

ANNUAL REPORT

# MINISTRY OF AGRICULTURE

# 2007

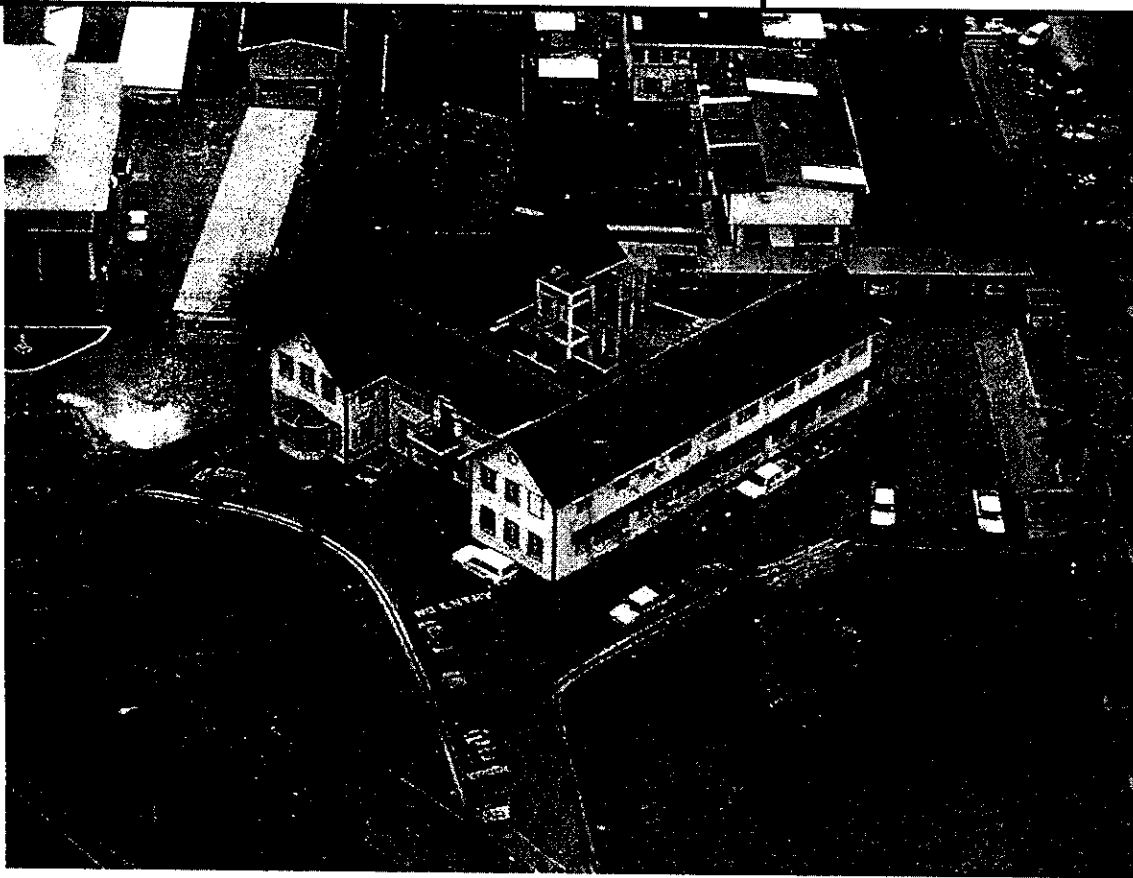


TABLE OF CONTENTS

<b>1. ACRONYMS</b>	<b>3</b>
<b>2. FOREWORD</b>	<b>4</b>
<b>3. OVERVIEW</b>	<b>5</b>
3.1 EXECUTIVE SUMMARY	5
3.2 MISSION STATEMENT	8
3.3 ORGANISATION AND MANAGEMENT	9
3.4 ORGANISATIONAL CHART	10
3.5 FINANCIAL OVERVIEW	11
<b>4. PERFORMANCE – BY AGENCIES</b>	<b>12</b>
4.11 THE GUYANA SCHOOL OF AGRICULTURE	12
4.12 HYDROMETEREOLOGICAL OFFICE	13
4.13 THE NEW GUYANA MARKETING CORPORATION	14
4.14 CROPS AND LIVESTOCK SUPPORT SERVICES	15
4.15 NATIONAL AGRICULTURE AND RESEARCH INSTITUTE	17
4.16 FISHERIES DEPARTMENT	20
4.17 THE NATIONAL DRAINAGE AND IRRIGATION AUTHORITY	22
4.18 NATIONAL DAIRY DEVELOPMENT PROGRAMME	24
4.19 AGRICULTURE SUPPORT SERVICES PROGRAMME	25
4.20 THE GUYANA RICE DEVELOPMENT BOARD	26
4.21 MAHAICA/MAHAICONY/ ABARY AGRICULTURAL DEVELOPMENT AUTHORITY	27
4.22 LANDS AND SURVEYS COMMISSION	28
4.23 PESTICIDES AND TOXIC CHEMICALS CONTROL BOARD	29
4.24 POOR RURAL COMMUNITY SUPPORT SERVICES PROJECT	31

**1. ACRONYMS**

**LIST OF ACRONYMS AND MEANINGS**

<b>Acronym</b>	<b>Meaning</b>
ACP	African, Caribbean and Pacific
AI	Artificial Insemination
APCU	Agriculture Project Cycle Unit
ASSP	Agricultural Sector Support Programme
BRRS	Burma Rice Research Station
CACHE	Caribbean Council of Higher Education in Agriculture
CDB	Caribbean Development Bank
CFP	Community Forestry Programme
CIMH	Caribbean Institute for Meteorology and Hydrology
CMO	Caribbean Meteorological Organisation
COTED	Council for Trade and Economic Development
D&I	Drainage and Irrigation
EDF	European Development Fund
EPA	Environmental Protection Agency
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FTAA	The Free Trade Area of the Americas
GBTI	Guyana Bank for Trade and Industry Limited
GDDP	Guyana Dairy Development Programme
GDF	Guyana Defence Force
GDP	Gross Domestic Product
GNBS	Guyana National Bureau of Standards

## 2. FOREWORD

*The year 2007 has been a phenomenally challenging one for countries worldwide. Guyana's agricultural sector has endured the direct and indirect impacts of the world fuel crisis, the food crisis and the signing of the Economic Partnership Agreement between Cariforum and the European Union.*

*This year agriculture has focused much more on diversification away from the traditional sectors. With our main export, sugar being threatened the Ministry has undertaken several initiatives to encourage farmers to increase production in the non-traditional sectors of agriculture.*

*Whether agriculture is for food or fuel production, economic opportunity or achieving environmental Objectives, our goal is to ensure the viability of our sector. We need to ardently work towards improving our ability to deal with these crises as they arise and aim at being more proactive and influential in future occurrences.*

*The agricultural sector (including sugar processing and rice milling) recorded a 0.7 percent increase in real terms during 2007. The growth partly reflected stable weather conditions and large investment into drainage and irrigation facilities in this sector.*

*This document summarises the Ministry of Agriculture's achievements over the year and describes the performance of each of its agencies.*

### **3. OVERVIEW**

#### **3.1 EXECUTIVE SUMMARY**

The agricultural sector continued to play a key role in the development of Guyana's economy. The sector was able to record significant contributions to the nation, amid challenges of flooding, and necessary adjustments resulting from the EU sugar price cut and other trade-related issues. Principles of the NDS and the National Competitiveness Strategy were continued in support of the need for diversification, with focus on the production and marketing of non-traditional commodities. The Ministry of Agriculture sustained fulfillment of its mandate and provided relevant services to all stakeholders while encouraging investment and supporting diversification efforts within the non-traditional agriculture sector.

The Guyana School of Agriculture produced fifty-six graduates; among them were graduates from the Diploma and Certificate in Agriculture, Diploma in Animal Health and Veterinary Public Health and Certificate in Forestry programme. A new programme, Certificate in Fisheries Studies, was offered for the first time for 2007 in order to support the growth and development of fisheries sub-sector.

The Hydrometeorological Service successfully predicted the above normal rainfall pattern observed during 2007. Rainfall monitoring was expanded by installing thirty-five (35) manual rain gauges in 2007.

In the New Guyana Marketing Corporation, there was also 1,164 tonnes of fresh produce processed at the Central Packaging Facility – Sophia, which represented a 32% increase in processed produce over 2006. The total volume of non-traditional produce and products exported in 2007 was 7,394 tonnes valued at G\$1,87 billion or US\$9.3 million. Of the 7,394 tonnes exported in 2007; 487 tonnes or 6.5% were exported by air and 6,907 tonnes or 93.5% were exported by sea. The export volume for 2007 was 42% or 2,175 tonnes higher than that of 2006.

In the Crops and Livestock Division, the sub-sector had production of: Poultry Broiler meat – 25,111,897 kg; Table eggs – 6,474,703 eggs; Pork – 357,435 kg, Mutton – 71,055 kg and Beef – 1,309,766 kg. A number of successful programmes were executed for the Crops and Livestock Department such as the National Avian Influenza Simulation exercise, the initiation of the Pig Breeding Programme, the activation of the Veterinary Surveillance and Diagnostic Laboratory and Bee Keepers Programme.

The National Agriculture and Research Institute, conducted production trials at Ruby and Parika Backdam where results revealed that yields were higher for plants treated with organic fertilizer (manure) than for plants treated with inorganic fertilizer. In the soil chemistry division 678 soil samples were analysed in 2007. There was an integrated pest management strategy for viruses, other diseases, weeds and insect pests of pumpkin and other curbities. Field work was conducted at Hogg Island, Region 2.

In the Fisheries Department, licensing of artisanal vessels were 271 (21%) trawlers.

Approximately forty new vessels were inspected and licenced from various land sites. Licencing of large processing plants were 7 (100%), of the 11 small plants, 9 were inspected and 7 licenced. Two plants were not working. The Arapaima Management Plan was launched in April, 2007. This was held at Bina Hill and North Rupununi. The goal of the plan is to develop a system whereby organized fishermen will aim to increase the Arapaima population by regulating and sharing the number of Arapaima harvested, using scientific data and common sense.

In the NDDP, there were 2,346 requests received and 2,260 services rendered for Insemination. This continues the steady increase in services over the years, which is attributed to improved supervision of the Cattle Development Officers and increased farm visits and demonstrations.

In the National Drainage and Irrigation Authority, some 350 miles of canals and drains were rehabilitated and maintained using the 19 hydraulic excavators in the various Regions. The approximate savings compared with the utilization of contractors was some \$500,000 per mile – a total savings of \$175.0M.

The Government has acquired over the years some 22 mobile pumps which are presently located at strategic points along the coast. These pumps have assisted in ensuring that floods are mitigated.

In relation to the Rice Seed Development Component of the ASSP, the contract for Consultancy Services for the Design of the Rice Seed Facility (Region 6) signed by Estudios y Agroindustriales Ltda. (EDIAGRO) and the Ministry of Agriculture. The consultant requested a geotechnical survey, a topographic survey and a cadastral survey with electronic specifications. The cadastral survey was completed by GRDB and sent to the consultant. The ASSP obtained the Bank's approval to single-source E & A Consultants to do the other two surveys. The contract was signed on December 19, 2007 and the Final Report expected in mid-February 2008.

At the Guyana Rice Development Board, there were interventions made by the Government that seek to bring some relief to the sector and also bring some fairness to the trade in padi. These interventions are as follows: reduction of excise tax on fuel to off-set rising acquisition costs; VAT exempted from fertilizers, pesticides and machinery used in rice cultivation; Zero rate VAT in rice; VAT waived on spares for tractors and combine harvesters and the Rice Factories (Amendment) Act and GRDB (Paddy and Rice Grading) Regulation.

The Mahaica/Mahaicony Abary Agricultural Development Authority embarked on activities that will provide security of tenure. Fifty (50) years leases were issued to applicants whose applications for State Lands were approved. Works to empolder eighteen thousand (18,000) acres of agricultural lands south of Jagdeo Canal between the Abary and Mahaicony Rivers continued. A drainage channel was excavated from Mora Point to First Savannah, a distance of seven miles. Low areas along the dam were raised. The dam was raised to maintain a design elevation of 68.00 GD. A bulldozer and an excavator were used to carry out this work.

The Lands and Survey Commission administered and enforced laws relating to Cadastral Surveys and Land Surveying in Region No. 5. The Commission attended and reported on sixty-four (64) surveys executed by private surveyors and prepared schedules of applications recommended by Board for approval by the Minister of Agriculture.

In relation to the Pesticides and Chemical Board, a total of thirty-two (32) entities made registration submissions for two hundred and fifty-four (254) pesticides comprising one hundred and twenty-three (123) insecticides, seventy-four (74) herbicides, thirty-five (35) fungicides, thirteen (13) rodenticides and nine (9) others. Two hundred (200) chemicals by trade names were imported for the year by thirty-two (32) importers. Total imports for the year was approximately \$616 M which reflected a 43% drop in imports compared to 2006 and the overall importation was significantly lower than 2004 and 2005.

### 3.2 MISSION STATEMENT

"To ensure the formulation and implementation of policies and programmes which facilitate the development of agriculture and fisheries in Guyana, thereby contributing to the enhancement of rural life; the sustained improvement of incomes of producers and other participants in the agricultural production and marketing chain; and the maintenance of a sound physical and institutional environment for present and future productive activities."



### 3.3 ORGANISATION AND MANAGEMENT

The Ministry's Mission is addressed through four programme areas: Ministry Administration, Crops and Livestock Support Services, Fisheries and Hydrometeorological Services.

Ministry Administration is responsible for effectively and efficiently managing and coordinating human, financial, physical and material resources necessary for the successful implementation and administration of the Ministry's programmes and operations.

Crops and Livestock Support Services Programme is responsible for promoting and supporting development of agriculture in Guyana, through the provision of a range of technical and regulatory services to the sector.

The Fisheries Department is responsible for managing, regulating and promoting the sustainable development of the nation's fishery resources, for the benefit of the participants in the sector and the national economy.

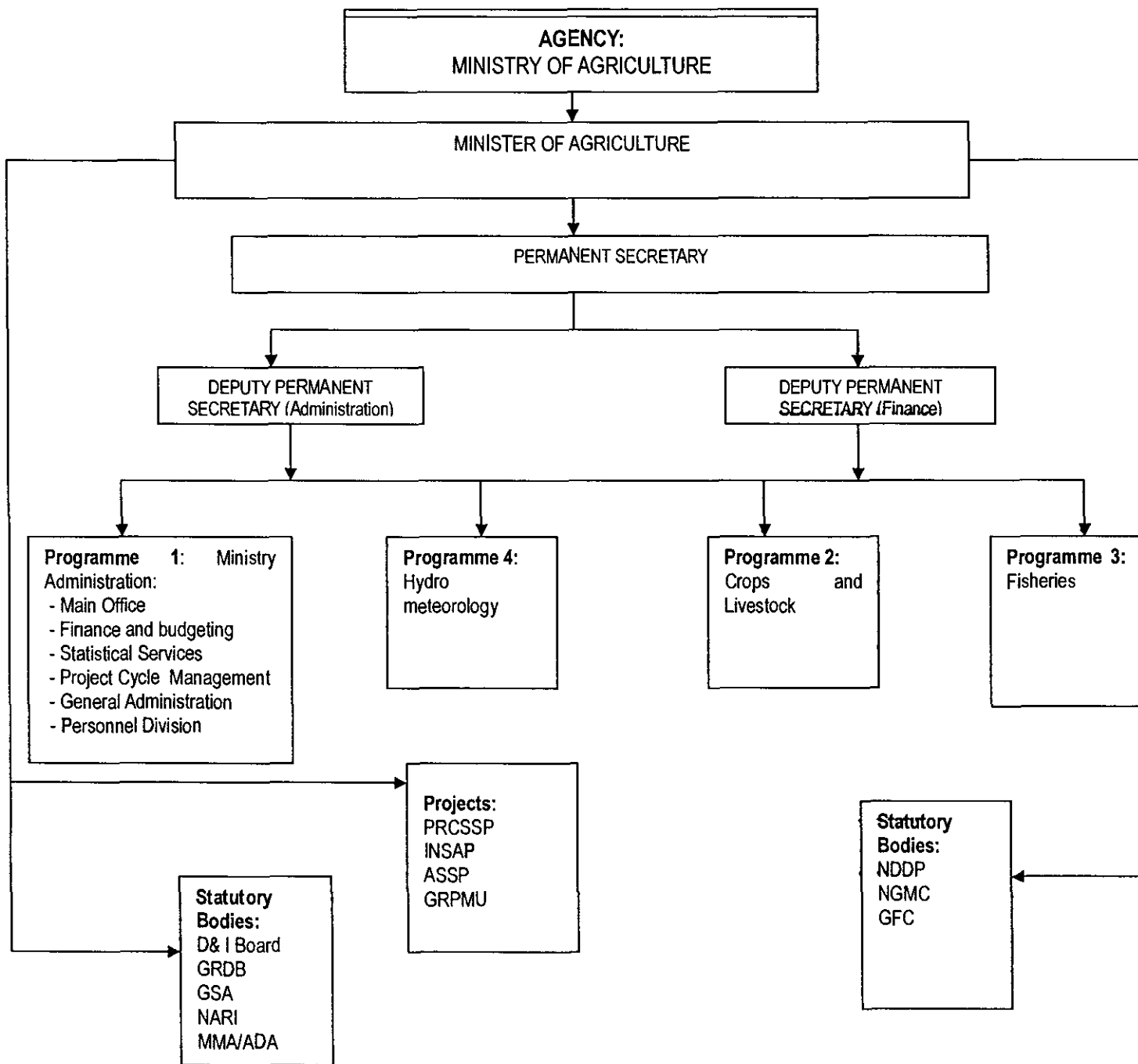
The Hydrometeorological Services Unit is responsible for observing, archiving and understanding Guyana's weather and climate and providing meteorological, hydrological, and oceanographic services in support of Guyana's national needs and international obligations.

Semi-autonomous agencies and Departments which fall under the Ministry of Agriculture are: the Guyana Sugar Corporation, the Guyana Rice Development Board; the Guyana Forestry Commission; the New Guyana Marketing Corporation; the National Agricultural Research Institute; the Mahaica/Mahaicony Abary Agricultural Development Authority; the National Drainage and Irrigation Authority; the Pesticides and Toxic Chemicals Control Board.

Projects executed by the Ministry include the Poor Rural Communities Support Services Project, The Agricultural Support Services Project and the Guyana Rice Project Management Unit.

Organization and Management within the Ministry is further explained by the Ministry's Organizational Chart.

3.4 ORGANISATIONAL CHART



# MINISTRY OF AGRICULTURE ANNUAL REPORT | 2007

## 3.5 FINANCIAL OVERVIEW 2007

Sectors /programmes	2007 BUDGET EXPENDITURES ('000)								
	Approval			Actual Expenditure (latest Estimates)			% Expenditure Utilised		
	Total	Capital	Recur	Total	Capital	Recur	Total	Capital	Recur
D&I	1,078.282	780.000	298.282	1,543.395	1,049.895	493.500	143.500	134.6	165.4
MMA/ADA	534.674	465.100	69.574	977.782	908.208	69.574	182.9	195.3	100.0
Hydromet	227.193	120.000	107.193	103.621	0.000	103.621	45.6	0.0	96.7
PRCSSP	661.300	661.300	0.000	641.440	641.440	0.000	97.0	97.0	0.0
ASSP	540.000	540.000	0.000	112.019	112.019	0.000	20.7	20.7	0.0
Agri Hybrid Sector	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
NARI	226.693	18.000	208.693	226.693	18.000	208.693	100.0	100.0	100.0
INSAP	1.900	1.900	0.000	1.900	1.900	000.0	100.0	100.0	0.0
GSA	128.239	8.700	119.539	128.239	8.700	119.539	100.0	100.0	100.0
Crops & Livestock	242.009	5.000	237.009	230.770	3.152	227.618	95.4	63.0	96.0
PTCCP	16.316	0.000	16.316	16.316	0.000	16.316	100.0	0.0	100.0
Fisheries	71.228	0.800	70.428	66.864	0.667	66.197	93.9	83.4	94.0
NDDP	38.291	3.700	34.591	38.291	3.700	34.591	100.0	100.0	100.0
NGMC	43.421	5.000	38.421	43.221	4.800	38.421	99.5	96.0	100.0
Project Evaluation Equipment	1.300	1.300	0.000	1.291	1.291	0.000	99.3	99.3	0.0
Land Support	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Main Office	122.922	0.000	122.922	114.075	0.000	114.075	92.8	0.0	92.8
GRDB	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
GFC	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Purchase of Equipment	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
EU Rice	500.000	500.000	0.000	333.250	333.250	0.000	66.7	66.7	0.0
<b>TOTAL</b>	<b>4,433.768</b>	<b>3,110.800</b>	<b>1,322.968</b>	<b>4,579.167</b>	<b>3,087.022</b>	<b>1,492.145</b>			

#### 4. PERFORMANCE – BY AGENCIES

##### 4.11 GUYANA SCHOOL OF AGRICULTURE

The school generated a total of \$67.820 Million Dollars. There was a 24% increase in the birth of calves compared with that of 2006 due to the collaborative efforts of the Artificial Insemination Services of the NDDP. This also contributed to record milk production.

Computerized tracking of the performance of the breeding sows continued in 2007 in order to optimize the reproductive efficiency of the unit. There were a total of 316 live births (the product of 31 farrowing)

With the importation of 36 pure bred pigs from the USA, GSA now plays a fundamental role in both the revitalization of the swine industry and the Government's Agricultural Diversification trust.

A poultry meat processing facility for plucking has been built on the farm to upgrade and add value to the poultry produced by the farm and utilization of offal for pig feeding.

Disease prevention was high on the agenda for poultry. Printed material pertinent to various diseases were made available in addition to vaccination exercises.

Animal Health students benefited from specialized training activities in areas of Artificial Insemination and Meat Inspection from Partners of the Americas' Farmer to Farmer Programme and Canadian Animal Assistance Team (CAAT)

In keeping with the institution's policy of continuous training and development if staff, employees were exposed to several types of training sessions

The school produced fifty-six graduates in the Diploma and Certificate in Agriculture, the Diploma in Animal Health and Veterinary Public Health, and the Certificate in Forestry programmes.

A new programme, the Certificate in Fisheries Studies, was offered for the first time in 2007 to support the growth and development of fisheries subsector.

#### 4.12 HYDROMETEOROLOGICAL SERVICE

The Hydrometeorological Service successfully predicted the above normal rainfall pattern observed during 2007. Rainfall monitoring was expanded by installing thirty-five manual rain gauges in 2007.

Caribbean Meteorological Organisation Radar Project Implementation: Construction of the Guyana tower had commenced in February, 2007.

The Caribbean Water Initiative Project (CARWIN), which is funded by the Caribbean International Development Agency was launched in February, 2007.

In October, 2007, the Hydrometeorological Service benefited from a World Wild Life Fund assistance in Institutional Strengthening and Monitoring of Freshwater Resources in Regions 7, 8 and 9.

Hydromet engaged in suitable/affordable public awareness activities during World Met Day, World Water Day, World Health Day, World Food Day and Guy Expo. The Department successfully participated in meetings and local and overseas training programmes.

**4.13 NEW GUYANA MARKETING CORPORATION (New GMC)**

The year 2007 proved fruitful for the New GMC. The Guyana Shop and Marketing Information centre, aimed at promoting products made and grown in Guyana was launched. They also promoted

Guyanese fresh and processed non-traditional agricultural produce by participating in Trade missions and Exhibitions held locally and overseas. To aid farmers and exporters, the New GMC continued to provide an Export Packaging Facility, where 1,164 tonne of fresh produce were processed at Sophia representing a 32% increase over 2006. The total volume of non-traditional produce and products exported for 2007 was 7,394 tonne valued \$1.87 billion or US\$9.3 million. Of the 7,394 tonne exported in 2007, 487 tonne or 6.5% were exported by air and 6,907 tonne or 93.5% were exported by sea. The export volume for 2007 was 42% or 2,175 tonne greater than that of 2006. The export value for 2007 was 29% greater than the export value for 2006. 4,706 tonne or 63% of the overall total was exported regionally, whilst 2,688 tonne or 37% was exported extra-regionally.

Regionally, exports to Barbados, Trinidad, Suriname and St. Lucia increased by 236 tonne, 1,519 tonne, 18 tonne and 21 tonne respectively whereas; exports to Antigua and Dominica fell by 26 tonne and 179 tonne.

Regionally, exports to Barbados, Trinidad, Suriname and St. Lucia increased by 236 tonne, 1,519 tonne, 18 tonne and 21 tonne respectively; whereas, exports to Antigua and Dominica fell by 26 tonne and 179 tonne

Extra-regionally, export of fresh produce rose by 440 tonne or 28% from 1,551 tonne in 2006 to 2,001 tonne in 2007. The major fresh commodities exported regionally were watermelons, pumpkins, plantains, eddoes and pineapples, citrus and dried coconuts. The major fresh commodities exported extra-regionally were mangoes, pepper, bora, watermelon and pineapples. The overall export of processed products increased by 1,736 tonne or 47%, from 3,757 tonne in 2006 to 5,393 tonne in 2007. The major processed commodities exported extra-regionally were heart of palm, pineapple chunks and sauces.

New GMC also continued to assist exporters to the USA with the US Food and Drug Administration, Bio-Terrorism registration. During 2007, assistance was given to twenty-nine (29) exporters. The total number of exporters assisted, (since this became a requirement for the export of food products to the USA), is one hundred and twenty-seven (127).

Additionally, New GMC co-ordinated and conducted workshops for farmers and potential exporters in farming communities across the country.

#### 4.14 CROPS AND LIVESTOCK SUPPORT SERVICES

During 2007, a number of successful programmes were executed by the Crops and Livestock Department such as the National Avian Influenza Simulation exercise, the initiation of the Pig Breeding Programme, the activation of the Veterinary Surveillance and Diagnostic Laboratory and the Bee Keepers Programme. Reduction of poverty and ensuring food security, especially in the Hinterland Communities, remained the main priorities during the period under review. The Department worked closely with other agencies and Ministries in providing agricultural support for the Hinterland School Feeding Programme. Some progress was made in the area of Acoushi Ants control and cassava improvement. This highlighted the need to diversify production to raise incomes, and an increase in the number of subsistence and commercial farms as a major step towards improving and ensuring food security, particularly in the Hinterland communities.

The activities and programmes of the Department contributed significantly to the increase in the quantity and improvement in quality of agricultural commodities exported and consumed locally.

Harsh weather, The Carambola Fruit Fly, Foot and Mouth Disease Prevention continuously engaged the attention of the Department. The ministry restructured the Extension Services, by appointing forty-six (46) Extension Agents and Information Technology Agents who were in various aspects of agriculture. The employment of these agents was intended to further strengthen the capacity of the Ministry in the various regions of the country to provide improved services to farmers. A Farmers Manual was produced to facilitate the dissemination of information in pest management and crop cultivation. Farmers now have a guide that they can use on a regular basis.

The Department participated in a seminar on "Impression and Opportunities and Challenges on Guyana's Meat and dairy Products". Ministry of Agriculture and the Food and Drug Department of the Ministry of Health collaborated on a plan of Action for the Registration and Monitoring of Veterinary Drugs in Guyana.

The Department participated in the meetings that were held with regard to the setting up of a Local FAO Office in Guyana. This would see the re-establishment of an FAO office with much needed FAO representation in Guyana. The Department supported the Animal Services Division in organizing a Training Seminar on Basic Techniques in Bee Keeping in Guyana, the participants were drawn from regions 3, 4, 5 and 1.

In anticipation of the December rains the Department initiated a number of activities aimed at mobilizing and making necessary interventions to assist farmers in the event that farm lands were to become inundated from rain and flood waters.

Repairs were carried out on the following buildings: AITCC – Agricultural In-Service Training and Communication Centre located at Mon Repos, East Coast Demerara. The Animal Services building located at Head Office, to house the Chief Crops and Livestock Officer and other senior staff.

Painting and other rehabilitation works were also completed on the upper floor of the same

building to accommodate the Plant and Animal Health Services and Livestock Production staff.

The Department collaborated with the Partners of America in the following Training Seminars:

Cattle Industry Review; Follow-up on Cattle Industry; Anti-Natal/Post Mortem Examination of meat/Animals; Extension Services Review – three Experts in Extension Systems from the United States of America visited for two weeks in November to work on the Review of the Extension System in Guyana.

Bee Seminar: Forty (40) farmers were trained in Techniques in bee Keeping and Honey Production. This training was intended to assist farmers in establishing their individual Apiaries, with an intention to produce quality honey on a large scale.

Data Base Development: The Unit was actively involved in the development of a Data base for the collection of technical information on crops and livestock. The Unit participated in the development of another Data Base for the collection of production information on crops. This Data Base was completed and will be managed by the Guyana Marketing Corporation. The Extension Staff in the Regions are expected to generate the information by completing Questionnaires on their visits to farms/farmers.

Production Data: The livestock sub-sector recorded the following levels of production. Poultry Broiler meat: 25,111,897 kg; Table eggs; 6,474,703 eggs; pork: 357,435 kg; Mutton: 71,055 kg; Beef: 1,309,766 kg (figure is only for January to September 2007).



#### 4.15 NATIONAL AGRICULTURAL RESEARCH INSTITUTE

The mission of NARI is to advise on and develop technology for sustained agricultural production through adaptive and investigative research.

##### **Major Highlights**

##### **1 Office Of The Director**

- Research trials were conducted on three varieties of squash which revealed that yields obtained on the sandy soil were significantly greater than on the clay soil.
- In terms of Butternut squash production, trials at Ruby and Parika Backdam revealed that yields were higher for plants treated with organic fertilizer (manure) than for plants treated with inorganic fertilizer.
- In the Ebini Savannahs a study was being conducted to measure the effect of nutrient status of forage on average daily weight gains of sheep in the Intermediate Savannahs.

##### **11 Soil And Water Management Department**

- There was characterizing of the physical and chemical properties of the soils in Administrative Regions. Digital soil maps for region 2 and 3 were completed as well as land use maps.
- There was revegetation of mined out areas in north East Kara and its environs. A MOU was signed between GGMC and NARI.
- In the soil chemistry division 678 soil samples were analysed in 2007.

##### **111 Post Harvest And Agro Processing Department**

- Preservation techniques utilizing solar dehydration (without the use of artificial preservatives) were implemented on a number of perishable commodities such as seasonings, spices, fruits, vegetables and root crops.
- Sweets and confectionery products using fruit material as the main ingredients were promoted with the purpose of targeting the confectionery industry and included banana, pineapple and passion fruit.
- By utilizing quick freezing technology, bora and pumpkin were demonstrated to have a shelf life of ten months.

- Demonstration methods involving the cultivation of pineapple, pumpkin, hot pepper, and plantain were established in Hogg island, La Harmonie, Bethany, Parika/Salem, Abrams creek and Lima Sands. These plots were in collaboration with PRCSSP.
- Thirty training sessions were conducted in post harvest technology and agro processing. Over 200 farmers and agro-processors were trained in the use of drying technology.

#### **IV Department of Biotechnology Plant Genetic Resources And Plant Protection**

- Coconut and mango depositories were established at NARI's Ebini and St. Ignatius out-stations, and a small plot of sweet cassava was initiated at Ebini. Five acres were prepared at Kairuni for replanting the aging avocado depository.
- There was establishment of on-farm hot pepper gene bank at St.Monica/Kariwab (Pomeroon River) and Hauraruni, Soesdyke-Linden Highway).
- There were a seed yam and sweet potato germplasm established at Ebini outstation.
- There was an integrated pest management strategy developed for viruses, other diseases, weeds and insect pests of pumpkin and other curibita. Field work was conducted at Hogg Island, Region 2.

#### **V Agronomy Department**

- A trial was conducted in 2006 to examine the influence of plant density on the yield of ten cowpea lines. One line IT96D produced the highest yield at a spacing of 5cm between plants.
- Estimates of cost of production and income were determined for celery, fine leaf thyme and Sweet Basil. The total cost calculated for celery production was G\$23248 while the net income was G\$29552. for Thyme the total expenses calculated were G\$84473 and the net income was G\$350327.

#### **VI Livestock and Pasture Production Department**

- Restricted feeding of Pekin ducks: a comparison of three levels of quantitative feed restriction and full feed on the growth, carcass and economic indices.
- As part of the sheep breed development, 16 Dorper animals were imported from the United States of America. There was initial discussion with the Texel Sheep society of the United Kingdom regarding introduction of the Texel sheep breed in Guyana. The sheep programme sold 120 breeding males to the farming community.
- The pasture section was expanded in the clearing of an additional 15 hectares of land in anticipation of increased ruminant activity. Nine hectares of existing pasture was sowed with Bahia grass and Millet but there was poor germination.

- The Department trained approximately 200 farmers of Region 2 and 3 in aspects of cattle, small ruminant, broiler, layer and duck production.

#### 4.16 FISHERIES DEPARTMENT

Guyana's fishing industry provides employment for over 10,000 people- 4800 in the primary sector and 5800 in processing and marketing. Many more jobs depend on the fishery indirectly (that is, boat-building, supply and repair, etc.).

The Department of Fisheries has three major fisheries areas: Aquaculture, Inland fisheries and Marine Fisheries

##### Major highlights

- Launching for the Arapaima Management Plan in April
- Implementation of Certificate in Fisheries Studies at Guyana School of Agriculture
- Continuation of assessment on shrimp and fish resources. Two staff members attended a workshop with their counterparts in the Caribbean region for these assessments. The latest assessment on seabob and finfish fisheries shows over fishing and the need for effective management of both fisheries.
- Re-certification to export shrimp to USA. Guyana was re-certified in April to export shrimp to US. This was due to the effective TED's Programme that is being implemented by the Fisheries Department.
- Reactivation of the Fisheries Advisory Committee
- Consultants from Cuba and India to assist the Department on technical matters for aquaculture
- Staff received scholarship to pursue post-graduate diploma in Iceland while another staff completed and received certificate for her post graduate programme.
- The National Aquaculture Association of Guyana which was formed in February 2006, has as its members aquaculture farmers, feed producers, processors, loan agencies and donor agencies. Technical support was provided in the areas of feed production, training, equipment and broodstock procurement and farm management.
- During 2007, more than 50 field visits were conducted, site analyses were done, and farmers were guided in the basic principles of aquaculture. Persons were encouraged to attend the training courses offered at Mon Repos. Visits were made to New Line Aqua-Farm, Von Better Aquaculture and East Coast Aquaculture
- A Work Programme and list of activities were prepared for an FAO Technician, under the FAO Project TCP/GUY/3003 (D): Technical assistance in support of the Regional Special Programme for Food Security (RSPFS) at country level.. Improvements in the Brackish Water sector are now expected in 2008.
- Licencing of artisanal vessels were 271 and trawlers 127
- Approximately forty new vessels were inspected and licenced from various land sites.
- The 7 large processing plants were all licenced. Of the 11 small plants, 9 were inspected and 7 licenced. Two plants were not working.
- A total of 40 red snapper vessels were licenced from approximately 55 vessels.
- During 2007 the industrial fishery was faced with a lot of challenges (increases of prices for fuel, low catches / small shrimp and cost of maintenance of vessels

particularly prawns). Out of a fleet of thirty-one (31) registered prawns vessels, between 11 – 19 vessels went out to sea for the year.

- When compared the production of prawn, red snapper and artisanal fish for 2007 & 2006 there is a decrease of 60 % in prawns, while for red snapper there was an increase of over 100 % and artisanal fish an increase of 7 %.
- The department fulfilled its obligations by sending data (2006) to two international organizations namely; Food and Agriculture (FAO) and International Commission for the Conservation of Atlantic Tunas (ICCAT).
- On the 20<sup>th</sup> April 2007 the Arapaima Management Plan was officially launched at Bina Hill, North Rupununi.

#### 4.17 NATIONAL DRAINAGE AND IRRIGATION AUTHORITY

The year 2007 has seen significant strides in the strengthening of the D & I Infrastructure of the country. Under the Agricultural Support Services Programme (ASSP), which is jointly financed by the Government of Guyana and the inter American Development Bank, an institutional and policy framework for the modernization of the D & I sector has been developed. This programme embodies a strategy that includes investment in productive infrastructure and the establishment of Water Users Association. Six (6) new excavators were procured and deployed to regions 2 – 6. these excavators have greatly enhanced efforts to improve drainage and irrigation infrastructure. The successful completion of a significant part of the rehabilitation activities embarked upon to resuscitate the existing D & I infrastructure has played a key role in alleviating the problems associated with exceptionally high intensity rainfall.

##### Summary of Achievements

- Drains and channels rehabilitated and maintained at Barima and Kaituma in region 1; Supenaam and Uno Creeks in region 2; Canal Polder and A-Line Canal, V/Hoop to Parika in Region 3; Mahaica Creek to Plaisance, Mocha to Timehri in Region 4; Bellamy Canal, Perseverance Canal, Bushy Park Canal, No. 11 to Rosignol in region 5; Black Bush Polder, 52/74, Crabwood Creek, Hampshire, Canefield, Enfield and Fort Ordinance in Region 6 and Linden in Region in 10.
- Excavate outfall channels at Sea Well, Whim, Letterkenny, Liverpool, Kildonian, Eversham, Joppa and Lesbeholden in Region 6; Greenfield, Hope, Belfield, Victoris, Kofi in Region 4 and 6.
- Embankment and empoldering works at Ituibisi and Riverstown in region 2; Palmyra Wakenaam in Region 3; East Demerara Water Conservancy, Kofi and Friendship in region 4;
- Wash Clothes, Mahaicony, right bank Mahaicony to left bank Abary, Mora Point to Hyde Park, Hyde Park to Kip Clear, right bank Abary, Belladrum to Profit in region 5.
- Revetment works at Cuffy outfall channel, East Demerara Water Conservancy in Region 4 and Bellamy Sluice in Region 5.
- Construct and rehabilitate culverts, kokers and structures at Georgia, Northern Leguan and Blankenburg in Region 3; East Demerara Water Conservancy, Enmore and Supply, Nooten Zuil, Golden Grove, Friendship and Brickery in Region 4; Crabwood Creek, Vryheid, West Canje in Region 6.
- Construct and rehabilitate sluices at Barnwell in Region 3; Lama, Friendship, Jimbo sluice, Diamond, Dr Charles in Region 4.

- Rehabilitate drainage pumps at Anna Regina and Cozier in Region 2; Cane Grove, Victoria, Golden Grove, triumph and construct pump station and install new pump at Lusignan in Region 4.
- Purchase and install 2 mobile pumps in Region 4; 6 long reach hydraulic excavators, boat and engine and air boat, 2 pontoons, 2 punts, 2 – 4x4 vehicles.
- Supply and installation of communication set.
- Water Users: Works were contracted to established Water Users Association in the sum of over \$100.0 M to undertake maintenance works in the secondary D & I system at Crabwood Creek, 52/74, Black Bush, Cane Grove, Victoria, Canals Polder, Vreed-en-Hoop/La Jalousie, Den Amstel.
- Maintenance works were also awarded to CDC Groups especially in Regions 3, 4 and 10. This is all in keeping with Government policy of involving farmers and beneficiaries in the maintenance of the D & I system.

**Procurement of Excavators For Emergency Drainage Works:**

Some 350 miles of canals and drains were rehabilitated and maintained using the 19 hydraulic excavators in the various regions. The approximate savings compare to the utilization of contractors was some \$500,000 per mile – a total savings of \$175.0 M. The procurement process for 2 additional excavators and 1 pontoon has already commenced.

**Mobile Pumps:**

The Government has acquired over the years some 22 mobile pumps which are presently located at strategic points along the coast.

**4.18 NATIONAL DAIRY DEVELOPMENT PROGRAMME (NDDP)**

The NDDP conducted informative sessions with farmers, primary and secondary school students, members of several social organizations, consumers and farmers groups. The lecturers dealt with milk, nutrition and health, product making training sessions and promotion of fresh milk consumption.

Discussions were held in Regions 3, 4, 5 and 6 on Guyana's potential to export beef and the role of farmers in this process.

An educational programme on clean milk production and sanitation and hygiene was done by consultants and NDDP field staff in all targeted regions. The NDDP also conducted milk quality testing in Regions 2-7 and tested for mastitis disease in animals.

The Genetic Improvement Programme continued using the breeds Simmental, Charolais, Angus and Zebu, the offspring of the Beef Insemination Programme were displayed at the Cattle Exhibitions at Black Bush Polder, West Coast Demerara and Corentyne, Berbice. There were 838 births recorded of which 409 were males and 429 were females.

There were 2,346 requests received and 2,260 services rendered for Insemination Services. This continues the steady increase in services over the years and increased farm visits and demonstrations.

NDDP surpassed all targets set in 2007 except for its Genetic Improvement Programme, where it achieved only 62.7% of its projected target which was a result of severe financial and human resource constraints.



#### 4.19 AGRICULTURE SSUPPORT SERVICE PROGRAMME (ASSP)

The ASSP is designed to rehabilitate drainage structures, organize farmers to maintain the Operation and Maintenance (O&M) of rehabilitated structures and support rice research and agricultural diversification.

##### Major highlights

1. The GRDB continued to execute its Rice Seeds Development and Farmers Training Programmes.
2. The ASSP expected outputs were below expectations in the following areas:
  - a. Management
  - b. Supervision and Civil Works
  - c. D&I Institutional Development
  - d. Rice Seed Development
  - e. Agricultural Diversification
  - f. Pesticides and Toxic Chemicals
3. Management's efforts at recruiting staff ( Director, Senior Civil Engineering and Procurement Officer) were unsuccessful
4. There was decision to sole-source two consultants, Mott MasDonald Ltd. And Franklin Mendonza, to update the civil works bidding documents and the supervision bidding documents.
5. The NDIA with the assistance of the Institutional Specialist revisited the budget with a view to prepare the Work Plan for the execution of its sub-component.
6. Under the Rice Seed Development Component, the contract for Consultancy Services for the design of the Rice Seed Facility (Region 6) was signed by Estudios y Agroindustriales Ltda (EDIAGRO) and the Ministry of Agriculture. The consultant requested the ASSP to provide them with a geotechnical survey, topographic survey, cadastral survey and electronic specifications. The cadastral survey was completed by GRDB and sent to the consultant. The ASSP obtained the Bank's approval to single-source E&A consultants to do the other two surveys. The contract was signed on December 19, 2007 and the final report expected in February 2008
7. The New Guyana Marketing Corporation's (NGMC) Action Plan for the Agricultural Diversification received 'no objection' of he Bank on January 23, 2007. The agency was advised to submit a revised Implementation Plan after the restructuring of the ASSP
8. The Government of Guyana, in collaboration with the IDB, created the Agriculture Sector Development Unit in order to better manage and coordinate external donor funds for all projects within the Agriculture Sector. The ADSU is now housed in the power flat of the Head office of the Ministry of Agriculture. The ASDU has not yet acquired engineering, procurement and other staff.
9. An interim audit was done by audit firm Ram and MacRae, for the period January to September

#### 4.20 THE GUYANA RICE DEVELOPMENT BOARD

The year 2007 can be described as one with mixed fortunes. During this year the GRDB has seen one of the highest exports since 1997. The year started with one of the largest spring crops but due to the extended rainy season, one of the smallest autumn crops was recorded in the last decade.

High exports were mainly due to the increased demand for rice globally, and with a large carryover stocks from the second crop in 2006 we were able to supply this demand. This trend is expected to continue in the coming years and with a highly proactive farming community we will be able to fulfill this increased demand. This increase in the demand for rice and concomitant increase in the prices are expected to bring some measure of relief to the rice stakeholders who have been experiencing difficulties over the decade.

- Rice Exports 2006: 269,436 mt (US\$75,251,464.99) increase of 32% by volume and 38% value.
- Rice Exports 2006: 204,576 mt (US\$54,622,559)

Guyana's major export market continues to be CARICOM and the EU, with Jamaica and Trinidad and Tobago the larger markets in the former and Holland and Portugal the largest in the latter.

During this year there were interventions by the Government that sought to bring some relief to the sector and also try to bring some equity in the trade in padi. These interventions were:

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

GRDB research work continued with the objective of producing varieties of padi that are high yielding and pest and disease resistant. In the Rice Industry Strategic Plan one of the expected outcomes is the increase in yields from its present 4-4.5 mt/ha to 6.7-7.0 mt/ha by 2011.

GRDB, assisted by the Latin American Fund for Irrigated Rice (FLAR), is actively pursuing this programme. The objective is to provide new rice varieties with much higher yields than those currently available in the country.

**4.21 MAHAICA/MAHAICONY ABARY AGRICULTURAL DEVELOPMENT AUTHORITY (MMA/ADA)**

**The following activities were executed in the reporting year:**

- In 2007 the MMA/ADA executed its work programme using a mix of force account<sup>1</sup> and contracts. The Authority has found this strategy to be very useful as it relates to the civil works component of the capital works programme. The Authority has a fleet of heavy duty machines which were used to carry out earthen works and other construction.
- The Authority also embarked on an exercise to provide security of tenure. Fifty (50) year leases were being issued to applicants whose applications for State Lands were approved.
- Raising of low areas along the conservancy dam was completed between Copeman on the Abary River and the Mahaicony end of the dam. The dam was raised to maintain a design elevation of 68.0 GD. A bulldozer and excavator were used.
- Repairs were carried out on the four sea sluices to maximize drainage at critical times. A new gate was installed at the Schumacker's Lust Sluice.
- Works to empolder eighteen hundred (1,800) acres of agricultural land south of Jagdeo Canal between Abary and Mahaicony rivers continued. A drainage canal was excavated from Mora Point to First Savannah, a distance of seven miles.
- Two pumps located at Mora Point, Right bank, Mahaicony River were operated to irrigate 14,739 acres of agricultural lands between the two rivers.
- The Authority successfully managed to prevent flooding of agricultural lands between Hyde Park and Jagdeo Canal and farmers were able to cultivate and harvest their rice.
- Overhauled the engines of three 22 RB draglines and the engine of one Fiat Allis Excavator
- Carried out repairs to track chains on seven earth moving machines.
- Removed, repaired and replaced hydraulic hoses on several heavy duty machines.
- Replaced buckets on draglines and excavators to suit work conditions.
- Replaced rollers on two draglines.
- Carried electrical works on several pieces of machines
- Carried out bodywork on three pickups
- Replaced worn components on bulldozers, tractors and trucks.

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<sup>1</sup> Work done by MMA/ADA

#### 4.22 LANDS AND SURVEYS COMMISSION

This division manages and administers all State and Government lands in Region No. 5, Mahaica/ Berbice. Also the Division ensures that surveys are performed and recorded according to defined standards and in accordance with the Land Surveyor's Act.

##### Major highlights

During 2007 the major highlights re as follows:

- Held several meetings with the occupants of State Lands, north of the Public Road, Pln. Kingelly, West Coast Berbice
- Carried out occupation survey north of the Public road at Pln. Kingelly and prepared sub-division layout of said areas.
- Demarcated the boundaries of State Reserves where conflicts arose on the ground
- Administered and enforced laws relating to Cadastral Surveys and Land Surveying in Region No. 5
- Surveyed Public Lands and maintained index plans of leases
- Carried Bench Marks leveling in the Abary/Mahaicony area. Permanent and temporary Bench Marks were established to aid engineering works.
- Attended and reported on sixty-four (64) surveys executed by private surveyors.
- Engineering Survey – ran profile and cross section levels for twenty five miles along the Abary/Berbice conservancy dam.
- Investigated and reported on ninety-nine (99) Petitions for Private lands
- Resolved queries and disputes among farmers over State Lands.
- Processed one hundred and forty nine (149) applications for State Lands
- Noted applications for State Lands on Stock Sheets
- Prepared schedules of applications recommended by board for approval by the Minister of Agriculture.
- Prepared leases for Distribution to successful applicants

#### 4.23 PESTICIDES AND TOXIC CHEMICALS CONTROL BOARD.

The Pesticides and Toxic Chemicals Control (Amendment) Act 2007 was passed allowing Guyana to accede to the Rotterdam Convention in August 2007. The Board was named as the focal point and satisfied all obligations required under the Convention.

##### Major highlights

The Pesticides and Toxic Chemicals Control (Amendment) Regulations 2007 was signed into law in March allowing the Board to commence charging fees for the administration of pesticides and toxic chemicals in Guyana from April 1<sup>st</sup> 2007

The fees collected for 2007 were approximately \$13M and the Board's activities continued to be subvented by the Government of Guyana. It is estimated that the Board will be self sustainable by 2011

The Board proposed budget for 2008 reflects an expenditure of \$41 M and provides for the establishment and functioning of the pesticide laboratory in 2008.

The Auditor General's Office completed their examination of the Board's financial statement for 2006 and validated the financial statements which were in conformity with generally accepted accounting practices.

A total of thirty-two entities made registration submissions for two hundred and fifty-four pesticides comprising, one hundred and twenty three insecticides seventy-four herbicides, thirty-five fungicides, thirteen rodenticides and nine other formulations.

Two hundred chemicals by trade names were imported for the year by thirty-two importers. Total imports for the year was approximately \$616M which reflected a 43% drop in import value compared with 2006 and the overall importation is significantly lower in both 2004 and 2005.

There were ninety-two vending premises certified for the year. Inspectors of the Board and Enforcement Officers of the Guyan Revenue Authority (GRA) inspected three premises in Georgetown and seized a large quantity of illegal mosquito coils and aerosol insecticides.

Most of the equipment for the pesticides laboratory was received with the notable exception being the Gas Chromatograph. All the equipment was housed in the laboratory building and covered the requirement for qualitative analysis.

The Board intends to further expand its capability in 2008 by procuring through the Agricultural Diversification Programme, equipment for qualitative analysis. The Board was represented at a number of national meetings on matters concerning pesticides and toxic chemicals management. Regionally, the Board was represented at a seminar on the sound management of chemicals in the Caribbean in St. Lucia and

internationally, the Registrar participated in a training programme, “Crop diseases and Pest Control Training Course 2007 for developing countries hosted by China International Centre for Agricultural Training (CICAT).

Public Awareness activities by the Board included participation in a number of exhibitions across Guyana. A website was registered and construction commenced for the site to be operational in 2008.

A training manual for farmers and farm workers entitled “Bains and Boodhoo” was developed and launched during Agriculture month.

An agricultural database for chemicals registered by the Board was constructed with financial support from the Pan-American Health Organisation (PAHO). The Board intends to continue with its public awareness activities in 2008 with the **observation of Pesticides Awareness Day, Week and Month** along with participation in national agricultural activities.

The Board provided training to farmers and participated in the Farmers Field School activities coordinated by the GRDB at a number of locations in Regions 2, 3, 4, 5, and 6, and intends to continue training in these areas in 2008.

Other proposed training activities include development of another manual and other associated training material along with the **inputting of information in the database** for distribution to vendors, schools and extension agents.

**4.24 POOR RURAL COMMUNITY SUPPORT SERVICES PROJECT**

**The following activities were carried out in 2007”**

- Rehabilitation and excavation of Channels – Free and Easy/ Maria’s lodge WUA- Region 3
- Construction of Water Control Structures, Cullen WUA – Essequibo coast, Region 2
- De-silting and rehabilitation of canals and construction of structures, sisters WUA Region 3
- Rehabilitation and excavation of Channels and construction of Structures, Johanna Cecilia/Zorg WUA, region 2
- Rehabilitation and excavation of Channels and construction of Structures and upgrading of dam to All weather Access Road –Fear Not Farmers Development Group, Region 2.
- Rehabilitation and excavation of Channels –Zorg/Golden Fleece WUA, Region 2
- Rehabilitation and excavation of Channels and construction of Structures – Riverstown/Onderneeming WUA, Region 2
- Rehabilitation and excavation of Channels and construction of Structures – Lower Bonasika, Right Bank WUA, Bonasika Creek, Region 3
- Rehabilitation and excavation of Channels and construction of Structures – Western Hogg Island WUA – Essequibo River, Region 3
- Rehabilitation and excavation of Channels and construction of Structures – Bethany WUA, Region 2
- Rehabilitation and excavation of Channels and construction of Structures – Parka Back WUA, Region 3