



## **Guyana Rice Development Board**

# 2013 annual report



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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 utilize the resources of Guyana to produce and market high quality rice, rice by-products including value-added products, for local and international markets; while providing employment and foreign exchange earnings”



## THE FUNCTIONS OF THE GUYANA RICE DEVELOPMENT BOARD

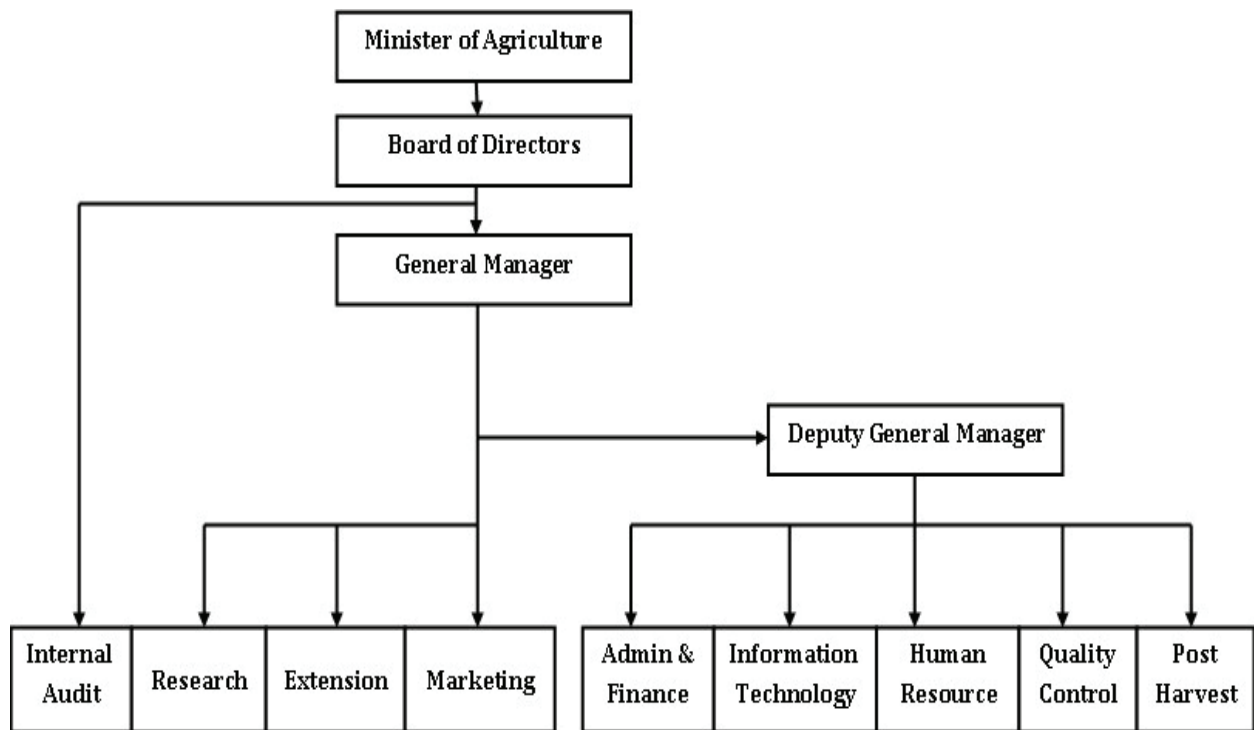
### *Introduction*

The Guyana Rice Development Board (Board/GRDB) was established by Act Number 15 of 1994, and as provided for under Section 3(iii), the management, powers and functions of the Board are overseen by a General Manager, a Chairman and 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 (3) members representing the Guyana Rice Producers Association (RPA), two (2) members representing Guyana Rice Millers and Exporters Development Association (GRMEDA), and one (1) member representing consumers.

### *Organizational Structure*

The structure of the Board is as follows:



### *Administration*

This department is staffed by a General Manager, Deputy General Manager, Occupational Health and Safety Officer, an Administrative Co-ordinator, two Confidential Secretaries, one Project Assistant/Clerk, one Office Assistant, two Drivers and two Office Attendants. The administrative office is responsible for the day-to-day activities of the Board, dealing with legal matters and issuance of licences to producers and exporters.

### ***Finance***

This department, which is staffed by an Accountant, two Assistant Accountants, one Senior Accounts Clerk, two Junior Account Clerks, one Data Entry Clerk, one Cashier and a Confidential Secretary, is responsible for effectively managing the financial resources of the Board.

### ***Export & Trade Facilitation***

Comprising of a Marketing Assistant, Research Assistant, one Customs Clerk, one Marketing Clerk, one Typist/Clerk and a Confidential Secretary, this department is solely responsible for the preparation of all relevant documentation for the exportation of rice and paddy from Guyana.

### ***Quality Control***

The Quality Control Department is responsible for ensuring that the quality of rice produced and/ or sold by rice millers and exporters meet the requisite specifications. It is headed by a Quality Control Manager, who is supported by Co-ordinators, Grading Officers, Technical Assistants in all the rice growing regions, a Research Assistant and a Confidential Secretary. These Officers work to ensure that the rice leaving Guyana is of the prescribed quality as per contract requirements and international standards.

### ***Research***

This component of the Board activities forms an integral part of its operations. Based at the Rice Research Station (RRS), this unit is where new varieties are developed to enable farmers' access to plants that are more conducive to providing a better quality and higher volume of grain; as well as greater resistance to pests, diseases, and weather fluctuations. Research at the Station is done in plant breeding, entomology, agronomy and plant pathology. The Research section of the Rice Research Station is headed by a Chief Scientist, who oversees the operations of the station, with support from Research Scientists, Research Assistants, Research Technicians and Labourers.

### ***Extension***

The extension department facilitates the transfer of technology from the Research Station to the farmer. Extension Officers are based in all regions and regularly meet with farmers; thus this component of the Board serves as an advisory body to assist the farmers in the acquisition of inputs, retooling with new technology available, and additionally enables

### ***Internal Audit***

This department is comprised of an Internal Auditor and an Audit Clerk who audits the procedures of the organization to ensure prescribed standards and requisite operational procedures are maintained.

### ***Human Resource***

With a staffing composition of a Human Resource Officer and Human Resource Assistant, this department is responsible for the hiring of new staff, facilitating staff training, and has responsibility for staff welfare.

### ***Post Harvest***

This department comprises of a Post-Harvest Researcher who conducts research in two areas; post-harvest processes associated with rice production and, also explore manufacturing initiatives with value-added products that can be made from rice and its by-products.

### ***Shipping & Logistics***

The Shipping and Logistics Unit's main role is to aid in the facilitation of commodity trade between Guyana and Venezuela through Petro-Caribe Arrangements.

All departments of the Board work together in adjunctive and collaborative endeavours; and so complement each other in facilitation and operational initiatives to achieve the mission and vision of the Organization.

## CHAIRMAN'S STATEMENT



GRDB has played a significant role in improving the rice industry in preceding years, with projections for further advancements in the industry, and expansion of marketshare – regionally and internationally, in the future. As a result of the multiplicity of enabling factors and interventions by the Government, through the GRDB and related agencies, such as Drainage and Irrigation, et al, the industry produced more than half a million metric tonnes of rice in 2013 – the first time in more than a hundred years of growing rice in Guyana.

The research department has introduced new high-yielding varieties that are cultivated on commercial scale throughout the rice sector, contributing to the high yields farmers are enjoying with, among others, direct benefits in lowering the unit cost of production and increasing profitability. This has encouraged farmers to increase their acreage and put more land under rice cultivation.

After years of research an aromatic rice variety was successfully introduced at nursery level, with efforts being pursued to develop it to commercial scale. The aromatic rice will be branded and sold as premium rice if successful at the commercial level.

Quality control is an integral part of the operation of the Board in an industry that is export oriented. The quality control department ensures that all rice destined for export meets international standards by monitoring rice mills across the industry for compliance to quality standards.

The Extension department plays a crucial role in the transfer of knowledge, expertise in best practices and technological proficiency to rice farmers. The spring crop of Region two was devastated by paddy bug infestation. This led to the introduction of the Paddy Bug Management Unit within the research division, with the objective of conducting a comprehensive scientific study of the paddy bug in the Guyana rice industry in an effort to eradicate this most important pest to rice farmers.

The favourable Venezuelan market can be considered one of the driving forces in the rice industry in recent years. Guyana rice enjoys a higher price in this market compared to the traditional European and Caricom markets. The sustainability of the Venezuelan market will be a key factor for continued success in the future of the local rice industry. Conversely, over-reliance on this market can pose a high risk to the industry if there is any adverse fluctuation in the current arrangement.

In order to trade profitably at competitive market prices around the world and sustain and/or increase viability, the local rice industry will have to improvise and operationalise alternatives in production methodologies and inputs in efforts to reduce overheads and related production costs. The GRDB has taken an important initiative in this essential pursuit of cost-reduction strategies by importing a shipment of 7,000 mt/140,000 bags of urea fertilizer, which was sold to farmers at \$5000 per bag, compared to \$7,000 per bag sold by traders. This intervention by the GRDB has benefitted the farmers by some 30% price reduction for one of the most important agrochemicals used in the industry. Such efforts will be sustained by the GRDB in the pursuit of its mandate to provide assistance to rice producers, that will reduce their cost of production for rice and its by-products.

Over the years several members of staff from various departments of the Board have been sent for academic and technical training at universities - both locally and overseas, ranging from diploma to PhD levels. The Board will continue to invest in human resource development and continuously improve its cadre of personnel in enabling its human capital to discharge their responsibilities in a professional manner, and to face up to the challenges of proficiently developing and sustaining a viable rice industry.

**BADRIE PERSAUD**



## GENERAL MANAGER'S STATEMENT



Achievement of unprecedented production levels has marked 2013 as a highly-successful year for the Rice Industry, with production and exports surpassing the budgeted amount. Production for the year is recorded as 535,555 mt of rice – 30% above the budgeted amount of 413,031 mt. The 2013 production represents a 27% increase over the 422,058 mt produced in 2012. This is the first time in history that Guyana's Rice Industry has surpassed half a million tons in the volume of rice produced, which is a superlative achievement, considering the many inhibitory factors impeding rice farmers – not least the variables in weather patterns caused by the climate change

phenomenon; and Government needs to be commended for the facilitation and support it has provided to the industry through its various arms.

Exports have also surpassed the targeted 394,988 mt of paddy, rice and rice by-products, as compared to a budgeted amount of 326,100 mt and an actual export of 334,140mt for 2012. The value of exports during the period in review was also the highest in the history of the industry; :At the end of the year it was US\$293,826,389; which is 31% higher when compared with the budget amount of US\$170,922,000, and a 15% increase when compared with the actual value of US\$196,266,960 for 2012 exports.

The combined efforts of all the stakeholders have made this phenomenal achievement possible; and therefore commendations are due at all levels of the industry. However, I would again like to single out the farmers, who have demonstrated remarkable resilience in the face of bad weather conditions, including floods and extended dry periods, and the high levels of paddy bug infestation during the first crop. They have exemplified the dedication and commitment in enhancing and fostering the development of the industry, which we cannot overemphasize.

In addition to selling rice to “premium priced” markets, we have to continue to manage the cost of production; as we need to see the “Far East” as our major competitors in international market.. In a continuum of efforts to achieve increased yields and decreased production costs, GRDB, with the approval of the Minister of Agriculture, imported significant amounts of urea fertilizer under the Petro-Caribe Arrangement. The selling price to the farmers was G\$5,000 per bag, which was a reduction of more than G\$1,500 per bag than that obtained for the previous crop. This is a significant cumulative savings to the farmers. In addition cost management, we are currently strategizing on the production and

promotion of more value-added rice products, an initiative we plan to aggressively pursue in 2014.

During the year under review, the GRDB Central Laboratory at Head Office was re-certified by the Guyana National Bureau of Standards and this unit is diligently working with Caribbean Regional Organization for Standards and Quality (CORSQ), to be accredited to ISO: 17025 (General Requirements for the Operations of a Testing Laboratory).

The four high-yielding rice varieties (GRDB 09, 10, 11, and 12) that were released by GRDB in 2011 and 2012, have gained countrywide acceptance by farmers. They have already occupied more than 50% of the total acreage under cultivation by the second crop of 2013. The most dominant variety in the country is GRDB 10, which occupied 35% of the national acreage. During this year, also, another rice milling company has begun producing and marketing the Guyana Aromatic Rice.

The GRDB Extension programme continues its spate of success through productivity enhancement training exercises. Fifty-seven (57) Farmers' Field Schools (FFS) were established throughout the country, with nine hundred and sixty-five (965) farmers participating in the sessions. Approximately eight hundred (800) brochures were distributed to farmers to complement the training sessions.

Training of staff members employed at GRDB continues to be one of the major focuses as we strive to improve the technical services offered by the Board. We currently have two staff members pursuing PhDs, three their MSc and three their BSc. We are not just seeking to improve the physical infrastructure, but we are also ensuring that the professionalism and efficiency of our human capital is enhanced in the various departments through which the GRDB serves the stakeholders in Guyana's rice industry.

## **JAGNARINE SINGH**

## ADMINISTRATIVE DEPARTMENT

For the period from January 1 to December 31, 2013, the following persons were appointed to the Board of Directors:

**Table 1: Board of Directors**

Name	Designation
Mr. Badrie Persaud	Chairman
Mr. Dharamkumar Seeraj, MP	Vice-Chairman
Dr. Dindyal Permaul	Member
Dr. Peter de Groot	Member
Mr. John Tracey	Member
Mr. Leekha Rambrich	Member
Mrs. PremaRamanah-Roopnarine	Member
Ms. Shirley Edwards	Member
Mr. Ramsahai Ramnarain	Member
Mr. Jagnarine Singh	Member
Mr. Madanlall Ramraj	Secretary

There were eleven (11) statutory meetings of the Board of Directors.

Research and Extension Sub-Committee members for the period January 1, 2013 to December 31, 2013 are as follows

**Table 2: Research and Extension Sub-Committee Members**

Name	Designation
Dr. Dindyal Permaul	Chairman
Mr. Dharamkumar Seeraj, MP	Member
Mr. Leekha Rambrich	Member
Mr. Ramsahai Ramnarain	Member
Mr. Jagnarine Singh	Member
Mr. Madanlall Ramraj	Member
Dr. Mahendra Persaud	Member
Mr. Kuldip Ragnauth	Secretary

There were five (5) meetings of the Research and Extension Sub-Committee.

Finance and Administrative Sub-Committee members for January 1, 2013 to December 31, 2013 are as follows;

**Table 3: Finance and Administration Sub- Committee Members**

<b>Name</b>	<b>Designation</b>
Mr. Badrie Persaud	Chairman
Ms. Shirley Edwards	Member
Mrs. PremaRamanah-Roopnarine	Member
Mr. John Tracey	Member
Mr. Jagnarine Singh	Member
Mr. Madanlall Ramraj	Member
Mr. Noel Sookhai	Member
Mr. Peter Ramcharran	Secretary

There were eleven (11) meetings of the Finance and Administrative Sub-Committee. Marketing and Quality Control Sub-Committee members for January 1, 2013 to December 31, 2013 are as per table below:

**Table 4: Marketing and Quality Control Members**

<b>Name</b>	<b>Designation</b>
Mr. Jagnarine Singh	Chairman
Mrs. Gloria Chester	Member
Mr. Ramsahai Ramnarain	Member
Ms. Allison Peters	Secretary

There were four (4) meetings of the Marketing and Quality Control Sub-Committee.

List of Procurement and Tender Sub-Committee members for January 1, 2013 to December 31, 2013 is as follows:

**Table 5: Procurement and Tender Sub-Committee members**

<b>Name</b>	<b>Designation</b>
Mr. Dharamkumar Seeraj, MP	Chairman
Dr. Dindyal Permaul	Member
Mr. Jagnarine Singh	Member
Mr. Madanlall Ramraj	Secretary

There were three (3) meetings of the Procurement and Tender Board Sub-Committee.

## HUMAN RESOURCE DEPARTMENT

### *Staff Complement*

Two hundred and ten (210) employees comprised the staffing strength of the Guyana Rice Development Board in 2013. Supervision continues to be provided by the respective departmental heads.

### *Staff Appointment*

Appointments were made to fill the vacancies at the following locations:

#### *Head Office:*

Finance Department	Ariel Norton Data Entry clerk
	Shamkumarie Khairoo Accounts Secretary
Administrative Department	Sylvester Jairam Office Assistant
Quality Control	Omadevi Lakheram Grading Officer
Human Resource	Rieo Kawall Human Resource Officer
<i>Crane Sub-Office</i>	
Quality Control Department	Pooran Seeraj Regional Superintendent
	Tawana Patrick Grading Officer
	Surrendra Jairam Technical Assistant

### ***Burma Rice Research Station***

Accounts Department Mercedes Zurita  
Accounts Clerk

### ***Region 2***

Administrative Department Shabeena Rahman  
Typist/Clerk

### ***Region 6***

Quality Control Department Iome Vanderstoop  
Grading Officer

The following are three (3) Public Service Ministry scholars who were seconded by the Ministry of Agriculture to the GRDB as Research Assistants:

Savita Liliah  
Nandram Gobind  
Deroy Gillard

We welcome these new staff members and wish them a long and productive stay at the Guyana Rice Development Board.

### ***Registration, Termination and Retirement***

There were five (5) resignations, one (1) termination and two (2) retirements for the period of January 1, to December 31, 2013.

### ***Sponsorship and Training of Employees***

**Table 6: Employees Sponsored and Trained**

<b>Names</b>	<b>Remarks</b>
Carletta Slowe	Training Programme for House-Keeping Staff
Nadira Ragnauth	Training Programme for House-Keeping Staff
Rieo Kawall	Human Resource Management function in the business enterprise.
Julia Chunoo	Human Resource Management function in the business enterprise.
Salim Alli	Skilled Training Programme
Hemant Benimadhoo	Skilled Training Programme
Naitram Persaud	Skilled Training Programme
Gopaul Jhangai	Skilled Training Programme

Dhirendranath Singh	Better Process Control School Effects of Industrial Noise in the Work Environment
Gloria Chester	International Labour Standards in Accessing International Markets and Supporting the Caribbean Single Market
Rieo Kawall	International Labour Standards in Accessing International Markets and Supporting the Caribbean Single Market
Julia Chunoo	International Labour Standards in Accessing International Markets and Supporting the Caribbean Single Market
Ghansham Payman	PhD in Agronomy in India
Narita Singh	M.Sc. Quality Assurance & Food Safety, (UWI)

***Sponsorship of Student from Moco Moco Village  
Bronson Cassiano Certificate in Agriculture (GSA)***

***Legal Issues***

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

***Union Recognition***

There are two (2) unions recognized by the Board. These are:

- General workers' Union (GWU), which represents staff at the Head Office and the four regional offices.
- Union of Agriculture Allied Workers (UAAW), which represents staff at the Burma Rice Research Station.

During the year, Management met with the two (2) unions to discuss matters of concern to employees. Discussions were held on staff welfare, sports, etc.

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



## FINANCE DEPARTMENT

### *Details of Revenue Earned*

Revenue earned for the period is G\$124.3M above the budget. Sales Commission and Seed Paddy Sales were above the budget by 19% and 16%, when compared to 2012 there is an increased of 24% and 33% respectively.

**Table 7: Revenue Earned for the period 2010-2013**

(G\$000)

	ACTUALS			2013	
	2010	2011	2012	ACTUAL	BUDGET
Sale Commissions	440,837	381,376	441,235	551,007	461,880
Seed Padi Sales	67,280	106,033	96,385	127,937	110,000
Income from Investment	2,095	2,457	1,249	2,738	1,200
Licences - Mill	6,855	6,345	5,345	6,650	5,500
- Export	4,100	3,830	4,250	4,250	4,500
Grading & Inspection	289	17	99	327	200
Wharfage & Moorage	-	-	-	-	-
Gain on Exchange	376	854	4,609	7,196	400
Miscellaneous	6,319	13,575	23,882	10,759	3,000
Cleaning of Seed Padi	96	100	190	-	-
By Products	1,373	997	864	1,188	1,000
ASSP	47,646	500	-	-	-
<b>TOTAL</b>	<b>577,266</b>	<b>516,084</b>	<b>578,108</b>	<b>712,052</b>	<b>587,680</b>

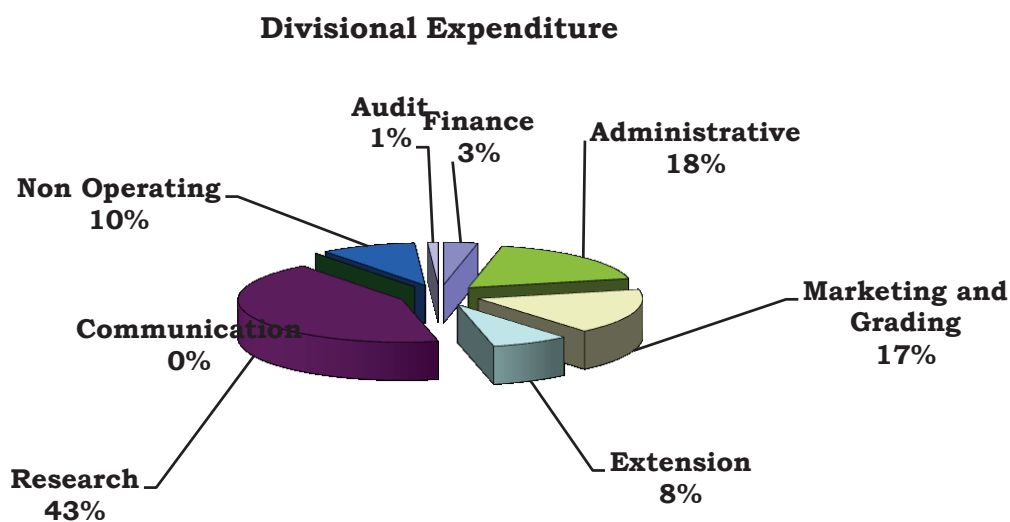


## Current Expenditure

Expenditure for the year was \$8.8m above the budget of \$544.7M. The Board controlled its expenditures in keep with the approved budget.

**Table 8: Divisional Expenditure for the year 2013**

DIVISION	G\$'000	%
Finance	18,326	3
Administrative	100,826	18
Marketing and Grading	95,795	17
Extension	42,330	8
Research	238,879	43
Communication	-	-
Non Operating	51,650	9
Audit	5,699	1
<b>TOTAL</b>	<b>553,505</b>	<b>100</b>



## Financial Performance

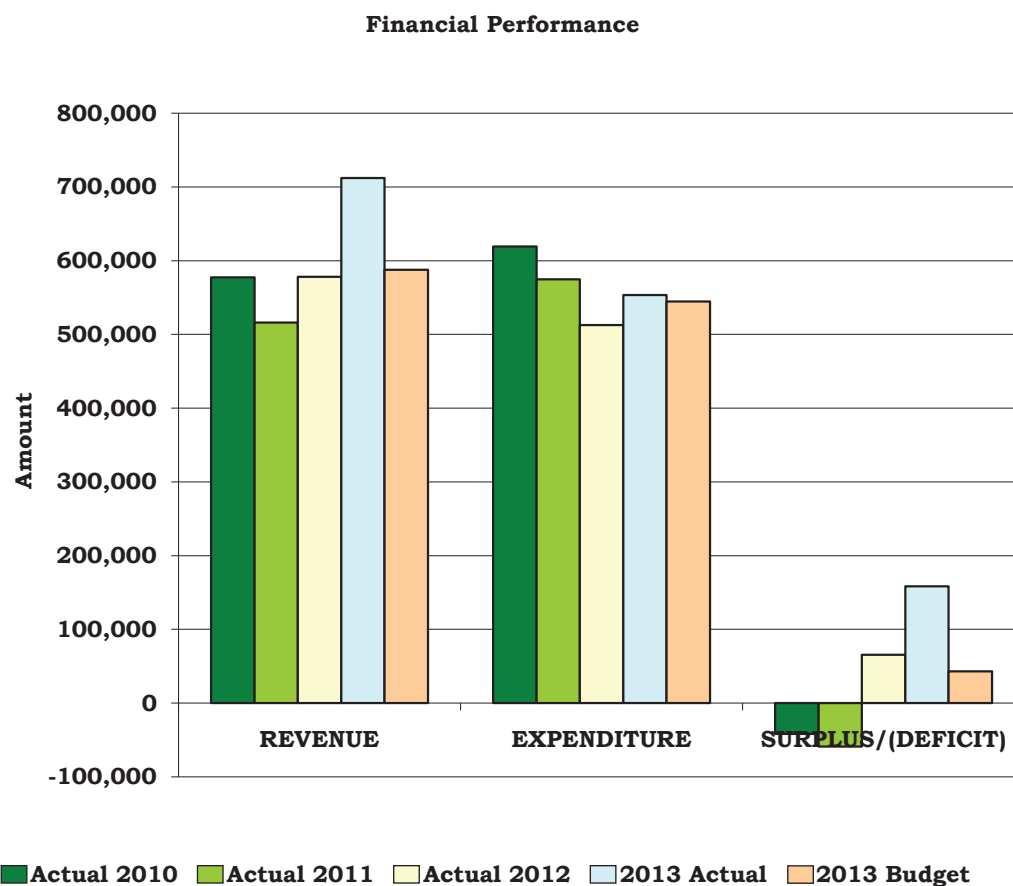
The Board recorded an operating surplus of G\$158.5m, an increased of \$92.9m above 2012. The Board also exceeded its budgeted profit by \$115.6m, this surplus can be contributes to an increase in commission earned from exports.

**Table 9: Financial Performance**

(G'\$000)

PARTICULARS	AUDITED				
	ACTUAL			Actual	Budget
	2010	2011	2012	2013	
REVENUE	577,266	516,084	578,108	712,052	587,680
EXPENDITURE	619,201	574,844	512,545	553,505	544,700
<b>SURPLUS/(DEFICIT)</b>	<b>-41,935</b>	<b>-58,760</b>	<b>65,563</b>	<b>158,547</b>	<b>42,980</b>

**Graph 1: Illustrating Financial Performance**



# REPORT OF AUDITOR GENERAL



## *Audit Office of Guyana*

*P.O. Box 1002, 63 High Street, Kingston, Georgetown, Guyana  
Tel: 592-225-7592, Fax: 592-226-7257, <http://www.audit.org.gy>*

AG: 26/2014

09 April 2014

**REPORT OF THE AUDITOR GENERAL  
TO THE MEMBERS OF THE BOARD OF DIRECTORS  
OF GUYANA RICE DEVELOPMENT BOARD  
ON THE FINANCIAL STATEMENTS  
FOR THE YEAR ENDED 31 DECEMBER 2013**

Chartered Accountants Nizam Ali and Company have audited on my behalf the financial statements of Guyana Rice Development Board for the year ended 31 December 2013, as set out on pages 3 to 20. The audit was conducted in accordance with the Audit Act 2004.

### *Management's responsibility for the financial statements*

Management is responsible for the preparation and fair presentation of these financial statements in accordance with International Financial Reporting Standards, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

### *Auditor's responsibility*

My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with International Standards on Auditing issued by the International Federation of Accountants (IFAC) and those of the International Organisation of Supreme Audit Institutions (INTOSAI). Those standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

As required by the Audit Act 2004, I have reviewed the audit plan and procedures, working papers, report and opinion of the Chartered Accountants. I have also had detailed discussions with the Chartered Accountants on all matters of significance to the audit and had carried out additional examinations, as necessary, in arriving at my opinion.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

*Opinion*

In my opinion, the financial statements presents fairly, in all material respects, the financial position of Guyana Rice Development Board as at 31 December 2013, and its financial performance and cash flows for the year then ended in accordance with International Financial Reporting Standards and comply with the Guyana Rice Development Board Act.

*Emphasis of Matter*

Without qualifying my opinion, I draw attention to:

- (i) Note 9 (b) to the financial statements. This note explains that the Board does not have title to certain assets reflected in these financial statements.
- (ii) Note 13 which explain that the recoverability of demurrage cost of \$471,226,044 is dependent on the outcome of ongoing discussion with the Government of Guyana.




AUDIT OFFICE  
63 HIGH STREET  
KINGSTON  
GEORGETOWN  
GUYANA

Guyana Rice Development Board

Statement of Financial Position  
December 31, 2013  
With comparative figures for 2012  
(Expressed in Guyana Dollars)

	Notes	2013 \$	2012 \$
Property, plant and equipment	9 (a)	75,387,695	69,885,288
<b>Current assets</b>			
Inventories	6	11,814,850	18,271,374
Accounts receivable and prepayments	7	55,500,883	12,847,100
Related party	8	-	-
Ministry of Finance- Levy Account	10	3,549,668	3,629,968
Cash and deposits	5	950,552,225	566,814,621
<b>Total current assets</b>		1,021,417,626	601,563,063
<b>Total assets</b>		1,096,805,321	671,448,351
<b>Equity and Liabilities</b>			
<b>Capital Contribution &amp; Reserve</b>			
Capital contribution	11	202,798,444	202,798,444
Government of Guyana -Grant	12	41,674,236	41,674,236
Accumulated earnings		169,554,125	11,007,290
		414,026,805	255,479,970
<b>Current Liabilities</b>			
Accounts payable and accruals	13	662,250,637	411,260,718
Ministry of Finance - Levy Account	10	3,549,668	3,629,968
Bank overdraft		16,978,211	1,077,695
		682,778,516	415,968,381
<b>Total equity and liabilities</b>		1,096,805,321	671,448,351

  
Director

  
Director

The accompanying notes form an integral part of these financial statements.



**Guyana Rice Development Board**

**Statement of Profit or Loss and Other Comprehensive Income**  
**For the year ended December 31, 2013**  
**With comparative figures for 2012**  
**(Expressed in Guyana Dollars)**

	<u>Notes</u>	<u>2013</u> <u>\$</u>	<u>2012</u> <u>\$</u>
<b>Revenue</b>			
Sales commission		551,007,461	441,235,741
Other income	15	161,044,926	136,872,866
		<u>712,052,387</u>	<u>578,108,607</u>
<b>Operating expense</b>			
Administrative, finance and audit	14	124,774,442	98,248,294
Grading, marketing, research and extension	14	380,058,789	354,673,252
Other operating expenses	14	<u>48,672,321</u>	<u>59,623,481</u>
		<u>553,505,552</u>	<u>512,545,027</u>
Total comprehensive profit		<u>158,546,835</u>	<u>65,563,580</u>

The accompanying notes form an integral part of these financial statements.

Guyana Rice Development Board

Statement of Changes in Equity  
For the Year Ended December 31, 2013  
With Comparatives for 2012  
(Expressed in Guyana Dollars)

	Capital contribution \$	Government Grant \$	Accumulated Earnings \$	Total \$
<b>Year Ended December 31, 2013</b>				
Balance as at Beginning of year	202,798,444	41,674,236	11,007,290	255,479,970
Profit for the year	-	-	158,546,835	158,546,835
Balance as at end of year	<u>202,798,444</u>	<u>41,674,236</u>	<u>169,554,125</u>	<u>414,026,805</u>
<b>Year Ended December 31, 2012</b>				
Balance as at Beginning of year	202,798,444	41,674,236	(54,556,290)	189,916,390
Profit for the year	-	-	65,563,580	65,563,580
Balance as at end of year	<u>202,798,444</u>	<u>41,674,236</u>	<u>11,007,290</u>	<u>255,479,970</u>

The accompanying notes form an integral part of these financial statements.



**Guyana Rice Development Board**

**Statement of Cash Flows**  
**For the year ended December 31, 2013**  
**With comparative figures for 2012**  
**(Expressed in Guyana Dollars)**

	2013	2012
	<u>\$</u>	<u>\$</u>
<b>OPERATING ACTIVITIES</b>		
Profit for the year	158,546,835	65,563,580
<b>Adjustment for :</b>		
Gain from sale of property, plant and equipment	-	5,833
Depreciation	8,816,608	9,543,303
	<u>167,363,443</u>	<u>75,112,716</u>
<b>Operating income before working capital changes</b>	<b>167,363,443</b>	<b>75,112,716</b>
Decrease (increase) in inventories	6,456,524	(2,754,447)
(Increase) decrease in accounts receivable and prepayments	(42,653,783)	15,257,819
Increase (decrease) in accounts payable and Accruals	250,989,919	(2,133,044,846)
Decrease in due from related party	-	149,500
Decrease in Ministry of Finance - Levy Accounts	80,300	5,184,100
Decrease in Ministry of Finance balance	(80,300)	(5,184,100)
	<u>382,156,103</u>	<u>(2,045,279,258)</u>
<b>Net cash inflow (outflow) from operating activities</b>	<b>382,156,103</b>	<b>(2,045,279,258)</b>
<b>INVESTING ACTIVITIES</b>		
Acquisition of plant and equipment	(14,319,015)	(3,088,202)
	<u>(14,319,015)</u>	<u>(3,088,202)</u>
<b>Net cash outflow from investing activities</b>	<b>(14,319,015)</b>	<b>(3,088,202)</b>
<b>Net movement in cash and cash equivalents</b>	<b>367,837,088</b>	<b>(2,048,367,460)</b>
<b>Cash and cash equivalents at beginning of the year</b>	<b>565,736,926</b>	<b>2,614,104,386</b>
	<u>933,574,014</u>	<u>565,736,926</u>
<b>Cash and cash equivalents at end of the year</b>	<b>933,574,014</b>	<b>565,736,926</b>
<b>Cash and cash equivalents comprise of:</b>		
Cash and deposits	950,552,225	566,814,621
Bank overdraft	(16,978,211)	(1,077,695)
	<u>933,574,014</u>	<u>565,736,926</u>

The accompanying notes form an integral part of these financial statements.



## EXPORT & TRADE FACILITATION

Rice exports continue to be the driving force of the success of the industry with export being 74% of the total production. Guyana continues to benefit from premium priced markets and only residual amount is exported to the “World Market”. Rice exports for 2013 totaled 394,989 MT as compared to 334,141 MT of rice in 2012; this represents an increase of 18.21 %.

The major markets for Guyana’s rice continue to be Venezuela, European Union and CARICOM regions. Guyana continues to benefit from the Petro Caribe agreement with Venezuela, the protection of the Common External Tariff (CET) for the CARICOM market and the Economic Partnership Agreement (EPA) with the European Union. These three areas represent 98% of the total exports. The quantity of rice exported to Venezuela increasing by 3.68% i.e. from 221,724 Mt in 2012 to 229,877 Mt in 2013. European Union exported 40,689 MT in 2012 to 79,022 Mt in 2013 , increasing by 94.21 % while that of Caricom region increased by 12.46 % i.e. from 69,349 Mt in 2012 to 77,990 Mt in 2013.

The export values also was another record performance with export value of US\$239,826,389 being the highest ever in the history of the industry and represent an increase by 22.22 % more when compared with. An examination of the prices of the four main rice types exported by Guyana namely: Cargo Rice, Parboiled Rice, White Rice and White Broken, reveals that average prices for 2013 is US\$480, US\$709, US\$563 and US\$307 respectively.

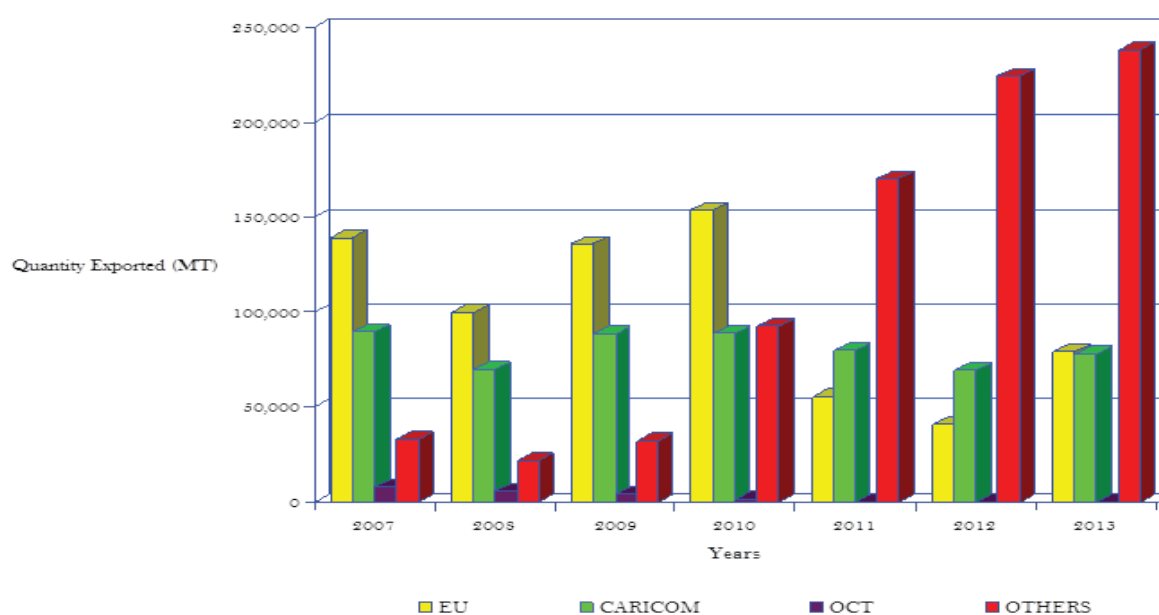
It should be noted that Guyana is in the process of signing another agreement with Venezuela and is striving to secure markets in Cuba and Haiti as it continues its drive to increase growth within the rice sector. We need to continue to seek premium priced markets as our production increases so that we can maintain a “reasonable” price for paddy to the Farmers.

Overall the industry has done well and will continue to do even better to increase its growth and maintaining its leading position in the Agriculture sector.

**Table 10: Some comparative export data: Quantity exported (Tonnes)**

Destination	2007	2008	2009	2010	2011	2012	2013
EU	139,411	99,500	135,990	153,837	55,523	40,688	79,022
CARICOM	89,429	69,450	88,485	88,709	79,645	69,349	77,990
OCT	7,789	5,715	3,988	1,330	35	23	0.35
OTHERS	32,811	21,568	32,351	92,437	170,180	224,081	237,976

**Graph 2: Illustrating the data presented in the table above**



**Table 11: Exports as per Destination 2007-2013**

Countries	2007	2008	2009	2010	2011	2012	2013
Belgium	2,624	1,868	11,424	23,434	13,184	9,313	11,900
Holland	69,130	56,296	45,958	41,161	10,360	11,161	15,111
Portugal	59,161	33,165	54,678	65,851	20,547	7,851	28,200
United Kingdom	2,393	218	5,118	10,357	7,495	8,620	21,982
Jamaica	51,565	42,199	55,934	48,754	48,971	37,125	45,222
Trinidad	28,456	19,186	22,866	29,865	22,209	20,937	23,618
Venezuela	-	-	4,104	85,755	170,179	221,724	229,877
Haiti	20,790	13,703	24,881	5,766	-	468	1,174
Others	35,322	29,598	35,851	25,369	12,437	16,943	17,904
<b>Total</b>	<b>269,441</b>	<b>196,233</b>	<b>260,814</b>	<b>336,312</b>	<b>305,382</b>	<b>334,142</b>	<b>394,988</b>

## QUALITY CONTROL DEPARTMENT

This department continues to function as mandated by the Guyana Rice Development Board (GRDB) Act of 1994 and, by extension, the Rice Factories Act of 1998. The increased shipments to Venezuela continue to drive the majority of the certification of rice and paddy by the department's staff. Focus was placed on the quality of rice for local consumption being manufactured at mills, and the relevant packaging and labeling of this product. The department was again involved in the monitoring of the systems used during the purchasing of farmers' paddy. This includes the prices paid and corresponding qualities/grades received as mandated by the GYS: 211:2006 Standard. This year also saw the Central Laboratory being chosen by the Caricom Regional Organization for Standards and Quality (CROSQ) among five (5) laboratories within CARICOM to receive assistance towards its accreditation programme (ISO:17025 General Requirements for the Operation of a Laboratory). This assistance includes the provision of a consultant to assist with the Quality Systems and part payment towards the first accreditation fees. This year also saw the re-certification of the Central Laboratory to the GYS 170 Standard by the Guyana National Bureau of Standards (GNBS).

### *Mill Licensing*

As usual, the licensing process for mills to manufacture rice commenced 2<sup>nd</sup> January, 2013. Seventy-two (72) mills were licensed during this year.. A total milling capacity of 313.8 mt per hour of production was available from the mills that were licensed. This production is represented in table 1 below:

**Table 12: Spread of the hourly milling capacity available countrywide as per region.**

Regions	2	3	4&5	6	Total
No. of Licenced Mills	15	16	17	24	72
Milling Capacity (mt/h)	67.25	43.55	142.5	60.5	313.8 mt/h

**Table 13: Analysis of the types of mills operating countrywide**

Mill Type	Number in Operation
Buying Centres	6
Toll Mills	19
Milling Capacity Below 5 mt	42
Milling Capacity 5mt and above	24

- Toll mills are mills which mill paddy on behalf of farmers.
- Buying Centers purchase paddy only.

## Staff/Offices

Quality Control Offices are located in Regions 2, 3, 4, 5 and 6. All offices are headed by a Regional Superintendent; or Regional Supervisors in some instances. The department improved its staff complement during the year, as was promised in 2012.

**Table14: Quality Control Staff**

Regions	Regional Superintendents	Regional Supervisors	Research Assistants	Grading Officers	Technical Assistants
2	1	-	-	6	1
3	1	-	-	5	1
4	-	1	2	6	4
5	-	1	-	2	2
6	1	-	-	4	1
<b>Total:</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>23</b>	<b>9</b>

## Training

### Stakeholder Training

The Annual Training Course on Rice and Paddy Grading and Management was held during July 2013. This training is held for personnel desirous of being trained as Licensed Graders. Seventy-one (71) persons were trained during these sessions.

There was a one (1) day farmers' training course held in all Regions, during July 2013.

Farmers were also sensitized on paddy purchasing procedures during the Farmers Field School sessions.

**Table 15: Training Schedule - Rice and Paddy Grading and Quality Management.**

Date	Region	Venue	Person trained
July 9th -11th , 2013	2	GRDB Office Anna Regina	24
July 29th - 31st , 2013	3	GRDB Office Crane W.C.D	13
July 23rd -25th , 2013	4 & 5	BURMA Rice Research Station	16
July 16th - 18th , 2013	6	GRDB Office Corentyne Berbice	18

## ***Staff Training***

All technical staff of the department have been trained internally during the reporting period in accordance with the work plan.

Training was centered on:-

- i) The grading of rice and paddy, especially with respect to the specifications of the Venezuela market;
- ii) Use of Laboratory equipment;
- iii) Sampling, Inspection and fumigation processes;
- iv) Quality Manual;
- v) Quality System Procedures;

Seven (7) new staff members were employed and trained in quality systems of the Department, as well as grading of rice and paddy.

## ***Review of Central Laboratory Activities***

Two (2) internal audits were conducted. These assessments were done in April and August to examine the laboratory management system and to determine its conformance to the GYS170 Standard. Results from the audit conducted in April revealed that the system was effectively implemented in the areas audited.

An External Audit was conducted in August by the Guyana National Bureau of Standards (GNBS), prior to re-certification of the laboratory.

This year - again, as is required by the GYS 170 Standard, the laboratory was reviewed by Management. This Management review was conducted by the General Manager and the Quality Control Manager in November.

## ***Collaboration with CROSQ and Accreditation of the laboratory to ISO17025 Standard: "General Requirement for the Competence of testing and Calibration Laboratories".***

The Central laboratory is working assiduously towards achieving accreditation to the ISO 17025 Standard. It was selected to serve as a demonstration site for the CROSQ-CART Fund Project laboratory accreditation process. The laboratory will receive intensive consultancy services towards accreditation, plus an incentive fund towards the first accreditation assessment. The laboratory will work with a CROSQ Accreditation consultant.

## ***Meetings***

1. Nine (9) monthly meetings were held during the reporting year. Meetings were held on the last Friday of each month between supervisory staff of the department and the Quality Control Manager.
2. Marketing/Quality Control Sub-Committee meetings recommenced during the year. Four (4) meetings were held;

## ***Data Collection***

1. "Payment Update" by millers to farmers
2. Quality of paddy purchased (Padi intake by grades).
3. Market Survey (Survey of rice quality and availability locally).
4. Stock Report (Rice and Paddy levels at mills).

The above all formed part of the data collection and information flow from the department during the year.

## ***Monitoring of Paddy Intake at Mills***

Surveillance this year was challenged in the first crop due to the paddy bug outbreak experienced in the industry. Staff was thus tasked in ensuring that the systems that were in place were adhered to.

During this period several discrepancies operating at mills in relation to the grades and prices paid for paddy were highlighted. This caused the Honourable Minister of Agriculture to seek an investigation into the system.

The re-organizing and training of farmers that resulted from the problems encountered in the first crop led to drastic changes that catalyzed improvements during the second crop. Few complaints were received regarding the systems operating during purchasing. This was also due in great part to the improved quality of paddy offered for sale at the mills.

Mills were monitored by permanent Quality Control staff of the Board. A decision was taken by management to discontinue the use of temporary Grading Staff.

## RESEARCH DEPARTMENT

The Rice Research Station is concentrating its efforts on a continuous basis in developing high-yielding varieties ( $>6.5 \text{ t ha}^{-1}$ ) with tolerance to lodging, stable resistance to blast, high milling (HRR 55/TRR 70), and excellent cooking qualities. Efforts are also being accelerated on the production of aromatic and salt tolerant varieties. Attempts are being made to develop a menu of measures to effectively address, weed management, water management, seeding density, plant nutrition and other agronomic methods for the release of new varieties, and for specific locations that have their own peculiarities and special treatment needs. Another key feature being focused on is the provision of remedies to short-term problems or situations that arise intermittently, such as salinity, acidity, crop nutrition etc. Additionally, screening of germplasm and breeding lines for tolerance/resistance to various pests and diseases and monitoring resistances are done. Evaluating new pesticides (insecticide, fungicide, and herbicide) for possible use in the rice industry is a seasonal routine. Monitoring for disease incidence and insect populations, as well as timely advisories to and training of farmers are also crucial activities undertaken this unit. Maintaining genetic purity of commercial varieties and production of sufficient quantity of seeds of high genetic purity is treated as a priority for the Station. Research was conducted under five major disciplines, and is highlighted hereunder.

### PLANT BREEDING

#### *Aromatic Varieties*

Plant breeding is a continuous exercise by the Board. The release of a strain for use as a variety is based on conclusive demonstration of its superiority over best existing varieties in yielding ability; or some other feature of economic importance, such as aroma. Aromatic breeding line G08-07 was tested in more than thirty farmers' fields across the country in 2013. Its grain yield averaged  $5830.3 \text{ kg ha}^{-1}$  ( $37.1 \text{ bags ac}^{-1}$ )  $5503.6 \text{ kg ha}^{-1}$  ( $35.0 \text{ bags ac}^{-1}$ ) in the first and second crop respectively. The 'check' variety yielded an average of  $5503.6 \text{ kg ha}^{-1}$  ( $35.0 \text{ bags ac}^{-1}$ ). No lodging was observed in the farmers' field. The duration (120-125 days) seemed to pose some difficulty for some farmers. Very good (50HRR/65TRR from paddy) milling and cooking characters were noted. The feedback from consumers was positive and encouraging. Aromatic strain G08-07 is recommended for commercial cultivation in 2013 as GRDB 13. Farmers are a bit hesitant in expanding large acreages of cultivation due to the varietal duration and doubts about a guaranteed premium price of their product. A good marketing strategy by GRDB (currently in the process of being developed) will ensure that maximum benefits are derived from this unique product of

Guyana. As the research unit is pursuing its aromatic rice breeding programme, twenty (20) advanced breeding lines were identified to have possessed aroma during 2013.

### ***Advanced Breeding Lines***

Sixteen promising breeding lines were evaluated in advanced yield trials (AYT) at three locations *viz.* Rice Research Station, Black Bush Polder, and West Demerara over two seasons. The superiority of strains G07-02 and FG06-123 indicated that they are ready for seed multiplication and on-farm trials. Two entries *viz.* G07-13-1, and G07-118 showed good promise and were chosen for further evaluation in the AYT of 2014. Another 90 newly identified promising breeding lines were studied in observational yield trials during the first and second crops of 2013. Twelve entries were nominated for testing in AYT.

### ***Variability***

During the first crop of 2013 a total of 4,255 breeding lines were studied and 3,500 selections were taken, which were evaluated in the second crop, with more than 2,500 selections taken for further assessment. Twenty-eight (28) strains were bulked and promoted for initial yield testing: Also forty-five crosses were made to create variability.

### ***Purification, Maintenance, Breeding and Seed Production***

Sixty-eight strains were purified. These entries originated from AYT and OYT. More than 10,000 progenies of all the varieties were grown and studied during the two seasons. The genetic purity of the varieties was maintained and more than 15,000 selections were made. More than 4000 kg of pre-basic seed (for all the varieties) were produced over the two seasons of 2013. Over seventy tonnes of basic seed was produced from ten varieties (Rustic, G98-22-4, G98-196, 98-30-3, G98-135, GRDB 09, GRDB 10, GRDB 11, GRDB 12, GP18) for the first season of 2013.

Pre-basic seed production commenced for two candidate varieties (G07-2 and FG06-123) with 200 progenies of each strain. The efforts to purify IR 22 resulted in pre-basic seed production commenced for two candidate varieties (G07-2 and FG06-123) with 200 progenies of each strain. The efforts to purify IR 22 resulted 1500kg seeds at 95% purity from a starting 60% purity at the start of the purification programme.



## ***Decentralization***

Four hundred and ninety-six bags of certified seed were produced in Region 2, Essequibo, and forty bags were produced in Region 3, West Demerara. These seed paddy were sold to farmers in the region for further multiplication. 1,500kg seeds at 95% purity were engendered from a starting 60% purity at the commencement of the purification programme.

## **AGRONOMY AND WEED MANAGEMENT**

### ***Response of New breeding lines to different levels of Seeding Density***

Three new strains (IR-22, FG06-123 and GRDB13) were evaluated at seven levels of seeding density at two locations across the country, where strain FG06-123 was recorded as being slightly higher in all locations for grain yield, averaging 32 bags  $\text{ac}^{-1}$ . The seed rate 89.9 to 157.4  $\text{kg ha}^{-1}$  is still recommended, since no significant yield differences were observed. Candidate variety FG06-123 has fulfilled the agronomic criteria and is recommended to be placed in the On Farm Trial Programme.

### ***Response of four Breeding lines to five levels of Nitrogen***

Four strains (IR-22, G07-2, FG06-123 and GRDB13) were evaluated at five levels of nitrogen at two locations. Strain FG06-123 recorded an average yield of (44.6 bags  $\text{ac}^{-1}$ ), which was significantly higher when compared to the other advanced breeding lines. In terms of nitrogen rate (50, 75, 100, 125 and 150  $\text{kg ha}^{-1}$ ), grain yields were highest between the 75-100  $\text{kg N ha}^{-1}$  for all strains. Thus, the nitrogen rate of 75-100  $\text{kg N ha}^{-1}$  is still recommended for these genotypes.

### ***Effect of increasing levels of NPK on grain yield***

Increasing the levels of nitrogen, phosphorous and potassium from 75 kg, 30 kg and 40  $\text{kg ha}^{-1}$  respectively to 120 kg, 50 kg and 80  $\text{kg ha}^{-1}$  did not show any significant difference in grain yield. The old recommendation of 75 kg N, 30 kg  $\text{P}_2\text{O}_5$  and 40 Kg  $\text{K}_2\text{O ha}^{-1}$  is still maintained.

### ***Split and Timing of Application of Nitrogen***

For both seasons of 2013 split application of nitrogen and timing of nitrogen application was joined. Nitrogen was split into 4 applications, with combinations of timing of nitrogen 18-21, 40-42, 60-62 and 75 DAS. The three split and timing of nitrogen at 18-21, 40-42, 60-

62 DAS produced the highest grain yield than single application before sowing and at final application when delayed at 75 DAS.

### ***Using improved management practices for higher yield (6-Points)***

Three methods were in use (balanced nutrition, Ag blend (foliar) and farmers' practice), along with two varieties (GRDB 10 and 12), at a seeding density of 112.6 Kg/ha<sup>-1</sup> (100 lbs ac<sup>-1</sup>). Phosphorus and potassium were applied at land preparation for balanced nutrition and Ag blend. Nitrogen was applied in three splits, and weed control was done using early post emergent (broad spectrum) herbicide. There were no significant differences in the plant growth parameters, but significant differences were recorded for grain yield (bags ac<sup>-1</sup>); Ag blend recorded 36.8 bags ac<sup>-1</sup>, while balanced nutrition and farmers' practice recorded 33.0 and 29.7 bags ac<sup>-1</sup> respectively.

### ***Response of varying levels of limestone application to low pH soils in lowland irrigated rice***

This trial was done in collaboration with the Plant Breeding Department. Results indicated that there were no significant differences among treatment means.

### ***Red rice characterization and ecological studies***

In excess of one hundred and ninety samples were collected from three of the five rice-growing regions in Guyana. A significant number of these samples were sown in an effort to commence characterization. This trial will be repeated in first crop 2014, using seeds from the original batch.

### ***Effect of seed density and canopy effect on weed establishment***

This experiment was conducted at the Rice Research Station, where five seed rates were used: 89.9, 134.7, 179.7, 224.6 and 269.6 kg ha<sup>-1</sup> (80, 120, 160, 200 and 240 lb ac<sup>-2</sup> and four breeding lines: GRDB 10, GRDB 13, IR 22 and FG06-123. It was observed that high seed rates ranging from 134.7-179.7 kg ha<sup>-1</sup> suppressed the weed population. Genotypes GRDB 10 and FG07-123 were excellent in competing with the weeds.

### ***Exposure timing during crop establishment***

This experiment was established at the Rice Research Station in Burma, where eight treatments were used. The plots were flooded at 0, 3, 6, 9, 12, 15, 18 and 21 days after sowing. Results obtained showed that fields flooded just after sowing (0 DAS) had very

poor establishment, and when water was introduced between 3-9 days after sowing the weed population was controlled and crop establishment was excellent.

### ***Evaluation of Herbicides for Post-Emergent Weed Control***

Nomina 40 % WP at a rate of 100g ac<sup>-1</sup> and Nominee 25 % WP at a rate of 200g ac<sup>-1</sup> were effective against all weed species; However, they were most effective against grass weeds.

### ***Evaluation of Pre-emergent Herbicides***

Runstar 240 g/L Oxadiazon was used as a pre-emergent herbicide (21 DBS and 5-7 DAS). Runstar showed good promise for pre and post weed control. Stale seed bed (SSB) was also used as a method to control red rice and schoonard grass, Glyphosate and 2-4D was used at a rate of 800 ml and 400 ml ac<sup>-1</sup>, which also showed promising control before sowing.

## **PLANT PATHOLOGY**

### ***Studying the impact/effect of brown spot, sheath blight and sheath rot on seedling vigor of rice***

The trial was conducted in bins at the Rice Research Station (RRS), using a complete randomized block design with six treatments and three replications. The percentage establishment ranged from 79.33 to 42.67 percent among treatments. Seeds harvested from healthy plants resulted in the highest percentage establishment for brown spot and sheath blight, while seeds harvested from plants affected by sheath rot and sheath blight reflected the lowest percentage establishment. There were no statistical differences between treatments for root and shoot length for 15 and 30 DAS: However, seeds taken from healthy plants for sheath blight recorded the longest root length for both 15 and 30 DAS.

### ***Identification of fungal microorganisms in seed paddy and their impact on germination***

The trial was conducted in the Plant Pathology Laboratory at BRRS where thirty-two samples with three replications were analyzed, using the Blotter Test. Six fungi strains were detected, with the most prevalent being *Alternaria* sp., *Aspergillus* sp. and *Curvularia* sp. Seeds infected by *Alternaria* sp., and *Aspergillus* sp. recorded the highest level of rot during germination over a seven-day period.



### ***Evaluation of breeding lines/material for blast disease (*Pyriculariagrisea* (Cooke) Sacc.)***

Over the two seasons in excess of 3,000 entries/lines were screened in an Upland Blast Nursery (UBN). The reactions ranged from highly resistant to highly susceptible. The general scoring for Rustic (check) ranged from 4 to 9. Below is a table showing the summary of the reaction recorded from the entries for two scorings at 21 & 28 DAS:

**Table 16: Score Sheet**

SCORE (BLAST)																			
0		1		2		3		4		5		6		7		8		9	
1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>	1 <sup>st</sup>	2 <sup>nd</sup>
635	15	1424	750	718	1650	309	585	64	91	27	65	3	10	1	10	1	3	1	2

### ***Evaluation of novel and available fungicides for the control of fungal pathogens in rice***

Treatments with Carbendazim @ 300 ml and 200 ml/ac.; Stratego @ 607ml/ac and Fugione @ 300 ml/ac (check) were very effective.

### ***Laboratory culture and diagnosis of rice diseases***

Blast (*Pyriculariagrisea*) and brown spot (*B. oryzae.*) were predominantly among the pathogens that were successfully isolated and identified from the disease samples from farmers' fields. A few other minor pathogens were identified.

### ***Pesticide Compatibility***

This trial was conducted in buckets at BRRS. Treatments included a three-combination cocktail consisting of fungicide, weedicide and insecticide. Growth parameters measured for ideal compatibility were the plant height and phytotoxic effect. The combinations that proved compatible were [Manzate, Admajor, 2, 4-D] and [Manzate, Pronto and 2, 4-D].

## ENTOMOLOGY

### ***Peak period of insect activity and other major insect pests through light trap and sweep net monitoring for the rice growing regions in Guyana***

Paddy bug (*Oebaluspoecilus*) population showed a sharp increase for February and August: However, a steep decrease was observed in March and September due to the application of insecticides and other control strategies employed.

### ***Control for the three major early season pest***

Control of leaf miner- *Hydrellia sp.*, water weevil- *Helodytesfoveolatus*, and caterpillar *Sopdopterafrugiperda*) was evaluate dusing seed treatment insecticides, such as Sunato, Regenil, Flip, Cruiser, Pronto and Fipronil. Sunato and Cruiser recorded the lowest water weevil damage: However, plots treated with Sunato at 2.0 ml/kg seeds recorded the highest yields, and those treated with Sunato at 1.0ml/kg seeds and the untreated plots recorded the lowest yields; whereas Cruiser-treated plots recorded the lowest caterpillar damage at 14 DAS. These trials will be continued in 2014 to determine the correct dose of application. Seed treatment was also done using Cruiser 35FS to determine its effectiveness against *Sitophilusoryzae* and *Sitotrogacerealellain* stored seeds; Cruiser at 1.5ml /kg seeds and 1.75ml/kg seeds showed better results in reducing the damage caused and reproduction rate of the storage pests, as compared to the other treatments.

### ***Snails (Pomacea sp.) infestations***

Incidences of snail infestation in fields became a concern to farmers during the earlier part of 2013, and therefore research focused on providing effective methods of chemical control. Snail X Super, Crekette Powder and Super Crekette Powder at rates of 200g/ha, 400g/ha, 600g/ha, 800g/ha, and 1000g/ha, respectively, were evaluated to determine the resultant mortality rate. Crekette Powder proved to effect the highest snail mortality compared to Super Crekette Powder and Snail X Super after twenty four hours of application. Crekette powder at 400g/ha showed better control compared to the other applications.

## SEED PRODUCTION

The main objective of the Seed Production Department is to produce adequate amounts of seed of high quality for farmers in all the rice-growing regions. A total of 20,232 bags of seed paddy were produced during the year (Spring Crop, 12,196 and Autumn Crop, 8,036), an equivalent of 1,288.7 tonnes. These seeds were of C1 and 2 quality, consisting of the

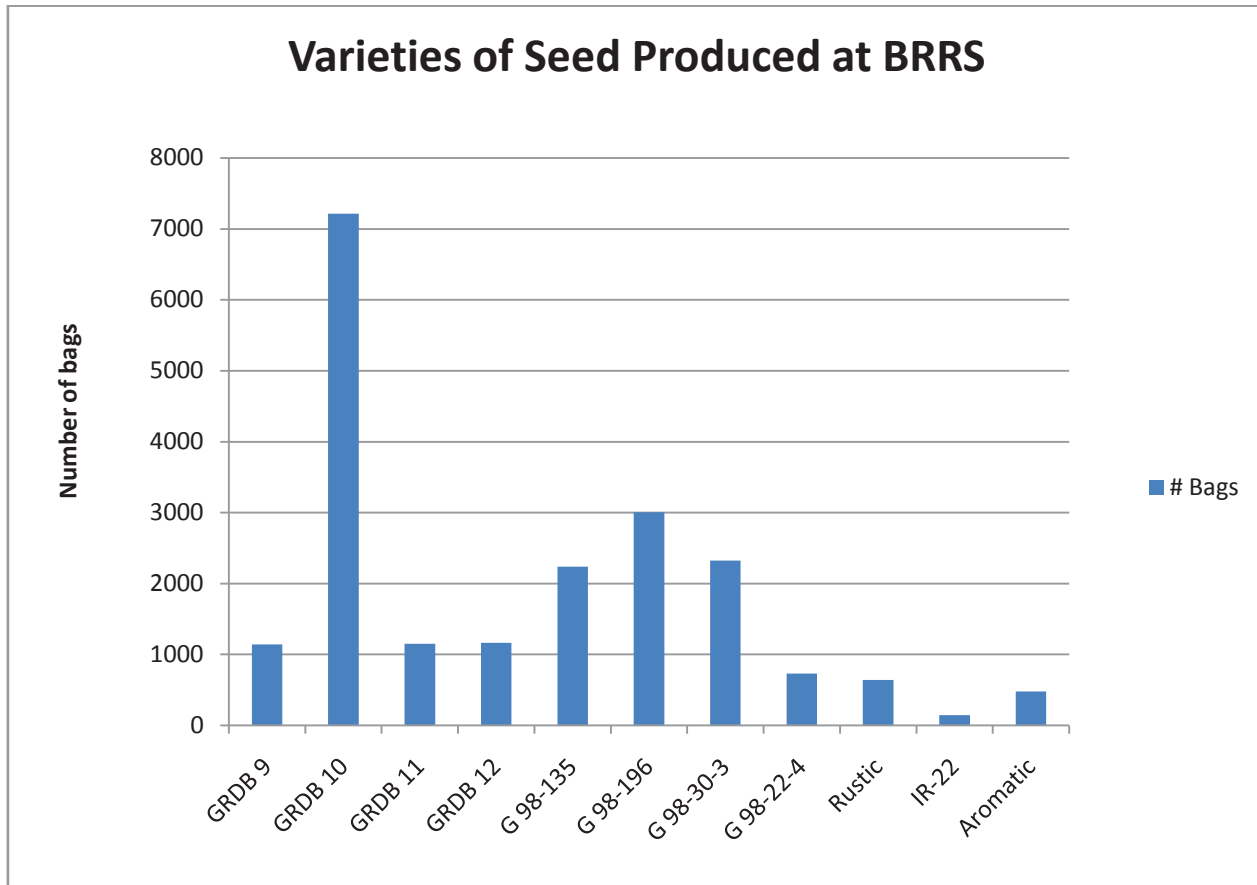
commercial varieties (see table below). Approximately fifty-three percent of the varieties consist of the GRDB 9-12 varieties (GRDB 10, 35.7 %). In addition G 98-196, G 98-30-3 and G 98-135 accounted for 14.8, 11.5 and 11.1 percent respectively. The remaining varieties accounted for 9.6%. Varieties F7-10, BR444 and Diwani were not cultivated for 2013. An additional 215.1 tonnes (3,377.3 bags) were also harvested and sold as grains.

**Table17: Seed Production for Spring and Autumn Crop 2012**

	Varieties	Spring Crop, 2013		Autumn Crop, 2013		Grand Total	
		Bags*	Tonnes	Bags	Tonnes	Bags	Tonnes
1	GRDB 9	725	46.2	416	26.5	1,141	72.7
2	GRDB 10	4,253	270.9	2,960	188.5	7,213	459.4
3	GRDB 11	653	41.6	496	31.6	1,149	73.2
4	GRDB 12	750	47.7	415	26.4	1,165	74.1
5	G 98 - 135	1,365	86.9	872	55.5	2,237	142.4
6	G 98 - 196	1,555	99.0	1,451	92.4	3,006	191.4
7	G 98 - 30 - 3	1,627	103.6	699	44.5	2,326	148.1
8	G 98 - 22 -4	459	29.2	271	17.3	730	46.5
9	Rustic	448	28.5	194	12.4	642	40.9
10	IR - 22	69	4.4	76	4.8	145	9.2
11	GP - 18	292	18.6	186	11.8	478	30.4
	<b>Total</b>	<b>12,196</b>	<b>776.6</b>	<b>8,036</b>	<b>511.7</b>	<b>20,232</b>	<b>1288.3</b>

NB: one bag = 140 lbs @ 14% MC

Graph 3 below shows the different varieties of seeds produced for 2013 at BRRS:



## EXTENSION DEPARTMENT

The Extension division continued with its programme to incorporate farmers into the various activities it undertook during the year. These were mainly focused on seed quality assurance and marketing, technology application, data collection and special activities. The department was also engaged in the process of information gathering and sharing; as well as facilitating the other actors in the value chain as it sought to create a positive and vibrant network among the farmers, along with other stakeholders in the sector, while simultaneously expanding its services to improve farmers' livelihoods.

### *Seed Quality assurance and Marketing*

#### *Marketing of seed produced at Burma Rice Research Station*

A total of sixteen thousand six hundred and twenty-five (16,625) bags of seeds, produced by the Burma Rice Research Station and approved for sale, were distributed by the department to reputable seed farmers and the Rice Producers' Associations' (RPA) contract growers in the various rice-growing areas for multiplication.

**Table 18: Varieties distributed according to regions**

Region	VARIETIES											Total
	Rustic	G98 22-4	G98 30-3	G98 196	G98 135	GRD B 9	GRD B 10	GRD B 11	GRD B 12	IR 22	Aromatic	
2	132	71	229	378	255	149	583	28	141	70	0	2,036
3	96	184	305	687	396	255	1350	65	176	7	5	3,526
4&5	156	312	1527	1017	657	259	3837	364	354	17	188	8,688
6	33	18	204	656	388	17	776	56	176	33	18	2,375
<b>Total</b>	<b>417</b>	<b>585</b>	<b>2,265</b>	<b>2,738</b>	<b>1,696</b>	<b>680</b>	<b>6,546</b>	<b>513</b>	<b>847</b>	<b>127</b>	<b>211</b>	<b>16,625</b>

#### *Monitoring the performance of seed from Rice Research Station, Burma*

Fields sown with seeds purchased from the Research Station were routinely checked by extension staff to ascertain the performance of the crop in terms of establishment during



the early stages of growth. Towards this end approximately seven thousand three hundred and forty-one (7,341) acres were inspected.

### ***Monitoring of seed fields at the Rice Research Station, Burma***

Seed fields at the Research Station were inspected at various stages of the crop's growth to ensure that seeds produced conformed to the requisite certified one (C1) class. Based on the results of field inspections the necessary actions were taken to ensure that the desired quality was achieved.

For the spring and autumn crops, a total of seven hundred and eleven (711) acres were inspected.

### ***Monitoring/Certification of farmers seed production***

Seeds originating from the research station and multiplied in farmers' fields were routinely inspected to ensure that the intended certified two (C11) class was obtained at that level. Approximately fourteen thousand five hundred and thirteen (14,500) acres were examined in the process.

### ***Technology Application***

#### ***Developing Competency of extension staff***

The division promotes training of staff on topical areas that are relevant and seeks to enhance their effectiveness in the execution of their tasks. This is normally conducted by the Board in collaboration with other agencies. The training areas included:-

- a. Understanding the Role of the Extension Programme
- b. Conducting Farmers' Field Schools
- c. Collection of data for non-traditional agricultural crops in Guyana.
- d. Benefits associated with the use of balanced nutrition fertilizers
- e. Voluntary guidelines as they relate to governance of tenure
- f. Reviewing a draft of the GNBS Act
- g. (Examining "MULTI FEED" as balanced nutrition fertilizer
- h. Biology and control of paddy bugs
- i. Setting up emergency operation centre in the case of natural disasters.
- j. Role of the Caribbean Agricultural Extension Providers Network
- k. Experimentation designs
- l. Concepts of technical writing

### ***Technology Transfer***

Empowering/educating farmers on achieving best practices in rice cultivation and related topics was the focus of training during the year. Farmers' Field Schools (FFS) continued to be the main strategy for disseminating knowledge to farmers. This participatory and informal approach has been proven to very effective in building human capital and improving the decision-making capacity of farmers.

A total of fifty-seven (57) FFS groups were established, with one thousand one hundred and four (1,104) farmers participating in the sessions

**Table 19: Number of schools and farmers**

<b>Region #</b>	<b># of Schools</b>	<b># of participants.</b>
2	8	199
3	16	321
4	5	106
5	14	261
6	14	274
<b>Total</b>	<b>57</b>	<b>1,161</b>

Farmers' Field School training programmes are complemented by field days which are held at the end of the season and attract farmers from all regions. The occasion provides for participants to observe innovative technologies demonstrated in farmers' fields through the collaborative efforts of selected farmers and the extension department. Field days also provide excellent opportunities for farmers from the various regions to interact with each other, share their knowledge and experiences, while at the same time creating a network for the exchange of ideas and dissemination of information. A total of eight hundred and forty-five (845) farmers participated in the five (5) field days that were held in 2013.

The balanced nutrition programme aimed at improving farmers' yields continued with a total of three hundred and four (304) soil samples collected from farmers' fields for analysis by Agroservices International, with the relevant recommendations circulated to the farmers.

One hundred and fifty-four (154) padi bug demonstrations were held to enhance the skills of farmers in the management of the bug infestation.

Monitoring of blast nurseries and other on-farm programmes (AYT trials and promising lines) in farmers fields' continued with collaborative efforts of the research and extension departments, together with participating farmers.

Other activities that complemented the field programmes included:- end of season reviews (8), infomercials (7), radio programmes (25), newspaper articles (15) and television programmes (13). Approximately nine hundred and eighty (980) brochures covering various aspects of rice production were produced and distributed to farmers.

### ***Data Collection***

Data was collected on crop production, namely; harvesting, sowing, pest and disease levels, drainage and irrigation status, fertilizer use and costs and prices for padi.

The department prepared and submitted one hundred (100) daily padi bug reports, two hundred and sixty (260) weekly and sixty (60) monthly reports. Specific reports on schoonord grass infestation levels (2) and cost of production (2) were also compiled.

A register comprising of all farmers' and their respective acreages sown was completed during the year.

### ***Special Activities***

These are unplanned activities that the division is called upon to perform from time to time. They are complementary in nature and supports regular extension activities. , table20

**Table 20 showing supporting activities**

<b><i>Activity</i></b>	<b><i>Host</i></b>	<b><i>Regions</i></b>	<b><i># of Days</i></b>
RPA Conference	RPA	2 & 6	2
Exhibitions/Fairs	MOA,GRDB, MMA/ADA,RDC	2,4,5 & 6	8
Exchange Visits	GRDB	All Regions	5
Minister Visit/Other Senior Officials	MOA, GRDB, RPA	All Regions	11
Investigation	GRDB, RPA	All Regions	2
Farmers Meeting/GRDB Outreach	MMA, RDC, RPA, GRDB, NDIA & NDC	All Regions	19
Seminar /Workshop	MOA, GRDB,	All Regions	6

Flood Survey	GRDB,RPA	All Regions	10
Salinity Survey	RPA, GRDB & MOA	All Regions	40
Pesticide Training	Pesticide Board	4&5	4
Pronto distribution	GRDB, RPA	All regions	160
Fertilizer distribution	GRDB,RPA	Region 5	120

Exhibitions included: Essequibo Career Day, Essequibo Night, MMA Open Day and Berbice EXPO.

The Minister of Agriculture and other senior Government functionaries would make periodic visits or outreaches to the regions to meet with farmers where issues/concerns, such as drainage and irrigation (D& I), flooding, accessibility of dams, cattle damage, payment by millers etc are addressed.

The Guyana Rice Development Board (GRDB) participated in meetings that were held with mainly NDCs, RDCs, NDIA and WUAs to plan and monitor (D&I) work programmes.

Investigations were in the areas of damages to structures, flooding and siltation of outfalls, and breaches of sea defence and canal dams, salinity testing, disease outbreaks and red rice infestation. In order to provide support for the control of padi bug infestation during the autumn crop, the Government made available to farmers the pesticide Pronto free of cost. Additional support in the form of urea fertilizers at reduced prices (\$5,000.00 per bag) was distributed to farmers prior to the spring crop to offset some of their overhead costs.

The Extension Department played a substantial role in executing and facilitating these activities.



## POST-HARVEST DEPARTMENT

The Post-Harvest/Value-Added Department is a new department at the Guyana Rice Development Board. This unit focuses on research in the areas of post-harvest processes and value-added products. Post-harvest refers to any processing after the harvest of agricultural products. Post-harvest process for rice includes drying, storage, milling and packaging; hence the department's research in this area is geared at examining these processes so that efficiency and management can be improved.

With respect to value-added, the department's focus is concentrated on researching products that can be manufactured in Guyana from rice and its by-products, thereby adding value - using existing technology. Research work in this area is aimed at achieving one of the processing goals set out in the GRDB's 2012-2022 Strategic Plan.

### *Research*

The department conducted a study on the processing capacity of the industry. The ability of mills to intake, dry, store, mill and store milled rice were examined to determine if present capacities were adequate.

Value-added work for 2013 was aimed at exploring value-added options from rice that could be launched as a pilot project. To this end manufacturing of products such as rice bran oil, rice snacks, rice cake, among others were explored and reports prepared.

Further research was done into production of rice cake as a viable option for the pilot project. The department projects to advance and launch this initiative in 2014.

### *Training*

Staff of the department facilitated part of the Licenced Graders training related to warehouse management that was conducted by the Quality Control Department.

### *Training attended*

- Better Process Control School executed by the Food and Drug Department
- Integrated Disaster Risk Management executed by the Civil Defence Commission



## *Other Activities*

During 2013 staff have been involved in other activities as follows:

- Participation in exhibitions at UG Career Day, Caribbean Week of Agriculture, Essequibo Nite;
- Member of the initial team that investigated the paddy bug situation in Region 2;
- Prepared report on economic impacts of the paddy bug infestation in Region 2;
- Participated in Exercise Flood Gate conducted by the Civil Defence Commission;
- Coordinating the offloading and distribution of fertilizer shipment originating from Venezuela; and,
- Working with consultants from TERI- The Energy and Resource Institute from India for energy efficiency studies at rice mills.

## SHIPPING AND LOGISTICS UNIT

The Shipping and Logistics Unit's main role is to aid in the facilitation of commodity trade between Guyana and Venezuela through Petro-Caribe arrangements established by the late President Hugo Chavez and former President of Guyana, His Excellency President Bharrat Jagdeo. This Unit, like other departments within the Board, is very challenging, yet rewarding when targeted objectives are being met and beneficiaries of the Board are satisfied.

For the calendar year 2013, the Unit was tasked with facilitating the delivery of the sixth contract, totaling eighty-eight thousand, four hundred metric tonnes (88,400 mts) paddy and one hundred and twenty-one thousand metric tons (121.000 mts) of white rice. Additionally, the unit aid in securing a total of seven thousand and six hundred metric tonnes (7006.580 mts) of urea for Guyana from Venezuela.

The present report has been compiled to provide information on the objectives and work programmes of the Shipping and Logistics Unit; as well as to give an insight of the work that was done by this department in 2013.

### Paddy and White Rice shipments to Venezuela-2013

#### *Summary of Paddy and White Rice shipments to Venezuela-2013 sixth contract*

The sixth contract for eighty-eight thousand, four hundred metric tonnes (88,400 mts paddy and one hundred and twenty-one thousand metric tonnes (121.000 mts) of white rice, saw at the ending of the year shipments to Venezuela concluding with 100% and 98.70% paddy and white rice, respectively.

**Table 21: Summary of Paddy and White Rice shipments to Venezuela-2013 sixth contract**

Month	Paddy-Remaining(mts)	Percentage of Paddy Sent (%)	W/Rice-Remaining(mts)	Percentage of W/Rice Sent (%)
May			117,000	3.31
June	70,400	20.36	102,525	15.27
July	46,400	47.51	87,525	27.67
August	34,400	61.08	73,250	39.46
September	22,400	74.66	62,250	48.55
October	0	100	55,650	54.01
November	0	0	34,450	71.53
December	0	0	1,575	98.70

Paddy shipments began in June and concluded in October. This was done in fifteen voyages since our contracted vessels had constrained capacities of approximately six thousand metric tonnes. These voyages were done by five vessels of the United Bulk Carriers (UBC); namely, MV Montego Bay, MV Manzanillo, MV Maracaibo, MV Miami and MV Mobile. All vessels, with the exception of the MV Maracaibo and MV Miami, made multiple voyages to complete the fifteen trips.

As seen in table 1.1 for June, 20.36% of paddy was sent. This percentage consistently increased by approximately 20% in July (47.51%) and August (61.08%). By the ending of September, 74.66% of paddy was sent, with 22400 mts remaining, which was completed in October (100%).

### ***Shipping Lines***

Paddy shipments were done in eighteen voyages by contracted vessels, each having capacities of approximately six thousand metric tonnes. These voyages were done primarily by five (5) vessels from the United Bulk Carriers (UBC).

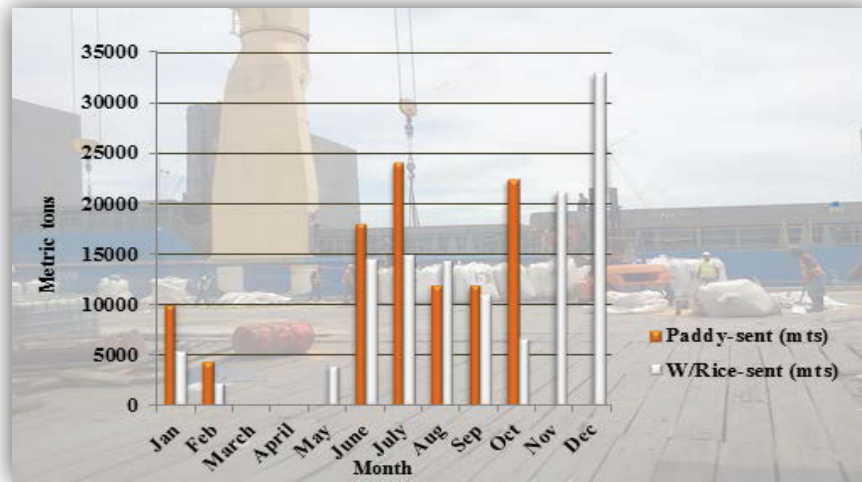
White rice shipments were done by four different shipping lines; namely, Compagnie Maritime d'Affrètement (CMA) Compagnie Générale Maritime (CGM), ZIM Integrated Shipping Ltd, Mediterranean Shipping Company (MSC) and United Bulk Carriers (UBC). CMA CGM made direct voyages with a seven days frequency, while ZIM and MSC had varied frequencies due to their transshipment arrangements to get cargo delivered to our receivers: UBC made one direct shipment.

### ***Comparisons between white rice and paddy shipped during 2013***

Comparing amounts of white rice and paddy shipped during 2013, it was observed that both paddy and white rice shipments had a similar tendency in bulk throughout the months, i.e. a gradual decline in the initial months of January and February, a sharp increase between May and July, followed by an abrupt decline in the mid months of August and September; and also in October for white rice, although paddy shipment sharply increased and concluded in October. Towards the ending of the year, in the months of November and December, white rice shipments steadily increased, reaching its peak in December.

As observed in figure 1.6, during exports, both paddy and white rice shipments simultaneous recorded its lowest in February totaling, 4,322.0 mts and 2,250.0 mts respectively; and their highest in July - 24,000 mts and 15,000 mts, respectively.





The above illustration shows comparisons between white rice and paddy shipped during 2013.

### ***Fertilizer Shipments from Venezuela***

Amidst paddy and white rice shipments, the shipping and logistics unit was also engaged in securing a total of 7006.580 mts of urea to boost our rice industry and the Agriculture sector as a whole. This fertilizer was sourced from our sister country Venezuela through the Petro-Caribe arrangement between Guyana and Venezuela. During the month of October, the shipment of 7006.580 mts of urea came on the MV KINATSI at Didco Shipping INC wharf in Friendship, EBD to discharge. The fertilizer was distributed to the various rice-growing regions where it was sold to rice farmers at a reduced price.



**Delegation after signing of fertilizer contract; From right: Luis Goitia, Sales Manager (Pequiven); Colin Watson-Shipping & Logistics Officer of GRDB; Mr. Jagnarine Singh, General Manager of GRDB; Jovel Alvarez -Pequiven; Guyana's Ambassador to Venezuela, Hon. Geoffrey Da Silva.**

## PICTURES OF ACTIVITIES



Bursary Awardees with Directors and Management of GRDB



GRDB booth at the 12<sup>th</sup> Caribbean Week of Agriculture



Hon. L. Ramsammy, Minister of Agriculture addressing staff at the GRDB Breast Cancer Awareness Day.



Farmers Field School, Liverpool, Corentyne



Farmers Training on Field Inspection, Wakenaam



Farmers Training on Paddy Grading, Region 2



## HEADS OF DEPARTMENT



**Mr. Madanlall Ramraj**  
Deputy General Manager



**Dr. Mahendra Persaud**  
Chief Scientist/Plant Breeder



**Mr. Kuldip Ragnauth**  
Extension Manager



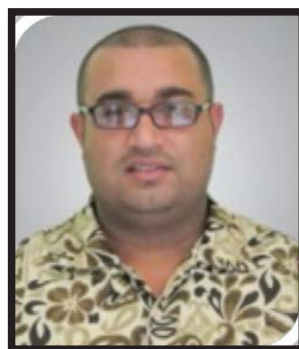
**Ms. Allison Peters**  
Quality Control Manager



**Mr. Peter Ramcharran**  
Accountant



**Mr. Ghansham Payman**  
Agronomist



**Mr. Rajendra Persaud**  
Plant Pathologist



**Mr. Noel Sookhai**  
Internal Auditor



**Mrs. Gloria Chester**  
Marketing Assistant



**Ms. Narita Singh**  
Research Assistant



**Mr. Dhirendranauth Singh**  
Post Harvest Researcher

## **STAFF**

### ***Head Office***

#### ***Administrative Department***

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Dip. Agriculture (GSA)

Deputy General Manager

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B. Sc. Business Administration and Management  
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Administrative Coordinator

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Occupational Health  
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Human Resources officer

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Teachers Trained Certificate  
Cert. Human Resources Management

Shipping and logistics officer

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CAT

Assistant Accountant

Errol Chester  
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Internal Auditor

Abigail Constantine  
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Quality Control Manager

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***Region 2***

Regional Superintendent

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Uancy Chichester  
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Dwayne Campbell  
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### ***Region 4***

Regional Coordinator

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Cert. Internal Audit of a Laboratory management  
(GNBS)

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Management  
Cert. Paddy Varietal Identification (GRDB)

Seon Johnson  
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Management (GRDB)  
Cert. Paddy Varietal Identification (GRDB)

Roderick Somrah  
Cert. Rice & Paddy Grading & Quality  
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Cert. Paddy Varietal Identification (GRDB)

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Technical Assistants

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Graders License





Atoya Felix  
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Abdool Da Silva  
Graders License

## **Region 6**

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Grading Officer

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Steve Lyte  
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Cert. Post-Harvest & Quality Control  
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## ***Region 3***

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### ***Region 4&5***

District Rice Extension Officers

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Dip. Agriculture (GSA)  
Rishal Ramsarran  
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Delon McKenzie  
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### ***Region 6***

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### ***Region 9***

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Chief Scientist /Plant Breeder

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M.Sc. (AG) Plant Breeding & Genetics (India)  
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Sheneza Massiah  
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Jairam Persaud  
Cert. Agriculture (GSA)

Naitram Persaud

Shevon Sharp

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Dip. Education Science (UG)



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Dindyal Jagdeo

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Jermaine Sharp  
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## ***Seed Production***

Seed Production Coordinator

Jaddonauth Persaud  
Dip. Agriculture (GSA)

Research Technicians

Davendra Mohabir  
Salim Alli  
Hemant Benimadho

## ***Study Leave***

**Viviane Baharally**

Fourth Year Student Entomology (Sam Higginbottom Institute of Agriculture, Technology & Science, Allahabad, India)

**Bissessar Persaud**

MSc. Agricultural Extension (Punjab Agricultural University, India)

**Shemeka Reece**

Fourth Student BSc Agriculture (University of Guyana)

**Lalita Manohar**

Second Year Student Degree In Agriculture (University of Guyana)

**Ghansham Payman**

First Year Student PhD in Agronomy (Acharya N G Ranga Agricultural University, Hyderabad, India)

**Narita Singh**

First Year Student M.Sc. Quality Insurance & Food Safety, (UWI)

**Shanna Crawford**

First Year Student in Agronomy (Anand Agriculture University, Gujarat, India)

**Kishan Indrawattie**

Final Year Student Degree in Agriculture (University of Guyana)



## **Appendix 1: Licensed Mills 2013**

### **Region 2**

<b>NAME OF MILLER</b>	<b>ADDRESS</b>
Caricom Rice Mills Ltd	Anna Regina, Essequibo Coast
Land of Plenty Inv.	Land of Plenty, Essequibo Coast
Imam Bacchus and Sons	Affiance, Essequibo Coast
Dharanpaul Persaud & Son (Vincent Persaud)	Bounty Hall, Essequibo
Deonarine Rice Milling Services	Evergreen, Essequibo Coast
Francis Garaban& Son	47 Walton Hall, Essequibo
Kayman Sankar & Co. Ltd.	Hampton Court, Essequibo
Golden Fleece Rice Inv.	Golden Fleece, Essequibo Coast
Ramlakhan & Sons	Ex-Mouth, Essequibo
Wazir Hussein	
Sea Rice Caribbean Inc.	Paradise, Essequibo Coast
Sea Rice Caribbean Inc.	
Naraindra Biragie	Paradise, Essequibo Coast
Indar Singh	Airy Hall, Essequibo Coast
La Resource Rice Industry	La Resource, Essequibo Coast

### **Region 3**

<b>NAME OF MILLER</b>	<b>ADDRESS</b>
Elizabeth Nandlall	29 Hague Front
Abdool Hakh & Sons	Harlem West Coast Demerara
Ojha Rice Milling Complex	1&2 Blenheim, Leguan
Goed Fortuin Rice Mill (Jeetlall Ramraj)	Goed Fortuin, W.C.D.
Two Brothers Corp.	Vergenoegen, East Bank Essequibo
Madho Bros.	
(Bhagwandin Madho)	Ruimzeight, W.C.D.
L & P Doobay & Son Rice Milling	
Mohan & Hansraj Persaud (M&H Rice Milling)	
Bhagwandeem Tularam & Sons	Lot 1 La Bagatelle, Leguan Essequibo
Fuize Khan	Leguan, Essequibo Island
Friendship Rice Mill (Lillashwar Seeram)	Friendship, Wakenaam
Chand's Rice Milling Complex	La Bagatelle, Leguan Essequibo
Rahaman Badshaw	Maryville, Leguan
Ramrattie & Yovindra Ojha	Blenheim, Leguan
Vergenogen Co-op Society	Vergenoegen, East Bank Essequibo
Ruimzeight Rice Processors Inc.	

## **Regions 4 & 5**

<b>NAME OF MILLER</b>	<b>ADDRESS</b>
Saj Rice Group Inc.	Burma, Mahaicony E.C.D
Sukhlal Rice Industry (Deonarine Sukhlal)	De Hoop, Mahaica E.C.D
Deonarine Sukhlal (Buying Center)	Doorn Park, Cottage W.C.B.
Rayaadul Hakh Rice Industry	Strangroen, Mahaicony E.C.D
Balram & Kheman Ractoo (B & K Ractoo Rice Milling Company)	De Kendren, Mahaicony E.C.D.
Guyana Stockfeed Inc.	East Bank Demerara 76 Block DD Eccles Industrial Estate E.B.D.
Technomills Guyana Inc.	
Guya .P. Ramotar	De Kendren, Mahaicony E.C.D.
Fairfield Rice Inv.	Fairfield, Mahaicony E.C.D.
A.C. Hakh & Sons	Golden Grove, W.C.D.
Satya Enterprise (Sham Persaud)	Felicity, Mahaicony, E.C.D.
Chaitram Ramroop	Dundee Mahaicony, E.C.D.
Kissoon Dyal & Sons	Chelsea Park Mahaica, E.C.D.
Strangroen Enterprise Ltd.	De Hoop Mahaica, E.C.D.
Buddy's Rice Milling Complex	Spooner/Perth, Mahaicony
A.C Hakh& Sons	Cane Grove, Mahaica E.C.D.



## Region 6

NAME OF MILLER	ADDRESS
Krishndat Persaud	No.57 Village, Corentyne Berbice
Ramcoomar Ramdeo (Hemraj Rice Mill)	Bush Lot Village, Berbice
Navin Brijbassi	No. 62 Village, Corentyne Berbice
Nand Persaud & Company Limited	No. 36 Village, Corentyne Berbice
Sea Rice Caribbean Inc.	Johanna BBP.
Sea Rice Caribbean Inc.	No. 70 Village, Corentyne Berbice
Mohamed Sultan Ali Rice Milling Complex (Mohamed Sultan Hakim)	Letter Kenny Village, Berbice
T & R Karran	Don Robin Village, Corentyne Berbice
Outram Ramprashad & Sons Rice Milling Complex	Johanna Black, Bush Polder
Jaiswah Boadnarine	No. 62 Village, Corentyne Berbice
Mahendra Singh	No. 68 Village, Corentyne Berbice
Lalla Persaud Juggerdeo	No. 0 Village, Corentyne Berbice
Afzal Haniff	No. 63 Village, Corentyne Berbice
Ahamad Ali Rice Mill	Whim Village, Corentyne Berbice
Bhogwattie Bhola	No. 47 Village, Corentyne Berbice
Rambrich Enterprises (Leekah Rambrich)	Bengal Farm, Corentyne Berbice
Kissoon Dyal & Son	Yakusari Black Bush Polder
Ancient County Investment Inc.	Lot 34 Tarlogie Farm, Corentyne Berbice
Omanarain Persaud	No. 68 Village, Corentyne Berbice
Khemharshan Babulal	No. 45 Village, Corentyne Berbice
Harnarine Lakhram	No. 69 Village, Corentyne Berbice
Thakurdial Tulshi	No. 49 Village, Corentyne Berbice
Rayaadul Hakh Rice Milling Industry	Les Beholden, Black Bush Polder
Tota Budhram	No. # 64 Village, Corentyne Berbice



## Appendix 2: Rice Statistics 1970- 2013

Year	Hectare Harvested	Paddy Production(M/T)	Yield per Hectare	Rice Equivalent (M/T)	Quantity Exported (MT)	Value G\$ & US\$
1970	119,182	222,469	1.8	144,605	59,347	\$18,047.00
1971	94,551	187,535	1.9	121,989	67,515	\$21,334.00
1972	79,462	147,130	1.8	95,639	69,949	\$25,251.00
1973	92,821	152,360	1.6	99,034	47,814	\$25,005.00
1974	105,741	255,886	2.4	165,657	50,827	\$49,025.00
1975	108,486	297,099	2.7	172,259	82,035	\$84,937.00
1976	84,027	172,904	2.0	103,754	70,681	\$73,594.00
1977	130,528	358,290	2.7	214,972	65,855	\$66,812.00
1978	114,846	308,207	2.6	184,985	104,761	\$95,983.00
1979	90,227	240,556	2.6	144,328	84,080	\$80,814.00
1980	95,991	281,846	2.9	169,107	81,008	\$87,491.00
1981	89,053	276,006	3.0	165,604	78,010	\$110,009.00
1982	95,280	302,671	3.1	181,603	35,676	\$60,767.00
1983	75,807	246,064	3.2	147,639	41,715	\$64,933.00
1984	92,987	299,628	3.2	179,785	47,498	\$80,945.00
1985	77,777	260,207	3.3	156,124	29,339	\$56,594.00
1986	83,977	293,073	3.4	171,044	38,634	\$57,234.00
1987	75,146	243,398	3.2	145,879	68,987	\$157,128.00
1988	74,223	226,862	3.0	132,281	55,926	\$139,165.00
1989	68,544	237,183	3.4	142,310	40,575	\$367,427.00
1990	51,368	155,740	3.0	93,444	50,943	\$513,220.00
1991	76,209	251,321	3.3	150,783	54,047	US\$17,202,635.00
1992	77,327	286,000	3.7	171,000	115,102	US\$35,000,135.00
1993	98,061	336,207	3.4	201,702	124,089	US\$33,045,227.00
1994	97,660	378,432	3.8	233,111	182,585	US\$55,547,061.00
1995	132,344	525,500	3.9	315,301	200,336	US\$76,397,522.00
1996	135,436	543,437	4.0	332,542	262,265	US\$93,716,748.21
1997	142,782	568,186	3.9	340,911	285,051	US\$84,224,971.47
1998	129,469	522,907	4.0	339,890	249,755	US\$73,259,786.73
1999	147,071	562,260	3.8	365,469	251,519	US\$71,035,677.51
2000	115,872	448,740	3.8	291,967	207,638	US\$51,790,072.00
2001	124,565	495,862	3.9	322,310	209,042	US\$50,061,834.00
2002	107,902	443,654	4.1	288,375	193,416	US\$45,463,590.45
2003	127,662	546,183	4.3	355,019	200,432	US\$45,273,049.61
2004	115,742	500,911	4.3	325,592	243,093	US\$55,066,513.74
2005	106,645	420,365	3.9	273,237	182,175	US\$46,172,149.45
2006	102,934	472,363	4.6	307,036	204,577	US\$ 54,622,559.62
2007	105,865	458,653	4.3	298,125	269,436	US \$ 75,251,464.99
2008	119,792	507,036	4.2	329,574	196,233	US \$ 118,032,802.90
2009	124,820	553,522	4.4	359,789	260,815	US \$ 114,120,323.83
2010	131,417.2	556,195	4.2	361,527	336,313	US\$ 154,622,744.10
2011	140,674.50	619,198	4.4	402,479	305,382	US\$173,239,721.56
2012	143,386	649,320	4.5	422,058	341,140	US\$196,226,960.00
2013	164,867.8	823,629.9	5.0	535,555	394,988	US\$239,826,389.00



**Appendix 3: Comparison to Yearly Product (2002-2013)**

MONTH	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
JANUARY	17,237	8,709	22,641	10,426	7,361	24,026	11,578	9,635	36,137	18,413	25,620	26,032
FEBRUARY	13,271	8,416	13,295	15,582	10,427	11,518	5,694	21,200	18,790	11,076	12,161	12,324
MARCH	13,401	11,444	16,911	11,487	9,254	32,189	5,274	14,333	15,204	9,416	11,847	16,020
APRIL	20,738	13,382	20,931	16,189	17,127	22,644	21,421	13,732	20,651	15,931	21,363	17,148
MAY	13,160	13,032	32,666	17,911	20,751	28,674	25,008	34,632	35,328	67,188	32,468	26,296
JUNE	18,172	25,426	28,314	18,261	14,746	26,868	21,361	30,746	31,125	45,922	40,216	44,463
JULY	15,593	20,674	20,229	13,086	20,706	16,204	19,334	22,757	35,299	17,039	30,162	57,396
AUGUST	15,378	20,277	13,102	10,149	16,708	18,573	9,091	20,742	19,691	5,988	22,398	35,744
SEPTEMBER	11,775	9,716	20,656	13,052	21,851	15,861	20,264	15,955	17,925	6,200	23,158	32,534
OCTOBER	24,541	26,160	17,973	22,566	18,509	25,386	20,551	24,476	33,127	24,018	46,121	51,086
NOVEMBER	18,736	21,748	21,752	20,629	26,265	25,168	24,527	30,955	40,796	56,560	35,569	29,200
DECEMBER	11,413	21,448	14,622	12,837	20,872	22,325	12,130	21,653	32,240	27,631	33,058	46,746
<b>TOTAL</b>	<b>193,415</b>	<b>200,432</b>	<b>243,092</b>	<b>182,175</b>	<b>204,577</b>	<b>269,436</b>	<b>196,233</b>	<b>260,815</b>	<b>336,313</b>	<b>305,382</b>	<b>334,141</b>	<b>394,989</b>

#### Appendix 4: Exports According to Products 2013

PRODUCT	QUANTITY (MT)	% OF TOTAL EXPORTS
BRAN	10,986	2.80%
C.P.B PK	6	0.00%
C.P.B RICE	758	0.20%
CARGO BKN	5,424	1.40%
CARGO RICE	39,001	9.90%
DAM RICE	568	0.10%
PADDY	107,575	27.20%
PARB BKN	5,196	1.30%
PARB RICE	18,782	4.80%
PET FOODS	0	0.00%
PET RICE	915	0.20%
PKG DAM RICE	4	0.00%
PKG PB BKN	2	0.00%
PKG PB RIC	6,396	1.60%
PKG PET RICE	78	0.00%
PKG REJ PB RICE	0	0.00%
PKG W.RICE	581	0.20%
REJ PB RIC	516	0.10%
WHT BKN	34,762	8.80%
WHT RICE	163,439	41.40%
<b>TOTAL</b>	<b>394,989</b>	<b>100%</b>



**Appendix 5: Exports According to Destination 2013 (Tonnes)**

Country	2013	Exports Percentage (%)
<b>CARICOM</b>		
Antigua	936	
Barbados	2,245	
Dominica	1,077	
Grenada	1,434	
Jamaica	45,222	
St. Kitts	378	
St. Lucia	491	
St. Vincent	2,011	
Suriname	577	
Trinidad	23,619	
<b>Sub-Total</b>	<b>77,990</b>	<b>19.74%</b>
<b>European Union</b>		
Belgium	11,901	
French Guiana	308	
Guadeloupe	756	
Germany	10	
Holland	15,111	
Martinique	654	
Portugal	28,201	
Italy	101	
United kingdom	21,982	
<b>Sub-Total</b>	<b>79,022</b>	<b>20.01%</b>
<b>OCT</b>		
Turks & Caicos	0.35	
<b>Sub-Total</b>	<b>0.35</b>	<b>0.00%</b>
<b>OTHERS</b>		
Brazil	40	
Colombia	1,005	
Haiti	1,175	
Panama	4,884	
USA	995	
Venezuela	229,877	
<b>Sub-Total</b>	<b>237,976</b>	<b>60.25%</b>
<b>TOTAL</b>	<b>394,989</b>	<b>100.00%</b>

## Appendix 6: Average Rice Export Prices 2002-2013

REGION	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>EUROPEAN UNION</b>												
CARGO PB BKN	-	-	100	110	110	110	-	-	-	-	-	-
PARB. BKN	100	100	100	110	110	110	295	207	207	200	305	345
REJ. PB RICE	110	-	-	-	-	158	-	-	-	-	-	-
CARGO RICE	215	206	218	240	260	262	600	409	434	510	567	514
CARGO BKN	130	100	118	-	142	148	265	250	265	306	385	298
WHITE RICE	-	-	-	-	-	320	530	447	486	485	-	-
WHITE BKN	155	143	143	160	160	168	425	241	246	342	332	305
C.P.B RICE	235	240	240	244	306	261	480	440	446	-	-	-
PARB. RICE	-	-	-	-	-	400	-	550	650	764	-	809
BRAN	-	-	-	-	-	-	-	-	-	-	-	99
<b>CARICOM</b>												
CARGO RICE	-	-	217	364	260	283	623	443	407	536	558	549
CARGO BKN	120	100	-	105	110	-	295	210	267	395	379	328
WHITE RICE	270	260	275	275	295	347	688	532	513	693	667	768
WHITE PKG. RICE	-	-	-	352	390	594	763	512	611	713	730	707
WHITE BKN	-	140	140	180	175	178	426	316	369	392	363	393
C.P.B PK RICE	-	-	-	-	-	-	-	-	-	-	-	777
C.P.B RICE	234	240	240	290	310	285	945	608	655	710	668	814
C.P.B BKN	100	100	100	104	120	110	190	295	267	255	-	-
PARB RICE	392	370	390	399	400	425	824	716	624	785	773	763
PARB PKG. RICE	-	-	-	468	475	638	851	756	689	807	822	687
PKG PARB BKN	-	-	-	-	-	-	-	-	-	-	-	416
PARB BKN	138	100	130	162	165	164	354	253	267	352	418	510
PKG REJ PARB RICE	-	-	-	-	-	-	-	-	-	-	-	438
REJ. PB RICE	110	110	153	170	178	195	-	294	326	316	383	425
BRAN	50	45	40	62	63	45	118	96	120	105	97	87
PKG PET RICE	-	-	-	-	-	-	-	-	-	-	-	616
PET RICE	-	-	-	-	-	190	-	250	339	384	445	407
PADDY	-	-	-	-	-	-	-	-	-	-	-	520
PET FOODS	-	-	-	-	-	-	-	-	-	-	-	94
PKG DAMAGED RICE	-	-	-	-	-	-	-	-	-	-	-	426
DAMAGED RICE	-	-	-	-	-	-	-	-	-	-	-	437
<b>OCT</b>												
CARGO RICE	207	206	218	242	260	260	557	375	375	-	-	-
CARGO BKN	116	100	118	121	110	145	355	187	185	-	-	-
WHITE RICE	331	-	245	245	300	-	-	-	524	605	621	600
WHITE BKN	145	140	143	150	160	161	-	-	-	-	-	-
C.P.B RICE	240	-	-	-	-	-	-	185	-	-	-	-
C.P.B BKN	-	-	100	104	-	-	-	-	-	-	-	-
PKG PARB RICE	-	-	-	-	-	-	-	-	-	-	-	696
<b>OTHERS</b>												
CARGO BKN	-	-	127	-	110	-	-	-	-	-	-	-
WHITE RICE	-	260	245	273	295	308	703	510	700	750	800	634
WHITE BKN	-	155	150	174	160	166	435	276	246	-	463	410

PARB. RICE	-	-	-	-	-	373	-	590	590	-	-	-
PADDY	-	-	131	-	-	-	-	348	420	470	520	417
PET RICE	-	-	40	-	-	194	600	-	-	-	-	-
CHIPS	-	-	-	-	-	190	-	-	-	-	565	-
CARGO RICE	-	-	226	233	265	280	510	400	-	-	-	540
PARB PKG RICE	-	-	-	-	-	462	-	681	670	-	-	-
PARB RICE FLOUR	-	-	-	-	-	353	-	-	-	-	-	-
DIS. WHT RICE	-	-	-	-	-	230	-	-	-	-	-	-
WHT RICE FLOUR	-	-	-	-	-	353	-	-	-	-	-	-
C.P.B. RICE	-	-	220	-	-	-	480	-	-	-	-	-
WHT PGK RICE	-	-	-	-	-	-	-	502	-	-	-	-
STOCKFEED	-	-	-	-	-	-	-	320	-	-	-	-
BRAN	-	-	-	-	-	-	-	100	65	-	100	88



## Appendix 7: Spring Crop 2013

REGION / ZONE	HECTARE										Rice Equiv.		Yield		Yield		%	
	Target	Prepared	Sown	Harvested	Paddy Production		Rice Equiv.		Yield		Yield							
					Bags	M/T	M/T	M/T	(Bags/Ha)	(Tons/Ha)	(Bags/Ha)	(Tons/Ha)						
<b>REGION 2</b>																		
Essequibo	14,699	14,923.10	14,923.10	14,873.00	1,268,895	80,601	52,391	85.3	5.4									
<b>Sub-Total</b>	<b>14,699</b>	<b>14,923.10</b>	<b>14,923.10</b>	<b>14,873.00</b>	<b>1,268,895</b>	<b>80,601</b>	<b>52,391</b>	<b>85.3</b>	<b>5.4</b>									
<b>REGION 3</b>																		
Wakenaam	1,215	1,164.80	1,164.80	1,136.80	83,678	5,315	3,455	73.6	4.7									
Leguan	1,619	1,680.20	1,680.20	1,676.50	128,972	8,192	5,325	76.9	4.9									
Hamburg	69	68.80	68.80	63.20	5,148	327	213	81.5	5.2									
Hogg Island	81	93.50	93.50	75.30	4,650	295	192	61.8	3.9									
West Demerara	5,385	5,458.60	5,458.60	5,410.00	483,253	30,697	19,953	89.3	5.7									
<b>Sub-Total</b>	<b>8,369</b>	<b>8,465.90</b>	<b>8,465.90</b>	<b>8,361.80</b>	<b>705,701</b>	<b>44,827</b>	<b>29,137</b>	<b>84.4</b>	<b>5.4</b>									
<b>REGION 4</b>																		
Baiboo/Cane Grove	2,186	2,186.20	2,186.20	2,186.20	226,808	14,407	9,365	103.7	6.6									
Golden Grove/Mahaica	971	971.60	971.60	972.00	93,639	5,948	3,866	96.3	6.1									
<b>Sub-Total</b>	<b>3,157</b>	<b>3,157.80</b>	<b>3,157.80</b>	<b>3,158.20</b>	<b>320,447</b>	<b>20,355</b>	<b>13,231</b>	<b>101.5</b>	<b>6.4</b>									
<b>REGION 5</b>																		
Mahaica/Mahaicony	8,906	9,672.10	9,672.10	9,485.40	796,586	50,600	32,890	84.0	5.3									
Mahaicony/Abary	6,478	6,639.70	6,578.90	6,578.90	503,750	31,999	20,799	76.6	4.9									
West Berbice	13,562	16,003.00	15,956.30	15,877.70	1,171,391	74,408	48,365	73.8	4.7									
<b>Sub Total</b>	<b>28,946</b>	<b>32,314.80</b>	<b>32,207.30</b>	<b>31,942.00</b>	<b>2,471,727</b>	<b>157,006</b>	<b>102,054</b>	<b>77.4</b>	<b>4.9</b>									
<b>REGION 6</b>																		
Frontlands	14,629	15,619.00	15,200.00	15,200.00	1,085,325	68,941	44,812	71.4	4.5									
Black Bush Polder	7,625	7,674.10	7,674.10	7,674.10	549,695	34,917	22,696	71.6	4.5									
<b>Sub-Total</b>	<b>22,254</b>	<b>23,293.10</b>	<b>22,874.10</b>	<b>22,874.10</b>	<b>1,635,020</b>	<b>103,858</b>	<b>67,508</b>	<b>71.5</b>	<b>4.5</b>									
<b>REGION 9</b>																		
Lethem	20.20	-	-	-	-	-	-	-	-									
<b>Sub Total</b>	<b>20.20</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>									
<b>Total</b>	<b>77,446</b>	<b>82,154.70</b>	<b>81,628.20</b>	<b>81,209.10</b>	<b>6,401,790</b>	<b>406,647</b>	<b>264,321</b>	<b>78.8</b>	<b>5.0</b>									



### Appendix 8: Autumn Crop 2013

REGION / ZONE	HECTARE		Prepared	Sown	Harvested	Paddy Production Bags	M/T	Rice Equiv. M/T	Yield	Yield	%
	Target								(Tons/Ha)	(Bags/Ha)	
<b>REGION 2</b>											
Essequibo	14,900	14,959.50	14,959.50	14,959.50	14,955.00	1,130,364	71,802	46,671	75.6	4.8	100.0
<b>Sub-Total</b>	<b>14,900</b>	<b>14,959.50</b>	<b>14,959.50</b>	<b>14,959.50</b>	<b>14,955.00</b>	<b>1,130,364</b>	<b>71,802</b>	<b>46,671</b>	<b>75.6</b>	<b>4.8</b>	<b>100.0</b>
<b>REGION 3</b>											
Wakenaam	1,200	1,140.50	1,140.50	1,140.50	1,140.50	81,693	5,189	3,373	71.6	4.5	100.0
Leguan	1,700	1,742.50	1,742.50	1,742.50	1,742.50	133,424	8,475	5,509	76.6	4.9	100.0
Hamburg	100	63.20	63.20	63.20	63.00	4,680	297	193	74.3	4.7	99.7
Hogg Island	100	30.40	30.40	30.40	30.40	1,658	105	68	54.5	3.5	100.0
West Demerara	5,500	5,420.20	5,420.20	5,420.20	5,420.20	437,888	27,815	18,080	80.8	5.1	100.0
<b>Sub-Total</b>	<b>8,600</b>	<b>8,396.80</b>	<b>8,396.80</b>	<b>8,396.80</b>	<b>8,396.60</b>	<b>659,343</b>	<b>41,882</b>	<b>27,223</b>	<b>78.5</b>	<b>5.0</b>	<b>100.0</b>
<b>REGION 4</b>											
Baiboo/Cane Grove	2,200	2,251.00	2,251.00	2,251.00	2,245.70	199,692	12,685	8,245	88.9	5.6	99.8
Golden Grove/Mahaica	1000	979.40	979.40	979.40	979.40	84,665	5,378	3,496	86.4	5.5	100.0
<b>Sub-Total</b>	<b>3,200</b>	<b>3,230.40</b>	<b>3,230.40</b>	<b>3,230.40</b>	<b>3,225.10</b>	<b>284,357</b>	<b>18,063</b>	<b>11,741</b>	<b>88.2</b>	<b>5.6</b>	<b>99.8</b>
<b>REGION 5</b>											
Mahaica/Mahaicony	9,700	10,794.30	10,794.30	10,794.30	10,794.30	879,846	55,889	36,328	81.5	5.2	100.0
Mahaicony/Abary	6,600	6,955.50	6,955.50	6,955.50	6,943.30	514,500	32,681	21,243	74.1	4.7	99.8
West Berbice	16,000	15,560.70	15,560.70	15,522.60	15,522.60	1,159,750	73,668	47,884	74.7	4.7	100.0
<b>Sub Total</b>	<b>32,300</b>	<b>33,310.50</b>	<b>33,310.50</b>	<b>33,272.40</b>	<b>33,260.20</b>	<b>2,554,096</b>	<b>162,238</b>	<b>105,455</b>	<b>76.8</b>	<b>4.9</b>	<b>100.0</b>
<b>REGION 6</b>											
Frontlands	15,200	15,838.00	15,838.00	15,836.00	15,684.20	1,277,760	81,164	52,757	81.5	5.2	99.0
Black Bush Polder	7,700	8,137.70	8,137.70	8,137.70	8,137.60	663,300	42,133	27,387	81.5	5.2	100.0
<b>Sub-Total</b>	<b>22,900</b>	<b>23,975.70</b>	<b>23,975.70</b>	<b>23,973.70</b>	<b>23,821.80</b>	<b>1,941,060</b>	<b>123,298</b>	<b>80,144</b>	<b>81.5</b>	<b>5.2</b>	<b>99.4</b>
<b>REGION 9</b>											
Lethem	20.20	-	-	-	-	-	-	-	-	-	-
<b>Sub Total</b>	<b>20.20</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total</b>	<b>81,920</b>	<b>83,872.90</b>	<b>83,872.90</b>	<b>83,832.80</b>	<b>83,658.70</b>	<b>6,569,220</b>	<b>417,283</b>	<b>271,234</b>	<b>78.5</b>	<b>5.0</b>	<b>99.8</b>



### Appendix 9: Harvesting Production 2013

REGION / ZONE	HECTARE		Prepared	Sown	Harvested	Paddy Production Bags	M/T	Rice Equiv. M/T	Yield (Bags/Ha)	Yield (Tons/Ha)	% Harvested
	Target										
<b>REGION 2</b>											
Essequibo	29,599	29,882.60	29,882.60	29,882.60	29,828.00	2,399,259	152,403	99,062	80.4	5.1	99.8
<b>Sub-Total</b>	<b>29,599</b>	<b>29,883</b>	<b>29,883</b>	<b>29,883</b>	<b>29,828</b>	<b>2,399,259</b>	<b>152,403</b>	<b>99,062</b>	<b>80.4</b>	<b>5.1</b>	<b>99.8</b>
<b>REGION 3</b>											
Wakenaam	2,415	2,305.30	2,305.30	2,305.30	2,277.30	165,371	10,505	6,828	72.6	4.6	98.8
Leguan	3,319	3,422.70	3,422.70	3,422.70	3,419.00	262,396	16,668	10,834	76.7	4.9	99.9
Hamburg	169	132.00	132.00	132.00	126.20	9,828	624	406	77.9	4.9	95.6
Hogg Island	181	123.90	123.90	123.90	105.70	6,308	401	260	59.7	3.8	85.3
West Demerara	10,885	10,878.80	10,878.80	10,878.80	10,830.20	921,141	58,512	38,033	85.1	5.4	99.6
<b>Sub-Total</b>	<b>16,969</b>	<b>16,863</b>	<b>16,863</b>	<b>16,863</b>	<b>16,758</b>	<b>1,365,044</b>	<b>86,709</b>	<b>56,361</b>	<b>81.5</b>	<b>5.2</b>	<b>99.4</b>
<b>REGION 4</b>											
Baiboo/Cane Grove	4,386	4,437.20	4,437.20	4,437.20	4,431.90	426,500	27,092	17,610	96.2	6.1	99.9
Golden Grove/Mahaica	1,971	1,951.00	1,951.00	1,951.00	1,951.40	178,304	11,326	7,362	91.4	5.8	100.0
<b>Sub-Total</b>	<b>6,357</b>	<b>6,388</b>	<b>6,388</b>	<b>6,388</b>	<b>6,383</b>	<b>604,804</b>	<b>38,418</b>	<b>24,971</b>	<b>94.7</b>	<b>6.0</b>	<b>99.9</b>
<b>REGION 5</b>											
Mahaica/Mahaicony	18,606	20,466.40	20,466.40	20,466.40	20,279.70	1,676,432	106,488	69,217	82.7	5.3	99.1
Mahaicony/Abary	13,078	13,595.20	13,595.20	13,534.40	13,522.20	1,018,250	64,680	42,042	75.3	4.8	99.9
West Berbice	29,562	31,563.70	31,563.70	31,478.90	31,400.30	2,331,141	148,076	96,249	74.2	4.7	99.8
<b>Sub Total</b>	<b>61,246</b>	<b>65,625</b>	<b>65,625</b>	<b>65,480</b>	<b>65,202</b>	<b>5,025,823</b>	<b>319,245</b>	<b>207,509</b>	<b>77.1</b>	<b>4.9</b>	<b>99.6</b>
<b>REGION 6</b>											
Frontlands	29,829	31,457.00	31,457.00	31,036.00	30,884.20	2,363,085	150,105	97,568	76.5	4.9	99.5
Black Bush Polder	15,325	15,811.80	15,811.80	15,811.80	15,811.70	1,212,995	77,050	50,083	76.7	4.9	100.0
<b>Sub-Total</b>	<b>45,154</b>	<b>47,269</b>	<b>47,269</b>	<b>46,848</b>	<b>46,696</b>	<b>3,576,080</b>	<b>227,156</b>	<b>147,651</b>	<b>76.6</b>	<b>4.9</b>	<b>99.7</b>
<b>REGION 9</b>											
Lethem	40.40	-	-	-	-	-	-	-	-	-	-
<b>Sub Total</b>	<b>40.40</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>Total</b>	<b>159,365.4</b>	<b>166,027.6</b>	<b>166,027.6</b>	<b>165,461.0</b>	<b>164,867.8</b>	<b>12,971,010.0</b>	<b>823,929.9</b>	<b>535,554</b>	<b>78.7</b>	<b>5.0</b>	<b>99.6</b>



**Appendix 10: Paddy Price 2000-2013**

Year	First Crop					Second Crop				
	Extra A	A	B	C	Substandard	Extra A	A	B	C	Substandard
2000	1,300	1,250	1,200	1,150	900/1,000	1,300	1,250	1,200	1,150	900/100
2001	1,300	1,200	1,100	1,000	600/900	1,300	1,200	1,100	1,000	900
2002	1,400	1,300	1,300	1,200	1,000	1,400	1,300	1,300	1,300	1,000
2003	1,350	1,300	1,200	1,100	900	1,400	1,350	1,350	1,350	600/1,000
2004	1,400	1,350	1,350	1,350	600/1,000	1,500	1,500	1,500	1,500	600/1,000
2005		1,500	1,500	1,500	1000		1,700	1,700	1,700	1,000
2006	2,000	1,800	1,750	1,600	1,000/1,400	1,800	1,700	1,600	1,500	1,000/1,400
2007	1,900	1,800	1,750	1,700	1,000/1,500	2,300	2,100	2,100	2,100	1,500/1,700
2008	5,500	5,000	4,000	4,000	3,000/4,000	4,500	4,000	4,000	4,000	3,000/4,000
2009	3,000-5,000	3,000-5,000	3,000-5,000	3,000-5,000	2000	2,200-2,500	2,200-2,500	2,200-2,500	2,200-2,500	1200
2010	3,100-3,500	3,000-3,500	3,200-3,600	3,100-3,600	2,700/3,500	2,500-3,500	2,400-3,500	2,300-3,500	2,200-3,300	2,000/2,900
2011	3,900-4,400	3,800-4,300	3,600-4,200	3,500-4,000	3,400-3,800	4,100-4,700	4,100-4,400	3,800-4,486	3,600-4,421	3,500/4,000
2012	4,200-4,500	4,000-4,200	3,900-4,000	3,800-3,900	3,400-3,800	4,100-4,300	4,000-4,200	3,800-4,000	3,700-3,800	3,600-3,800
2013	3,600-4000	3,576-3,900	3,511-3,800	3,446-3,800	2,500	3,511-4,100	3,446-4,000	3,446-3,900	3,446-3,800	3,000

# Notes



# Notes

