyril Lochan, Extension Certificate Supervisory Management Certificate
District Rice Extension Officer	Dharamchand Das, Extension Cert.
District Rice Extension Officer	Tamesh Ramnauth, Cert. Agri (GSA)
District Rice Extension Officer	Davendra Singh, Dip. Agriculture

- ***REGION 3***

Regional Rice Extension Officer	Jadunauth Persaud, Dip. Agri (GSA)
Extension Officer	Sandeep Ramsarran, PC Technician

- ***REGION 4 & 5***

Regional Rice Extension Officer	Philbert Rampersaud, Dip. Agri (GSA)
District Rice Extension Officer	Satish Sookram, Dip. Agriculture (GSA)
District Rice Extension Officer	Shabeer Bacchus, Dip Agri (GSA)

- ***REGION 6***

Extension Officer	Phillip Jainarine

- ***RICE RESEARCH STATION, BURMA,***

- ***PLANT BREEDING***

Plant Breeder	Mahendra Persaud, PhD, (India)
Research Assistant	Rajendra Persaud, BSc. Agri (UG)
Research Technician	Elijah Adams, Cert. Agriculture (GSA)

- ***PATHOLOGY***

Research Technician	Rohan Persaud
Research Technician	Bissessar Persaud, Dip. Agri (GSA)

- ***ENTOMOLOGY***

Entomologist	Vivian Baharally, BSc Agriculture (UG), M.Sc Entomology (India)
Research Assistant B.Sc Agriculture (UG)	Satnand Narine, Dip. Agriculture (GSA),
Research Technician	Dindyal Jagdeo

AGRONOMY (WEEDS)

Chief Scientist (ag)	Leroy Small, M.Sc. Agriculture

AGRONOMY (SOILS)

Agronomist (UG), M.Sc. –Agriculture and Mechanical (AAMU)	Lambert Chester, B.Sc. Agriculture
Research Assistant	Gordon Gouveia, B.Sc. Agriculture (UG)
Research Technician	Niron Singh

ADMINISTATION

Farm Manager/Seed Production	Bindraband Bisnauth, Proficieny Cert of Examination, College of Preceptors Cert, General Cert of Examination
Chief Clerk	Marcelle McRae, Dip. Accounts (UG)

WORKSHOP

Supervisor	Lennox Wilson, Cert. Agriculture
Mechanics	
Mechanic	Rakeshwar Singh

STUDY LEAVE

1.	S. Crawford	Third Year Student UG, BSc. Agriculture
2.	T. English	First Year Student UG, BSc
3.	R. Persaud	First Year Post Graduate- India

Research Highlights for 2007

The Research Station continues to play a critical role in the rice industry. New varieties are continuously being developed, along with those that are currently being used by farmers. This is done with the view of improving rice production in Guyana.

1.0 RAINFALL

Persistent wet conditions prevailed in the Mahaicony area during the second and third quarters of 2007 with rainfall exceeding 200mm occurring between March and August. The month of December recorded the highest rainfall (481.1mm) followed by June (327.6mm) while the lowest monthly rainfall for the year (31.8mm) was recorded in February.
The total rainfall for 2007 was 2466.1mm.

A summary of the average daily rainfall on a monthly basis for 2007 is given below.

TABLE 1 **Average Rainfall for 2007**

Month	Avg. Rainfall(mm)	
	Daily	Monthly*
Jan.	2.65	82.2
Feb.	1.14	31.8
March	6.84	211.8
April	9.05	271.5
May	9.97	309.2
June	10.92	327.6
July	7.46	231.2
Aug.	8.89	275.7
Sept.	3.40	103.0
Oct.	1.97	61.2
Nov.	2.66	79.8
Dec.	15.52	481.1

December 2006: 5:57 (172.6)*
* Represents monthly total

2.0 SUNSHINE

Sunshine recording for the months of March to June 2007 was not possible because of a shortage of the special cards used in the process. The remaining eight months of sunshine data revealed that the highest

daily average sunshine of 8.63 hrs.occurred during the month of August, followed by 8.45 hrs in February and 8.26 in November.

The least amount of sunshine occurred during the month of December with a daily average of 3.97 hrs.

A summary of the average daily sunshine on a monthly basis for 2007 is given below.

TABLE 2: Average Daily Sunshine for 2007

Month	Avg. Sunshine (hrs)	
	Daily	Monthly*
Jan.	6.65	206.1
Feb.	8.45	236.6
March	NA	-
April	NA	-
May	NA	-
June	NA	-
July	7.06	219.4
Aug.	8.63	267.4
Sept.	7.92	237.7
Oct.	7.96	246.9
Nov.	8.26	247.7
Dec.	3.97	123.1

December 2006 – 6.37 (197.6)*

3.0 PLANT BREEDING

3.1 CREATING VARIABILITY

One hundred and forty three crosses were made during 2007 (88 in spring and 55 in autumn). These were made to create variability for increasing yield potential of local varieties/strains and broaden the genetic basis of resistance to blast. The F1 populations of crosses made during the first season were raised during the second season of 2007. Individual plants from each cross were harvested for advancing the respective F2 generation in first season of 2008. The F1 populations of the crosses made in the second season will be grown in the first season of 2008.

3.2 BREEDING MATERIAL

In the first season 21 F2 populations were studied. During the year a total of 1273 progenies were studied in F3 to F8 generation in pedigree nurseries. The number of progenies grown in various generations and selections taken over the two seasons are given in Table 3. Strains that were bulked were promoted for further testing in the subsequent season Observational Yield Trial (Initial Yield Testing).

TABLE 3: Breeding material grown and selections taken, during 2007.

S.N.		Spring 2007			Autumn 2007		
	Generation	**No. of Progenies**	**No. of Selections Taken**	**Bulks**	**No. of Progenies**	**No. of Selection Taken**	**Bulks**
1.	F_2	(21crosses)	387	-			-
2.	F_3	16	12	-	387	208	
3.	F_4						
4.	F_5	410	256	-	12	14	
5.	F_6	-	-		256	226	4
6.	F_7	-	-				
7.	F_8	63	44				-
8.	F_9	11	-	15	44	42	14
9.	FLAR				74	34	
	Total	**500**	**699**	**15**	**773**	**524**	**18**

3.3 OBSERVATIONAL ROW

Advanced breeding lines received from FLAR were observed for yield potential and other desirable traits. In the first season 164 lines were observed and 40 were selected for testing in the OYT in autumn 2007. During the second season 229 entries were studied and ten strains were selected for testing in OYT in spring 2008.

3.4 OBSERVATIONAL YIELD TRIAL (OYT)

This trial involves preliminary assessment of new materials for yield potential and other desirable traits. Twelve strains along with three checks were studied in augmented design. Six strains were selected for further testing in the autumn 2007 OYT. In the second season the OYT constituted of 60 advanced breeding lines and three checks in an augmented design. Twenty promising strains from this trial were promoted for testing in AYT.

3.5 ADVANCED YIELD TRIALS (AYT)

Fifteen promising early to medium duration strains were tested along with three checks (G98-30-3, G98-135, G98-196) in a Randomize Block Design with three replications at three locations viz. Rice Research Station, Black Bush Polder and Spring Gardens. Five superior strains (G04-08, G05-12, FG05-43, FG05-142, and FG05-259) were selected for further testing in autumn 2007. Another thirteen strains of medium to late duration along with three checks were analyzed. The experiment was laid out in a RBD with three replications at the same three locations. Four strains (FG05-142, FG05-211, FG05-228 and FG05-298) proved superior from this trial and were promoted for further testing in the next season.

The nine promising strains that were promoted in the first season were studied along with three checks

in an RBD with four replications at the same three locations in the autumn season. Three strains G04-08, FG05-259 and FG05-298) with high yield potential (6 tonnes/hectare), good milling and cooking qualities were identified for large (0.4047 ha plot size) scale testing under controlled conditions at RRS during spring 2008.

3.6 STRAIN PURIFICATION

Twenty eight advanced breeding lines were grown in progeny rows (25 to 100 progenies per strain) for the purpose of purification during the first season. Nine strains were purified in the second season.

3.7 SEED MULTIPLICATION

3.7.1 PRE BASIC SEED

During 2007 the production of pre basic seed of the ten commercial varieties amounted to 5,153.8kg. In addition 5,825 selections were taken from the progenies grown. Table 4 highlights the pre-basic seed production by varieties during the two growing seasons.

TABLE 4: Pre Basic Seed Produced and Selections Taken in 2007

S.N.	Varieties	Spring ,2007			Autumn,2007			Total		
		Progenies Grown	Selections taken	Seed Prod. (kg)	Progenies Grown	Selections taken	Seed Prod. (kg)	Progenies Grown	Selections taken	Seed Prod. (kg)
1.	Rustic	300	325	358.8	225	400	142.7	525	725	501.5
2.		150	225	148.6	150	300	103.2	300	525	251.7
	Diwani									
3.	F7-10	150	225	163.5	150	300	64.1	300	525	227.5
4.	BR 240	100	125	78.2	75	225	36.2	175	350	114.4
5.	BR 444	290	225	399.5	150	300	95.2	440	525	494.7
6.	G98-22-4	225	225	311.7	150	300	77.4	375	525	389.1
7.	G98-24-1	100	125	61.1	75	225	54.5	175	350	115.6
8.	G98-30-3	375	500	373.2	300	600	217.4	675	1100	590.6
9.	G98-135	375	500	411.0	375	666	228.5	750	1166	639.5
10.	G98-196	540	500	658.0	375	600	251.9	915	1100	909.9
	Total	2605	2975	3735.7	2025	2850	1418.1	4630	5825	5153.8

3.7.2 BASIC SEED – RESEARCH STATION

The production of basic seed of the ten commercial varieties at the Research Station occupied 20.1ha from which 67.1 tonnes of seed were obtained.
Table 5 highlights the basic seed production by varieties during the two growing seasons.

TABLE 5: BASIC SEED PRODUCED AT R.R.S. IN 2007

S.N.	Varieties	Spring,2007		Autumn,2007		Total	
		Area (ha)	Seed Produced (tonnes)	Area (ha)	Seed Produced (tonnes)	Area (ha)	Seed (tonnes)
1.	Rustic	1.4	5.0	1.1	3.3	2.5	8.3
2.	Diwani	0.0	0.0	1.0	2.9	1.0	2.9
3.	F7-10	0.7	2.7	0.7	2.2	1.5	4.9
4.	BR 240	0.0	0.0	0.3	1.5	0.3	1.5
5.	BR 444	1.4	3.5	0.7	2.0	2.1	5.5
6.	G98-22-4	1.0	3.8	1.0	2.9	2.0	6.6
7.	G98-24-1	1.0	3.8	0.5	1.0	1.5	4.8
8.	G98-30-3	1.1	4.0	1.1	3.8	2.3	7.8
9.	G98-135	1.6	6.6	1.1	4.5	2.8	11.1
10.	G98-196	2.3	8.1	1.8	5.7	4.1	13.8
	Total	**10.6**	**37.5**	**9.5**	**29.7**	**20.1**	**67.1**

3.7.3 BASIC SEED – OFF STATION

In an attempt to decentralize the production of basic-seed and to make this class of seed readily available to farmers/seed producers in the various regions 2.2 ha were grown in farmers' plots and at the Sub-Station at Black Bush Polder. Seed production result was 15,790.9kg.
Table 6 highlights the Off Station basic seed production by regions and varieties.

TABLE 6 OFF STATION BASIC SEED PRODUCTION 2007

S.N.	Farmer	Region	Variety	Class of Sees Produced	Area (ha)	Seed Produced (kg)	Quantity Sold to Farmers (kg)	Quantity Retain by the Farmer (kg)
1	Yhadonauth	Reg # 2	G98-22-4	Basic	1.2	8081.8	7890.9	190.9
2	G. Persaud	Reg # 3	G98-135	Basic	0.4	1909.1	509.1	1400
3	R. Paidana	Reg # 6	G98-196	Basic	0.5	2300.0	1300.0	1000
	Sub station	Reg # 6	G98-196	Basic	0.4	3500.0	3500.0	0
	Total				**2.5**	**15790.9**	**13200.0**	**2590.9**

3.8 CHARACTERIZATION OF COMMERCIAL VARIETIES

The 10 commercial varieties were studied to detail the important trait of each variety in both seasons of 2007.

3.9 GERMPLASM MANAGEMENT

The Department received 267 accessions during the year 2007. These include 229 advanced breeding lines from FLAR and 38 lines from IRRI (32 blast monogenic lines and six salt tolerant strains). Four hundred and nine accessions were rejuvenated in the field.

3.10 ON FARM PERFORMANCE TRIALS

The On Farm Performance Trial was conceived to provide relevant information to farmers on the best choice of variety for cultivation in similar ecosystem for the various growing seasons. Also researchers are provided with an opportunity to have a comprehensive understanding of the performance of the different varieties in different rice environments.

Six varieties viz. G 98-22-4, G 98-24-1, G 98-30-3, G 98-135, G 98-196, and Diwani were grown on 4047m2 (one acre) plots each on farmer's fields. Five of such trials were conducted during first season, 2007 in Regions 3, 4, 5 and 6. Generally, all the farmers who participated in the trial realized higher yield levels than (previously), farmers attained yields of between 4-7 tonnes / hectare.

4.0 AGRONONOMY (SOIL FERTILITY)

During the year 2007, the Agronomy (Soil Fertility) Department was involved in a number of activities to achieving its objectives. The main activities were, conducting field trials to evaluate responses of some of the cultivated rice varieties to various fertilizers both on and off station. The department was also involved in the testing of irrigation water for total soluble salts and advising on the use of such water. Following are summaries of the field trials.

4.1 COMPARISON OF PHOSPHORUS SOURCES

Comparison of different phosphorus sources in lowland rice cultivation, which had as its objectives;

(1) To compare the efficiency of different phosphorus materials and

(2) To determine the benefits of balanced nutrition in commercial rice production.

These trials were conducted in collaboration with Agro Services International Inc. of Florida, USA and Geddes Grant Guyana Ltd. Trials were established in farmers' fields in Regions 2, 3, 6 and at the Rice research Station in Region 5. The varieties used were as the farmers choose and yield results have indicated that yields are indeed improved with balanced nutrition. In all cases the yields using MAP and DAP were greater than the normal practice. Increased yields were statistically different (P-0.05). A similar trial was conducted in small plots to compare the efficiency of Diammonium, Monoammonium and Triple Super Phosphates as phosphorus sources in the rice cultivation. This trial was established on Lichfield clay using varietG-98-135. Although it was observed that 30kg P2O5 gave best yield, no particular trend was established during the first of the second season.

4.2 POTASSIUM TRIAL

A trial to determine the response of variety of G-98 -196 to added potassium was conducted on Corentyne clay at the Black Bush Polder Sub Station during spring of 2007. From the data recorded, the highest yield was obtained when 125kg K2O/ha was applied. Yields ranged from 6.3 to 7.1 t/ha.

4.3 VARIETY AND NITROGEN TRIAL

Experiments to determine the optimal level of Nitrogen for four of the commercial varieties (G98-22-4, 30-3, 135 and 196) were conducted at the Research Station on Lichfield clay. From the data recorded, there were no stastical differences among varieties; however, all showed responses to added Nitrogen. During the first season yield ranged form 4.3 to 6.6t/ha, while in the second season it ranged from 2.32 to 5.6t/ha.

4.4 FOLIAR APPLICATION OF BIO ALGEEN – S90

Two trials were conducted during 2007 to evaluate the effect of applied Bio Algeen S90 on the yield

of lowland Rice. These trials were conducted at the Research Station on Lichfield clay using variety G98-135. Yields ranged between 5.6 and 6.1 t/ha and 4.1 to 4.8 t/ha. However, no particular trend was observed.

4.5 FOLIAR APPLICATION OF BIO – NATURE

Another two trials to evaluate the effect of Bio Nature Tm on the yield of low land rice were conducted at the research Station using variety G98-135. Yields over the two seasons were not statistically different even though they ranged from 5.85 to 6.67 t/ha during the first season and 3.6 to 4.4 t/ha in the second season.

4.6 COMPARISON OF METHODS OF FERTILIZER APPLICATION

An observation trial to compare the timing and placement of fertilizer was conducted on Lichfield clay at Research Station. Observations were that fertilizer applied after field was drained was best (6.8 t/ha), followed by that applied at land preparation (5.9 t/ha) and last was the normal practice of applying fertilizer in standing water with 5.3 t/ha.

It should be noted that yields were generally higher during the first season (spring).

4.7 TRAINING

The Senior Staff in the department also benefited from a training course in statically Analysis and Technical Writing, held in January 2007, however the full benefits are still to be realized because, we still have not received the promised software, which will allow us to practise what we learnt.

5.0 AGRONOMY (WEED MANAGEMENT)

Research in Weed Management during 2007 focused on the evaluation of Nomina 25% WP (Bispyribac Sodium) a generic version of the original product Nominee 400SC.
This Product (Nomina) was commercially available to rice farmers. However its activity on the major rice weeds was very unpredictable. Its application window also appeared to be narrower than Nominee.

Three rates of this product were evaluated at four application times (18, 21, 28 and 34 days after sowing – DAS) against Propanil as the standard treatment. A surfactant (Nu-film-P 0.13%) was included to evaluate its effect on the activity of Nomina.

5.1 NOMINA TREATMENT AT 18 DAYS

The degree of weed control as indicated by the fresh weight of weeds at crop maturity was generally poor at all rates of Nomina treatments when application was carried out 18 days after sowing. The fresh weights of weeds in these treatments were similar to that of the control treatment. The grain yields in these treatments were also similar to or less than those of the control treatment.

Only the standard treatment – Propanil – provided satisfactory weed control with grain yield that was 10% better than the control treatment.

5.2 NOMINA TREATMENT AT 21 DAYS

Satisfactory weed control was obtained from the highest rate of Nomina – 128g product/ac – (316.16g product/ha) with and without surfactant and the standard treatment – Propanil – when these treatments were applied 21 days after sowing. These treatments also produced the best grain yield.

5.3 NOMINA TREATMENT AT 28 DAYS

Weed control was partial at this time of application with similar levels of control being provided by the various rates of Nomina without surfactant. A moderate improvement in grain yield as well as in weed control was observed when the treatment were accompanied by the surfactant – Nu- Film – P at 0.13% product concentration. In general, yields were lower at this time of application than at 18 and 21 DAS probably because of relatively late and incomplete weed control.

5.4 NOMINA TREATMENTS AT 34 DAYS

At this late stage of application weed control was generally poor at all rates. The use of the surfactant – Nu – Film – P did not enhance the weed control activity of Nomina.

In general Nomina 25% WP continued to exhibit poor activity on the major rice weeds at all times of application even when the recommended application rate was doubled.
Propanil on the other hand gave good control of the entire weed spectrum at 18 days. However, its activity decreased as the age of weeds increased.

6.0 ENTOMOLOGY

During the year 2007, the department focused on a number of activities such as monitoring to ascertain the population dynamics of rice insect pests and their natural enemies, evaluation of the ten commercially grown varieties for their resistance against the major insect pests, screening of five novel insecticides against early and late season pests, and evaluation of insecticides using the seed treatment method of application. The pests under study were leaf miner (Hydrellia sp), water weevil (Helodytes foveolatus), caterpillar (Sodoptera frugiperda) and paddy bug (Oebalus poecilus). Most of the experiments were conducted during the second season (autumn).

6.1 MONITORING

Monitoring was done at the Rice Research Station, Burma in cropped and non-cropped areas using a

sweep net. More than 20 species, including spiders were recorded. Data revealed that the non-cropped habitats have higher population densities when the fields are not under cultivation or during the early growth stages of the rice plant. It is also evident that the use of chemicals reduces the number of organisms present and their density, particularly those known to be natural enemies of the paddy bug, Oebalus poecilus. Continuous generation of such data (over a number of years) will allow for a long-term analysis of the relationship between population dynamics of certain species and climate change.

6.2 SCREENING VARIETIES FOR INSECT RESISTANCE

The evaluation of the ten commercially grown varieties for their resistance against the major insect pests was done during both seasons. In the first season (spring), the varieties were sown in plots with 4 replications each. It was observed that damage was mainly caused by the leaf miner while the least damage was by the caterpillar. The variety F710 was the only one that had 0% damage by caterpillar but all had damage caused by leaf miner and water weevil. During the second season (autumn), the varieties were transplanted into the field 24 days after sowing. Twenty plants were sown for each variety in rows 40 cm apart and 15 cm between plants. All the plants died within 7 days of transplanting. This could be attributed to the adverse weather at the time of transplanting as much of the plants were below the water surface.

6.3 SCREENING INSECTICIDES FOR EARLY SEASON PEST CONTROL

Five novel insecticides, viz Leaf guard (Cyromazine), Padan 50SP (1,3-bis(carbamoylthio)-2-(N,N-dimethylamino)-propane hydrochloride), Engeo (Lambda-cyhalothrin), Jade 35EC (Imidacloprid) and Monarca 11.25EC (Thiacloprid+B-cyfluthrin) were screened against early season pests at three different rates each. Excellent results were obtained for all and the plants recovered from damage caused by the early season pest complex of leaf miner, water weevil and caterpillar. Further testing against the paddy bug was not done because the population of the pest was very low. It was concluded that since the experimental plot was surrounded by other experiments from other departments, there could have possibly have been insecticide drifts that caused the low paddy bug population. Further evaluation of these novel insecticides is planned for the next season.

6.4 SEED TREATMENT

Seed treatment has become a part of the research activities. The main insecticide is Fipronil. Efforts were being made to find alternatives that are comparible in effectiveness but cheaper in cost. Also, different methods of application were tried in order to venture into seed treatment on a commercial basis. More testing is required for decisive conclusions.

In collaboration with the Extension Department, all the seed treatment plots in the rice regions were supervised and monitored.

6.5 PATHOLOGY

Rice diseases are considered to be some of the most important biotic and abiotic factors that affect rice cultivation and its productivity. Blast disease, Pyricularia grisea, commonly affects one of the predominant varieties, Rustic, and therefore efforts in varietal improvement have been focused on screening progenies derived from crosses in which at least one parent is known to have field resistance to blast in Guyana. Screening for blast was conducted at multiple hotspots, while the monitoring of various rice diseases was done at the Rice Research Station Burma and in farmers' fields.

7.1 SCREENING FOR BLAST RESISTANCE

The tables below highlights the behaviour of the Breeding materials screened for reaction to P. grisea during the first and second crops of 2007.

7.1.1 FIRST CROP 2007

LOCATION	DATE SOWN	NO. OF ENTRIES	BLAST DISEASE RATING (NO. OF ENTRIES)					NO. GERMIN.
			HR	R	MR	MS	S/HS	
Von Better	07/02/05	857	165	264	112	65	250	1
Timehri	07/02/09	102	74	20	8	-	-	-
Black Bush Polder	102	-	-	-	-	-	-	-
TOTAL	-	1,061	239	284	120	65	250	1

NOTE: There was 100% germination and good establishment of the Blast Nursery at Black Bush Polder. However, despite an apparent conductive Blast environment no symptoms of Blast disease occurred on susceptible checks. Therefore scoring was not meaningful.

7.1.2 SECOND CROP 2007

LOCATION	DATE SOWN	NO. OF ENTRIES	BLAST DISEASE RATING (NO. OF ENTRIES)					NO. GERMIN.
			HR	R	MR	MS	S/HS	
Von Better	04/08/07	1493	917	38	187	238	7	46
Timehri	11/07/07	178	141	13	13	1	1	9
Black Bush Polder	20/06/07	178	-	-	-	-	-	-
TOTAL		1,849	1,058	51	200	239	8	55

NOTE: There was poor germination and establishment of the blast Nursery at Black Bush Polder. Here again despite an apparent conducive blast environment, there were no symptoms of blast disease on susceptible checks. Therefore 3rd and 4th scorings were not meaningful.

HR ----- HIGHLY RESISTANT

R -------- RESISTANT

MR ----- MODERATE RESISTANT

MS ----- MODERATE SUSCEPTIBLE

S/HS --- SUSCEPTIBLE HIGHLY SUSCEPTIBLE

7.3 MONITORING FOR OTHER FUNGAL DISEASES

At the Rice Research Station Burma there were minimum incidents of sheath blight (Rhizoctonia solani) and brown spots (Helminthosporium). (Less than 5%) in the First crop and between 2.0 to 3.0 % in the Second Crop.

7.0 SEED PRODUCTION

During the year, 1034.3 tonnes (16,284 bags – 140 lbs) of C-I and C-II seed consisting of 9 commercial varieties were produced by the Research Station from 192.8 ha of harvested area. Sixty nine percent (69%) of the seed produced consisted of the popular commercial varieties G98-135 (26%), G98-30-3 (17%), Rustic (13%) and G98-196 (13%).

No seed of BR -240 was produced during the two growing seasons of 2007, while G98-24-1 was

dropped from the seed production programme during the Second Crop of 2007.

Table 7 highlights the area harvested by variety and the seed production during the two growing seasons.

TABLE 7: SEED PRODUCTION AT GRDB RESEARCH STATION 2007

	FIRST CROP			SECOND CROP			TOTAL		
VARIETY	AREA HARVEST-ED (Ha)	PADDY PRODUCTION		AREA HARVEST-ED (Ha)	PADDY PRODUCTION		AREA HARVEST-ED (HA)	PADDY PRODUCTION	
		TONNES	BAGS		TONNES	BAGS		TONNES	BAGS
1. Rustic	22.6	89.2	1,404	22.6	48.1	758	45.2	137.3	2,162
2. G98-22-4	23.9	82.8	1,304	11.2	33.6	529	35.1	116.4	1,833
3. G98-24-1	5.7	19.3	304	-	-	-	5.7	19.3	304
4. G98-30-3	29.0	120.2	1,893	28.3	50.9	802	57.4	171.2	2,695
5. G98-135	32.2	129.0	2,031	5304	138.8	2,185	85.6	267.8	4,216
6. G98-196	40.7	86.0	1,354	17.8	46.0	724	8.5	132	2,078
7. BR-444	24.7	69.6	1,096	11.7	22.3	351	36.4	91.9	1,447
8. F_7-10	10.7	38.2	602	5.7	15.9	250	16.4	54.1	852
9. DIWANI	8.7	31.0	488	8.7	13.3	209	17.3	44.3	697
TOTAL	**198.2**	**665.4**	**10,476**	**159.3**	**368.9**	**5,808**	**357.5**	**1034.3**	**16,284**

In addition to the above quantity of seed production the Research Station also harvested 147 tonnes of grains during the Second Crop.

The major production constraint was continuous wet weather between March and August 2007 which interfered with the harvesting and drying operations during the First Crop and affected the quality of land preparation during the Second Crop. This resulted in an increase in the weed infestation in the second crop.

Appendix 1

RICE STATISTICS 1968 - 2007

Year	Hectare Harvested	Paddy Production	Yield per Hectare Tonnes	140 lbs (HA)	Rice Equiv Tonnes	Quantity Exported (MT)	Value G$ & US$
1968	126,702	221,869	1.7	27.6	139,643	93,367	$27,632.00
1969	113,081	173,392	1.5	24.2	112,644	62,243	$19,147.00
1970	119,182	222,469	1.8	29.3	144,605	59,347	$18,047.00
1971	94,551	187,535	1.9	31.1	121,989	67,515	$21,334.00
1972	79,462	147,130	1.8	29.1	95,639	69,949	$25,251.00
1973	92,821	152,360	1.6	25.9	99,034	47,814	$25,005.00
1974	105,741	255,886	2.4	38.0	165,657	50,827	$49,025.00
1975	108,486	297,099	2.7	43.2	172,259	82,035	$84,937,00
1976	84,027	172,904	2.0	32.3	103,754	70,681	$73,594.00
1977	130,528	358,290	2.7	43.2	214,972	65,855	$66,812.00
1978	114,846	308,207	2.6	42.2	184,985	104,761	$95,983.00
1979	90,227	240,556	2.6	41.9	144,328	84,080	$80,814.00
1980	95,991	281,846	2.9	46.1	169,107	81,008	$87,491.00
1981	89,053	276,006	3.0	48.9	165,604	78,010	$110,009.00
1982	95,280	302,671	3.1	49.8	181,603	35,676	$60,767.00
1983	75,807	246,064	3.2	51.1	147,639	41,715	$64,933.00
1984	92,987	299,628	3.2	50.6	179,785	47,498	$80,945.00
1985	77,777	260,207	3.3	52.6	156,124	29,339	$56,594.00
1986	83,977	293,073	3.4	54.8	171,044	38,634	$57,234.00
1987	75,146	243,398	3.2	50.8	145,879	68,987	$157,128.00
1988	74,223	226,862	3.0	48.1	132,281	55,926	$139,165.00
1989	68,544	237,183	3.4	54.5	142,310	40,575	$367,427.00
1990	51,368	155,740	3.0	47.6	93,444	50,943	$513,220.00
1991	76,209	251,321	3.3	51.8	150,783	54,047	US$17,202,635.00
1992	77,327	286,000	3.7	58.2	171,000	115,102	US$35,000,135.00
1993	98,061	336,207	3.4	61.5	201,702	124,089	US$33,045,227.00
1994	97,660	378,432	3.8	61.0	233,111	182,585	US$55,547,061.00
1995	132,344	525,500	3.9	62.4	315,301	200,336	US$76,397,522.00
1996	135,436	543,437	4.0	63.2	332,542	262,265	US$93,716,748.21
1997	142,782	568,186	3.9	62.7	340,911	285,051	US$84,224,971.47
1998	129,469	522,907	4.0	63.4	339,890	249,755	US$73,259,786.73
1999	147,071	562,260	3.8	59.7	365,469	251,519	US$71,035,677.51
2000	115,872	448,740	3.8	61.0	291,967	207,638	US$51,790,072.00
2001	124,565	495,862	3.9	62.7	322,310	209,042	US$50,061,834.00
2002	107,902	443,654	4.1	64.7	288,375	193,416	US$45,463,590.45
2003	127,662	546,183	4.3	67.4	355,019	200,432	US$45,273,049.61
2004	115,742	500,911	4.3	68.1	325,592	243,093	US$55,066,513.74
2005	106,645	420,365	3.9	62.1	273,237	182,175.24	US$46,172,149.45
2006	102,934	472,363	4.6	72.2	307,036	204,577	US$ 54,622,559.62
2007	105,865	458,653	4.3	68.2	298,125	269,436	US $ 75,251,464.99

GUYANA RICE DEVELOPMENT BOARD

AUTUMN CROP 2007

HARVESTING

REGION / ZONE	HECTARE				Paddy Production		Rice Equiv.	Yield	Yield	%
	Target	Prepared	Sown	Harvested	Bags	M/T	M/T	(Bags/Ha)	(Tons/Ha)	Harvested
REGION 2										
Essequibo	13,158	12,829	12,829	12,809	956,432	60,753	39,490	74.7	4.7	99.8
Sub-Total	**13,158**	**12,829**	**12,829**	12,809	956,432	60,753	39,490	74.7	4.7	99.8
REGION 3										
Wakenaam	1,215	281	281	269	15,986	1,015	660	59.5	3.8	95.5
Leguan	1,538	1,234	1,234	1,181	64,152	4,075	2,649	54.3	3.5	95.7
Hogg Island	121	101	101	101	5,000	318	206	49.4	3.1	100.0
West Demerara	5,789	5,464	5,464	5,464	372,650	23,671	15,386	68.2	4.3	100.0
Sub-Total	**8,663**	**7,080**	**7,080**	7,014	457,788	29,079	18,901	65.3	4.1	99.1
REGION 4										
Golden Grove/Cane Grove	3,037	2,858	2,749	2,749	183,330	11,645	7,569	66.7	4.2	100.0
Sub-Total	**3,037**	**2,858**	**2,749**	2,749	183,330	11,645	7,569	66.7	4.2	100.0
REGION 5										
Mahaica/Abary	11,336	7,348	7,109	7,071	419,160	26,625	17,307	59.3	3.8	99.5
West Berbice	16,194	7,822	7,668	7,648	434,470	27,598	17,939	56.8	3.6	99.7
Sub Total	**27,530**	**15,170**	**14,777**	14,719	853,630	54,223	35,245	58.0	3.7	99.6
REGION 6										
Frontlands	9,312	6,140	6,138	5,985	360,500	22,899	14,885	60.2	3.8	97.5
Black Bush Polder	6,883	5,678	5,672	5,559	318,069	20,204	13,133	57.2	3.6	98.0
Sub-Total	**16,195**	**11,818**	**11,810**	11,544	678,569	43,103	28,017	58.8	3.7	97.7
TOTAL	**68,583**	**49,755**	**49,245**	**48,835**	**3,129,749**	**198,804**	**129,223**	**64.1**	**4.1**	**99.2**

GUYANA RICE DEVELOPMENT BOARD

SPRING CROP 2007

HARVESTING

REGION / ZONE	HECTARE				Paddy Production		Rice Equiv.	Yield	Yield	%
	Target	Prepared	Sown	Harvested	Bags	M/T	M/T	(Bags/Ha)	(Tons/Ha)	Harvested
REGION 2										
Essequibo	13,158	12,494	12,494	12,492	932,716	59,247	38,511	74.7	4.7	100.0
Sub-Total	**13,158**	**12,494**	**12,494**	**12,492**	**932,716**	59,247	38,511	74.7	4.7	100.0
REGION 3										
Wakenaam	1,215	486	486	446	26,448	1,680	1,092	59.3	3.8	91.8
Leguan	1,538	1,113	1,113	1,097	59,620	3,787	2,462	54.3	3.5	98.5
Hogg Island	121	105	105	105	5,980	380	247	56.8	3.6	100.0
West Demerara	5,789	5,587	5,587	5,587	432,400	27,466	17,853	77.4	4.9	100.0
Sub-Total	**8,663**	**7,292**	**7,292**	7,236	524,448	33,313	21,654	72.5	4.6	99.2
REGION 4										
Golden Grove/Cane Grove	2,995	2,915	2,915	2,910	222,826	14,154	9,200	76.6	4.9	99.8
Sub-Total	**2,995**	**2,915**	**2,915**	2,910	222,826	14,154	9,200	76.6	4.9	99.8
REGION 5										
Mahaica/Abary	11,336	8,462	8,462	8,445	584,080	37,101	24,116	69.2	4.4	99.8
West Berbice	16,194	10,397	10,304	10,233	707,700	44,954	29,220	69.2	4.4	99.3
Sub Total	**27,530**	**18,858**	**18,765**	18,678	1,291,780	82,055	53,336	69.2	4.4	99.5
REGION 6										
Frontlands	9,312	8,840	8,840	8,803	660,712	41,969	27,280	75.1	4.8	99.6
Black Bush Polder	6,883	7,014	7,014	6,911	458,285	29,111	18,922	66.3	4.2	98.5
Sub-Total	**16,195**	**15,854**	**15,854**	15,715	1,118,997	71,080	46,202	71.2	4.5	99.1
TOTAL	**68,541**	57,413	**57,320**	**57,030**	**4,090,767**	**259,849**	**168,902**	**71.7**	**4.6**	**99.5**

GUYANA RICE DEVELOPMENT BOARD

PRODUCTION 2007

HARVESTING

REGION / ZONE	HECTARE				Paddy Production		Rice Equiv.	Yield	Yield	%
	Target	Prepared	Sown	Harvested	Bags	M/T	M/T	(Bags/Ha)	(Tons/Ha)	Harvested
REGION 2										
Essequibo	26,316	25,323	25,323	25,301	1,889,148	120,000	78,000	74.7	4.7	99.9
Sub-Total	**26,316**	**25,323**	**25,323**	**25,301**	#######	120,000	78,000	74.7	4.7	99.9
REGION 3										
Wakenaam	2,430	767	767	715	42,434	2,695	1,752	59.4	3.8	93.2
Leguan	3,076	2,347	2,347	2,278	123,772	7,862	5,110	54.3	3.5	97.0
Hogg Island	242	207	207	207	10,980	697	453	53.2	3.4	100.0
West Demerara	11,578	11,051	11,051	11,051	805,050	51,137	33,239	72.9	4.6	100.0
Sub-Total	**17,326**	**14,372**	**14,372**	14,250	982,236	62,392	40,555	68.9	4.4	99.2
REGION 4										
Golden Grove/Cane Grove	6,032	5,773	5,664	5,659	406,156	25,799	16,770	71.8	4.6	99.9
Sub-Total	**6,032**	**5,773**	**5,664**	5,659	406,156	25,799	16,770	71.8	4.6	99.9
REGION 5										
Mahaica/Abary	22,672	15,810	15,571	15,516	1,003,240	63,727	41,422	64.7	4.1	99.6
West Berbice	32,388	18,219	17,972	17,881	1,142,170	72,552	47,159	63.9	4.1	99.5
Sub Total	**55,060**	**34,028**	**33,542**	33,397	2,145,410	136,278	88,581	64.2	4.1	99.6
REGION 6										
Frontlands	18,624	14,980	14,978	14,788	1,021,212	64,868	42,164	69.1	4.4	98.7
Black Bush Polder	13,766	12,692	12,686	12,470	776,354	49,315	32,055	62.3	4.0	98.3
Sub-Total	**32,390**	**27,672**	**27,664**	27,258	1,797,566	114,183	74,219	65.9	4.2	98.5
TOTAL	**137,124**	**107,168**	######	**105,865**	**7,220,516**	**458,653**	**298,125**	**68.2**	**4.3**	**99.3**

Appendix 5

EXPORTS AS PER PRODUCT - 2007

PRODUCT	QUANTITY (MT)	TOTAL EXPORTS - PERCENTAGE (%)
BRAN	2,586	**0.960**
C.P.B BKN	2,126	**0.789**
C.P.B RICE	11,362	**4.217**
CARGO BKN	3,968	**1.473**
CARGO PKG RICE	0	**0.000**
CARGO RICE	128,764	**47.790**
CHIPS	16	**0.006**
MIXED BKN		**-**
DAMAGE P.B	425	**0.158**
DIS. POL. RICE	-	**-**
DIS. P.B. RICE	-	**-**
DIS. WHT RICE	3	**0.001**
PKG P.B. RICE	4,393	**1.630**
PADDY		**-**
PARB BKN	2,098	**0.778**
PARB RICE	24,488	**9.089**
PARB. RICE FL.	3	**0.001**
PET RICE	1,309	**0.486**
REJ. P.B. RICE	956	**0.355**
WHT BKN	26,126	**9.697**
WHT PKG BKN	6	**0.002**
WHT RICE FL.	16	**0.006**
PKG WHT RICE	255	**0.095**
WHITE RICE	60,537	**22.468**
TOTAL	**269,436**	**100.000**

COMPARISON OF EXPORTS AS PER PRODUCTS (Metric Tonnes) 1997-2007

PRODUCTS	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Cargo Rice	126,619	102,763	121,679	89,340	101,563	112,654	113,765	120,207	97,868	117,180	128,764
Cargo Bkn	16,112	17,394	9,858	9,642	4,578	2,429	4,814	15,391	2,263	3,072	3,968
White Rice	72,325	64,268	62,000	51,266	50,301	37,034	41,006	59,260	41,789	42,308	60,537
C.P.B Rice	-		10,282	17,561	8,470	7,121	7,394	7,326	4,330	6,787	11,362
White Bkn	34,714	33,510	31,955	19,476	23,066	18,086	14,910	15,787	13,564	10,318	26,126
White Pkg Bkn											6
White Rice Fl.											16
C.P.B. Bkn	-	125	761	3,192	1,413	1,366	1,771	1,256	427	775	2,126
P.B. Bkn	729	651	359	706	659	684	814	2,037	2,232	1,363	2,098
P.B. Pkg Rice	-	-	661	525	718	521	347	93	1,262	2,235	4,393
P.B. Rice Fl.											3
Pkg Wht Rice	-	-	-	1,044	1,457	1,654	975	458	147	198	255
Rej. P.B. Rice	-	-	-	1,213	646	856	734	694	309	286	956
Pet Rice	-	-	-	59	444	288	190	153	584	558	1,309
Mixed Bkn	-	1,320	-	-	21	-	-	-	-	20	
Chips	550	70	-	56	29	-	-	-	11	0	16
Bran	8,429	8,998	9,524	6,068	6,521	4,374	3,695	2,582	1,386	1,382	2,586
Husk	126	-	-	11	69	-	14	-	-	0	
Paddy	15,415	11,948	89	-	-	-	1,083	3,701	-	36	-
Dam. P.B	-	-	-	-	-	-	630	244	278	0	425
P.B. Rice	10,032	2,218	4,351	7,479	9,037	6194	8,290	13,415	15,708	17,805	24,488
Pej. Wht Rice	-	-	-	-	48	-	-	-	-	0	
Dis Wht Rice	-	-	-	-	-	-	-	472	-	0	3
Dis P.B Rice	-	-	-	-	-	-	-	16	-	253	-
TOTAL	**285,051**	**243,265**	**251,519**	**207,638**	**209,040**	**193,261**	**200,432**	**243,092**	**182,158**	**204,576**	**269,436**

Appendix 7

EXPORT AS PER DESTINATION 2007

DESTINATION	QUANTITY (MT)	TOTAL EXPORT - PERCENTAGE
CARICOM:		
ANTIGUA	143	
BARBADOS	2,821	
BELIZE	50	
DOMINICA	979	
GRENADA	1,741	
JAMAICA	51,565	
ST. KITTS	182	
ST. LUCIA	1,302	
ST. VINCENT	1,763	
SURINAME	428	
TRINIDAD	28,452	
SUB TOTAL	**89,425**	**33.19%**
EUROPEAN UNION:		
BELGIUM	2,624	
FRENCH GUIANA	-	
GERMANY	6	
GUADELOUPE	3,515	
HOLLAND	69,130	
MARTINIQUE	2,583	
PORTUGAL	59,161	
POLAND	-	
UNITED KINGDOM	2,393	
SUB TOTAL	**139,411**	**51.74%**
OCT:		
ARUBA	3,971	
CURACAO	3,818	
SUB TOTAL	**7,789**	**2.89%**
OTHERS:		
BRAZIL	3,000	
COLOMBIA	276	
DAKAR, SENEGAL	288	
DOMINICAN REPUBLIC	452	
GAMBIA	4,182	
EL SALVADOR	-	
GUATEMALA	-	
HAITI	20,791	
HONDURAS	20	
LITHUANIA	-	
PANAMA	3,630	
TORTLA	1	
U.S.A.	173	
SUB TOTAL	**32,811**	**12.18%**

GUYANA RICE DEVELOPMENT BOARD

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Notes

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