



NATIONAL IRRIGATION
COMMISSION LIMITED

MISSION STATEMENT

Our mission is:

“To use the available resources
to develop irrigation systems
and to provide the most
efficient and effective
service possible to the
agricultural community.”

Table of Contents

| | |
|---------------------------------------------|----|
| CORPORATE DATA | 3 |
| BOARD OF DIRECTORS | 4 |
| DISTRICT ADVISORY AND MONITORING COMMITTEES | 6 |
| EXECUTIVE DIRECTORATE | 7 |
| MINISTER'S MESSAGE | 8 |
| CHAIRMAN'S MESSAGE | 10 |
| CHIEF EXECUTIVE OFFICER'S MESSAGE | 11 |
| ADMINISTRATION AND HUMAN RESOURCES | 13 |
| OPERATIONS | 20 |
| NATIONAL IRRIGATION DEVELOPMENT PROGRAMME | 28 |
| INFORMATION SYSTEMS | 34 |
| COMMERCIAL | 38 |
| FINANCE & CORPORATE PLANNING | 42 |
| AUDITOR'S REPORT | 48 |
| FINANCIAL STATEMENTS | 50 |
| APPENDIX 1 | 79 |

National Irrigation Commission Limited

The Company

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AUDITORS

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Jamaica

The Operation Centre

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St. Catherine
Tel: 984-0625/5792
Fax: 984-0532

Attorneys-at-Law

DunnCox
48 Duke Street
Kingston

District Offices

St. Catherine Irrigation District

Rio Cobre Office
17 Barrett Street, Spanish Town
Tel: 984-2334/4022
Fax: 984-8401

Mid-Clarendon Irrigation District

Osbourne Store, May Pen
Tel: 987-3259/3667
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St. Elizabeth Irrigation & Drainage District

Watchwell P. A
St. Elizabeth
Tel: 965-0714
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St. Dorothy Office

Bodles, Old Harbour
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Yallahs District

Yallahs, St. Thomas
Tel: 706-3159

Braco Irrigation District

Duncans, Trelawny
Tel: 954-2147
Fax: 954-2295

Board Members



Mr. Stanley Rampair - Chairman



Mr. Oliver Nembhard - Businessman



*Mr. Robert Martin - Rep. Ministry
of Finance & Public Service*



*Mr. Basil Fernandez, WRA
Managing Director*



His Worship, Mayor Keith Hinds



Mr. Basil Perriel - Farmer



Mr. Dwight Clacken - Businessman

Board Members



Mr. Horace Underhill - Farmer



Mr. Winston Lewis - Businessman



Mr. Rupert Williams - Farmer



*Dr. Horace Charoo
Medical Doctor/Farmer*



Mr. Rudolph Brown - Farmer



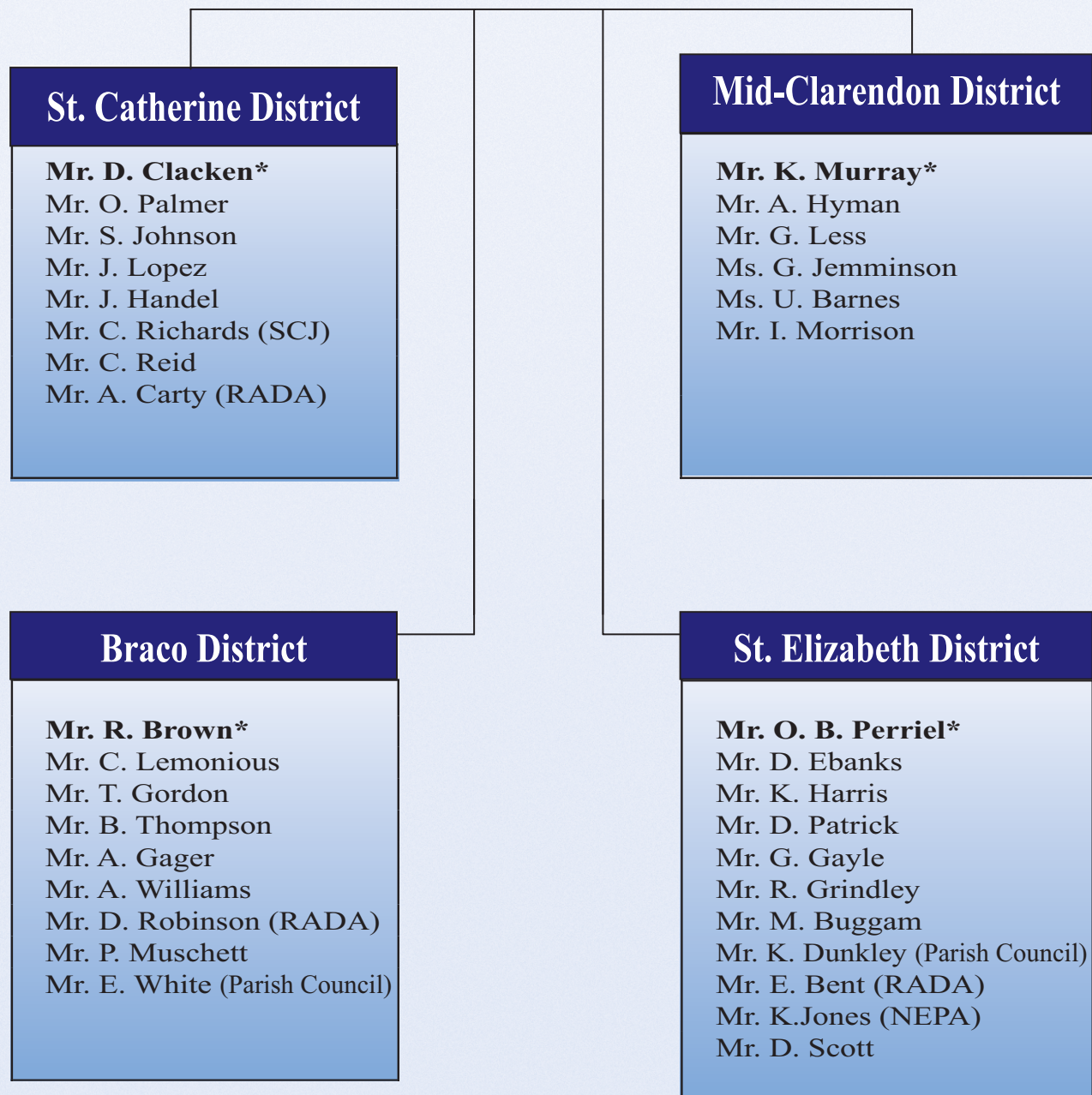
Mr. Ludgar George Parish - Farmer



Mr. Keith Murray - Businessman/Farmer



NATIONAL IRRIGATION COMMISSION LIMITED DISTRICT ADVISORY AND MONITORING COMMITTEES



* Denotes Chairman for each committee and member of the Board of Directors

Executive Directorate



Mr. Tafari Burry
Acting Director, Finance & Corporate Planning



Mr. Milton Henry
Director, Engineering & Technical Services



Mrs. Karen Thames
Acting Director, Corporate & Legal Services



Mrs. Vanica Cranston
Director, Commercial Operations

Minister's Message



Congratulations to the National Irrigation Commission Limited (NIC) in celebrating its 21st anniversary in July 2007, and to the approximately 100 employees who received awards at the Long Service Award Ceremony in September 2007.

In October 2007, I assumed office as the Minister of Agriculture with responsibility for irrigation. Of note, was the completion of the construction and commissioning of two flagship projects, Pedro Plains (Beacon & Little Park) in St. Elizabeth and Seven Rivers in St. James identified under the National Irrigation Development Programme (NIDP). The Construction of the third flagship project, Hounslow

(Rehabilitation) Irrigation System is substantially completed. The newly installed pipelines are now being connected to the existing system.

Additionally, a second phase of five new irrigation projects funded jointly by the Government of Jamaica and the Inter-American Development Bank will commence in the new financial year.

The NIC continues its commitment to serve farmers by:

- Upgrading and maintaining the irrigation infrastructure.
- Intensifying drainage maintenance for the Black River Upper and Lower Morass areas to reduce flooding and to bring some areas into agricultural production.
- Partnering with JAMALCO in rehabilitating the Harmons well and construction of the McGilchrist Palms Irrigation Systems. This will serve an additional 40 farmers in the Mid Clarendon area.
- Partnering with Agricultural Support Services Project (ASSP) in the rehabilitation of the Ebony Park Irrigation System. This increased the water supply to produce vegetables on 150 ha of land under drip irrigation.

- Establishing and registering six (6) Water Users Associations as Specially Authorized Societies. These Societies are being trained to take over and operate the schemes in St. Thomas, St. Elizabeth, Manchester, St. James and St. Catherine. All six Societies convened their Inaugural General Meeting during October 2007.
- Collaborating with the Agricultural Support Services Project (ASSP) and the Rural Agricultural Development Authority (RADA) in conducting training sessions with the farmers in the use of on-farm irrigation systems, agricultural and marketing techniques.

An efficient Energy Management Programme has been introduced by the NIC as a critical management tool to foster efficient use of energy. This has positively impacted operations by allowing the organization to contain its energy costs in today's world of constantly rising oil prices.

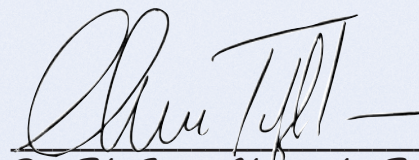
The Government is committed to the development of the agricultural sector and by extension the growth in the irrigation sector. There are many opportunities to be taken advantage of in these challenging times. Our planned transformation in this sector will focus on research and development with the goal being to revolutionize the entire agricultural sector and to employ cutting edge irrigation technology. The country is depending on growth in agriculture to enhance food security and competitiveness thereby making the Jamaican

economy robust and self-reliant. Farmers need to embrace technology to efficiently utilize irrigation water.

I wish to thank the Board, past and present the management team and staff for their co-operation and support during the relatively short time I have been in office. I look forward to a meaningful working relationship with you.

Finally, I would like to thank all our farmers and customers for their continuous support over the years. We laud you for your productive effort and implore you to achieve even greater success.

May God bless you all!



Dr. The Hon. Christopher Tufton, MP
Minister of Agriculture

Chairman's Message



The performance of the National Irrigation Commission Limited (NIC) in the completion of the final two flagship projects, Sevens River and the Hounslow (Rehab.), identified under the National Irrigation Development Programme is worthy of commendation.

The management and staff of the NIC are to be lauded for their dedication despite the many challenges facing the Commission. They have been cooperative and helpful and I must thank them for helping me to fit so easily into my new role as Chairman of the Board.

Likewise, the members of the new board have taken up the mantle with an eagerness to serve and a desire to take service to an even higher level. I look forward to a long and fruitful relationship with them.

The new Minister of Agriculture & Lands, the Hon. Dr. Christopher Tufton, took time out of his busy schedule to meet the management as soon as he assumed responsibility for the Agriculture portfolio. He clearly outlined his vision for the Commission and charged us to do our part in helping to boost the Agricultural Sector thus bringing it back to its glorious days.

To my colleagues at the parent Ministry, I look forward to working with you and welcome any suggestion you may have regarding the partnership between yourselves and the Commission.

I promise, that under my watch, all the relevant policies and programmes which are needed to improve the functioning of the NIC will be put in place as we aim to serve our valued customers to the best of our ability.

I call on the farmers to partner with us; I assure you that we will be working even closer with you to help improve your operating efficiencies. *We are living in challenging times, however take heart, in every cloud there is a silver lining.*

As the world economy worsens and food prices continue to soar this will be your opportunity to step up to the task and produce like you have never done before. This is your time to shine; you have the water and the opportunity – cease the moment.

We have just completed a year of celebration marking our 21st anniversary, let's now turn our focus to the next 21 years and grow the Agricultural Sector as we move hand in hand to meet another year.



Stanley Rampair
Chairman



This has been another challenging year, however, with the support of the board, management and staff, we have continued to make a difference in irrigated agriculture.

Last year saw the commissioning into operation of two of the three flagship irrigation systems: Pedro Plains in St Elizabeth and Seven Rivers in St James. The Pedro Plains and Seven Rivers Systems bring an additional 500 hectares of land under irrigation. The third flagship project in Hounslow will revitalize another 486 hectares of irrigated agriculture. This system is at a stage of practical completion and should be commissioned early in the next financial year.

A second phase of irrigation projects is now being prepared for construction. This will see new and rehabilitated irrigation systems in Colbeck, New Forrest/Duff House, Yallahs, Essex Valley and St. Dorothy. The investment for this phase is US\$21M.

Despite the passage of yet another tropical storm – Dean, last August, the Commission's infrastructure was quickly put back into operations. Our systems suffered minor damage.

The Commission continues to assist its employees with an expanded Scholarship Awards Programme for the children of the staff members. This year, six scholarships totalling \$280,000 were offered, four to high school students and two to students at the tertiary level.

The 2007/8 year showed moderate growth; the financial health of the Commission continues to be positive, even with the downturn in water sales due to an active hurricane season and the consequential fall off in agriculture in the affected areas.

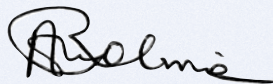
Subsequent to the general elections in September last which resulted in a change of government, a new Board of Directors was appointed. I would like to use this medium to welcome this new board and assure them that they will have the full support of the staff. We all look forward to a long and fruitful relationship.

It would be remiss of me to close without saying a big thank you to the former Board, for their guidance and support over the years. We laud you for your sterling contribution to the Commission and wish every member God's richest blessing.

I thank the staff for their support, especially in light of the many challenges. Your unquestionable commitment to the Commission is indicative of the caliber professionals you have all become.

Finally, I would like to thank our treasured customers for their support and cooperation over the last year. We look forward to serving you in the years ahead. To farmers who have ceased farming for one reason or another, we also look forward to serving you once more.

We are committed to continue to do our part in boosting Agriculture through the expansion of additional irrigation systems and the efficient delivery of irrigation water.



Andrew Robinson
Acting Chief Executive Officer

Administration & Human Resources

CORPORATE OBJECTIVES

- *To develop a cadre of professionals through an appropriate and dynamic Human Resources programme and to enhance the sustainable delivery of service to our customers, and*
- *To implement and monitor the administrative systems, procedures and policies of the Commission and to ensure the protection of its assets and legal rights and to provide an efficient support system through general office services.*

The activities for the year under review were guided and driven by our Strategic Plan and Corporate Objectives. The year was quite challenging because of the restrictions caused by the Memorandum of Understanding (MOU2). The Ministry of Finance & the Public Service carried out an interim realignment/reclassification exercise and, at the same time, recommended a comprehensive restructuring of the organization and a full-fledged re-classification exercise. This exercise will be funded by the National Irrigation Development Programme.

The staff must be commended for their hard work and commitment towards achieving the goals and objectives set for the period.

There were a number of changes namely a new Board of Directors was appointed and the former Managing Director, Mr. Donovan Reid demitted office in February 08. The staff compliment remains at 177 inclusive of permanent, contracted and temporary workers.

The usual management retreat was postponed until May 2008. The entire management staff is expected to present their achievements up to December 2007

vis-a vis NIC's Strategic Business Plan/Budgets for the year and roll out their plans for the way forward in the next financial year.

In an effort to develop a healthy workforce, the Wellness Programme was launched and several officers were trained and certified in Basic First Aid and Cardio Pulmonary Resuscitation (CPR). The staff also participated in several HIV/ AIDS sensitization sessions, facilitated by the Ministry of Health and the Ministry of Agriculture.

A HIV/AIDS Workplace Policy is being developed in conjunction with the Ministry of Agriculture and should be launched later this year. This policy will be a framework for action, to deal effectively with the disease. The purpose of the policy is to facilitate the development of a working environment that protects the rights of all workers including those perceived to be infected and/or affected by HIV/AIDS. The policy takes into consideration the effects of HIV/AIDS on the most productive segment of the workforce and as such, views the problem associated with HIV/AIDS in terms of the significant negative implications they hold for production and national development.

UNION

Union negotiations for the contract period 2007/2009 commenced in May 2007 with the two bargaining units, namely; the University and Allied Workers Union which represents the monthly-paid staff and the Joint Bargaining Unit, which comprises the following unions; National Workers Union (NWU), the Bustamante Industrial Trade Union (BITU) and the Jamaica Association of Local Government Officers (JALGO).

Claims were submitted for improved wages and fringe benefits. Arising out of these, a reclassification/realignment exercise was conducted by the then Ministry of Finance & Planning using the Civil Service classification standards. This resulted in some levels being merged and the Organization now has a flatter structure.

In November 2007, the negotiations were finalized and a new contract for the period April 1, 2007 – March 31, 2009 was signed.

TRAINING

The Commission continues to train its staff, recognizing that they are one of the organization most important resources. We recognize that if we train our staff and equip them with the right tools, we will see improvements in productivity, accountability and customer satisfaction.

The opportunity was taken to ensure that the staff received relevant training through courses which were of value to the individual as well as the organization. Short term courses, seminars and workshops were held internally and externally. The commission continues to give financial support to the staff members as they pursue professional courses. One scholarship was awarded to Miss Patricia Tyrrell to pursue a Masters Degree in Communication through the University of the West Indies.

Congratulations to the following members of staff who completed their studies in the year under review:

Mrs. Olive Wilson - Diploma in Public Relations

Mrs. Lillian Smith - ACCA Accreditation



Mrs. Olive Wilson
Diploma in Public Relations



Mrs. Lillian Smith
ACCA Accreditation

SECONDARY/TERTIARY SCHOOL SCHOLARSHIP AWARD

The Scholarship Awards Programme is now in its ninth year and is intended to assist employees in meeting the cost of education for their children and to encourage academic excellence.

Two tertiary scholarships were awarded for the first time, one to the fortnightly paid unionized category and the other to the monthly paid. This came out of negotiations with the Joint Trade Unions (JALGO, BITU, NWU) and the Commission. Consequently, six (6) scholarships were awarded; four (4) Secondary scholarships valued at \$40,000.00 each and two (2) Tertiary scholarships valued at \$60,000.00 each.

One recipient, Michael Thomas was receiving the award for the third time while Jodianne Wright and Chad Cain were receiving awards for a second time.

The awardees were as follows:-

Secondary Award;

| Awardee | Parent | District |
|-----------------|-------------------|--------------------------|
| Michael Thomas | - Michael Thomas | - Mid-Clarendon District |
| Kenyata Thomas | - Michael Thomas | - Mid-Clarendon District |
| Shamel Ferguson | - Howard Ferguson | - Mid-Clarendon District |
| Amal Thompson | - Cecil Thompson | - St. Catherine |

Tertiary Award;

| | | |
|------------------|-----------------|-----------------|
| Jodieanne Wright | - John Wright | - Mid-Clarendon |
| Chad Cain | - Beverley Cain | - Braco |

Guest speaker at the Scholarship Awards Ceremony Mrs. Ester Tyson, Principal of the Ardenne High School, gave quite an inspiring and thought provoking presentation to the awardees and their parents. Mr. Andrew Robinson, Acting Chief Executive Officer along with the Chairman, Mr. Stanley Rampair presented the scholarships to the awardees.



SCHOLARSHIP AWARDEES: FRONT ROW – Jodi-Ann Wright, Shamel Ferguson, Kenyata Thomas, Amal Thompson, Michael Thomas, Chad Cain;

BACK ROW – Mr. Andrew Robinson, Acting CEO; Miss Patricia Tyrrell, Public Relations Specialist; Mrs. Judith Maloney, Principal Director - Ministry of Agriculture; Mrs. Karen Thames, Acting Director of Corporate & Legal Services; Mrs. Esther Tyson, Principal of Ardenne High School; Mr. Stanley Rampair, Chairman of the National Board.

SECURITY

As the country continues to experience rising levels of crime and violence, it has become necessary to heighten the Commission's programme for the security of both Staff and property. We continue improvements to the electronic security systems by adding security features at most of the offices in order to monitor activities on the premises. Our aim is to provide a safe work and business environment for our staff and valued customers.

The Security Unit continues to tackle breaches on the Commission's irrigation systems. Some of the major breaches were:

Pilfering

There is a steady occurrence of pilfering of our systems - tampering with irrigation infrastructure (locks, gates and meters and the pumping of water from our canals).

The Commission continues to take legal action against offenders. Two persons from St. Catherine were convicted by the Courts for offences committed. They were each ordered to pay Eighty Thousand Dollars (\$80,000) or to serve six months in prison; while, another offender in Mid-Clarendon was fined One Hundred Thousand (\$100,000) and/or three years in prison. Additionally, a case is currently in court awaiting judgment.

The other offenders complied with warning letters issued, and as such were spared legal action. The Demand Form, which was introduced about a year ago, has proven to be effective; there has been full compliance from persons to whom these have been issued. Most have sought to formalise their practices. With the assistance of the Police and other security personnel, we remain vigilant and determined to stem this illegal activity.

Easements and Right- of- Ways

Maintaining and accessing our canal and pipeline reservations proved to be a challenge in certain areas. Infringements on our reservations usually impede the efficient monitoring of the system and obstruct repairs or maintenance work that may be required on that section of canal/pipeline.

This situation has escalated in recent times with the increase in subdivisions for Housing Development in irrigation areas. The Commission has in the short term commenced the identification of all critical locations in and around our reservations that pose a security risk.

Unauthorized Community Activities

The canals, especially in the Spanish Town area, have continued to be common recreational grounds by community persons for the holding of "Canal Splash". This unauthorized activity entails blocking of the canals in order to create a pool for swimming. This disrupts supply to our customers and expose participants to the risk of drowning and/or water-borne diseases.

A Public Relations initiative is now being developed in an effort to eliminate the practice.

Informal Settlement/Squatting

This continues to be a major problem especially in the St. Catherine (Spanish Town and its environs) area. However, the NIC in its bid to protect the canal reservations, continues to issue verbal and written warnings to the offenders. Some persons have complied and have been relocated.

One example of an established squatting area is along the Lower Main Canal reservation (March Pen Road) where some persons have been squatting for up to eighteen (18) years. These cases have been referred to the Squatter Unit in the Ministry of Agriculture.

DUMPING



Squatting - Nine B



Property Management

The Commission's Security Programme has expanded to include a Vehicle Tacking System to monitor the use and movement of our motor vehicles island-wide.

During the period under review, electronic systems and other security features were installed at all offices to monitor the movement of persons in and out of the buildings, to guard against criminal intrusion, injury to persons and theft of property.

The aim is to provide a safer environment for customers to transact business, and for staff to operate without fear.

A dyke was constructed at the Mid-Clarendon Office by our 'in-house' construction/engineering team to prevent the recurrence of flooding which in the past has caused much damage not only to furniture and equipment, but also destruction of important documents.

Obituary



It is with regret that the National Irrigation Commission Limited mourns the passing of Mrs. Beverly Bryant, Office Attendant at the Head Office, who departed this life on Sunday, January 27, 2008.

Affectionately called Miss Bev, she gave fifteen years of dedicated service to the Commission. She executed her duties with such pride and joy.

To us at work, she was simply the best; when Miss Bev made you a cup of coffee, even the aroma was different, there was no other coffee like hers. To others, she was known as Mother Hen as she always took very good care of us at the Head Office. Miss Bev had a very pleasant disposition and was everybody's friend. She loved life and good food and seldom missed a staff function no matter where it was.

Overtime, we got to know her family and recognized how wonderful and devoted a mother and grandmother she was. Her close friends and family members will tell you that Miss Bev had a unique quality of keeping the family together just as she did here at work.

She confronted her challenges with such grace and courage. She drew strength from her abiding faith in God.

Miss Bev will be sadly missed by the Management and Staff of the Commission. She has left beautiful memories, which we will always treasure.

"Rest in peace Miss Bev."

Operations

CORPORATE OBJECTIVES

To implement methods, which will improve efficiencies in procurement, conveyance and delivery of irrigation water to enhance the quality and reliability of service.

For the financial year 2007/8, the Operations Division focused on several areas for improvements including:

- Matching water produced to invoicing levels in existing schemes
- Continuation of the Energy Management Program in all districts
- Delivery of irrigation services at the newly built Beacon/Little Park Irrigation Schemes.
- Preventative and restorative maintenance of equipment and facilities
- Limited capital works program including collaborative efforts with both public and private sector agencies to enhance customer base and service areas
- Drainage system maintenance in St. Elizabeth
- Flood risk reduction at pumping plants and

office facilities.

The Division was faced with several challenges during the period, notably:

- Continuous rising energy costs for pumping
- Relatively low agricultural land use, notably in Clarendon and St. Catherine
- Passage of Hurricane Dean that caused flooding to both NIC and consumer assets
- Relatively low capital
- Water quality issues and reported fish kill in St. Catherine due to pollution of our water ways.

1. Agricultural Land Use in Existing Schemes

Agricultural production in the irrigation districts as at March 2008 is shown in Table 1.

Table 1: Estimated area under agricultural production in NIC irrigated areas

| Location | Sugar | Cash crop/vg | L/Stock | Fish | Fruit Trees | TOTAL (ac) | %age |
|-----------|--------|--------------|---------|-------|-------------|------------|------|
| Eastern | 6,936 | 1,103 | 582 | 335 | 35 | 8,991 | 60% |
| Mid Clar. | 3,704 | 781 | 511 | 365 | 40 | 5,401 | 36% |
| Western | | 462 | 146 | | 7 | 615 | 4% |
| Overall | 10,640 | 2,346 | 1,239 | 700 | 82 | 15,007 | 100% |
| % age | 70.90% | 15.63% | 8.26% | 4.66% | 0.55% | 100% | |

During the year, the agricultural sector suffered from the effects of several factors including the passage of Hurricane Dean, increased fertilizer prices along with the continued decline of sugar prices. These factors contributed to a reduction in agricultural production especially during the period September to December 2007.

We enjoyed an increase in irrigation water use during the final quarter of the year as farmers embarked on their recovery programs. It is our hope that the farmers will continue to recover from these challenges as well as grasp the opportunities now being created by the increasing food prices.

As expected, most of the active area served by the NIC is under sugarcane production in St. Catherine and Clarendon (71%). However, sugarcane production has been steadily declining over the years in these areas with Mid-Clarendon showing the greatest reduction. The impending divestment of the public sugar industry assets and subsequent re-investments should result in improvements in the future land use levels.

Cash crops including vegetables (16%), fish and livestock production make up the remaining agricultural activities in the areas. Vegetables, cash crop, fruit trees and livestock production are carried out mainly by small farmers throughout the system.

The Beacon/Little Park Irrigation Scheme in St. Elizabeth was commissioned into service in June 2007. So far, more than 120 farmers have been connected to the system and are receiving irrigation water. These users are producing mainly vegetables and spices for both the domestic and export markets. This is very exciting news indeed and, the effect on national agricultural production should be seen during the first and second quarter of the next financial year.

2. Water Production, Distribution and Energy Use

Table 2: Water Production, Invoicing and Energy Use in Public Schemes

| | Hours Pumped | Water prod. (m3) | Water Invoiced (m3) | %age Invoiced | Energy Used (kwh) | Energy Cost (\$J) | Unit Energy (kwh/m3) | Cost (\$)/ m ³ |
|--------------------------------|-----------------|------------------------|---------------------------|------------------|-------------------------|-------------------------|----------------------------|---------------------------------|
| Yallahs | 1,804 | 281,223 | 220,315 | 78% | 93,378 | 1,564,154 | 0.332 | 5.56 |
| St. Dorothy | 13,274 | 4,975,929 | 3,007,559 | 60% | 934,977 | 16,948,374 | 0.188 | 3.41 |
| Block A | 3,199 | 252,939 | 158,023 | 62% | 11,986 | 241,689 | 0.047 | 0.96 |
| Blocks B & C | 9,087 | 962,311 | 627,837 | 65% | 344,407 | 6,332,952 | 0.358 | 6.58 |
| Block E | 5,933 | 1,256,092 | 644,716 | 51% | 347,189 | 6,572,287 | 0.276 | 5.23 |
| Spring Village | 9,771 | 1,661,164 | 1,300,934 | 78% | 45,176 | 1,169,273 | 0.027 | 0.70 |
| Blocks + Spring Village | 27,989 | 4,132,506 | 2,731,510 | 66% | 748,758 | 14,316,201 | 0.181 | 3.46 |
| Tot. (Esn. Region Pump) | 43,066 | 9,389,658 | 5,959,384 | 63% | 1,777,113 | 32,828,729 | 0.189 | 3.50 |
| Canal flow (Esn, Region) | - | 59,835,040 | 42,287,389 | 71% | | | | |
| TOT. (EAST REGION) | 43,066 | 69,224,698 | 48,246,773 | 70% | 1,777,113 | 32,828,729 | 0.026 | 0.47 |
| MID CLARENDON (DW) | 36,313 | 14,612,456 | 15,678,104 | | 2,657,591 | 48,189,151 | 0.182 | 3.30 |
| River | | 13,520,573 | | | | | | |
| MCID (DW + RIVER) | 36,313 | 28,133,029 | 15,678,104 | 56% | 2,657,591 | 48,189,151 | 0.094 | 1.71 |
| Hounslow | 5,534 | 2,883,131 | 2,713,496 | 94% | 722,304 | 16,293,349 | 0.251 | 5.65 |
| Beacon/Little Park | 917 | 149,990 | 130,902 | 87% | | | | |
| Braco | 3,079 | 717,474 | 699,489 | 97% | 156,552 | 2,845,154 | 0.218 | 3.97 |
| TOTAL (Western) | 9,530 | 3,750,595 | 3,543,887 | 95% | 878,856 | 19,138,502 | 0.244 | 5.32 |
| OVERALL (pumped) | 88,909 | 3,750,595 | | | 5,313,560 | 100,156,383 | 0.193 | 3.63 |
| GRAND TOTAL | 88,909 | 101,108,322 | 67,468,764 | 67% | 5,313,560 | 100,156,383 | 0.053 | 0.99 |

Water production and invoicing levels fell during the period by 8% and 24% respectively when compared to 2007. This is directly attributed to the decline in agricultural production resulting from the passage of Hurricane Dean as well as the downturn in the sugar industry. Overall, the percentage of water invoiced fell to 67% in 2007–08 compared with 81% in 2006–07. Invoicing percentages in Clarendon, St. Elizabeth and Trelawny held steady. However, there was a fall off in St. Catherine where invoicing levels decreased to 70% in 2008 compared with 90% in the previous year.

Further analysis has shown that the main decline in invoicing was in the open canal system where invoicing levels decreased from 92% to 74%. The Division will focus on issues in both the Eastern Region and Mid-Clarendon with a view to improving performance in the next financial year.

Unit energy input cost continues to rank high in the pressurized system areas' including Yallahs, Hounslow and some areas of Blocks A – E in Bernard Lodge. These will be the subject of both energy and water use strategies in the future.

3. The NIC Energy Management Program

Managing pumping costs continue to be quite challenging for the NIC; this year the company spent approximately J\$100 million on energy for water delivery. Despite rising energy costs however, the overall energy bill remained within the same range as the previous year. This positive performance was attained through prudent use and management of the available pumping capacity.

The Energy Management Program introduced in 2005 continues to bear fruit, resulting in significant benefits to the Commission. This resulted in the following:

- (i) The unit energy costs (\$/m³ of water pumped) decreased by 5% in 2008 compared to 2007, resulting in an energy savings of approximately \$5 million. This was achieved by ensuring that operation of the more efficient pumps matched the demand.

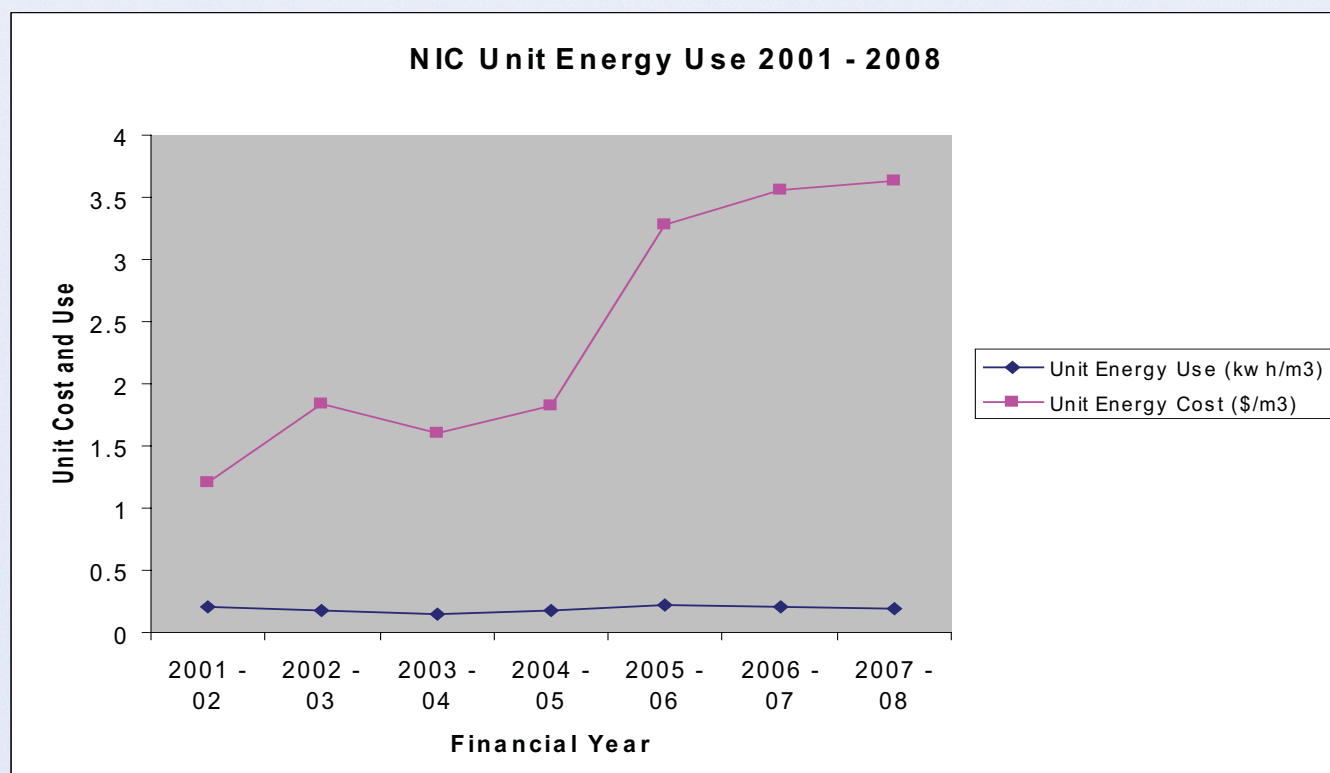


Figure 1: Unit Energy Input and Unit Cost for the period 2001 - 2008

- (ii) As shown in **Figure 1**, unit energy costs are leveling off, moving from \$3.56/m³ pumped in 2007 to only \$3.63/m³ in 2008 or an increase of 2 per cent. This cost containment was achieved despite sharply rising energy prices from JPSCO. Given the continued increase in both oil prices and inflation rates, NIC's energy bill is expected to grow in the next financial year.

The Operations Division worked closely with the Information Systems Department to develop the Energy Management Information System (EMIS). This is ninety-five per cent completed and when finished is expected to improve the energy use analysis capabilities of the Commission. We have continued to focus on energy use by establishing an Energy Cost Reduction Committee of the Board.

The NIC has implemented pump station retrofitting and other energy management initiatives during the last two years. However, further gains in energy utilization may require the investment of additional capital in key areas such as, solar energy applications, retrofitting of additional stations and improved on-farm efficiencies. We hope to receive support for these programs in order to maximize energy utilization in both the Commission and the nation.

4. Civil Works Maintenance and Improvement

During the year, Civil Works personnel continued work on both maintenance of the existing infrastructure as well as the implementation of a limited capital works program. The effort to improve infrastructure in the existing irrigation schemes was constrained by available funds. However, the team carried out several infrastructure projects that have benefited our consumers. Additionally, some partnership initiatives have contributed improved infrastructure, the growth of water sales and a number of consumers. This is shown in Table 3 below. Through this effort, the NIC expects to grow its customer base by approximately 120 farmers and bring approximately 350 hectares of land into production.

The civil works team also embarked on substantial canal rehabilitation and repair program especially in the Mid-Clarendon District and a drain crossing program in St. Elizabeth. Where feasible, leaking canals were either repaired or replaced with polyethylene pipes. The installation of these pipes serves to reduce maintenance costs and can be easily laid in the existing canals. A total of 1,320 meters of concrete lining was repaired and 2,020 meters replaced with polyethylene pipes respectively. These programs will continue, funds permitting.

Table 3: Some Partnership Capital Works Projects

| Project | Partner | Cost (J\$) * 1000 | Dist | Potential Cust. | Status |
|-------------------|------------|----------------------|------|--------------------|----------|
| St. Jago No. 2 | JAMALCO | 16,700 | MCID | 10 | Complete |
| Rehab | ASSP (GOJ) | 3,100 | RCIW | 20 | Complete |
| Amity Hall Ebony | ASSP (GOJ) | 14,000 | MCID | 40 | 30% |
| Park Rehab | JAMALCO | 60,000 | MCID | 40 | Complete |
| McGilchrist Palms | | 93,800 | | 110 | 90% |
| Total | | | | | Complete |



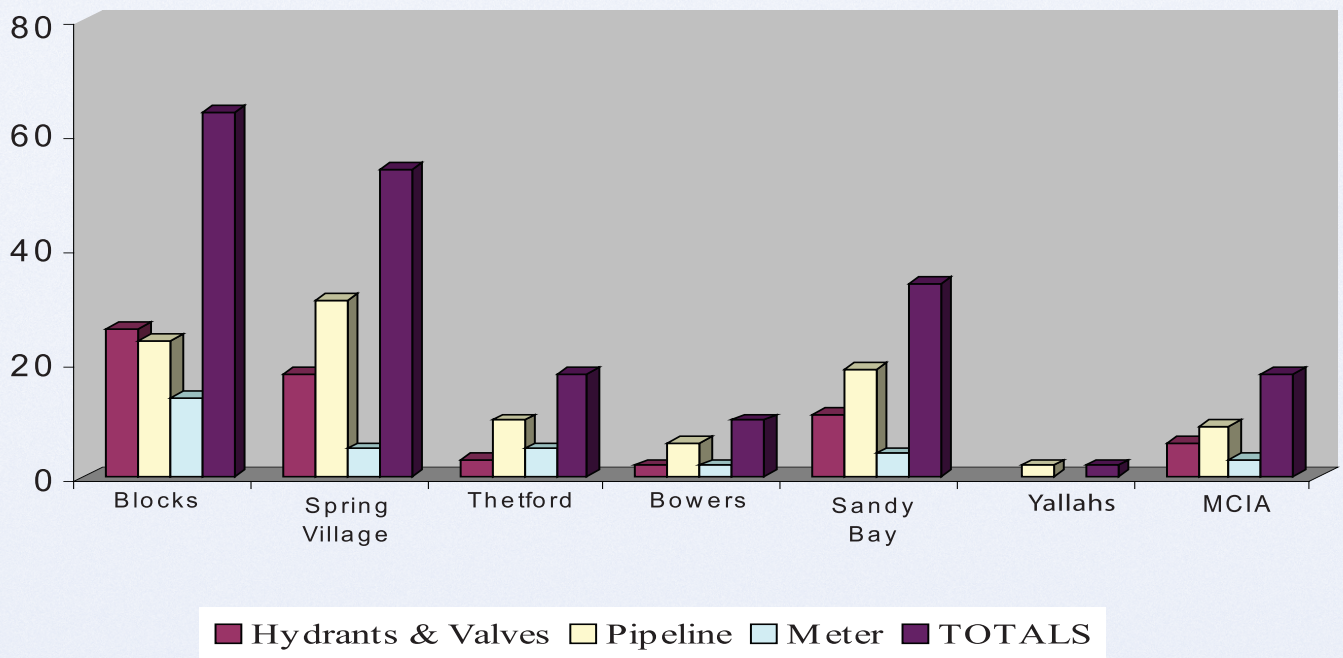
Figure 2: Vegetable and Hot Pepper Production under Drip Irrigation at Ebony Park, Clarendon

Civil Works Repair Program

Table 4: Some pipe repairs along with meter and hydrant installation

| Location | Blocks | Spring Village | Thetford | Bowers | Sandy Bay | Yallahs | M CIA |
|-----------------------|-----------|----------------|-----------|-----------|-----------|----------|-----------|
| Infrastructure | | | | | | | |
| Hydrants & Valves | 26 | 18 | 3 | 2 | 11 | | 6 |
| Pipeline | 24 | 31 | 10 | 6 | 19 | 2 | 9 |
| Meter | 14 | 5 | 5 | 2 | 4 | | 3 |
| TOTALS | 64 | 54 | 18 | 10 | 34 | 2 | 18 |

Fig 3: Repair to Pressurized Infrastructure



5. Drainage Maintenance and Flood Protection



Fig 4: Culvert installed in the Drainage Area, St. Elizabeth

The NIC continued its drain maintenance program in the Upper and Lower Morass Areas of St. Elizabeth as well as in the Clarendon District. Both the existing dragline and Cat Hydraulic Excavator were utilized in the exercise. NIC also purchased an additional rubber-wheeled backhoe to assist with the cleaning of smaller drains in the St. Elizabeth area. This will be deployed shortly.

The Commission will be holding a stakeholders seminar in St Elizabeth to present the findings and recommendations of a Flood Assessment Study on the Black River that was conducted by the Water Resources Authority.

The passage of Hurricane Dean as well as previous floods also highlighted the need to improve flood protection in the most vulnerable sites. As a result, the Operations Division undertook flood protection projects on the Mid-Clarendon Office at Osborne Store and at the Braco Pumping Station at Rio Bueno in Trelawny. During the passage of storms, flooding is also prevalent at the Spring Village and Phillipsfield Pump Stations. Flood Protection works should commence at the Spring Village Station early in the new financial year while the Phillipsfield Station will undergo improvements later in the year.

6. Electrical/Mechanical Maintenance

During the year, employees of this Unit concentrated on Preventative Maintenance (PM) Program, Electrical/Mechanical repairs and aspects of the Energy Management Program. The Preventative Maintenance Program was completed on time resulting in significant **savings in both downtime and repair costs. Three (3) deep well pumps were purchased during the year under the Commission's Replacement Policy. This asset replacement policy will continue, fund permitting.**

With the Beacon/Little Park Scheme now commissioned into operation, the three pumps in these projects have been added to the

operation and maintenance schedule. Three deep well pumps were also purchased for this system.

Despite the admirable PM Program, there were 6 pump station failures during the year. To date all but the Clifton 5 and Freetown 1 stations have been returned to service.

The workshop continues to provide engineering support services throughout the regions, including fabrication of hydraulic gates and open channel measuring devices, pipe work repairs as well as field office repairs.

While the Workshop is still manufacturing these items, the system continues to suffer from losses due to theft ostensibly for the scrap metal market. This is of great concern as expensive items are being converted to scrap, thus **negatively impacting/devaluing the quality of service to our consumers.** The workshop also undertook some special projects including installation of standby generators at NIC's operations offices as well as the fabrication and installation of a barge at Dam Head.

For the new financial year, the Division is proposing to implement the following programs:

1. **Installation of stand-by generators at key stations.** These include stations serving water to domestic and livestock consumers.
2. **Continue the pumping equipment replacement program.** The new units would meet minimum energy efficiency standards and replace old units in some areas.
3. **Improve the mobility of the workshop staff.** The Division has requested a four-wheel drive, double cab pick-up for this purpose.

National Irrigation Development Programme (NIDP)

CORPORATE OBJECTIVES

To increase agricultural production and farmers' income as a result of improved irrigation management practices in the irrigable areas prioritized in the NIDP.

MASTER PLAN

In 1998 the Government of Jamaica (GOJ), through the National Irrigation Commission, prepared a **National Irrigation Development Plan**. The objective of the study was to develop a Master Plan, which would identify and prioritize projects for implementation.

The Long Term Objectives of these schemes are to:

- increase farm incomes, and
- enhance rural development.

This will result in:

- an increase in crop productivity,
- an increase in crop diversity,
- Farmer participation in irrigation management, and
- Self sustainable irrigation systems.

The construction of these irrigation projects will result in more efficient use of agricultural land, which will significantly increase high valued crop production (mainly vegetables) in the project areas. Agricultural Support Services, such as marketing and extension will also be provided to farmers.

The Master Plan is expected to complement the GOJ's long term agricultural development plan to year 2015, **and further the Government's proposed plan to increase farmer participation in irrigation and make the NIC self sustainable.**

Main Features of NIDP

The specific outputs of the study were:

1. **The preparation of a Master Plan;**
2. **Feasibility Studies on selected priority projects from the Master Plan;**
3. **The preparation of a Land and Water Atlas for Jamaica (GIS).**

The **Master Plan** in accordance with the terms of reference contains the following:

- review of the state of agricultural production with irrigation development;
- recommendations on irrigation policy and strategies to successfully implement the NIDP;
- proposals for institutional strengthening;
- generic environmental assessment on the irrigation sector;
- identification of projects and ranking them in order of priority;
- a training programme in irrigation management.

The National Irrigation Development Plan is designed with the intention **of recovering the Operation and Maintenance (O&M) costs** of new and rehabilitated irrigation development. The NIDP:

- **evaluated over 125 projects island-wide and recommended 51** of these projects (**US\$ 106.3 million** construction cost), year **2015**.
- **will increase the presently irrigated area of 25,000 ha by some 60 per cent** (15,000 ha) and **directly benefit over 6,900 farm families**.
- will generate an average **increase of US\$ 55 million in annual income**, consisting of US\$ 32 million of income to farm families, and US\$ 23 million in wages to farm labour.
- will increase **total annual agricultural production by US\$ 132.5 million**,

Farmer Participation

The involvement in the planning process of farmers and government officials at the national, regional and local levels was considered essential and hence special emphasis was placed on **Stakeholder Consultation**. Continued development in this sector is premised on the need for **farmer participation - a process that will assure a greater rate of cost recovery, lessen the burden on the central government, and promote the sustainability of irrigated agriculture through decentralized local self-governance**.

Government Policy is to encourage the formation and functioning of **Water User Associations (WUAs) as legal entities** (e.g. co-operatives or limited liability companies). Farmers will be members and shareholders who will have the power to govern these organizations. **Responsibility for local management of water distribution, including operation and maintenance of the system will eventually be assumed by the WUAs**.

CDB's Funding of Pilot Projects

Feasibility studies were done on medium and small-scale projects in four areas and the following three (3) were found **feasible**:

- **Pedro Plains (Beacon & Little Park) - St. Elizabeth**
- **Seven Rivers - St. James**
- **Hounslow Rehabilitation - St. Elizabeth**

The Government of Jamaica and the Caribbean Development Bank funded these three Flagship Projects. The total investment for the implementation of the three projects was US\$12 million.

Pedro Plains (Beacon & Little Park) - St. Elizabeth

A new irrigation scheme consisting of 32 km of pipeline and three (3) deep wells was completed to provide 2.68 Million cubic metres of water per year. This will benefit 360 farm families on 500 hectares of land. The construction cost of this scheme is US\$ 3.465 Million.

The OUR had a rate consultation meeting with the beneficiaries in May 2007 and issued a Rate Determination in September 2007.

The Beacon and Little Park Project will provide an additional 61,100 person-days, equivalent to about 235 full-time jobs, of rural employment, most of which will probably be done by the farm households. The net increase in annual income to farm households, assuming they perform all of the supervision, management, and half of the farm labour, will be J\$101.6 million.

The total annual value of the increase in production from the St. Elizabeth Projects is estimated to be J\$533.2 million (US\$8.6 million) of which about one-third is from potential export crops, such as thyme, peppers, pumpkin, and sweet potato.

Seven Rivers - St. James

The Seven Rivers Project consists of an intake on the Seven Rivers, a tributary of the Great River, and gravity conveyance by pipe to the farming area.

This scheme consisting of 5.5 km of pipeline has been installed to provide 0.13 Million cubic metres per year of surface water to 32 hectares of land. The construction cost of this scheme is US\$ 0.4 Million. This scheme will benefit 32 farm families.

This project will provide an increase of 2,636 person-days of rural employment. The total value of the increase in production is J\$6.5 million of which about half is from potential export crops, such as dasheen, peppers, pumpkin and citrus.

Hounslow Rehabilitation - St. Elizabeth

The present Hounslow Irrigation system required extensive overhauling for improvements in distribution and efficiency. This involves the replacement of 17 km of pipeline, and the complete rehabilitation of five (5) wells to supply 3.47 Million cubic metres of water per year. This will benefit 420 farm families on 486 hectares of land. The construction cost of this rehabilitation is US\$ 3.123 Million. The rehabilitation is expected to be completed by June 2008.

This project will provide an additional 58,220 person- days of rural employment, equivalent to about 225 full-time jobs. The net increase in annual farm household income from the project will be J\$31.4 million.

Project Steering Committee

A Project Steering Committee consisting of stakeholders, and representatives from the relevant Ministries and the PIOJ has been established to oversee and monitor the progress of the implementation of the three flagship projects.

Other Project Activities

Agricultural Technical Services.

Work on the provision of Agricultural Technical Services to project beneficiaries is continuing under

the direct supervision of the ASSP. This is being coordinated by the Agribusiness Development Officer (ADO) specifically engaged and assigned to this project. Monthly progress meetings continue between the Project Implementation Unit of the NIC and the ASSP.

With the completion of the installation of the irrigation infrastructure and the commencement of water supply to beneficiaries in Beacon/Little Park, Seven Rivers and Hounslow, it is important that, over the next few months, the irrigation services which are provided to the farmers will be complemented by:

- a) A loan facility to project beneficiaries for the purchase of on-farm equipment, and
- b) Assistance to these beneficiaries with irrigation extension, agronomy, production and marketing.

Provisions for the funding of these activities are included in the CDB Loan Agreement.

Water Users Associations (WUAs).

The Promotion and Formation of Water Users Associations has been an ongoing activity since the project preparation phase (2003). When the feasibility studies and final designs for the pilot projects (Beacon/Little Park, Seven Rivers and Hounslow) were being done, there was extensive participation in the planning by the proposed beneficiaries. This led to the formation of Water Users Groups (Ad Hoc Committees) in the areas and the mobilization and training of farmers in preparation for their future roles as Managers of their respective irrigation systems.

The Department of Cooperatives and Friendly Societies (DCFS) registered the Water Users Groups (WUGs) as Specially Authorized Societies Limited with effect from July 6, 2007. The Registration Certificates and other related documents were forwarded to the Water Users Associations (WUAs).