



**Grenada Hurricane Resilient
Home Reconstruction Program : G-(HR)²
Construction Quality Assurance Project (CQA)
Activity I
*Institutional Arrangements and Proposed Activities***

EXECUTIVE SUMMARY

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**Canadian International
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**Agence canadienne de
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Acknowledgement

The Grenada Hurricane Resilient Home Reconstruction Program G-(HR)² is funded by the Canadian International Development Agency (CIDA), and executed by the Organization of American States' Department of Sustainable Development (OAS/DSD). The Construction Quality Assurance (CQA) Project, which technical guidelines have been established with funding from the OAS/FEMCIDI funding mechanism, will be carried out in collaboration with the Government of Grenada's designated entity, Agency for Reconstruction and Development (ARD), and represents the first activity to be implemented under the OAS technical assistance to the post-Ivan reconstruction in Grenada.

Introduction

The Grenada Hurricane Resilient Home Reconstruction Program - G-(HR)² is being executed by the Organization of American States (OAS) with funding from the OAS/FEMCIDI and the Canadian International Development Agency, as part of their development assistance following the devastation caused by Hurricane Ivan. Under the G-(HR)² Program, the Construction Quality Assurance (CQA) Project will be implemented in collaboration with the Agency for Reconstruction and Development (ARD) of the Government of Grenada during the 2-year period from November, 2006 to October, 2008.

The report presents the outputs of Project Activity I “*Establishing Project WorkPlan, Budget and Institutional Arrangements*”, implemented during the period June to September, 2006 – as necessary pre-execution planning aimed at establishing the fundamentals of a CQA Mechanism for Grenada.

The Current Housing Context

A review is made of the general housing climate in Grenada, including the policy, institutional and legal frameworks, residential mortgage and insurance agencies, and housing reconstruction financing. Key housing sector entities are identified as follows:

- Ministry of Communications, Works and Public Utilities;
- Grenada Bureau of Standards;
- Physical Planning Unit (PPU): the technical arm of the Planning and Development Authority (PDA);
- Housing Authority of Grenada;
- Financial institutions;
- Grenada Institute of Professional Engineers;
- Grenada Society of Architects; and
- Construction Association of Grenada.

The principal item of legislation relevant to the housing production system in Grenada is the *Physical Planning and Development Control Act 2002* which prescribes that the PDA must give written permission prior to the undertaking of any land development project, and provide the means for the enforcement of development control.

Residential mortgage financing is widely available in Grenada through 20 lending institutions including: 5 commercial banks, 8 credit unions, the National Insurance Scheme, 8 insurance companies, a Building and Loan Association and the Grenada Development Bank. Table 1 shows the distribution of residential mortgages by financing institution as of December, 2005.

Mortgage lending institution	Residential Mortgage Portfolio (EC\$M)	% of Total
Commercial Banks	459.77	75.4
Credit Unions	58.50	9.6
National Insurance Scheme	58.00	9.5
Insurance Companies	17.48	2.9
Building & Loan Assn.	10.80	1.8
Grenada Development Bank	5.50	0.9
Total	610.05	100.0

Table 1 : Residential mortgages by financing institution at December, 2005

Source: Stakeholder interviews, annual reports of institutions and the Central Statistical Office

An estimated 27,740 houses were damaged by Hurricane Ivan in September 2004, with about 10,000 of these being so badly damaged that they required complete replacement¹. There has been a robust response to post-hurricane housing recovery by GOG, homeowners, USAID, NGO's and CBO's and the insurance industry. Table 2 summarizes housing rehabilitation achieved to December 2005.

Financing Source	Residential Units Rehabilitated / Reconstructed
GOG - new house construction	710
GOG - provision of labour and materials for house repair	300
GOG - provision of materials under <i>Self Help Housing Repair Programme</i>	6,820
GOG - provision of low-interest loans	190
USAID - new house construction	60
USAID - house repair through sub-grants to NGO's and CBO's	870
NGO's - materials donations and house repair	2,070
Claims honored by insurance companies	6,000
Full self-financing by homeowners	2,000
Total	19,020

Table 2 Summary of housing rehabilitation by financing source

Source: Emergency Housing Committee Progress Report Jan. -Dec. 2005

Project Background Documents

A critical review is made of the principal Project document *Residential Design & Construction Quality Assurance Mechanism for Grenada – Final Report* prepared by Regional engineering consulting firm Consulting Engineers Partnership (CEP) in June 2005. This report analyzes Grenada's existing residential quality assurance system and outlines a conceptual design for an effective quality assurance system, highlighting the roles of the PPU, mortgage and

¹ OECS (2004) *Grenada: Macro-Socio-Economic Assessment of the Damages Caused by Hurricane Ivan*

insurance agencies, and local engineering consultants. Arising from the review, recommendations are made for inclusion of training for Draftsmen and Engineering Technicians in the Project Work Plan.

Institutional Arrangements and Stakeholder Consultations

Institutional arrangements necessary for ensuring the sustainability of the CQA Mechanism have been initiated with the ARD, while a 'CQA Advisory Group' of Stakeholders was formed to facilitate inclusion of Stakeholders' perspectives in the development of the CQA Mechanism. In addition to 4 Advisory Group meetings, a series of 13 focused Stakeholder consultations was held with mortgage financing, insurance, engineering, architecture and construction entities, the Minister responsible for Housing, and the PPU and PDA. The objective of these consultations was to explain the functioning of the CQA Mechanism, obtain feedback, encourage full participation in the CQA Project and obtain commitment of support for the CQA Mechanism. There was general support expressed for the CQA Mechanism, with the following main issues and concerns being raised:

- The reason for the Project focusing on "middle-income" homes;
- The likely additional costs incurred as a result of QA inspections;
- Whether the CQA Mechanism would result in another "bureaucratic layer" to be met by homeowners, leading to bottlenecks in the house building process;
- Whether there would be sufficient trained QA engineers to service the CQA process;
- Homeowner compliance with the CQA Mechanism would depend on the extent of cooperation between key stakeholders;
- The CQA Project should include training for Contractors; and
- Consideration should be given to the establishment of a Memorandum of Understanding (MOU) between financial institutions, insurance institutions, contractors, QA engineers and the PPU.

Cost of On-Site Inspections

Information obtained from the mortgage finance institutions and other residential construction industry professionals indicates that the following parameters can be applied to Grenada's residential mortgage market at present:

- With the exception of the NIS, on-site inspections/valuations are carried out at the expense of the homeowner;
- Average cost per residential on-site inspection/valuation of EC\$300 (US\$111); and
- Average number of 5 on-site inspections per completed residential building, resulting in an average cost to the homeowner of EC\$1,500 (US\$556).

Regarding the costs to the homeowner during implementation of the CQA Mechanism, it is projected that the unit cost of on-site inspection would slightly decrease. Thus the following parameters have been determined:

- Average building inspection time of 1 hour;
- Average cost per residential QA inspection of EC\$270 (US\$100); and

- Average number of 7 QA inspections per completed residential building, resulting in an average cost of EC\$1,890 (US\$700).

Project Main Expected Outcome

The primary outcome to be generated under this project is the strengthening of the Grenada Building sector's institutional and technical capacities for reducing the risks and impacts associated with natural hazards, particularly in the middle-income residential built environment. This to be achieved through:

- I. Increasing the technical capabilities of the governmental institutions and agencies involved in the construction sector for monitoring and enforcing the country's prescribed construction regulations;
- II. Enhancing the local building professionals' technical capacities to integrate natural hazards resilient construction designs and practices in their works, while creating an enabling environment for the emergence of the necessary pre-requisites capable of improving their legislative framework of functioning; and
- III. Supporting the local financial institutions (Mortgage and Insurances agencies) in integrating safer construction practices in their operational mechanisms, by intensifying their involvement as primary means for achieving natural hazards resiliency in the middle-income building sector.

Project Component Activities

The Project will be implemented around 5 principal sets of activities: Training, Mortgage Loan Procedures, Building Professions Legislation, Project Management and Public Information – each with specified sub-activities, as described in detail at Annex 1.

Public Information Strategy

The objectives of the public information strategy have been identified as:

- i. To inform homeowners of the benefits of CQA to *their* residential construction project;
- ii. To keep the Stakeholders informed as the CQA Project is implemented; and
- iii. To inform the general public about QA and the CQA Mechanism.

Project Implementation Schedule

The Project proposed timeframe is a 2-year period - November 2006 to October 2008. Annex 2 sets out the detailed schedule for implementation of Project activities over the first year (funded by the OAS/CIDA) November 2006 to October 2007. Activity 1.3 "Conduct supervised training of PPU Inspectors" is expected to continue during the second year with funding provided by PDA.

Project Budget

Total available Allocation for project's proposed activities is approximately US \$ 70,000 (EC\$188,930) with over 80% of the budget allocated to training and capacity building activities, in keeping with the main thrust of the Project.

Act. No.	Activity	Cost (US\$)	% Total Cost
1	Training & Capacity Building	57,762	82.9
2	Mortgage loan procedures	3,448	5.0
3	Legislative Framework	2,150	3.1
4	Project Management	2,380	3.5
5	Public information campaign	3,740	5.5
	Total	~ 70,000	100.0

ANNEX 1 PROJECT ACTIVITY DESCRIPTIONS

Activity 1 - Training

1.1 Conduct building inspections audit

Two (2), 1-day audits of the PPU inspections will be carried out by CEP Ltd., Barbados, and Chartered Structural Engineers. The PPU Inspectors, along with several Engineering Technicians, will participate in the audits, which are part of their training. The audits will be attended by an estimated 12 persons – 6 PPU Inspectors and 6 Engineering Technicians.

1.2 Conduct workshops for PPU Inspectors

Three (3) workshops will be conducted for the same target group plus an additional 4 PPU Planners/ Building Officers, over a total duration of 9 days. These workshops will be facilitated by CEP (4 days) and 2 local QA Engineers (5 days). The first workshop will be of 5 days duration, and will provide the participants with an overview of the design and construction process required to reduce the natural hazard vulnerability of houses. The other two workshops, lasting 3 days and 1 day respectively, are designed to improve the participants' understanding of construction materials and methods. The workshops, to be attended by an estimated 16 persons, will be held at the "Oleander Room" of the Flamboyant Hotel, Grand-Anse, St. George's, and the conference room of the ARD, Botanical Gardens, St. George's.

1.3 Conduct supervised training of PPU Inspectors

The PPU Inspectors will accompany the QA Engineers during their inspection visits, and the Engineers will train the Inspectors in their inspection procedures. Regular training inspection visits will be fostered by PPU, in collaboration with the participating QA Engineers, during the 21-month period February 2007 to October 2008, such that each of the 6 Inspectors would participate in at least 160 supervised training inspections.

1.4 Conduct planning applications audit

Two (2) 1-day audits of the PPU approved applications will be carried out by CEP, along with an estimated 12 QA Engineers comprising: the (newly recruited) PPU Structural Engineer; 8 private sector QA Engineers; and 3 public sector QA Engineers. These exercises will be carried out at the conference room of the ARD.

1.5 Conduct workshops for Engineers

Two (2) intensive 2-day training workshops on Residential Design & Construction Quality Assurance will be facilitated by CEP for an estimated 10 QA Engineers, 2 persons having previously attended both MHBD modules conducted in Grenada by CEP in March and April, 2006, under the G-HR² Program. These activities will be scheduled for Friday/Saturday of successive weeks, to facilitate full time attendance by the participants. The venue will be the conference room of the ARD.

1.6 Conduct symposium for Engineers

This activity will comprise a 1-day symposium facilitated by CEP, at which the 12 QA Engineers will design a Checking Manual, each participant having researched and presented a section of the Manual. Attendance at the MHBD workshops will be a pre-requisite for attendance at this symposium, which will be held at the conference room of the ARD.

1.7 Conduct workshops for Contractors

Two (2) intensive 1-day training workshops on the use and application of the Grenada Building Guidelines will be facilitated by CEP (1 day) and 2 local QA Engineers (1 day) for an estimated 50 Contractors and 30 Site Clerks ('Inspectors') of the Ministry of Works. These activities will be scheduled on the Saturday of successive weeks, to facilitate attendance by the participants. The venue will be the "St. Andrew's Room" of the Grenada Grand Beach Resort, Grand Anse, St. George's

1.8 Conduct workshop for Draftsmen

A 1-day training workshop on the use of the Grenada Building Guidelines in residential design will be facilitated by 2 local QA Engineers for an estimated 50 Draftsmen. This activity will be scheduled for a Saturday, to facilitate attendance by the participants. The venue will be the conference room of the Grenada Chamber of Industry & Commerce, Frequente, and St. George's.

1.9 Conduct Energy efficiency workshop for Tradesmen

A 1-day training workshop on energy efficient plumbing and lighting fixtures, facilitated by CEP, will be held for Plumbers, Electricians and Draftsmen. An estimated 50 tradesmen and 35 Draftsmen will be encouraged to use energy efficient networks and recommend energy efficient plumbing and electrical fixtures to their clients. This workshop will be held at the conference room of the Grenada Chamber of Industry & Commerce, and will also be attended by an estimated 20 staff of local hardware retailers.

Activity 2 – Mortgage loan procedures

2.1 Conduct symposium for financing and insurance institutions

A 1-day symposium, facilitated by the ARD and the OAS/DSD, will be held for an estimated 30 representatives of the mortgage financing and insurance institutions in Grenada. Eight (8) of the financing institutions will each make brief presentations on their respective residential mortgage financing procedures, and CEP will make a presentation on the CQA Mechanism for Grenada and QA best practice in the Caribbean. The venue will be the "St. George's Suite" of the Grenadian Rex Resorts, Point Salines, St. George's. The participants will discuss draft Memoranda of Understanding (MOU) which will address, respectively, standard procedures for residential mortgage loan disbursement, and the insurance industry's role in the CQA Mechanism.

This activity will be scheduled for February, 2007, allowing about 4 months time for the Stakeholders, in particular the Commercial Banks, to consult with their respective corporate directorships. Further, by this time most of the technical training activities and symposia would have been completed, and the Project will be able to more clearly demonstrate to these Stakeholders the essential roles which their Sectors can play in the successful implementation of the CQA Mechanism for Grenada.

2.2 MOU adopted by all financing and insurance institutions

In May 2007 (about 3 months after the above symposium), 2 separate MOU are expected to be signed and adopted by representatives of the mortgage financing and insurance institutions. This activity will take place at the conference room of the ARD, and will be witnessed by members of the CQA Advisory Group and the Media. The implementation of the CQA Mechanism is expected to start on June 01, 2007.

Activity 3 – Legislation

3.1 Conduct consultation with Min. for Works

A 4-hour structured consultation will be held involving members of GIPE, an Executive member of the Association of Professional Engineers of Trinidad and Tobago (APETT), GSA, Project personnel and the Permanent Secretary and Minister for Communications and Works. The objective of this exercise is to thoroughly inform the Minister of the ramifications and benefits of Engineers' and Architects' Registration in the context of the draft Engineers' and Architects' (Registration) Bills, the pending CQA Mechanism for Grenada and the Caribbean Single Market (CSM). The principal output would be the Minister's 'championing' of Engineers' and Architects' Registration Legislation through Cabinet, and piloting the respective Bills through Parliament. Brief audio-visual presentations would be made on the Engineers (Registration) Bill, the Architects (Registration) Bill, the Trinidad and Tobago experience with Engineers' Registration Legislation and the CQA Mechanism for Grenada. This event will be attended by an estimated 16 persons, and will be held at the conference room of the Coyaba Hotel, Grand-Anse, and St. George's.

Activity 4 – Project Management

4.1 Project management

The CQA Project activities will be facilitated locally by an OAS contracted - Grenada-based - Consultant, with inputs from the CQA Advisory Group in accordance with its TOR, and under the technical and managerial coordination of the OAS/Department of Sustainable Development (OAS/DSD).

4.2 CQA Advisory Group meetings

Four (4) Advisory Group meetings will be held, every 3 months, at the conference room of the ARD. The meetings, to be chaired by the ARD Director of Physical Infrastructure, will convene between the hours of 10:00-11:30 AM, with a 10-minute coffee break in between. It is expected that the CQA Advisory Group will be formally incorporated into the structure of the ARD by the end of the CQA Project, and will continue to meet on a quarterly basis.

Activity 5 – Public information campaign

5.1 OAS/DSD Grenada Program webpage

The OAS/DSD website (www.oas.org/dsd/) of the "Grenada Hurricane Resilient Home Reconstruction Program G-HR²" will be the Official webpage of the CQA Project, and will host all Project technical Documents and all projects' official press releases, and related presentations as approved by the OAS General Secretariat (see project's page at: <http://www.oas.org/dsd/Nat-Dis-Proj/GHR.htm>).

A "CQA Project" page will be added to the existing ARD website (<http://www.ardgrenada.org/>), to assist in meeting the objectives of the PI strategy, including that of informing the Stakeholders on the progress of Project implementation, press releases, and advisory Group activities, and will have a direct link to the OAS/DSD Grenada Program Webpage (www.oas.org/dsd/), where information on the OAS/CIDA led initiative is hosted.

5.2 Media appearances by Project Stakeholders

Various Project Stakeholders will appear on a total of 5 local TV/radio talk shows, to be hosted by the leading talk show hosts, on average every 2 months. The format would consist, generally, of panel discussions with live public call-in, with the shows focusing respectively on: the design, financing, construction and insurance stages of the residential construction process, and on the Grenada Building Code and Guidelines.

5.3 Press releases

At least 5 press releases will be issued by OAS/DSD, highlighting the implementation of various Project activities. Press releases, accompanied by photos, will be issued in Project months 1 and 11, and within 2 working days of the following activities: 5-day workshop for PPU Inspectors; workshops for Contractors and Draftsmen; and signing of the MOU by mortgage financing and insurance institutions.

5.4 Group presentations

A 40-minute audio-visual presentation on the CQA Project will be presented to an estimated total of 150 persons at regular meetings of the following national organizations and the Carriacou community:

- Grenada Bar Association ;
- Grenada Chamber of Industry and Commerce;
- Grenada National Association of Women;
- Grenada Sustainable Development Council; and
- Key Stakeholders from Carriacou.

5.5 Produce 30-minute documentary

A 30-minute video documentary on residential building practices will be made. The format will comprise live interviews of key professionals and footage of real situations where problems exist. The draft script will be prepared by a sub-committee of the Advisory Group.

5.6 Air documentary

The documentary will be aired at prime time on CC6 a total of 6 times: once weekly in the month of May, 2007 prior to the start of implementation of the CQA Mechanism, and on 2 successive weeks in September, 2007, towards the end of the CQA Project.

NOTES