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IMPLEMENTATION COMPLETION REPORT
(IDA-31390)

ON A

CREDIT

IN THE AMOUNT OF SDR 6.8 MILLION (US\$9.0 MILLION EQUIVALENT)

TO

THE CO-OPERATIVE REPUBLIC OF GUYANA

FOR AN

EL NIÑO EMERGENCY ASSISTANCE PROJECT

August 1, 2002

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CURRENCY EQUIVALENTS

(Exchange Rate Effective August 1, 2002)

Currency Unit = Guyana Dollar

G\$1.00 = US\$ 0.0055

US\$ 1.00 = G\$ 180.5

FISCAL YEAR

January 1 December 31

ABBREVIATIONS AND ACRONYMS

CAS	Country Assistance Strategy
CDC	Civil Defense Commission
CTB	Central Tenders Board
ENSO	El Niño Southern Oscillation
ESAF	Extended Structural Adjustment Facility
GOG	Government of Guyana
GS&WC	Georgetown Sewerage and Water Commissioners
GUYWA	Guyana Water Authority
GWI	Guyana Water Incorporated
MOA	Ministry of Agriculture
MOF	Ministry of Finance
MOH&W	Ministry of Housing and Water
NDIB	National Drainage and Irrigation Board
PEU	Project Executing Unit
PMR	Project Management Report
SIMAP	Social Impact Amelioration Program

Vice President:	David De Ferranti
Country Manager/Director:	Orsalia Kalantzopoulos
Sector Manager/Director:	Danny Leipziger
Task Team Leader/Task Manager:	Thakoor Persaud

**GUYANA
EL NIÑO EMERGENCY ASSISTANCE PROJECT**

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<i>Project ID:</i> P057271	<i>Project Name:</i> "EL NIÑO" Emergency Assistance Project
<i>Team Leader:</i> Thakoor Persaud	<i>TL Unit:</i> LCSFU
<i>ICR Type:</i> Core ICR	<i>Report Date:</i> August 6, 2002

1. Project Data

Name: "EL NINO" Emergency Assistance Project *L/C/TF Number:* IDA-31390
Country/Department: GUYANA *Region:* Latin America and Caribbean Region
Sector/subsector: Water supply (52%), Irrigation & drainage (40%), Flood protection (6%), Central government administration (2%)

KEY DATES

	<i>Original</i>	<i>Revised/Actual</i>
<i>PCD:</i> 03/30/1998	<i>Effective:</i> 12/22/1998	12/22/1998
<i>Appraisal:</i> 07/07/1998	<i>MTR:</i> 07/11/2000	06/06/2000
<i>Approval:</i> 10/22/1998	<i>Closing:</i> 11/30/2001	03/29/2002

Borrower/Implementing Agency: GOV'T. OF GUYANA/NDIB; GOV'T. OF GUYANA/GUYWA; GOV'T. OF GUYANA/GSWC; GOV'T. OF GUYANA/HD; GOV'T. OF GUYANA/PCU

Other Partners:

STAFF	Current	At Appraisal
<i>Vice President:</i>	David De'Ferranti	Shahid Javed Burki
<i>Country Manager:</i>	Orsalia Kalantzopoulos	Orsalia Kalantzopoulos
<i>Sector Manager:</i>	Danny M. Leipziger	Danny M. Leipziger
<i>Team Leader at ICR:</i>	Thakoor Persaud	Thakoor Persaud
<i>ICR Primary Author:</i>	T. Persaud; E. Njomo	

2. Principal Performance Ratings

(HS=Highly Satisfactory, S=Satisfactory, U=Unsatisfactory, HL=Highly Likely, L=Likely, UN=Unlikely, HUN=Highly Unlikely, HU=Highly Unsatisfactory, H=High, SU=Substantial, M=Modest, N=Negligible)

Outcome: S

Sustainability: L

Institutional Development Impact: SU

Bank Performance: S

Borrower Performance: S

	QAG (if available)	ICR
<i>Quality at Entry</i>		S
<i>Project at Risk at Any Time:</i> No		

3. Assessment of Development Objective and Design, and of Quality at Entry

3.1 Original Objective:

The project was part of a well coordinated effort by donors active in Guyana, to assist the Government in mitigating the impact of the El Niño Southern Oscillation (ENSO) phenomenon which affected Guyana starting in 1997. The impact of ENSO which began in the form of a slowly-developing drought, had worsened considerably by the end of 1998. As the extent of crop losses and potable water scarcity became clearer, the Government declared a State of Emergency on March 26, 1998 and gave the Civil Defense Commission(CDC), an entity within the Office of the President, the responsibility for coordinating all ENSO relief and reconstruction/rehabilitation efforts. With the assistance of the UNDP, damage assessment reports were prepared. The international donor community responded with an assistance program aimed at addressing identified relief needs. The Bank, IDB and other international agencies were asked to assist in the recovery phase. The El Niño Emergency Assistance Project was prepared in response to identified emergency prevention and reconstruction needs. The works and activities expected to be supported under the project were to be of an emergency nature to be completed within a two-year design and construction schedule and an overall implementation period of 3 years. Furthermore, in line with OP 8.50, the project was not specifically meant to address long-term sectoral issues.

The original objectives of the project were:

- (a) help to restore the country's agricultural capacity in drought-stricken areas through vulnerability reduction measures in the areas of hydrologic extremes;
- (b) help in providing safe and reliable potable water service to marginal urban and remote hinterland and riverine communities which have been affected by drought; and help restore flood protection in low-lying areas of the City of Georgetown.

3.2 Revised Objective:

The project's objectives were not revised.

3.3 Original Components:

The original project components were implemented as originally designed. However individual items within the Agricultural Production Capacity Recovery and Regeneration Program and the Potable Water Service Recovery & Restoration Program underwent several significant funding changes in response to the limited absorptive capacity of one of the project executing agencies as explained below (see para.4.2). The original project components were as follows:

I. Agricultural Production Capacity Recovery and Regeneration Program

The Agricultural Production Capacity Recovery and Regeneration component of the project was focussed upon strengthening the Drainage and Irrigation (D&I) system in its efforts aimed at supporting agricultural production in the coastal areas of Guyana which were affected by the ENSO phenomenon. It also assisted strengthening of the hydrometeorological network of the country through the provision and installation of weather stations in selected areas. Under the **D&I Component**, the project supported the rehabilitation of selected key structures in the drainage and irrigation system, the construction of primary water-control structures in key points to reduce water loss, and the supply of mobile pumps to serve during both times of floods and droughts. Additionally, the project supported the incremental staff and equipment needed by the executing agency of the component, the National Drainage and Irrigation Board (NDIB), to

implement the D&I component. Specifically, the project called for the rehabilitation of 17 sluices, 5 conservancy works and the supply of 10 mobile pumps and 3 gravel pumps. In addition, the project included financing of the incremental staff (2 engineers and an accountant) and equipment (autocad, computers, etc.) needed to implement the component. Under the **Strengthening of Hydrometeorological Network Component** the project supported the upgrading of the facilities in selected weather stations nationwide, these being part of the hydrometeorological network managed by the Hydrometeorological Division (HD) of the Ministry of Agriculture. This component included the provision of water level recorders, rainfall loggers, SSB's, evaporimeters in 12 weather stations as well as the installation of 9 automatic weather stations. Furthermore the project was expected to support a dissemination program of 8 seminars and workshops aimed at improving HD's weekly and monthly reports with predictions and information analysis, while promoting the use of the enhanced hydrometeorological data to be developed under the project.

II. Potable Water Service Recovery & Restoration Program

Under this program, the aim was to meet the potable water needs of marginal urban and hinterland communities depending upon rainwater, creeks and rivers as their primary potable water source. With the drought, these sources either dried up or became saline from backflow of ocean water. The project addressed the potable water needs of marginal communities which had to get water from tanker trucks and rural ones who sought emergency supplies from back-up hand pumps, most of which were in disrepair. Under the **Recovery and Restoration Component**, the project was expected to support the construction of complementary distribution and transmission facilities, consisting of 10 miles of four-inch PVC pipes and 10 miles of six-inch PVC pipes (as well as valves and fittings), in affected areas to help improve service quality and avoid supplies through tanker trucks. The project was also expected to finance the replacement of Asbestos/Cement mains in the low-income area of North Ruimveldt in Georgetown, which is located at the extreme end of the distribution systems where residents do not usually receive water during drought and low flow periods. Under the **Drought Mitigation Measures Component**, the project was expected to support the installation of preventive potable water works in drought-vulnerable and affected interior areas of Regions 1,2,5,7,8,and 9 (see map), such as drilling of wells, installation of water pumps, to be undertaken near schools, markets, social facilities such as health centers, and religious establishments and the installation of strategically located storage tanks that would have a significant impact in reducing the vulnerability of the water supply networks in these areas to both the residual effects of the then-current drought as well as to future ones. Specifically the project was expected to support the construction of 50 hand-dug wells, 50 four-inch shallow wells, 28 six-inch wells, and 4 ten-inch wells. The component was also expected to support the installation or construction of 100 hand pumps, 2 solar water systems, 6 windmill water systems and 2 strategically-located storage tanks – a 10,000-gallon elevated storage tank at Charity, Region 2 and a 500,000-gallon ground storage tank in the City of Georgetown. Both components under the Potable Water Service Recovery & Restoration Program were to be jointly executed by the Guyana Water Authority (GUYWA), with responsibility for facilities outside of Georgetown, and Georgetown Sewerage and Water Commissioners' (GS&WC), with responsibility for facilities in the City of Georgetown.

III. Georgetown Flood Protection Restoration Program

Under this program the project was expected to support the replacement of two 30" and 36" diameter pumps, as well as rehabilitation of sluices. Given that the coastland in the Georgetown area is below sea level at high tide, the efficacy of these two sluices and the gravity based drainage system of Georgetown is limited by tidal action. This component was expected to be implemented by the Project Executing Unit (PEU) of the Ministry of Public Works, Communications and Regional Development.

IV. Project Coordination

Given the project's multi-sectoral character and having five implementing agencies, a project coordination unit (PCU) was established at the Civil Defense Commission (CDC) to coordinate the project's contracting and financial management aspects. Incremental staff included a full time project coordinator and accountant and a part-time environmental specialist as well as support staff consisting of a secretary, office/accounting assistant and messenger. In addition, the PCU was responsible for procuring and managing the services of the procurement auditor and financial auditor.

At appraisal the estimated US\$10.201 million of the project cost, including contingencies and IDA's share, was as follows:

COMPONENT	COST (US\$mIn)	IDA SHARE
I Agric. Production Cap. Recov. & Regen. Program		
Drainage & Irrigation	3.966	3.470
Hydrometeorological Services	0.170	0.170
Subtotal	4.136	3.640
II Potable Water Service Recovery Program		
Recovery and Restoration	1.145	1.010
Drought Mitigation Measures	3.980	3.482
Subtotal	5.125	4.492
III Georgetown Flood Protection	0.622	0.550
IV Project Coordination	0.318	0.318
Total	10.201	9.000

3.4 Revised Components:

The overall project components were not revised. However the scope and numbers of individual project items within the project components were different from appraisal estimates for all the project components due to design changes, time constraints, availability of other funding resources and the limited absorptive capacity of GUYWA. The differences are reviewed in Section 4 below.

3.5 Quality at Entry:

Satisfactory. The quality at entry is rated as satisfactory. The project's objectives were consistent with the Government's development strategy and supported the CAS overall goals of promoting sustainable economic growth and poverty reduction. The project was aimed at helping restore the country's agricultural capacity in drought-stricken areas through vulnerability reduction measures. The Potable Water Service Recovery and Restoration Program was targeted toward marginal urban and hinterland (mostly Amerindian) communities depending upon rainwater, creeks and rivers as their primary potable water source. An environmental expert was hired to assist in monitoring the environmental criteria of the construction of project facilities and to train the engineers of the implementation agencies to incorporate environmental aspects in the management of the work of contractors. She developed a checklist of environment mitigation measures relating to site preparation, construction activities and post-construction site reclamation to assist the implementing agencies in monitoring project execution.

4. Achievement of Objective and Outputs

4.1 Outcome/achievement of objective:

As described below all three of the project development objectives were fully achieved despite some implementation problems that were encountered.

(i) Restoration of the country's agricultural capacity in drought stricken areas through vulnerability reduction measures in the areas of hydrologic extremes – **Achieved.** The project supported the clearing of thirteen drainage canals and outfalls of silt. In addition 13 sluices and 71 water-control structures were either rehabilitated or constructed throughout key coastal and interior areas. The project financed the acquisition of 12 mobile pumps and seven gravel pumps. These equipment and structures had an immediate and significant positive impact on drainage and irrigation in the project areas. Furthermore, if they are properly maintained, they are expected to have a long-term impact upon the livelihood of those living in the areas served. The project investments have already proven their worth in significantly improving the ability of NDIB to respond to recent floods along the coast resulting from heavy rains in 2000. About 275,000 acres of paddyland and other agricultural areas are estimated to have benefited from improved irrigation and flood protection as a result of the project.

(ii) Provision of Safe and Reliable potable Water Service to Marginal Urban and Remote Hinterland and Riverine Communities which have been affected by the Drought - **Achieved.** Potable water has been provided to marginal urban communities in North Ruimveldt and GS&WC has replaced leaky lines in Festival City, South Ruimveldt and Agricola, all of these settlements being low-income areas in Georgetown. Approximately 15,500 residents or about 2,580 households are now receiving reliable water supply. Project-financed facilities aimed at improving potable water service in the remote hinterland and riverine communities include 33 hand-dug wells, 79 hand pumps and 50 four- and six-inch wells. Many of these wells and hand pumps are providing water to vulnerable Amerindian groups in the hinterland areas; in many of these communities, such wells have been located in schoolyards or other public areas, facilitating greater community access. Approximately 6,290 families (37,700 persons) living on the coast as well as in very remote interior and riverine areas, including three communities at Mathew's Ridge, Ituni and Mahdia, added later in the project, are benefiting from these facilities. About 81.8 miles of four- and six inch new PVC distribution lines replaced old and leaky asbestos lines in these

areas.

(iii) Restoration of Flood Protection in low-lying areas of Georgetown – **Achieved**. The project supported the acquisition of five mobile pumps (vs. the two planned) for the city to assist in the pumping of runoff during precipitation occurring during high tide when the sluices have to be closed and the gravity-based drainage system is inoperable. These pumps have been deployed in strategic locations covering about 2 square miles around the city where they would protect an estimated 100,000 residents.

4.2 Outputs by components:

(a) The Agricultural Production Capacity Recovery and Regeneration Program: (i) **D&I Component**. The number of sluices rehabilitated was reduced from 17 to 13 because of time limitations and due to the fact that funding of some of the sluices was provided by other donors. The number of conservancy structures to be rehabilitated was increased from 5 to 71 due to a decision to rehabilitate all the structures in Tapakuma main canal (a primary rice-producing area) rather limiting the rehabilitation work to the main structures as had originally been planned. The Johanna Cecelia Conservancy was rehabilitated under the project, even though it was not originally included. This was done in response to demand from farmers who were suffering crop losses because of poor facilities. In addition the number of mobile and gravel pumps acquired was increased from 13 to 19 in order to enable the pumps to be assigned permanently to specific key regions rather than to have the pumps in a pool and moved long distances. Even with 19 pumps, the number of pumps owned by NDIB is still lower than the 29 identified in a needs assessment study financed by the UNDP. It was determined that this arrangement will also enhance user accountability for the pumps. The increase in the number of pumps was also facilitated by the availability of additional funding from failure of the Guyana Water Authority (GUYWA) to utilize all of its earmarked funds under the project. (ii) **HD Component**. In lieu of the rehabilitation of 12 stations, it was determined that it would be preferable to install 13 automatic weather stations that incorporated the gathering of the data from the instruments to be included in the rehabilitated stations. In this way the data collection protocols could be harmonized. As of March, 2002 real time data are being received from 11 out of the 13 automatic stations established under the project. Real time data retrieval capability for the remaining two stations is expected shortly. In addition, the dissemination program was expanded to include a pilot video program which included the broadcast of hydrometeorological information on Guyanese television. Because of increased interest, the project also supported an increase in the circulation of the HD's weekly and monthly bulletin from 110 to 250 subscribers.

(b) Potable Water Service Recovery & Restoration Program. (i) Under the **Recovery and Restoration Component**, 81.8 miles of four-and six inch pipes were laid or rehabilitated compared to the 20 miles planned. This was because of the expansion of coverage of the program to include 3 additional marginal urban communities in Georgetown (Western Section of North Ruimveldt and Festival City, South Ruimveldt Gardens, and Agricola) and 3 additional drought-sensitive hinterland urban communities (Matthew's Ridge, Ituni and Mahdia). Only two urban areas had been originally included in the project at North Ruimveldt in Georgetown and Little Biabu in Region 5. (ii) Under the **Drought Mitigation Component** the number of hand-dug wells constructed amounted to 33 (vs. 50 planned) but the number of four-inch well

constructed was only 23 (vs. 50 planned). Unfortunately, about 10 of the wells actually constructed turned out to be unproductive. At about US\$11,000 in initial production cost per well, such a high number of unproductive wells constituted a tremendous waste of scarce resources and so this activity was stopped to avoid further dry wells. There were 3 solar water systems installed compared to 2 that were planned. Six windmill water systems were installed as planned. As explained below, there were no ten-inch wells nor storage tanks constructed because of revised needs assessments and more detailed technical studies. The number of hand pumps installed was 79 (vs. 100 planned). The facilities located in Georgetown were implemented by Guyana Sewerage and Water Commissioners (GS&WC) while other facilities were implemented by the Guyana Water Authority (GUYWA).

(c) Georgetown Flood Protection Restoration Program. Under this component there were no sluices rehabilitated. During project implementation, the preparatory work for dimensioning the replacement pumps indicated that there was need for a more comprehensive long-term approach to Georgetown's drainage needs since the population and settlement patterns had changed substantially over the decades since the existing pumps were installed. While the Georgetown City Council prepared its long-term plans, it was decided to proceed with the acquisition of five mobile pumps for the city. These pumps have been deployed in strategic locations covering about 2 square miles around the city where they would protect an estimated 100,000 residents. Also following a quick hydrological reassessment of the Georgetown drainage system it was decided to install 5 smaller pumps rather than the 2 large pumps that were originally envisaged. This component was implemented by the Project Co-ordination Unit because of severe staff reductions at the PEU, due to the cancellation of the Infrastructure Rehabilitation Credit (Credit 2477-GUA) which constituted the bulk of PEU's workprogram.

4.3 Net Present Value/Economic rate of return:

In the PAD the cost-benefit analysis of the Drainage and Irrigation component was done by estimating the losses avoided in the expected floods of 1999 related to the predicted La Niña events as well as future El Niño and La Niña events. The same assumptions were followed in the re-estimation, except that the implementation was lagged by one year and actual costs were used, with O&M adjusted in light of experience. The revised economic rates of return and NPV were as follows:

	PAD	Actual
Cost Benefit Analysis: NPV	US\$1.8 M	US\$1.43 M
IERR	19%	16%

4.4 Financial rate of return:

NA

4.5 Institutional development impact:

Even though this project was an emergency project, it was still able to serve as the vehicle for attaining several institutional improvements in the implementation of projects in Guyana. The environmental specialist hired under the project developed a checklist of environmental mitigation measures that was used by the project implementing agencies to monitor the work of the contractors. Also, engineers in the implementation agencies were trained in environmental impact

assessment. The environmental specialist periodically met with contractors to sensitize them on environmental mitigation and site reclamation techniques. The project also put considerable emphasis on community participation, especially in the hinterland areas primarily inhabited by Amerindians. This was an important element in the construction of the hand dug and four inch shallow wells and in the operation and maintenance of the hand pumps. The communities were trained to undertake routine maintenance of the windmill and solar water systems that were installed under the project. The nearly 60 hand dug and shallow wells and 79 hand pumps financed under the project provided ample opportunities to reinforce the desirability of community participation in project execution. The project has also contributed to the improvement of hydrometeorological information in Guyana. Eight workshops were held in various parts of the country, and the circulation of HD's weekly and monthly bulletins were more than doubled. Furthermore the project helped in streamlining the procurement processes in Guyana. Monitoring systems were set up to identify bottlenecks in the procurement-approval process and deadlines were established for carrying out key steps. Standing committee of evaluators were set up in advance in sectors covered by the project to expedite the constituting of evaluation teams for reviewing bid proposals. Finally the project helped develop a simplified cost-effective computerized project financial management system based on the Bank's project management reports (PMRs). The system served as the model for the development of computerized systems for PMRs in several projects in Guyana.

5. Major Factors Affecting Implementation and Outcome

5.1 Factors outside the control of government or implementing agency:

a. Adverse Weather, Civil Unrest, Fire and 9/11. Project implementation schedule was adversely affected by floods in 1999/2000 and the political unrest that accompanied the elections of March 19, 2001. In many of the project areas, especially those on the coastlines, the civil strife led to the suspension of works for several weeks as both workers in the field and those in the implementing entities were unable to operate normally. Additionally, the NDIB (the implementing entity for the irrigation works) headquarters was totally destroyed by fire. All records, documents and equipment were lost in the fire and this has had an adverse impact upon its operation. Frequent power outages has also had an adverse impact upon several project-related activities in so far as offices were without electricity and equipment could not be operated or were damaged by power surges. Finally, mail communications between IDA and the PCU were severely disrupted following the terrorist attack on the US on September 11, 2001 just as the push was being made to complete the contracting of works, goods and services under the project. Documents to be sent to IDA for review were delayed. Despite these impediments, the project was completed with only one extension of the closing date by four months from November 30, 2001 to March 29, 2002.

b. Remoteness of Project Facilities. As can be seen from the project map, the facilities supported under the project were widely scattered around the country in line with the Government's firm commitment to address the potable water needs of vulnerable and marginally-served groups. Mobilization of contractors and transportation of construction materials represented a major challenge for the implementing agencies especially during the rainy season. Some of the well drilling sites were located in very remote hinterland areas, many of which could be reached only by dry-weather paths. Some materials had to be flown to the contract site and skilled workers had

to be brought in from Georgetown thereby adding lodging and other cost. Both transportation and skilled labor naturally featured as significant cost drivers for hinterland contracts.

c. Limited Contractor Pool. Project implementation was adversely impacted because of the small number of local contractors available to bid for works. The project had to rely on local contractors for the works component because the size of the contracts was not large enough to attract foreign contracting firms. For instance, the contract for a water system at Lethem near the Brazilian border, with a cost of only US\$28,000 had to be tendered four times before a local contractor was able to be qualified to execute the contract. Even then, the contractor eventually could not complete the job which had to be redone by a contractor from Georgetown at significant additional expense to the project.

5.2 Factors generally subject to government control:

a. Cumbersome Procurement Procedures. Guyana's procurement system requires considerable involvement of the Cabinet before contracts over US\$43,000 equivalent for goods/supplies and US\$64,000 equivalent for works are awarded. Because of the low threshold for the authority to award contracts by implementation agencies (or the related Ministries) virtually all 86 contracts under the project had to be approved by the Cabinet. Other bottlenecks in the system relate to the appointment of the members of the evaluation committees, scheduling projects for review at the Tender Board, and obtaining the Cabinet decision following a Cabinet discussion and approval of bid packages. Due to the emergency nature of the project, the Government agreed to "fast track" the procurement process for this project. It was agreed to set up standing group of evaluators for the works, goods and services to be procured under the project, establish a monitoring system to identify and deal with delays and to agree on deadlines by which certain procurement steps were to be implemented. While the Government made a good faith effort to live up to the agreement, there were several breakdowns in terms of delayed approvals that slowed project implementation.

b. Slow Decision Making Processes. When it became obvious around mid-2000 that the procurement auditor would be able to undertake only four of the six procurement audits stipulated in the contract, it was proposed to the Government that the procurement auditing firm should second an engineer to assist the PCU with procurement and engineering supervision services in lieu of the two remaining audits. No formal response was ever received from the Government. Similarly, given the relatively high failure rate of wells financed under the project, the possibility of undertaking a hydrological mapping of the affected areas, using more precise scientific instruments to identify likely water sources was proposed by the task team to the Government in August 2001. In addition, the option of providing alternative water source (other than wells), along the lines of using catchment tanks and reservoirs on hillsides as in Jamaica, was also proposed as an alternative approach which could be explored further for remote communities in Guyana. Again, the Government failed to respond. These failures to respond by the Government might have resulted in missed opportunities to strengthen procurement and project supervision at the PCU as well as to assess a cost-effective alternative to supplying water to Guyana's remote and dispersed populations.

5.3 Factors generally subject to implementing agency control:

a. Weak Staffing Arrangement. Despite agreement with IDA to the contrary, assigned staff financed under the Credit were not initially being used exclusively for project-related tasks. Staff

were being asked to do routine administrative tasks (typing, copying, etc.) and were not provided with appropriate support assistance. In addition, for GUYWA, after the need for a second engineer was established, it took GUYWA a considerable amount of time to fill the position. Even after someone was hired he was frequently distracted by non-project related assignments. Furthermore, the implementing agencies, except GS&WC, suffered significant staffing turnover during the project.

b. Lack of Uniform Design Standards. The failure to have uniform design standards complicated the implementation of the Potable Water Service Recovery and Restoration Program implemented by both GUYWA & GS&WC. Both entities use different specifications for PVC pipes, differing engineering practices for pipe laying and pressure testing. Also, the lack of uniform design standards lead to preparation of significantly different bidding documents for similar activities resulting in bidding responses of markedly different prices. Furthermore, there is no uniform requirement for applying standard engineering tests and the practice of leaving the test results under the safe keeping and control of contractors was prevalent. This approach creates an unacceptable level of risk of tampering. The frequent lack of geotechnical investigations and systematic soils testing has also tended to contribute to over-designed structures.

5.4 Costs and financing:

Project cost details are given in Annex 2. Under the Agricultural Production Capacity Recovery and Regeneration Program, the cost of Drainage and Irrigation component increased by 19%, from US\$ 3.966 million to US\$4.720 million due to the procurement of additional mobile and gravel pumps with the funds that were originally earmarked for GUYWA. IDA's financing of the D&I component amounted to about US\$4.257 million equivalent. HD's component increased by 37%, from US\$0.17 million to US\$0.233 million due to the funding of 13 automatic weather stations and related data retrieval and processing equipment. IDA funded 100% of the HD component. The Potable Water Service Recovery & Restoration Program experienced declines. Both the Recovery and Regeneration component (US\$.935 million vs. US\$1.145 million planned) and the Drought Mitigation Measures component (US\$3.249 million vs. US\$3.980 million planned) experienced declines of about 18%. IDA financing for both components amounted to US\$0.760 and US\$2.643 million respectively. The Georgetown Flood Protection Component experienced only about a 4% decline in cost from US\$0.622 vs. US\$0.598. IDA financing amounted to US\$0.592 million. Project Coordination experienced a significant increase in cost of nearly 65% (from US\$0.318 million to US\$0.524 million) because of inclusion of the cost of the procurement audit as part of the component, which is fully funded by IDA.

6. Sustainability

6.1 Rationale for sustainability rating:

I Agricultural Production Capacity Recovery and Regeneration Program

a. Drainage & Irrigation. **Likely**. Under the Technical Co-operation Program of the IDB-financed Agriculture Sector Loan, five Water User Associations (WUAs) have been established under the Mahaica-Mahaicony-Abary scheme to manage the secondary D&I system on a pilot basis. Following an initial review period, the experiment will be extended to other areas, if successful. The ultimate aim is to delegate to WUA's the full control for funding, operating and maintaining the local irrigation water system. Early indications are that the pilot program is functioning well

and the operation and maintenance of many of the pumps and drainage and irrigation facilities that have been provided under this project are likely to benefit from this initiative. However if the efforts to involve the users in the management of irrigation facilities is unsuccessful, then the sustainability of this component is likely to be questionable.

b. Hydrometeorological Services. **Likely**. At an average of about US\$290 per station per month, the cost of operating and maintaining the automatic weather stations is not particularly high. In addition an extensive training program in the use of the stations was included in the supply contract. However, operations and maintenance is staff intensive, requiring six trips per station per year to ensure that the sensitive equipment on the stations are operating properly. Plans are already underway to contract out the data retrieval and servicing of the automatic weather stations to the private sector. Furthermore the Canadian equipment supplier is planning to establish an agency office in Guyana which would ensure the ready availability of spare parts.

II Potable Water Service Recovery & Restoration Program. **Likely**. Both GUYWA and GS&WC have recently been merged into single company to be run by a private operator under a performance-based management contract. The terms of the management contract call for the implementation of a Hinterland Strategy and there are expectations that the new company will place greater emphasis upon operation and maintenance issues. The management contract is expected to go into effect around October 1, 2002.

III Georgetown Flood Protection Component. **Likely**. Even though the ownership of the pumps remain with the Civil Defense Commission, operational control is currently the responsibility of the City of Georgetown. The task team held extensive discussions with the City Engineer on the operational and maintenance requirements of the pumps and visited the City's stores and workshop to undertake a final assessment of the capabilities of staff and availability of spare parts for operating the City's other equipment. The City provided assurances that the pumps will be adequately maintained and current budget contains an incremental allocation for their operation and maintenance.

6.2 Transition arrangement to regular operations:

A consultant discussed a maintenance tracking system of major categories of works and equipment financed under the project with the project implementing agencies during the implementation completion mission. With respect to the Drainage and Irrigation component, plans are being put in place to involve the Water Users Association in areas having facilities that were rehabilitated and/or constructed under the project. The mobile and gravel pumps have been permanently allocated to regions who are then held accountable for smooth running of their assigned equipment. As the pumps would be for the exclusive use of a particular region, the region concerned will likely be more willing to invest in operators and allocate budgetary resources for operational expenses. Concerning data retrieval and the operation and maintenance of the automatic weather stations, the Chief Meteorological Officer has sought and obtained the authorization of the Ministry of Agriculture to contract out the maintenance of the stations. With respect to the transition arrangement for the operations of the facilities constructed under Potable Water Service Recovery & Restoration Program, both GUYWA and GS&WC have recently been merged into a single company (Guyana Water Incorporated (GWI)) to be operated under a performance-based management contract. Proposals from multinational water utilities were

received around mid-July 2002. The Government has recently completed its review of the proposals received. The management contract is expected to go into effect around October 1, 2002. Regarding the Georgetown Flood Protection Component, the City of Georgetown entered into an agreement through an exchange of letters with the Civil Defense Commission on the terms of the operational transfer of the five pumps to the city. The agreement also includes a commitment for proper maintenance of the pumps.

7. Bank and Borrower Performance

Bank

7.1 Lending:

Highly Satisfactory. The project formed part of the World Bank's global response to assist developing countries that had been severely impacted by the 1997 ENSO phenomenon. While as an emergency operation the project does not directly support any key policy and institutional reform measures, the project was designed to reinforce the assistance already being provided in non-emergency sector operations financed by IDA and other bilateral and multilateral donors. The design called for the five original implementing agencies to be responsible primarily for the implementation aspects (design, bid preparation, supervision of construction, etc.). The project financial and management aspects were concentrated in the Project Coordinating Unit which was responsible for contracting the works or services, preparing and submitting all withdrawal applications, paying the contractors, and maintaining a common special account for the project. This design led to several practical benefits. Only one special account was maintained for the five (later four) implementing agencies. Withdrawal applications were sent to the IDA from one originating point, and thus staffing demands were minimized, an important consideration in a resource-constrained environment. On the audit side, internal control was considerably enhanced as the need for individual audits of each implementing agencies was obviated. Finally when the offices of one of the implementing agencies was burnt down, documents relating to the project were easily reassembled from the copies at the PCU. IDA spent 23.8 staff weeks from its internal budgetary resources to prepare, appraise and negotiate the project at a cost of US\$94,500.

7.2 Supervision:

Satisfactory. IDA supervision effort was satisfactory. Despite the fact that the project was an emergency project which did not directly support institutional development the task team exerted significant efforts to complement the institutional development efforts of the other on-going sector operations. Initiatives taken by the task team included taking steps to streamline the procurement and financial management arrangements for the project. The efforts paid off in the relative speed with which IDA funds were committed. The task team encouraged GUYWA and GS&WC to harmonize the design standards and specifications as it did not make sense for the two institutions responsible for potable water to have different standards for pipe laying, pressure testing, PVC pipe specifications, etc. Also, IDA was very careful to require very simple design of the computerized financial management accounting system used to prepare the project management reports PMRs (now financial monitoring reports-FMRs) to be closely based on the existing government accounting system. Only the financial reports were fully integrated and automated, while the procurement reports were relegated to templates that were manually updated. This innovative approach enabled the system to be built very cheaply and this served as a best practice model in the Region. Efforts were made to mainstream environmental aspects in the project design and construction activities. Several attempts, including contracting out to an NGO

or the University of Guyana, to obtain baseline data for the project development indicators were unsuccessful. Finally, efforts to recommend the review of an alternative mode of supplying potable water to remote hinterland communities using the Jamaican model were not pursued by Guyanese authorities. Such a review would have provided a useful opportunity for fostering cross-country learning among Caribbean countries. IDA spent about 51.5 staff weeks (or 67.5 including overhead) from its internal budgetary resource to supervise the project at a cost of about US\$192,200 or (US\$302,200 including overhead).

7.3 Overall Bank performance:

Satisfactory. Despite the emergency status of the project, IDA attempted to address some of the systemic problems of project implementation in Guyana, such as cumbersome procurement processes and lack of proper operation and maintenance of infrastructure facilities. The project was successful in mitigating the effects of the 1997 El Niño which was manifested in Guyana in the form of drought. The data collection and dissemination of hydrometeorological data has been significantly improved under this project. Despite the geographical dispersion, extensive facilities were constructed under the project for riverine and hinterland communities. The Amerindian communities are already benefiting from the project-supported facilities. These facilities would be operated by a management contractor following the hiring of a management contractor to run the recently established GWI. The mobile pumps financed under the project were extremely useful in mitigating the effects of the 1999/2000 floods as well as May/June 2002 floods.

Borrower

7.4 Preparation:

Satisfactory: Project preparation started in earnest after the Government declared a state of emergency on March 26, 1998. The Head of the CDC, who was also the Head of the Presidential Secretariat, Office of the President, was responsible for coordinating all ENSO relief. Following the needs assessment the Government worked closely with the IDA team to prepare the project. The Government agreed to address the cumbersome procurement process in Guyana by committing itself to “fast track” the procurement arrangements under the project, including agreeing to deadlines for taking specific actions in the review cycle for bidding documents. Project team access to the President's Secretariat and to key Ministers for resolution of intractable issues was also an important sign of Borrower commitment. The Government also took steps to increase the budgetary allocation to the implementing agencies participating in the project to accommodate the incremental budget called for in the project financing plan. The Government also made available to the IDA all the studies that had been prepared on the status of drainage and irrigation facilities and the extent of coverage of the potable water services in the hinterland areas. Finally the Government agreed to the project implementation arrangements and quickly identified the staff as well as the office space needed.

7.5 Government implementation performance:

Satisfactory. The Government's implementation performance is rated as satisfactory. Even with budget constraints, the project never lacked counterpart funding. At the same time, despite the agreement to “fast track” procurement under the project, bureaucratic delays occurred during the early phase of project implementation. However, when this was brought to the Government's attention, decisive actions were taken to address the situation. Among such actions were establishing standing evaluation committees from which members could be drawn to evaluate

specific bid offers, setting up deadlines for critical steps in the process and implementing a procurement tracking system to pinpoint the bottlenecks in the review process. The procurement actions under the project were given expeditious review at the Tender Board and priority in Cabinet deliberations. The Government facilitated field visits to remote Amerindian communities where facilities were being constructed and/or rehabilitated under the project.

7.6 Implementing Agency:

Satisfactory. Overall, the performance of the implementing agencies is rated as satisfactory even though there was wide variation in their individual performance. All the implementation agencies, except GUYWA met their physical targets. All of the implementing agencies except the PCU and GS&WC experienced moderate staffing problems. GUYWA took some time before it was able to recruit a second engineer and NDIB experienced significant staff turnover. Toward the end of the project, HD lost its two most senior meteorologists, one to retirement the other to emigration. All the implementing agencies required their staff assigned to the project to also undertake other tasks. The PCU's coordinating role remained an issue throughout the project. The issue, which was not satisfactorily resolved throughout implementation, related to the extent the PCU should become involved in actual implementation as opposed to limiting itself to passively receiving and forwarding communications from the implementing entities without reviewing, analyzing, or otherwise facilitating coordination and implementation activities. To compensate for this gap, IDA staff had to maintain greater direct contact with the staff of the implementing entities and provided models to help them in preparation of their reports.

7.7 Overall Borrower performance:

Satisfactory. Overall the Borrower performance was satisfactory despite the implementation problems cited above. The Government took steps to mitigate the problems of procurement which has plagued many projects in Guyana. Adequate counterpart funding was available on a timely basis. While there were implementation problems, the overall execution went relatively smoothly. There was only one extension of the project closing date for only four months. The Government's commitment to the project remained high and the beneficiaries included a significant proportion of the urban poor and Amerindians communities.

8. Lessons Learned

Many of the lessons learned are country specific but at the same time, several of them have wider applicability. Among most borrowers, damages associated with disasters usually reflect the results of: (i) the disaster itself; (ii) cumulative neglect and deferred maintenance over time and (iii) weak or ineffective operational and institutional systems and framework. Separating out the specific impact of these factors is not an easy task.

In Guyana, after decades of neglect, the country's infrastructure, including its drainage and irrigation and potable water systems, was in a serious state of disrepair before El Niño. Similarly, with respect to the operation of the various sector agencies, budget constraints, inadequately-skilled staff, high turnover, poor or absent enforcement of multiple norms and standards, all had a cumulative negative impact. When the drought came, the already weak system collapsed as many of the back-up sources (catchment tanks, river water, individual wells) disappeared.

The Government made commendable efforts in its relief and reconstruction efforts. However, without more resources and efforts aimed at mainstreaming appropriate maintenance policies and improved operational and institutional support, the facilities provided under this Credit will be vulnerable to future disasters.

Some of the main lessons learned with respect to the above points are the following:

- (a) Early Warning and Emergency Preparedness.** Having a well-functioning early-warning system and being prepared for disasters is an important element in the development process. In Guyana, in spite of several pressing problems, the Government was able to recognize the potential impact of the oncoming drought. It took steps in seeking UNDP assistance to dimension the impact and to organize international support for both relief and reconstruction efforts.
- (b) Commitment.** The Government demonstrated early commitment to the relief and reconstruction effort. Apart from providing access and data to lender and donor agencies, the Presidential Secretariat assumed responsibility for the coordination of assistance programs through the Civil Defence Commission. Efforts were made to ensure that there were no delays in the contracts-approval process and adequate counterpart funds were made available in a timely manner. This provided a clear signal of the priority accorded to the relief and reconstruction process.
- (c) Need for a More Efficient Procurement System.** Even with the full commitment of the Government to put the project on a “fast track” approval process, the weakness of the existing procurement system quickly became apparent. Among some of these weaknesses are low thresholds requiring Cabinet approvals, a cumbersome process for reviewing, selecting and hiring contractors and consultants and long delays in transmitting decisions among the various entities. In this project, efforts were made, with some success, to address some of these deficiencies. However, the process was not always smooth and while the contracting process for this credit was shorter than normal, the country could benefit from a more streamlined overall procurement process. The Government is considering reforming its procurement processes with the assistance of the IDA. A new procurement law has been prepared. It was tabled in Parliament on May 24, 2002 and was passed on May 30, 2002. It calls for a seven-member National Board to administer the National Procurement and Tender Administration to be set up. On-going discussions are still underway between the Government and IDA regarding how the new law could best strengthen Guyana's procurement processes.
- (d) Slow Decision-Making Process.** As project implementation proceeded and various obstacles were identified, efforts were made to find solutions to such obstacles. Unfortunately, the system was apparently not geared for such an approach and so there were several missed opportunities. For example, after it became clear that the policy of GUYWA was to accept a high ratio of dry wells in the interior, IDA staff suggested that a more cost-efficient way was to hire technical experts who had the tools to better locate potential water sources. Additionally, it was recommended that visits be made to Jamaica which had similar potable water problems, to see how they are using local low-cost appropriate-technology solutions. Recommendations were also

made to utilize the skills of the procurement auditor to help local contractors and consultants to become better prepared in executing project works. In all of these recommendations, there was initial Government agreement with IDA recommendations. However, no follow-up actions were taken and so potentially valuable opportunities were lost.

(e) Norms and Standards. The lack of uniform civil engineering standards led to differing designs and specifications (e.g. in pressure test requirements, use of sandbeds and design specifications) for relatively simple tasks such as supply and installation of PVC pipes by GUYWA and GS&WC, the two entities which implemented potable water components under the project. One result of this was large price variation in bids by contractors for similar jobs. Use of outdated well-drilling practices, especially in finding water in hinterland areas, resulted in a success rate of about 75%. Had the authorities used simple low-cost mapping/exploration techniques which are readily available on the market, the result would have been much more favorable. There is a pressing need for the Government to prepare uniform and clear guidelines regarding the types of engineering tests to which construction materials and engineering structures would be subjected. It should also place high priority upon protocols for undertaking the tests, recording and storing the data and interpreting the results. These issues would be addressed following the hiring of the management contractor to operate GWI.

(f) Country Absorptive Capacity and Coordination. This being an emergency project, it was prepared within a relatively short time. Initial contacts and reviews of the operation of the various project entities show that the scope of works was within their implementation capacity. However, as works progressed, it became clear that the pool of qualified contractors/consultants was very limited, the country size and task profile did not easily attract foreign companies, key staff were frequently being called upon to respond to various emergencies (sea-defence breaches, pumping-station breakdowns, etc.), the high staff turnover and a lack of skilled staff within the implementing entities. In combining these factors with the weaknesses in the administrative processes within the Government and cumbersome procurement, it became clear that had the intervention of the Presidential Secretariat and the responsible ministers not occurred during the implementation of this project, it would have faced implementation delays. In light of this and the implementation problems that have affected other IDA-financed projects in Guyana, in preparing future investment projects, the limited absorptive capacity of the country should be an important factor to consider.

9. Partner Comments

(a) Borrower/implementing agency:

EXECUTIVE SUMMARY

As the drought worsened to the extent of crop losses and potable water scarcity became visible, the Government declared a State of Emergency on March 26, 1998 and gave the Civil Defence Commission (CDC) an entity within the Presidential Secretariat the responsibility for coordinating all ENSO relief and reconstruction/rehabilitation efforts.

Damage assessment reports were prepared to document the nature and extent of the problems and several donor meetings took place with UNDP's assistance. The International Donor

Community responded with an assistance programme aimed at addressing identified needs. The Bank, IDB and other international agencies were asked to assist in the recovery phase.

The Bank responded positively and a credit of US\$9million was agreed with the Government of Guyana as spelt out in the Project Data Sheet. In November 1998 the project was launched with the following objectives:

- (1) Help to restore the country's agricultural capacity in drought stricken areas through the reduction of vulnerability to hydrologic extreme.
- (11) Help to restore safe and reliable potable water supply service to drought affected marginal, urban, hinterland and riverain communities.
- (111) Help to restore flood protection in the low-lying areas of the City of Georgetown.

The entities with whom IDA had formulated the Project contents to address the objectives were NDIB, Hydromet Division, Ministry of Agriculture, Guywa, GS&WC and PEU, suffice it to say that the PEU was later disbanded and its responsibility given to the CDC. They were all required under the coordination of the CDC/PCU to design work programmes in accordance with the requirements to address the objectives as given in the PAD, extending over a three year period – 1999-2001.

Accordingly NDIB, Guywa and GS&WC were required to sign subsidiary agreements on a back to back basis of the main Credit Agreement with the Government of Guyana represented by the Minister of Finance.

The Project Coordinating Unit was established in the Civil Defence Commission with responsibility for environmental review and the supervision of the implementation of mitigation measures. The PCU was mandated to process all payment request from entities and to submit quarterly progress reports to IDA and GOG. The PCU was responsible for getting the annual financial audit and the bi-annual (Procurement Audit) of the project conducted in time with the Project's progress and schedules.

The period 1999-2001 was fluxed with numerous inhibiting factors that contributed to delays in project progress. There was the flood of 1999/2000, civil unrest due to pre and post elections disturbances where contractors had to demobilize and as the project approached its closure, November 30, 2001 the impact of the September 11 incident in the U.S.A added to further delays in project completion which eventually caused the Government to request an extension of the closing date.

Despite early setbacks, NDIB completed its revised work programme in which sluices and hydraulic structures were rehabilitated/constructed and mobile pumps procured thus addressing the objective of restoring Agricultural capacity of approximately 275,000 acres of farmlands of which 6 to 2 benefited. The mobile pumps assisted with the removal of flood waters along the East Coast of Demerara during the high precipitation of 1999/2000 thus

saving the lives of cattle and demolition of homes.

Complementary was the work of Hydromet Division of the Ministry of Agriculture where thirteen stations within its net work of Hydrometeorological stations were upgraded some to automatic, where real time data is obtained giving the Division the capacity to make more meaningful weather forecast. The division conducted several workshops across the country where farmers, government officials and residents were made aware of the El Nino phenomenon. A total of thirty seven papers on El Nino related topics were presented by eminent persons on the subject with encouraging participation from the gatherings. Farmers are now requesting that weather forecasts be a regular feature in the printed news media.

Potable water restoration to drought affected areas was the responsibility of GS&WC and Guywa. GS&WC had water services pipes laid with metered connections to four marginal urban areas namely, North and South Riumveldt to the benefit of 900 households, Festival City to the of 672 households, South Riumveldt Park to the benefit of 648 households and Agricola to the benefit of 360 households.

Guywa laid water services pipe at Lethem to the benefit of 500 households, Perseverance/Mahaica connecting villages of De Hoop, Little Biabu and Champayne to the benefit of 800 households. Water service was also provided to Mabaruma, Ituni, Mathews Ridge, and Mahadia to a total benefit of 900 households.

Drought mitigating measures by hand dug wells in Region 9 was completed in thirty three villages to the benefit of a remote population of 4000 persons. Forty four small diameter drilled wells with small hand pumps were installed in Regions 9, 8, 7, 2 and 1 with a total benefit to 20,500 persons. Windmills and solar systems to drive, pumps were utilized at eight locations.

Georgetown flood protection was to be achieved by the installation of five mobile pumps at sluices on the western end of the city. The executing of this component of work was given to the PCU since the PEU of the Ministry of Works was disbanded. It is estimated that during high precipitation and high tide conditions persons living in low-lying areas of the City ought to be free of flood waters. GS&WC intimated that pumps would assist in keeping the sewerage chambers free from water during high precipitation. These pumps however, would be operated and maintained by the M&CC.

The project has had its financial audits for years 1999, 2000, 2001 and 2002 by a private firm appointed by the Auditor General with favorable opinions.

As required in the Credit Agreement, Biannual Procurement Audits of the Project had to be conducted. Four such audits were completed by the closure of the project through an International Procurement Consulting Firm. Their observations and recommendations are contained in their final report.

A requirement of the Development Credit Agreement was that an Environmental Specialist be

attached to the PCU to assist the Project Coordinator with supervision of environmental mitigating measures relating to projects under construction. Suffice it to say that a specialist was appointed who made site visits and submitted reports against a check list that formed part of bidding documents.

The Government made every effort to fast track and monitor the projects under the project ensuring that all bottle necks are cleared at the monthly Cabinet sub-committee meeting on the Capital Works Programme. Counterpart funds as defined in the annual budget were always available for disbursement against eligible expenditures.

The World Bank contribution via its team led by Mr. Thakoor Persaud must be complemented for their patience, understanding and guidance both from their Washington offices and during their nine Supervision missions of the Project.

The executing entities performance is commendable and should not be measured only by the performance indicators for sluices and wells but also by development of those persons who were directly involved with the Project which would auger well for the entity and country as a whole.

The project via its contribution to the objectives provided employment over the period to 332 workers in various skills.

(b) Cofinanciers:

(c) Other partners (NGOs/private sector):

10. Additional Information

None.

Annex 1. Key Performance Indicators/Log Frame Matrix

GUYANA El Niño Emergency Assistance Project Emergency Relief and Rehabilitation		
Indicator / Matrix	Projected in the last PSR	Actual/Latest Estimate
Increase in the production of sugar rice and other foodstuffs to pre-drought levels over three years	NA	NA
Getting sluices and drainage systems repaired and rehabilitated, pumps acquired and installed and operating	13	13
Increase in the proportion of population with access to reliable and safe potable water services in drought affected areas over 3 years	NA	NA
Number of vulnerable households benefiting from access to potable water.	9,950	9,950
NA: GOG: did not have statistics for affected zones		

GUYANA El Niño Emergency Assistance Project Output Indicators										
	1999		2000		2001		2002		Total	
	Apr	Act	Apr	Act	Apr	Act	Apr	Act	Apr	Act
1 Agriculture Product. and Recov. Program										
1.1 Drainage & Irrigation										
No. of Sluice Rehabilitated	11	0	6	3	0	9	0	1	17	13
No. of Struct. & Rehab Works	0	0	2	0	3	23	0	48	5	71
No. of Conservancies	0	0	0	0	0	1	0	5	0	1
Number of Pumps	10	9	3	0	0	4	0	6	13	19
1.2 Strengthening Hydromet Network										
Weather Stations Upgraded	6	0	6	0	0	0	0	0	12	0
Automatic Weather Stations	3	0	6	0	0	13	0	0	9	13
Dis. Seminars/Video Program	0	0	0	0	0	1	0	0	0	1
Dis. Seminars/Workshops	4	2	4	4	0	2	0	0	8	8
2 Portable Water Service Recovery Program										
2.1 Recovery and Restoration Program										
Four/six Inch Pipes Laid (miles)	6	0.25	14	29.8	0	48.7	0	3	20	81.75
2.2 Drought Mitigation Measures										
Hand dug wells constructed	15	4	15	4	20	25	0	0	50	33
Four Inch shallow wells constrd.	15	0	35	5	0	17	0	0	50	23
Six-inch wells constructed	14	0	14	2	0	25	0	0	28	27
Ten-inch wells constructed	0	0	4	0	0	0	0	0	4	0
Hand pumps installed	45	4	55	6	0	69	0	0	100	79
Solar Systems constructed	0	0	1	0	1	3	0	0	2	3
Windmill Systems constructed	0	0	3	0	3	6	0	0	6	6
Storage Tank	1	0	1	0	0	0	0	0	2	0
New Hinterland Water Schemes	0	0	0	0	0	2	0	1	0	3
3 Georgetown Flood Protection Rest. Prog.										
Sluice Rehabilitated	2	0	0	0	0	0	0	0	2	0
Pumps Installed	2	0	0	0	0	5	0	0	2	5

Annex 2. Project Costs and Financing

El Niño Emergency Assistance Project Project Financing by Component (in US\$ million equivalent)						
	Appraisal Estimates			Latest Estimates		
	Planned	IDA	GOG	Actual	IDA	GOG
Drainage & Irrigation	3.966	3.470	0.496	4.720	4.257	0.463
Hydromet Services	0.170	0.170	0.000	0.233	0.233	0.000
Subtotal	4.136	3.640	0.496	4.953	4.490	0.463
Recovery and Regeneration	1.145	1.010	0.135	0.935	0.760	0.175
Drought Mitigation Measures	3.980	3.482	0.498	3.249	2.643	0.606
Subtotal	5.125	4.492	0.633	4.184	3.403	0.781
Georgetown Flood Protection	0.622	0.550	0.072	0.598	0.592	0.006
Project Coordination	0.318	0.318	0.000	0.524	0.390	0.134
Total	10.201	9.000	2.390	10.259	8.875	1.384
	Planned	IDA	% IDA	Actual	IDA	% IDA
Drainage & Irrigation	3.966	3.470	87%	4.720	4.257	90%
Hydromet Services	0.170	0.170	100%	0.233	0.233	100%
Subtotal	4.136	3.640	88%	4.953	4.490	91%
Recovery and Regeneration	1.145	1.010	88%	0.935	0.760	81%
Drought Mitigation Measures	3.980	3.482	87%	3.249	2.643	81%
Subtotal	5.125	4.492	88%	4.184	3.403	81%
Georgetown Flood Protection	0.622	0.550	88%	0.598	0.592	99%
Project Coordination	0.318	0.318	100%	0.524	0.390	74%
Total	10.201	9.000	88%	10.259	8.875	87%
	Planned	GOG	% GOG	Actual	GOG	% GOG
Drainage & Irrigation	3.966	0.496	13%	4.720	0.463	10%
Hydromet Services	0.170	0.000	0%	0.233	0.000	0%
Subtotal	4.136	0.496	12%	4.953	0.463	9%
Recovery and Regeneration	1.145	0.135	12%	0.935	0.175	19%
Drought Mitigation Measures	3.980	0.498	13%	3.249	0.606	19%
Subtotal	5.125	0.633	12%	4.184	0.781	19%
Georgetown Flood Protection	0.622	0.072	12%	0.598	0.006	1%
Project Coordination	0.318	0.000	0%	0.524	0.134	26%
Total	10.201	1.201	12%	10.259	1.384	13%

Project Expenditures by Implementing Agencies				
Imp. Agency	Planned	Actual	Variance	% Diff
NDIB	3.966	4.720	0.754	19.0%
Hydromet	0.170	0.233	0.063	37.1%
GUYWA	3.614	2.568	-1.046	-28.9%
GS&WC	1.511	1.616	0.105	6.9%
PCU -GT	0.622	0.598	-0.024	-3.9%
PCU -Cord	0.318	0.524	0.206	64.8%
Total	10.201	10.259	0.058	0.6%
Project Expenditures by Project Components				
Component	Planned	Actual	Variance	% Diff
Drainage & Irrigation	3.966	4.720	0.754	19.0%
Hydromet Services	0.170	0.233	0.063	37.1%
Recovery and Regeneration	1.145	0.935	-0.21	-18.3%
Drought Mitigation Measures	3.980	3.249	-0.731	-18.4%
Georgetown Flood Protection	0.622	0.598	-0.024	-3.9%
Project Cordination	0.318	0.524	0.206	64.8%
Total	10.201	10.259	0.058	0.6%

		Original	Revised
		Contract	Contract
No.	Entities		
1	National Drainage & Irrigation	WORKS 1,684,676	1,728,759
		GOODS 2,905,971	2,829,836
		CONSULTANCY 154,833	161,754
		TOTAL 4,745,480	4,720,349
2	Hydromet Division	WORKS 0	0
		GOODS 178,649	178,649
		CONSULTANCY 51,382	54,495
		TOTAL 230,031	233,144
3	Guyana Water Authority	WORKS 2,590,299	2,177,227
		GOODS 233,618	233,684
		CONSULTANCY 148,994	156,741
		TOTAL 2,972,911	2,567,652
4	Georgetown Sewerage & Water	WORKS 1,530,510	161,973
5	Georgetown Flood Protection	WORKS 28,023	31,552
		GOODS 551,728	551,728
		CONSULTANCY 15,000	15,000
		TOTAL 594,751	598,280
6	Project Coordinating Unit	WORKS 18,907	18,907
		GOODS 43,815	44,633
		CONSULTANCY 409,526	330,922
		ADMIN EXPENSES 97,171	109,187
		OTHER 19,800	20,433
		TOTAL 589,219	524,082
EL NINO EMERGENCY ASSISTANCE PROJECT		WORKS 5,852,421	5,572,818
		GOODS 3,913,781	3,838,530
		CONSULTANCY 779,735	718,912
		ADMIN EXPENSES 97,171	109,187
		OTHER 19,800	20,433
		GRAND TOTAL 10,682,908	10,259,880

GUYANA El Niño Emergency Assistance Project Project Cost by Procurement Arrangement (US\$ million)				
(Appraisal Estimate)				
Procurement Method				
Expenditure Category	ICB	NCB	Other	Total
Works	4.20 (4.20)	2.64 (1.60)	0.56 (0.40)	7.40 (6.20)
Goods	1.60 (1.60)	0.00 0.00	0.60 (0.60)	2.20 (2.20)
Services	0.00 (0.00)	0.00 (0.00)	0.60 (0.60)	0.60 (0.60)
Total	5.80	2.64	1.76	10.20
Total IDA	(5.80)	(1.60)	(1.60)	(9.00)
(Actual/Latest Estimate)				
Procurement Method				
Expenditure Category	ICB	NCB	Other	Total
Works	2.851 (2.851)	2.722 (1.607)	0.00 (0.00)	5.573 (4.458)
Goods	2.728 (2.728)	0.370 (0.356)	0.741 (0.614)	3.839 (3.698)
Services	0.163 (0.163)	0.00 (0.00)	0.556 (0.556)	0.719 (0.719)
Administration & Other				0.128 (0.000)
Total	5.742	3.092	1.297	10.259
Total IDA	(5.742)	(1.963)	(1.170)	(8.875)

Annex 3. Economic Costs and Benefits

GUYANA									
BULLETIN OF THE GUYANAN ECONOMIC COMMISSION									
ECONOMIC COSTS AND BENEFITS									
Year	Investmt	O&M	Losses Avoided El Nino	Losses Avoided La Nina	Losses Avoided Regular	Total Losses Avoided	Total Cost	Total Net Rev	Total Net Benefit
2000	2.266			8.692	0.000	8.692	2.266	0.869	-1.397
2001	2.266	0.034			2.034	2.034	2.3	0.203	-2.097
2002	0.199	0.068			2.034	2.034	0.267	0.203	-0.064
2003		0.068	20.300		0.000	20.300	0.068	2.030	1.962
2004		0.068			2.034	2.034	0.068	0.203	0.135
2005		0.068			0.136	0.136	0.068	0.136	0.068
2006		0.74		8.692	2.034	10.726	0.740	1.073	0.333
2007		0.068	20.300		0.000	20.300	0.068	2.030	1.962
2008		0.068			2.034	2.034	0.068	0.203	0.135
2009		0.068			2.034	2.034	0.068	0.203	0.135
2010		0.068			2.034	2.034	0.068	0.203	0.135
2011		0.74	20.300		0.000	20.300	0.740	2.030	1.290
2012		0.068		8.692	2.034	10.726	0.068	1.073	1.005
2013		0.068			2.034	2.034	0.068	0.203	0.135
2014		0.068			2.034	2.034	0.068	0.203	0.135
2015		0.068	20.300		0.000	20.300	0.068	2.030	1.962
2016		0.74			2.034	2.034	0.740	1.277	0.537
2017		0.068			0.000	0.000	0.068	1.360	0.068
2018		0.068		8.692	2.034	10.726	0.068	1.073	1.005
2019		0.068	20.300		0.000	20.300	0.068	2.030	1.962
						IERR		16%	
						NPV in US\$mIn		\$1.43	

Annex 4. Bank Inputs

(a) Missions:

Stage of Project Cycle Month/Year	No. of Persons and Specialty (e.g. 2 Economists, 1 FMS, etc.)		Performance Rating	
	Count	Specialty	Implementation Progress	Development Objective
Identification/Preparation				
03/98	3	ECON, FINA, WATS		
01/99	3	ECON, FINA, CONS.		
Appraisal/Negotiation				
05/99	3	ECON, FINA, ENGR		
Supervision				
11/99	2	ECON, FINA	S	S
01/00	3	ECON, FINA, ENGR	S	S
07/00	3	ECON, FINA, ENGR	S	S
11/00	3	ECON, FINA, ENGR	S	S
04/01	3	ECON, FINA, CNTRY COORD	S	S
09/01	3	ECON, FINA, ENGR	S	S
ICR				
03/02	3	ECON, FINA, ENGR		

ECON - Economist; FINA - Financial Analyst; WATS - Water and Sanitation Specialist, CONS - Consultant; CNTRY COORD - Country Coordinator, ENGR - Engineer

(b) Staff:

Stage of Project Cycle	Actual/Latest Estimate	
	No. Staff weeks	US\$ ('000)
Identification/Preparation	10.7	36.4
Appraisal/Negotiation	13.1	58.1
Supervision	67.5	302.2
ICR	6.0	8.2
Total	97.3	404.9

Supervision includes overhead.

Annex 5. Ratings for Achievement of Objectives/Outputs of Components

(H=High, SU=Substantial, M=Modest, N=Negligible, NA=Not Applicable)

	Rating					
☐ <i>Macro policies</i>	☐ H	☐ SU	☐ M	☐ N	☒ NA	
☐ <i>Sector Policies</i>	☐ H	☐ SU	☐ M	☐ N	☒ NA	
☐ <i>Physical</i>	☐ H	☒ SU	☐ M	☐ N	☐ NA	
☐ <i>Financial</i>	☐ H	☐ SU	☐ M	☐ N	☒ NA	
☐ <i>Institutional Development</i>	☐ H	☐ SU	☐ M	☐ N	☒ NA	
☐ <i>Environmental</i>	☐ H	☐ SU	☒ M	☐ N	☐ NA	
<i>Social</i>						
☐ <i>Poverty Reduction</i>	☐ H	☒ SU	☐ M	☐ N	☐ NA	
☐ <i>Gender</i>	☐ H	☐ SU	☐ M	☐ N	☒ NA	
☐ <i>Other (Please specify)</i>	☐ H	☐ SU	☐ M	☐ N	☒ NA	
☐ <i>Private sector development</i>	☐ H	☐ SU	☐ M	☐ N	☒ NA	
☐ <i>Public sector management</i>	☐ H	☐ SU	☐ M	☐ N	☒ NA	
☐ <i>Other (Please specify)</i>	☐ H	☐ SU	☐ M	☐ N	☒ NA	

Annex 6. Ratings of Bank and Borrower Performance

(HS=Highly Satisfactory, S=Satisfactory, U=Unsatisfactory, HU=Highly Unsatisfactory)

6.1 Bank performance

Rating

- | | | | | |
|-----------------------------------|-------------------------------------|------------------------------------|-------------------------|--------------------------|
| ☐ Lending | ☒ HS | ☐ S | ☐ U | ☐ HU |
| ☐ Supervision | ☐ HS | ☒ S | ☐ U | ☐ HU |
| ☐ Overall | ☐ HS | ☒ S | ☐ U | ☐ HU |

6.2 Borrower performance

Rating

- | | | | | |
|---|--------------------------|------------------------------------|-------------------------|--------------------------|
| ☐ Preparation | ☐ HS | ☒ S | ☐ U | ☐ HU |
| ☐ Government implementation performance | ☐ HS | ☒ S | ☐ U | ☐ HU |
| ☐ Implementation agency performance | ☐ HS | ☒ S | ☐ U | ☐ HU |
| ☐ Overall | ☐ HS | ☒ S | ☐ U | ☐ HU |

Annex 7. List of Supporting Documents

Project Appraisal Document: El Nino Emergency Assistance Project, September 28, 1998
Implementation Completion Report, Project Coordination Unit, March 2002
Entities Project Profile, Works & Goods, Project Coordinating Unit, March 2002
Final Report, Georgetown Sewerage and Water Commissioners, March, 2002
Project Information NDIB and PCU Projects, April 15, 2002
Implementation Completion Report, Hydrometeorological Supply and Dissemination Program
Maintenance and Operations Cost of El Nino Stations for one year
Contract Disbursement Report as July, 2002

Additional Annex 8. Project Contracts and Map References

No.	Description of Contract	Bid	Contract No.	Map Ref. Number	Date of Contract Signature	Original Contract Value	Revised Contract Value
National Drainage Works							
1	New Sluice at Endeavour	NCB	WB-NDIB/08/99/W	1	30-Dec-99	110,072	102,940
Rehabilitation of Structures							
Lot 1 to 7							
2	23 Structures at Seaford Canal	NCB	WB-NDIB/10-1/99/W	2	10-Jul-00	477,531	432,626
3	Golden Grove Sea Sluice	NCB	WB-NDIB/10-2/99/W	3	31-Jul-00	58,594	56,295
4	Coverden & Triumph Sluices	NCB	WB-NDIB/10-3/99/W	4	20-May-00	12,581	12,539
5	Belfield Sea Sluice	NCB	WB-NDIB/10-4/99/W	5	20-May-00	192,967	192,028
6	New Sluice at Red Lock	NCB	WB-NDIB/10-5/99/W	6	25-May-00	210,266	314,390
7	Uno Creek Spill Weir	NCB	WB-NDIB/10-7/99/W	7	14-Aug-00	22,788	22,770
Rehab. of Control Structures							
Lots 1 to 6							
8	Helena #1 River Sluice	NCB	WB-NDIB/01-1/00/W	8	2-Oct-00	43,728	37,464
9	Lonsdale River Sluice	NCB	WB-NDIB/01-2/00/W	9	2-Oct-00	99,414	121,539
10	Borlan Sluice	NCB	WB-NDIB/01-3/00/W	10	9-Oct-00	41,278	39,579
11	Adventure Sluice	NCB	WB-NDIB/01-4/00/W	11	30-Nov-00	28,877	25,318
12	Eversham Sluice	NCB	WB-NDIB/01-5/00/W	12	30-Nov-00	8,325	5,463
13	Number 43 Village Sluice	NCB	WB-NDIB/01-6/00/W	13	30-Nov-00	34,742	30,703
Rehab of Control Structures							
14	Johanna Cecelia/Annadale	NCB	WB-NDIB/02-1/00/W	14	29-Dec-00	143,609	135,201
15	Tapakuma Main Canal	NCB	WB-NDIB/02-2/00/W	14	12-Dec-01	199,904	199,904
Goods							
16	Supply of 9 Mobile Pumps	ICB	WB-NDIB/1/99/G	NA	26-Apr-99	991,847	991,847
17	Supply of (5) Mobile Pumps	ICB	WB-NDIB/02/01/G	NA	17-Oct-01	650,356	650,356
18	Supply of one (1) Gravel Pump	ICB	WB-NDIB/5/99/G	NA	27-Aug-01	110,000	110,000
19	Supply of Vehicles	ICB	WB-NDIB/2/99/G	NA	20-Sep-99	39,782	39,782
20	Supply of Computers	NCB	WB-NDIB/3/99/G	NA	20-Sep-99	11,407	11,407
Sub Totals b/f						3,488,068	3,532,151
21	Supply of three (3) Gravel Pumps	ICB	WB-NDIB/5/99/G	NA	20-Dec-00	330,000	330,000
22	Supply of three Dredges	ICB	WB-NDIB/03/01/G	NA		330,000	303,390
23	Supply of Surveying Equip	LNB	WB-NDIB/1/00/G	NA	16-Oct-00	3,179	3,179
Construction Materials							
24	Supply of Winches	NCB	WB-NDIB/4-1/99/G	NA	31-Mar-01	43,560	42,960
25	Supply of Steel Sheet Piles	ICB	WB-NDIB/4-2/99/G	NA	9-Jul-01	200,000	151,075
	Supp. Of Rubbing Strip mat.	ICB	WB-NDIB/4-4/99/G	NA	9-Jul-01		
26	Supply of Gabion Baskets	NCB	WB-NDIB/4-3/99/G	NA	7-Sep-00	195,840	195,840
Services							
27	Engineer		WB-NDIB/1/99/Staff	NA	2-Jun-99	24,712	29,903
28	Accountant		WB-NDIB/2/99/Staff	NA	2-Jun-99	18,462	18,462
29	Technician Engineer		WB-NDIB/3/99/Staff	NA	2-Jun-99	12,421	12,421
30	Consultant Engineer		WB-NDIB/4/99/Staff	NA	4-Sep-00	84,132	84,132
31	Mechanical Engineer		WB-NDIB/01/00/Staff	NA	22-May-00	15,106	16,836
Total - ND&I Board						4,745,480	4,720,348

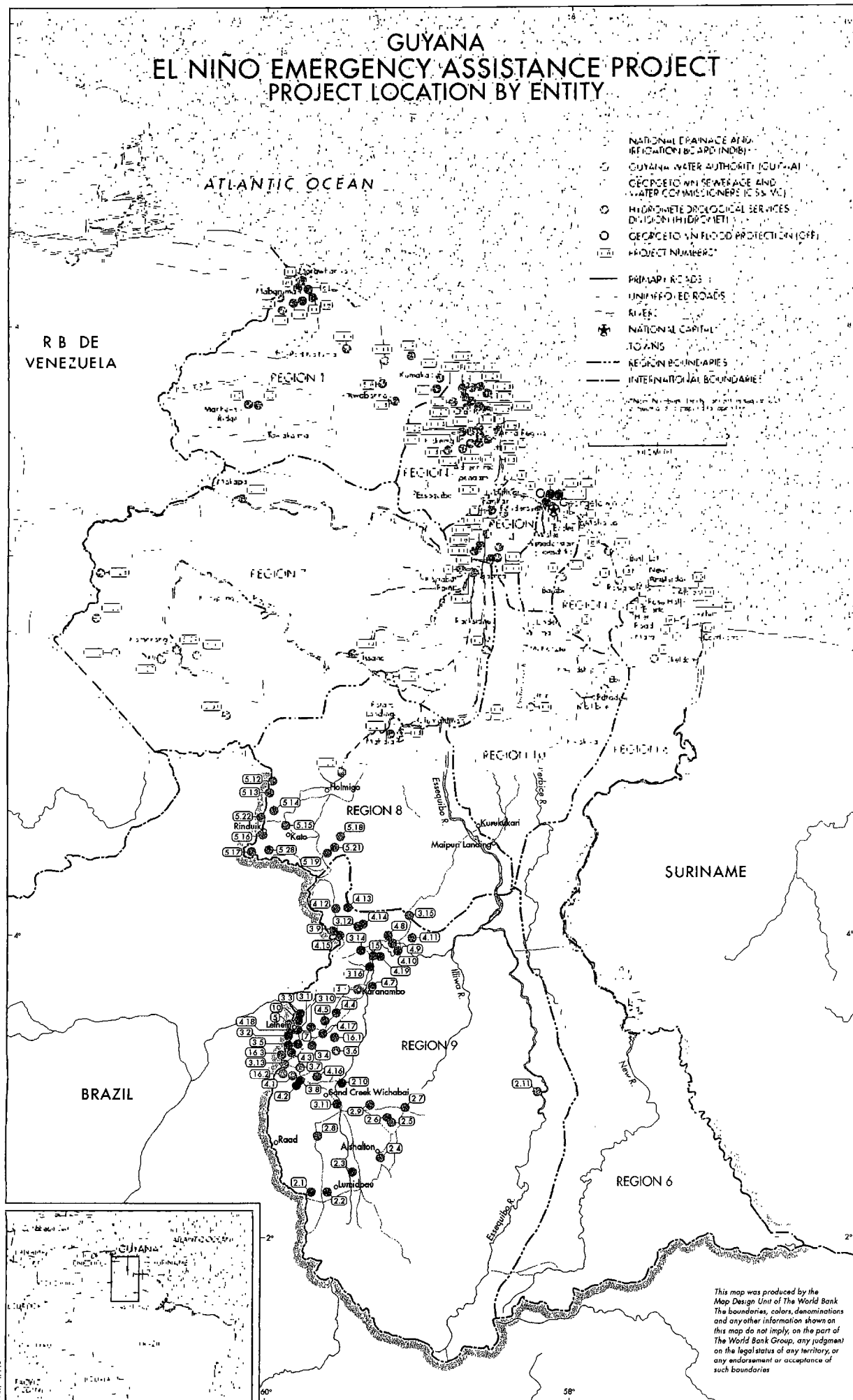
No	Description of Contract	Bid	Contract No.	Map/Ref. Number	Date of Contract Signature	Original Contract Value	Revised Contract Value
Guyana Water Authority							
Works							
1	Installation of H D Well & Pumps	NCB	WB-Guywa/01/99/W	2.1 to 2.11	25-Oct-99	18,742	18,640
2	Installation of W/System at Lethem	NCB	WB-Guywa/02/99/W "R4	7	20-Oct-00	24,901	4,998
3	Installation of W/System at Lethem SB	WB-Guywa/04/99/W "R5	7			55,000	43,367
4	Construction of 6" Diameter Wells	ICB	WB-Guywa/03/99/W	1.1 to 2.11	19-Jan-00	795,094	716,052
5	Water Distribution Sys at Mabarum	NCB	WB-Guywa/06/99/W	8	21-Dec-99	68,500	77,403
6	Construction of 4" Dia. Wells	NCB	WB-Guywa/07/99/W	3.1 to 3.16	25-May-00	96,253	80,633
7	Cons of H D Wells & Pumps	RCB	WB-Guywa/08/99/W	4.1 to 4.19	30-May-00	43,522	43,378
8	Installation of E. Driven Pump Syst	NCB	WB-Guywa/10/99/W	6	5-Apr-00	69,198	72,314
9	Cons of 4" Dia Wells in R - 1, 7, 8	NCB	WB-Guywa/01/00/W "R"	5.1 to 5.34	3-Aug-00	604,213	315,992
10	Water Supply Project, De Hoop, et	ICB	WB-Guywa/02/00/W	9	13-Nov-00	419,977	441,895
Sub Totals c/f						2,195,401	1,814,672
11	W. Distrib system at M. Ridge	NCB	WB-Guywa/03/00/W	12	13-Nov-00	111,311	123,800
12	Water Distrib System at Ituni		WB-Guywa/04/00/W	13	23-Jan-01	78,137	90,144
13	Construction of Tank and Trestle	CB	WB-Guywa/05/00/W	16.1 to 16.3		40,925	42,809
14	Installation of Windmill System		WB-Guywa/07/00/W	16.1 to 16.3		10,847	9,600
15	Installation of W/System at Mahdia	NCB	WB-Guywa/01/01/W	14		153,678	96,202
Goods							
16	Supply of 4x4 Vehicle	NCB	WB-Guywa/01/99/G	NA	18-May-99	22,891	22,891
17	Supply of Computer Equipment	NCB	WB-Guywa/02/99/G	NA	18-May-99	6,986	6,986
18	Supply of windmill systems	ICB	WB-Guywa/04/99/G	20	25-Oct-99	27,380	27,380
19	Supply of Solar Water Systems	ICB	WB-Guywa/05/99/G	22	25-Oct-99	29,283	29,283
20	Supply of Pipes & Fittings - Lethem	NCB	WB-Guywa/07/99/G	7	26-Nov-99	34,222	34,222
21	Supply of P & Fittings at Mabarum	ICB	WB-Guywa/08/99/G	18	21-Dec-99	99,973	99,973
22	Supply of Pipes & Appurtenances	CB	WB-Guywa/04/00/G	NA		4,442	4,442
23	Supply of 24 Water Storage Tanks		WB-Guywa/05/00/G	NA		2,492	2,492
24	Supply of Pipes & Appurtenances	ICB	WB-Guywa/06/00/G	NA	10-Oct-00	5,949	6,015
Services							
25	Engineer 1		WB-Guywa/02/99/C	NA	25-Jan-01	78,800	90,643
26	Engineer 2		WB-Guywa/01/99/C	NA	4-Oct-00	35,595	35,595
27	Engineer 3		WB-Guywa/01/01/C	NA	11-Nov-01	11,000	11,000
28	Advertising & Monitoring		WB-Guywa/01/00/C	NA		23,599	19,503
Total - Guywa						2,972,912	2,567,652

No	Description of Contract	Bid	Contract No.	Map/Ref. Number	Date of Contract Signature	Original Contract Value	Revised Contract Value
Georgetown Sewerage & Water							
1	Water Distrib System - N/Veldt	NCB	WB-GS&WC/01/99/W	1	7-Sep-99	398,611	368,124
2	Water Distrib System - Festival City	NCB	WB-GS&WC/01/01/W	2.1	1-Jun-01	474,308	530,438
3	Water Distrib System - S/Veldt	NCB	WB-GS&WC/02/01/W	2.2	1-Jun-01	461,994	522,317
4	Water Distrib System - Agricola	NCB	WB-GS&WC/03/01/W	2.3	1-Jun-01	195,603	195,494
Georgetown Sewerage & Water						1,530,516	1,616,373

No.	Description of Contract	Contract No.	Map/Ref. Number	Date of contract Signature	Original Contract Value	Revised Contract Value
Hydromet Division						
Goods						
1	Supply of 4x4 Vehicle	NCB WB-HYD/01/99/G	NA	20-Sep-99	22,890	22,890
2	Supply of Hydromet Equipment	ICB WB-HYD/02/99/G	1 to 13	29-Oct-00	155,759	155,759
Dissemination Programme						
3	Workshops & Video Programme & Newspaper Inserts				40,000	42,255
Staffing						
	Technician	WB-HYD/05/00/C	NA	23-Oct-00	6,950	7,808
	Administrative Officer	WB-HYD/04/00/C	NA	23-Oct-00	717	717
	Administrative Officer - 2	WB-HYD/01/01/C	NA	Feb , 2001	3,715	3,715
Total Hydromet Division					230,031	233,144

No.	Description of Contract	Bid	Contract No.	Map/Ref. Number	Date of contract Signature	Original Contract Value	Revised Contract Value
Georgetown Flood Protection							
1	Supply of five (5) Mobile Pumps	ICB	WB-PCU/03/00/G	1	15-Feb-01	551,728	551,728
2	Installation of Mobile Pumps	LNB	WB-PCU/01/01/W	1	7-Jun-01	28,023	31,552
3	Supervision - Design & Const.		WB-PCU/01/00/C	NA	12-Jul-00	15,000	15,000
Georgetown Flood Protection						594,751	598,280
Project Coordinating Unit							
Works							
1	Renovation of the PCU offices	NCB	WB-PCU/01/98/W	NA	28-Dec-98	18,907	18,907
Goods							
1	Supply of Computer and other Equ	LNB	WB-PCU/02/99/G	NA	2-Feb-99	11,991	11,991
2	Supply of Office Furniture	LNB	WB-PCU/03/99/G	NA	11-Feb-99	3,232	3,232
3	Supply of computer an accessories	NCB	WB-PCU/04/99/G	NA	21-May-99	6,030	6,030
4	Supply of 4x4 Vehicle	NCB	WB-PCU/05/99/G	NA	28-May-99	19,500	20,318
5	Supply of Board Room Furniture	NCB	WB-PCU/01/00/G	NA	1-Mar-00	1,192	1,192
6	Supply of A/C units	NCB	WB-PCU/02/00/G	NA	20-Sep-00	1,870	1,870
Sub totals c/f						62,722	63,540
PCU - continued							
Sub totals b/f						62,722	63,540
Services							
1	Project Coordinator		WB-PCU/01/98/C	NA	2-Nov-98	81,776	85,410
2	Project Accountant		WB-PCU/02/98/C	NA	2-Nov-98	28,380	30,064
3	Environmental Specialist		WB-PCU/03/99/C	NA	1-May-99	13,552	13,552
4	Computer Specialist		WB-PCU/04/99/C	NA	27-Apr-99	9,500	9,500
5	Procurement Audit	ICB	WB-PCU/05/99/C	NA	25-Oct-99	244,600	164,099
6	Examination & Verification		WB-PCU/06/99/C	NA	28-Oct-99	5,000	1,667
7	Examination & Verification		Year 2000 Audit	NA		6,500	6,500
8	Quality Assurance Engineer		WB-PCU/00/00/C	NA	10-May-00	1,200	1,112
9	Examination & Verification for 2001		Year 2001& 2002 Audit	NA		12,295	12,295
10	Communication Services					6,723	6,723
11	Administrative Expenses			NA		97,171	109,187
12	Installation of Hydromet Stations			NA		19,800	20,433
Total PCU						589,219	524,082
Total Summary							
Entities							
NDIB						4,745,480	4,720,349
Guyana						2,972,912	2,567,652
GS & WC						1,530,516	1,616,373
Hydromet Services						230,031	233,144
Georgetown Flood						594,751	598,280
PCU						589,219	524,082
Grand Total						10,662,909	10,259,880
NA = Not Applicable for Goods and Consultants							

GUYANA EL NIÑO EMERGENCY ASSISTANCE PROJECT PROJECT LOCATION BY ENTITY



IMAGING

Report No.: 24244
Type: ICR