Enhancing Resilience to Reduce Vulnerability in the Caribbean

Brief Description

Objective:

- Strengthening civil protection mechanisms through capacity development for early warning systems, information dissemination, and institutional coordination for disaster management and response in CARICOM member states

Outputs:

- Sustainable network of real-time decision support centres to facilitate early warning and post disaster recovery established and fully integrated into national and regional planning
- Strengthened national disaster mechanisms to incorporate best practices in volunteerism; enhanced institutional capacities; and support to tsunami public education programmes.

This project will be executed by the Caribbean Institute for Meteorology and Hydrology (CIMH) in a minimum of 4 countries from the Barbados and the OECS sub-region, with technical and management support from UNDP, the International Federation of Red Cross and Red Crescent Societies (IFRC) and the Caribbean Disaster Emergency Management Agency (CDEMA).

Programme Period:	2005-2011
Key Result Area (Strategic Plan)	Crisis Prevention and Recovery
Atlas Award ID:	00051467
Start date: End Date	1 Jan 2009 31 Dec 2011
IP PAC Meeting Date PRODOC PAC Meeting Date	17 Dec 2008 23 Sept 2009
Management Arrangements	NEX

Total resources required	$4,527,813
Total allocated resources:	$4,527,813
• Regular	
• Other:	
○ Donor (IDC)	$4,527,813
○ Donor	
○ Donor	
○ Government	
Unfunded budget:	
In-kind Contributions	

Agreed by CIMH: David A Farrell

Agreed by UNDP:

1. SITUATIONAL ANALYSIS

Barbados and the OECS[1] territories are small islands, highly vulnerable to a range of natural hazards including earthquakes, hurricanes, floods, landslides, tsunamis and volcanic eruptions. Other hazards could afflict the region, such as water contamination, oil spills, infectious disease, and progressive environmental damage.

Moreover, global climate change poses particular problems. Although climate-related disasters are increasing in frequency and numbers of people affected, the vast majority are in developing countries. The Human Development Report (HDR) 2007/2008 indicates that in high-income countries just over 50 persons per 100,000 were at risk of being affected by natural disaster from 2000-2004. This compares with 5,200 per 100,000 in developing countries, and represents an increase from figures for the period 1980-1984 which were less than 50 per 100,000 and 2,700 per 100,000 in developed and developing countries respectively. In 2004, Grenada was struck by Hurricane Ivan which destroyed about 90% of its infrastructure and caused losses of US$889m, equivalent to 212% of GDP. The following year it was hit by Emily, which was a less intense event, but which nonetheless impacted the recovery process. In 2007 Hurricane Dean struck Dominica, causing losses of US$60m, most critically in the agricultural sector. While economic losses are skewed toward developed countries where property values and insured losses are much higher, lack of insurance coverage, poverty and inability to restore assets means that the devastation in developing states is greater and more persistent. Further, many climate disasters remain unreported or underreported.

The HDR concludes that climate change will initially be most devastating to SIDS and less developed countries, affecting the poor and marginalised most heavily. Small islands face disproportionately greater risks due to high density shoreline development, settlements in hazardous areas such as volcanic slopes and flood prone areas. The 2009 Global Assessment Report on Disaster Risk Reduction reveals that small islands are the most devastated by disasters which can set back their economies by decades. Results analysis indicated that Dominica has the highest relative mortality risk in the world from multiple hazards. Drivers of risk and vulnerability are related to social systems and governance structures, which are exacerbated by poverty and climate change. Climate change is expected to further deepen social vulnerability in the region. This vulnerability often manifests in high levels of insecurity and social inequality, undermining socioeconomic development efforts and the national efforts toward achieving the MDGs.

Yet, disaster prevention has been overlooked in the sub-region, as highlighted in the 2008-2011 UNDAF. According to the World Bank (2007) and OAS (2007), infrastructure failure and the associated social, environmental and financial costs due to the impact of disasters could have been avoided with implementation of prevention measures which would have been an additional 1-10% of the cost associated with the various projects implemented in the region.

Additionally, there is a real need for support in building capacity for information and diagnostic systems (e.g. damage and loss assessments, hazard and vulnerability mapping, etc.) and response mechanisms to facilitate decision making for mitigation and early recovery; and reinforcing a culture of proactive planning and response in disaster mitigation and risk reduction.

Being a mixture of MICs and NCCs, these islands are restricted in terms of their ability to access funding and resources to help reduce the risk from disasters. Also, protection measures such as hurricane-resistant materials and constructions are not fully deployed due to relatively high levels of poverty ranging from 13-39% in the Eastern Caribbean, diseconomies of scale and lack of adequate building standards. Furthermore, the countries are generally less able to readily recover from a disaster due to limitations in terms of resilience and redundancy in critical infrastructure; comprehensive disaster education; critical resources; the capability to measure the cost recovery implications of a large disaster event and access to appropriate levels of financing required to

[1] The Organisation of Eastern Caribbean States (OECS) is a collective of independent countries and British overseas territories created to the sustainable development of the Member States by, inter alia, contributing to policy and programme formulation and execution for regional and international issues, and facilitating bilateral and multilateral cooperation. Member States are Anguilla, Antigua and Barbuda, British Virgin Islands, Commonwealth of Dominica, Grenada, Montserrat, St. Kitts and Nevis, St. Lucia and St. Vincent and the Grenadines

sustain critical governmental and national functions. Nevertheless, the CROSQ (CARICOM Regional Organisation for Standards and Quality) Regional Building Standards project and the Caribbean Catastrophe Risk Insurance Facility (CCRIF) are presently addressing some of these issues.

It is the intent of governments in the sub-region and UNDP to work towards strengthening capacities at the regional and national levels in disaster risk reduction and recovery from environmental, natural and technological hazards, particularly within the context of climate change. This outcome is articulated within the Sub-regional Programme Document, which has been extended to cover 2005-2011. With a number of systems currently in train, and the Caribbean Institute for Meteorology and Hydrology (CIMH) involved in many of the processes, there is an opportunity to address the issues identified to enable a coherent structure that has a sustainable management strategy integrated into the implementation. The project will therefore contribute to the strengthening of hydrometric networks in the region, and the effective application of the ensuing information, particularly to support early warning systems and disaster risk reduction. Whereas a number of regional hydrometric networks have been established, there have been some common problems including lack of a coherent structure; limited sustainability; and inadequate integration into planning and decision making structures.

The main beneficiaries of this project will be the local, regional and international disaster management offices and practitioners, national meteorological and hydrological services, as well as the University of the West Indies (UWI) Disaster Risk Reduction Centre. Other beneficiaries will include national disaster management committees and advisory committees; planning infrastructure and environmental agencies; regional organisations that support meteorology and hydrology; and research institutions within the region;

Country beneficiaries in all of these activities include the sub-region of Barbados and the Member States of the OECS.

2. STRATEGY

Islands in the sub-region have recognised the need for and continue to support efforts to enhance regional and national capacities for disaster risk reduction and effective recovery, particularly within the context of climate change. Sub-regional governments and UN system partners have committed to the goal of strengthening regional and national capacities, with integration into planning and institutional frameworks such that countries are enabled to reduce sectoral risks and better manage multi-hazards and the environment by 2010 through:

- Establishing harmonised systems for risk identification, assessment, monitoring and early warning
- Institutionalisation of disaster risk reduction, knowledge management, and education
- Reducing underlying factors that contribute to risk exposure
- Establishment of functional inter-sectoral response and recovery systems and mechanisms
- Development and use of risk indicators for the prevention and mitigation of natural disasters and assessment of their socioeconomic and environmental effects

UNDP will meet its commitment to provide the most support to countries identified as "climate hot spots" where both vulnerability and climate hazards are highest, and within the regional framework and strategy for comprehensive disaster management. UNDP will also leverage its expertise in community development to identify and disseminate indigenous coping mechanisms.

Information and communication technology (ICT) is an important dimension in disaster management in CARICOM[2]. Application of ICT tools such as GIS and web data sources have

[2] The Caribbean Community (CARICOM) aims to improve standards of living and work, enhance levels of international competitiveness; enhance coordination of foreign policies; increase functional cooperation, inter alia, among Member States. The grouping comprises Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia and St. Vincent and

improved prospects for the rapid acquisition and distribution of information at the community level to inform planning, decision-making and response. Unfortunately, acquiring and sharing data remains a significant challenge in the region. Technologies are often available, but cost, reliability, latency, and lack of research on their application have proven restrictive. Additionally, another challenge is the ability of national and specifically disaster offices to absorb new technology, due to capacity constraints.

By enhancing the network of real-time decision support centres for early warning systems (EWS) the project intends to achieve its objectives through the following strategic approaches:

- Facilitating real-time sharing of hydrometeorological data across the sub-region through installation of equipment, integration in existing networks and development of a sustainable management strategy
- Capacity building for use of real-time hydrometeorological data as a decision support system (DSS) for EWS and policies
- Creation or enhancement of a plan for acquisition of new hydrometeorological data

National disaster management mechanisms will be strengthened through:

- Building capacity for volunteerism based on the best practices both regionally and internationally, including the Italian experience
- Developing the capacities of the National Emergency Management Organisations (NEMO)
- Deepening and expanding the information and knowledge base through support of tsunami and other coastal hazards public awareness initiatives

The project will build on other concurrent UNDP youth development programmes to support the implementation and impact of the volunteer programme and also to nurture competencies, expand skills sets, and teach values such as stewardship.

This intervention will further strengthen national machineries and build on the programmes and partnerships established in the sub-region, including regional institutions and agencies such as the Caribbean Disaster Emergency Management Agency (CDEMA), CIMH, Caribbean Tourism Organisation (CTO), Caribbean Community Climate Change Centre (CCCCC), and the OECS Secretariat. It will also create new relationships and strengthen existing collaborative efforts with the Government of Italy. Specifically, it will draw on broader experiences in areas such as national and community level volunteerism, to inform and enrich national and sub-regional solutions.

UNDP Barbados and the OECS Sub-regional Office (SRO) has taken a lead position in advancing disaster risk management among the ten countries served and the Caribbean as a whole. The SRO has been one of the two focal offices along with UNDP Cuba for the Caribbean Risk Management Initiative (CRMI). This 5-year US$2.35m initiative has three original objectives:

- Increased capacity for climate change adaptation
- Risk reduction and climate change adaptation integrated into development
- Increased investment in climate risk reduction projects

This initiative focuses on knowledge sharing and building linkages across Caribbean institutions, capacity development, and advancing the linkages between climate change and disaster risk reduction.

The SRO has also initiated a project with the European Commission to address capacity issues in relation to EWS, hazard mapping and vulnerability assessment, and response rescue and recovery. This Regional Risk Reduction Initiative (R3I) covers the British and Dutch Overseas Countries and Territories (OCTs) with a budget of about €4.9m over 3 years.

All these initiatives will be considered in developing this project to ensure mutual benefit and to exploit potential synergies. Initial project coordination meetings will be held and activities will be phased so as not to overwhelm one agency or organisation.

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the Grenadines, Suriname, Trinidad and Tobago.

3. RESULTS AND RESOURCES FRAMEWORK

Intended Outcome as stated in the Country Programme Results and Resource Framework:

Enhanced regional and national capacities for disaster risk reduction associated with natural, environmental and technological hazards, within the broader context of hydrometeorology and climate change; and for effective disaster recovery.

Outcome indicators as stated in the Country Programme Results and Resources Framework, including baseline and targets:

- Existence of recovery and reconstruction strategies and plans at national and sectoral levels.
- Existence of risk reduction strategies and plans at national and sectoral levels with a cadre of trained national and community personnel, with networking systems supporting use of the comprehensive disaster management (CDM) manual and strategies.
- National risk reduction disaster management systems operational.
- Long-range climate and weather forecasting systems established.

Applicable Key Result Area (from 2008-11 Strategic Plan): Enhancing conflict prevention and disaster risk management capabilities

Partnership Strategy: The Italian Development Cooperation (IDC) will fund the project to a total of $4,527,813 (€3.5m). Regional partners will be sought based on technical knowledge and experience, including CIMH, the IFRC and CDEMA.

Project title and ID (ATLAS Award ID): Enhancing Resilience to Reduce Vulnerability in the Caribbean (ID 00051467)

INTENDED OUTPUTS	OUTPUT TARGETS FOR (YEARS)	INDICATIVE ACTIVITIES	RESPONSIBLE PARTIES	INPUTS
Output 1 Network of real-time decision support centres for early warning systems created Baseline: A number of regional initiatives are ongoing relating to data collection, management, and analysis, and capacity building Indicators: Establishment of network nodes in various countries Experiences and lessons learned shared Data needs effectively addressed in strategy	Targets (year 1) - Network designed - Training conducted for DSS in EWS Targets (year 2) - All necessary equipment residing within the centres in the network - Training for NEMOs in EWS completed Targets (year 3) - Lessons and best practices disseminated - Data collection strategy	1 Implementation of a network for real-time sharing of hydrometeorological data through the sub-region ▪ Design of a network for real-time sharing of data ▪ Acquisition of equipment – to include establishment or enhancement of hydrometric stations; purchase of hardware and software to support management and application of data in at least 4 countries ▪ Management and maintenance of the real-time network 2 Capacity building for use of real-time hydrometeorological data as a decision support system for early	 CIMH UNDP CIMH	**Total $1,228,978** $64,683 $970,246 $194,049 **Total $646,831**

	developed	warning systems and policies ▪ Capacity building in DSS for EWS ▪ Capacity building of NEMOs in EWS management ▪ Extended support to trained personnel ▪ Simulation and practical activities ▪ Capturing and share lessons learned and best practices 3 Creation of a plan for acquisition of new hydrometeorological data ▪ Development of a best practice strategy for collection of data	 CIMH CIMH CIMH CDEMA UNDP CIMH	 $161,708 $194,049 $97,025 $129,366 $64,683 **Total $129,366** $129,366
Output 2 Strengthened national disaster mechanisms Baseline: Mixed capacities in NEMOs Indicators: Increased participation of youth in DRM Public awareness for tsunamis and other coastal hazards enhanced Continuous learning paths created for NEMO personnel	Targets (year 1) - Volunteer-oriented training in disaster management conducted - Individuals and courses identified for continued professional development - Public awareness programme for tsunamis and other coastal hazards developed and initiated - Training and meetings for tsunamis and other coastal hazards commenced Targets (year 2) - 4 national civil protection plans updated - Communications systems updated for 4 countries Targets (year 3)	1 Building capacity for volunteerism based on the best practices of the Italian Civil Protection Agency ▪ Institutional and legislative review ▪ Capacity building for sustainable data collection ▪ Targeted training for volunteers ▪ Scenario development and field testing 2 Developing the capacities of the National Emergency Management Organisations (NEMO) ▪ Update the national civil protection plans ▪ Update a system of dissemination and communication of alerts to target populations ▪ Tertiary and professional development 3 Support tsunami and other coastal	 CDEMA CDEMA IFRC, CARICOM, UNDP CIMH,CDEMA, IFRC CDEMA CIMH,CDEMA CDEMA	**Total $582,147** $64,683 $129,366 $258,732 $129,366 **Total $646,830** $194,049 $194,049 $258,732

	- Institutional and legislative review completed - Field testing successfully conducted - Remaining 6 national civil protection plans updated - Communications systems updated for additional 6 countries	hazards public awareness initiatives ▪ Public awareness and impact monitoring programme developed ▪ Awareness activities implemented ▪ Training sessions on use and application of tsunami and other coastal hazards warning systems conducted	UNDP,UNESCO/IOC UNDP,UNESCO/IOC CDEMA, UNESCO/IOC	**Total $556,274** $64,683 $362,225 $129,366
Communication and outreach	- Establish an effective communications plan to support public awareness	▪ Document project elements for public outreach – include promotional activity; technical support and preparation and publication of best practice case study	UNDP	$90,556
Project implementation	- Effective project implementation supported and capacity of regional Executing Agency institution strengthened - Effective communication enabled	▪ Effective Executing Agent project management capacity in place	UNDP	$329,884
GMS (7%)	- Effective Project Management and coordination	▪ Effective project and financial management, supervision and coordination in place	UNDP	$316,947

4. ANNUAL WORK PLAN

Year: 2009

EXPECTED OUTPUTS *And baseline, indicators including annual targets*	PLANNED ACTIVITIES *List activity results and associated actions*	TIMEFRAME				RESPONSIBLE PARTY	PLANNED BUDGET		
		Q1	Q2	Q3	Q4		Funding Source	Budget Description	Amount
Output 1 Network of real-time decision support centres for early warning systems created *Baseline:* A number of regional initiatives are ongoing relating to data collection, management, and analysis, and capacity building *Indicators:* Establishment of network nodes in various countries Experiences and lessons learned shared Data needs effectively addressed in strategy *Targets:* Network designed Training conducted for DSS in EWS *Related CP outcome:* Enhanced regional and national capacities for disaster risk reduction	1 Implementation of a network for real-time sharing of hydrometeorological data through the sub-region ▪ Design of a network for real-time sharing of data ▪ Acquisition of equipment					CIMH UNDP	IDC		**323,415** 64,683 258,732
	2. Capacity building for use of real-time hydrometeorological data as a decision support system for early warning systems and policies ▪ Capacity building in DSS for EWS ▪ Capacity building of NEMOs in EWS management					CIMH CIMH	IDC		**129,366** 64,683 64,683
	3. Creation of a plan for acquisition of new hydrometeorological data ▪ Development of a best practice strategy for collection of data					CIMH	IDC		**97,025** 97,025

Output 2 Strengthened national disaster mechanisms *Baseline:* Mixed capacities in NEMOs *Indicators:* Increased participation of youth in DRM Public awareness for CTIC enhanced Continuous learning paths created for NEMO personnel *Targets:* Youth-oriented training in disaster management conducted Individuals and courses identified for continued professional development Public awareness programme for tsunamis and other coastal hazards developed and initiated Training and meetings for CTIC commenced *Related CP outcome:* Enhanced regional and national capacities for disaster risk reduction	1. Building capacity for volunteerism based on the best practices of the Italian Civil Protection Agency							**129,366**
	▪ Institutional and legislative review					CIMH	IDC	12,936
	▪ Capacity building for sustainable data collection					CIMH		38,810
	▪ Targeted volunteer training, with a primary focus on youth					CIMH, IFRC		77,620
	2. Developing the capacities of the National Emergency Management Organisations (NEMOs)							**103,493**
	▪ Tertiary and professional development					CIMH	IDC	103,493
	3. Support tsunami and other coastal hazards public awareness initiatives							**90,556**
	▪ Public awareness and impact monitoring programme developed					UNDP	IDC	51,746
	▪ Conduct training sessions on use and application of tsunami and other coastal hazards warning systems					CDEMA, UNESCO/IOC		38,810
Communications and outreach	1 Document project elements for public outreach							**32,342**
	▪ Promotion including development of publications					UNDP		32,342
Project management and administration						UNDP		**129,366**
TOTAL								1,034,929

5. MANAGEMENT ARRANGEMENTS

This project will employ a national execution modality (NEX). As the Executing Agency for the project, the CIMH will be entrusted with and fully responsible and accountable for successful management and delivery of UNDP project outputs. This must be done following effective process and financial management practices.

Project Board: The Project Board is responsible for making, on a consensus basis, management decisions for the project when guidance is required by the Project Manager, including recommendation for Executing Agency approval of project revisions. Project reviews by this group are made at designated decision points during the running of a project, or as necessary when raised by the Project Manager. This group is consulted by the Project Manager for decisions when the Project Manager's tolerances (i.e. constraints normally in terms of time and budget) have been exceeded. The Project Manager acts as the secretary to the Board and is responsible for convening meetings, preparing meeting documents and follow up on Project Board recommendations. The Project Board will meet every three months and can meet extraordinarily whenever circumstances require.

This group plays three roles:

- Executive representing the project ownership to chair the group
- Senior Supplier role to provide guidance regarding the technical feasibility of the project
- Senior Beneficiary role to ensure the realisation of project benefits from the perspective of project beneficiaries.

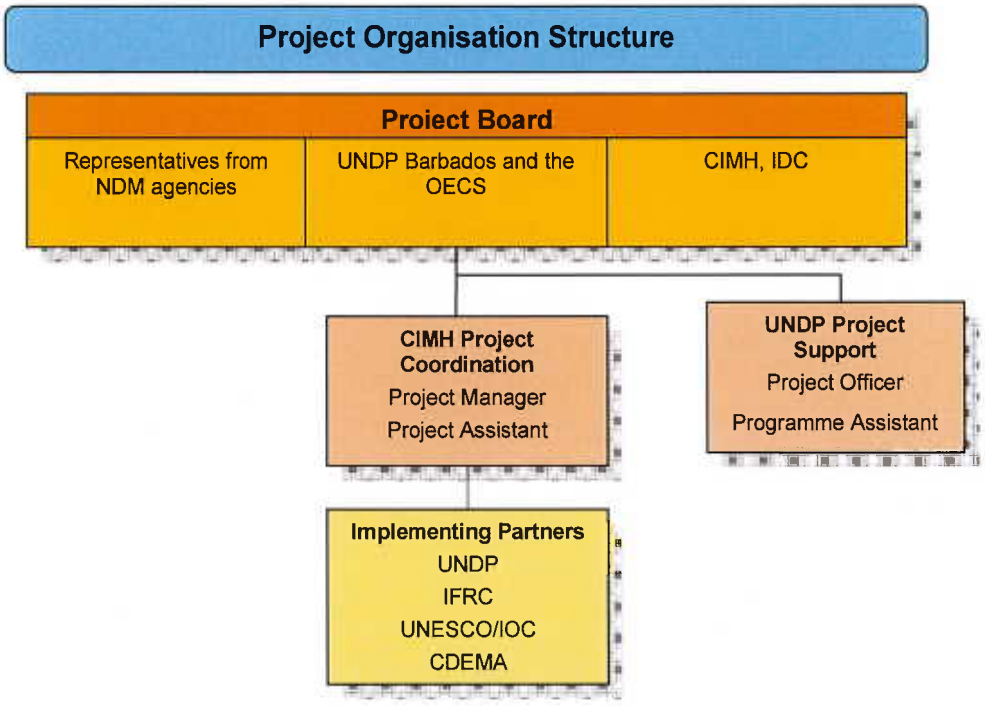
The *Executive* role will be held by the UNDP Barbados and the OECS SRO.

The *Senior Supplier* role will be held by CIMH and the Italian Development Cooperation.

The *Senior Beneficiary* role will be held by 4 representatives of the national disaster management (NDM) agencies of the beneficiary countries.

Project Assurance is the responsibility of each Project Board member. However, the role can be delegated to a UNDP Programme Officer in consultation with the Project Board. The Project Assurance role supports the Project Board by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed.

Project Manager: The Project Manager will be appointed by CIMH and provided the authority to run the project on a day-to-day basis on behalf of the Project Board within the constraints they lay down, including preparing and revising work plans, technical support to the Project Board, ensuring project activities are carried out within budget and supervising the technical and administrative support personnel.



UNDP Support Services

UNDP Barbados and the OECS SRO will support the implementation of the project with a focus on early recovery utilising the resources available through the UN system including the Bureau for Crisis Prevention and Recovery (BCPR) and the UN International Strategy for Disaster Risk Reduction (UNISDR). The SRO will be prepared to support the project through identification and/or recruitment of project personnel; identification and facilitation of training activities and procurement of goods and services. The responsibilities undertaken by UNDP under the support to NEX arrangement are defined in the Letter of Agreement with the CIMH.

In addition to the role of an Implementing Agent, UNDP will also support the project with reporting and supervision, including within the UNDP Atlas system through a Programme Assistant.

Collaborative arrangements with related projects

This project will explore synergies with the OCTs R3I project in the areas of capacity building, particularly in recovery planning; early warning systems; and sharing of experiences and best practices. There will also be linkages with the UNDP Youth INnovation project in the aspects of youth volunteerism and their participation in civil protection.

CIMH and CDEMA are also involved in a number of regional initiatives relating to capacity building, data analysis and forecasting, and comprehensive disaster management which will have direct ties with this initiative and provide foundations for these activities to build on. These include the Caribbean Hydrological Cycle Observing System (Carib-HYCOS), a regional component to a global initiative to provide a scientific basis for water resources assessment, as well as integrated, national and regional water resources development and management; Phase II of the JICA funded Caribbean Disaster Management Project (CADM II); CARICOM early warning flood pilot project; CCRIF for flooding; and the Caribbean Flood Pilot Project and Data Rescue.

Relationships will also be fostered with UNESCO/IOC as its work continues in developing the Tsunami and Coastal Hazards Warning System for the Caribbean and Adjacent Regions (TCHWS). Working Group 1 (WG1) addresses monitoring and detection systems and warning guidance including the establishment of a Regional Tsunami Centre for the Caribbean; WG2 addresses hazard assessments; WG3 addresses warning, dissemination and communication including protocols; and WG4 addresses preparedness, readiness and resilience. Under WG4, the countries of the Caribbean region have committed to the establishment of a Caribbean Tsunami Information or Resources Centre (CTIC). This will complement the other critical elements of the

EWS through support to educational and awareness activities to enable appropriate responses to warnings.

Partner Inputs

CIMH is a training and research organisation formed by the amalgamation of the Caribbean Meteorological Institute (CMI) and Caribbean Operational Hydrological Institute (COHI). The CMI was established in 1967 by the member states of the Caribbean Meteorological Organisation (CMO) while the COHI was established in 1982. Responsibility for the operation of the Institute rests with the sixteen Commonwealth Governments which comprise the CMO. The Institute is also affiliated to the UWI Cave Hill Campus.

The role and mission of the CIMH is to improve the meteorological and hydrological services and to assist in promoting the awareness of the benefits of these services for the economic well-being of the CMO countries. This is achieved through training, research and investigations, and the provision of specialised services and advice.

The Institute was designated as a Regional Meteorological Training Centre by the World Meteorological Organisation (WMO) in 1978 in recognition of the high standard of its training programmes. Caribbean and international students are trained in various aspects of meteorology including weather observing, forecasting, radar and satellite meteorology, instrument maintenance, agrometeorology, and climatology, and in operational hydrology. CIMH also operates as contractors and consultants on various meteorological and hydrological projects, as well as collect, analyse, and publish meteorological and hydrological data.

UNDP will support the project through the procurement of equipment, communications, advocacy and awareness building, and support to the capturing of lessons from the project. In addition, UNDP will ensure linkages with the Italian-funded Youth INnovation project and EC-funded R3I project.

As the lead CARICOM agency to address disaster risk management, CDEMA's main function is to make an immediate and coordinated response to any disastrous event affecting any Participating State, once the state requests such assistance. Additionally, CDEMA also is charged with managing comprehensive and reliable information on disasters affecting the region; mitigating or eliminating as far as possible, the consequences of disasters affecting Participating States; establishing and maintaining on a sustainable basis, adequate disaster response capabilities among Participating States; and mobilising and coordinating disaster relief from governmental and non-governmental organisations for affected Participating States. CDEMA will be an important collaborating partner with lead agencies in implementation of project components and also facilitate linkages between existing initiatives addressing disaster risk management to facilitate synergies and sharing of experiences. Specifically, CDEMA will be involved in the scenario development and capacity building with national disaster management systems. Additionally, given that institution's role in policy and plan development, its collaboration will be integral to the institutional and legislative assessments.

IFRC specialises in disaster response, but is focussing increasingly more attention on preparedness activities. It also engages in building the capacity of its volunteers, training leaders and managers. With much experience with volunteers and youth in disaster management the organisation will offer guidance and support in strengthening the necessary structures within the national disaster management infrastructure.

Other partners may be included as implementing partners or to provide technical assistance as the project progresses and it becomes necessary.

Audit Arrangements

An independent external audit will be conducted before the end of the project as defined by UNDP procedures.

6. MONITORING FRAMEWORK AND EVALUATION

In accordance with the UNDP's Programme Operations Policies and Procedures (POPP), the project will be monitored through the following:

Within the annual cycle

- On a quarterly basis, a quality assessment shall record progress towards the completion of key results, based on quality criteria and methods captured in the Quality Management table below.
- An Issue Log shall be activated in Atlas and updated by the Project Manager in collaboration with UNDP to facilitate tracking and resolution of potential problems or requests for change.
- Based on the initial risk analysis submitted (see annexes), a risk log shall be activated in Atlas and regularly updated by reviewing the external environment that may affect the project implementation.
- Based on the above information recorded in Atlas, Project Progress Reports (PPR) shall be submitted by the Project Manager to the Project Board through Project Assurance, using the standard report format available in the Executive Snapshot.
- A project Lesson-learned log shall be activated and regularly updated to ensure ongoing learning and adaptation within the organisation, and to facilitate the preparation of the Lessons-learned Report at the end of the project.
- A Monitoring Schedule Plan shall be activated in Atlas and updated to track key management actions/events.

Annually

- **Annual Review Report**. An Annual Review Report shall be prepared by the Project Manager and shared with the Project Board and the Outcome Board. As a minimum requirement, the Annual Review Report shall consist of the Atlas standard format for the QPR covering the whole year with updated information for each above element of the QPR as well as a summary of results achieved against pre-defined annual targets at the output level.
- **Annual Project Review**. Based on the above report, an annual project review shall be conducted during the fourth quarter of the year or soon after, to assess the performance of the project and appraise the Annual Work Plan (AWP) for the following year. In the last year, this review will be a final assessment. This review is driven by the Project Board and may involve other stakeholders as required. It shall focus on the extent to which progress is being made towards outputs, and that these remain aligned to appropriate outcomes.

Quality Management for Project Activity Results

OUTPUT 1: Network of real-time decision support centres for early warning systems created		
Activity Result 1 (Atlas Activity ID)	Real-time network implemented	Start Date: 1 July 2009 End Date: 31 Dec 2011
Purpose	To facilitate sharing of real-time hydrometeorological data throughout the region	
Description	Design and management of intra-regional network for real-time data sharing	

Quality Criteria	**Quality Method**	**Date of Assessment**
Acceptability of final design	Letter of agreement from participating countries	After submission of final design
Level of participation by countries	Letters of agreement from node countries	After final design approval
List of necessary equipment	Invoices and receipts	On delivery

Activity Result 2 (Atlas Activity ID)	Capacity building for EWS	Start Date: 1 June 2009 End Date: 31 Dec 2011
Purpose	To strengthen ability of disaster managers to use real-time data for decision making	
Description	Training in DSS and for NEMOs, simulations and practicals	

Quality Criteria	**Quality Method**	**Date of Assessment**
Designed training programmes	Completed training manuals	2 weeks before training sessions commence
Number of personnel trained	Successfully completed student assessments	Post training sessions

Activity Result 3 (Atlas Activity ID)	Plan for new hydromet data	Start Date: 1 Sep 2009 End Date: 31 Jan 2009
Purpose	To strengthen acquisition and application of real-time data to improve EWS	
Description	Development of a best practice strategy for data collection	

Quality Criteria	**Quality Method**	**Date of Assessment**
Strategy meets needs and priorities	List of needs agreed by partners	On review of final draft of strategy

OUTPUT 2: Strengthened national disaster mechanisms		
Activity Result 1 (Atlas Activity ID)	Volunteerism	Start Date: 1 Nov 2009 End Date: 31 Dec 2011
Purpose	To promote and strengthen structures for volunteerism within the civil protection mechanisms	
Description	Creation of incentive and management structures for volunteers; training of team leaders; sharing of best practices	

Quality Criteria	**Quality Method**	**Date of Assessment**
Number of institutions assessed	Completed assessment and recommendations	On delivery
Number of legislative instruments reviewed for each country	Review reports and recommendations	On delivery
Designed training programmes	Completed training manuals	2 weeks before training sessions commence

Number of youth and personnel trained	Successfully completed student assessments	Post training sessions
Activity Result 2 (Atlas Activity ID)	NEMO capacity development	Start Date: 1 Sept 2009 End Date: 31 Dec 2011
Purpose	To enhance the technical skills of the staff, and tools and methods used by the organisation	
Description	Update civil protection plans and alert communications systems, continued professional development	
Quality Criteria	**Quality Method**	**Date of Assessment**
List of issues that civil protection plans must address	Checklist of criteria met	On submission of draft revision
Number of personnel trained in updated procedures	Completed training programme and testing exercises	Post training sessions
Number of plans updated	System testing	Post training sessions
Activity Result 3 (Atlas Activity ID)	Tsunami and coastal hazards awareness	Start Date: 1 Apr 2009 End Date: 30 June 2011
Purpose	To assist in the development of a regional tsunami EWS	
Description	Formulation of a public awareness programme; training activities	
Quality Criteria	**Quality Method**	**Date of Assessment**
Increase in public awareness	Benchmark scale assessment	Biannually from start of PA programme
Number of personnel trained	Successfully completed student assessments	Post training sessions
Participation in meetings	Meeting minutes and participant lists	Within 1 week of meeting

7. LEGAL CONTEXT

The project document shall be the instrument envisaged in the Supplemental Provisions to the Project Document, attached hereto.

Consistent with the above Supplemental Provisions, the responsibility for the safety and security of the executing agency and its personnel and property, and of UNDP's property in the executing agency's custody, rests with the executing agency.

The Executing Agency shall:

a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried;

b) assume all risks and liabilities related to the executing agency's security, and the full implementation of the security plan.

UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

The Executing Agency agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

8. ANNEXES

Risk Analysis

The Project was commenced under an Initiation Plan that anticipated a four month process before the full project Document was approved. This process has extended into the ninth month of the year and as a result will impact the expected three year duration of the project and particularly the rate of expenditure. The delay in rolling out the Implementation Plan and completing the Project Document has largely been due to discussions with the Government of Italy regarding implementation arrangements. These issues are expected to be finalised leading to the signing of the Cost Sharing Agreement with the government of Italy.

The basis of the project is the vulnerability of the small island territories to natural hazards. If there is a major hazard that affects one or more of the territories, this will impact the implementation in that country and possibly some partners as the main function of many of these stakeholders will be humanitarian response and recovery.

The beneficiary countries have been challenged with limited human resources and inadequate linkages between institutions. Implementation of the project has therefore to pay close attention to understanding individual country and partner requirements for success and also critically to ensure ownership.

Agreements

- Letter of Agreement between CIMH and UNDP
- Cost Sharing Agreement between the Government of Italy and UNDP Barbados and the OECS

Terms of Reference

- Project Manager

Capacity Assessment

- CIMH HACT institutional assessment

Schedule of payments and UNDP bank account details

Payments shall be made as follows:

First and only payment - 5 November 2008	€3,500,000 (US$4,527,813)

The value of the payment, if made in a currency other than United States dollars, shall be determined by applying the United Nations operational rate of exchange in effect on the date of payment. Should there be a change in the United Nations operational rate of exchange prior to the full utilisation by the UNDP of the payment, the value of the balance of funds still held at that time will be adjusted accordingly. If, in such a case, a loss in the value of the balance of funds is recorded, UNDP shall inform the Governments with a view to determining whether any further financing could be provided by the Governments. Should such further financing not be available, the assistance to be provided to the project may be reduced, suspended or terminated by UNDP.

The above schedule of payments takes into account the requirement that the payments shall be made in advance of the implementation of planned activities. It may be amended to be consistent with the progress of project delivery.

UNDP shall receive and administer the payment in accordance with the regulations, rules and directives of UNDP.

All financial accounts and statements shall be expressed in United States dollars.

If unforeseen increases in expenditures or commitments are expected or realised (whether owing to inflationary factors, fluctuation in exchange rates or unforeseen contingencies), UNDP shall submit to the Governments on a timely basis a supplementary estimate showing the further financing that will be necessary. The Governments shall use their best endeavours to obtain the additional funds required.

If the payments referred above are not received in accordance with the payment schedule, or if the additional financing required in accordance with the paragraphs above is not forthcoming from the Governments or other sources, the assistance to be provided to the project under this Agreement may be reduced, suspended or terminated by UNDP.

Any interest income attributable to the contribution shall be credited to UNDP Account and shall be utilised in accordance with established UNDP procedures.

In accordance with the decisions and directives of UNDP's Executive Board:

The contribution shall be charged:

(a) 7% cost recovery for the provision of general management support (GMS) by UNDP headquarters and country offices

(b) Direct cost for implementation support services (ISS) provided by UNDP and/or an executing entity/implementing partner.

Ownership of equipment, supplies and other properties financed from the contribution shall vest in UNDP. Matters relating to the transfer of ownership by UNDP shall be determined in accordance with the relevant policies and procedures of UNDP.

The contribution shall be subject exclusively to the internal and external auditing procedures provided for in the financial regulations, rules and directives of UNDP.