

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

JAMAICA

NATURAL HAZARD MANAGEMENT IN URBAN COASTAL AREAS

(JA-T1019)

PLAN OF OPERATIONS

This document was prepared by the project team consisting of: Javier Cuervo (INE/ENE), Project Team Leader; Annette Killmer (INE/RND); Gisella Barreda (INE/RND); Juan Carlos Pérez-Segnini (LEG/SGO); Virginia Franzini (LEG/SGO); y Evan Cayetano (WSA/CJA).

CONTENT

I.	BACKGROUND AND JUSTIFICATION.....	2
A.	Problem statement.....	2
B.	Disaster risk management strategy and rationale for IDB support	3
C.	Related initiatives.....	4
D.	Added value	5
II.	PROGRAM DESCRIPTION	5
A.	Program goal and purpose.....	5
B.	Components	5
1.	Component I: Risk Analysis and Planning	5
2.	Component II: Improving Communities' Resilience.....	6
3.	Component III: Institutional Strengthening of ODPEM.....	6
III.	COST AND FINANCING.....	7
A.	Summary cost table.....	7
B.	Description, composition and sources of funding.....	7
C.	Sustainability.....	8
IV.	EXECUTING AGENCY AND MECHANISM.....	8
A.	Executing Agency	8
B.	Executing mechanism	8
C.	Program implementation readiness	8
D.	Execution period and revolving fund.....	9
E.	Procurement	9
V.	MONITORING AND EVALUATION	9
VI.	PROGRAM BENEFITS AND RISKS	9
A.	Program benefits and target beneficiaries	9
B.	Risks.....	10
VII.	ENVIRONMENTAL AND SOCIAL REVIEW	10

ANNEXES

ANNEX I	Logical Framework
ANNEX II	Detailed Program Budget
ANNEX III	Procurement Plan

APPENDICES

Project Resolution

BASIC SOCIOECONOMIC DATA

For basic socioeconomic data, including public debt information, please refer to the following address: http://www.iadb.org/countries/home.cfm?id_country=JA&Language=English

INFORMATION AVAILABLE IN THE FILES OF INE/RND

1. Original proposal for the 2005 Natural Hazard Management in Urban Coastal Areas
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=1149024>
2. Project Execution Chronogram (Gantt chart)
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=1149025>
3. Terms of Reference for Consultant Services
<http://idbdocs.iadb.org/wsdocs/getDocument.aspx?DOCNUM=1149026>

ABBREVIATIONS

CCRIF	Caribbean Catastrophe Risk Insurance Facility
CDERA	Caribbean Disaster Emergency Response Agency
CESI	Committee on Environmental and Social Impact
COF/CJA	IDB Country Office in Jamaica
CRG	Regional Management Review Committee
CUSO	Canadian University Students Overseas
DIPECHO	Disaster Preparedness Division of the European Commission's Humanitarian Aid Department
DPF	Disaster Prevention Fund
ECLAC	UN Economic Commission for Latin America and the Caribbean
ESR	Environmental and Social Review
GIS	Geographic Information System
INE/RND	Environment, Rural Development and Disaster Risk Management Division
NDC	National Disaster Committee
NGO	Non-Governmental Organization
OAS	Organization of American States
ODIPERC	Office of Disaster Preparedness and Emergency Relief Coordination
ODPEM	Office of Disaster Preparedness and Emergency Management
OPM (LGD)	Office of the Prime Minister (Local Government Division)
PEOC	Presidential Emergency Operations Center
PIOJ	Planning Institute of Jamaica
UNDP	United Nations Development Programme
UNICEF	The United Nations Children's Fund
USAID	United States Agency for International Development

NATURAL HAZARD MANAGEMENT IN URBAN COASTAL AREAS (JA-T1019)

EXECUTIVE SUMMARY

Beneficiary:	Jamaica	
Team leader and members:	Javier Cuervo (INE/ENE), Project Team Leader; Annette Killmer (INE/RND); Gisella Barreda (INE/RND); Juan Carlos Pérez-Segnini (LEG/SGO); Virginia Franzini (LEG/SGO); y Evan Cayetano (WSA/CJA).	
Executing agency:	Office of Disaster Preparedness and Emergency Management (ODPEM)	
Target Beneficiaries:	Government agencies at national and parish level responsible for reducing the vulnerability of population at high risk. In particular the Planning Institute of Jamaica, the Office of Disaster Preparedness and Emergency Management and local parish disaster committees Parish Emergency Operations Centres.	
Objectives:	The objective of this technical cooperation (TC) is to strengthen disaster risk management in towns and cities located in coastal areas in Jamaica. Specific objectives include improving coordination between ODPEM, local governments and communities; enhancing parish response capabilities; and providing institutional support to ODPEM.	
Financing:	IDB: (FDP)	US\$ 800,000
	Local:	<u>US\$ 200,000</u>
	Total:	US\$1,000,000
Execution and disbursement timetable:	Execution:	33 months
	Disbursement:	36 months
Special contractual conditions:	Conditions Prior to First Disbursement: (i) The selection and contracting of the Project Coordinator and the Financial Officer with no-objection from the Bank (¶4.2); and (ii) The establishment of the Advisory Committee (¶4.3).	
Exceptions to Bank policies and procedures:	None.	
Environmental and social review:	The Bank's Committee on Environmental and Social Impact (CESI) reviewed the profile on October 20 th , 2006 and did not request any assessment. The operation is under category "C".	
Coordination with other donors:	See ¶1.9 and ¶1.10.	

1. Funds from the Disaster Prevention Fund (FDP) are granted on a non-reimbursable basis.

I. BACKGROUND AND JUSTIFICATION

A. Problem statement

- 1.1 Jamaica, the largest of the English speaking Caribbean islands, is located in the most likely path of tropical storms and hurricanes in the region. It is also geologically situated within a seismically active area of the Caribbean plate, making it vulnerable to earthquakes. Approximately 82% of the population lives along the coastline, where its major cities and towns are located; consequently, coastal hazards have significant impact on the social and economic well being of the country. Over the past 300 years, most of the destruction of life and property from natural disasters (hurricanes, storm surges, coastal flooding, river overflows) has taken place along coastal areas.
- 1.2 The significance of coastal hazards in Jamaica is further underscored by the overwhelming proportion of foreign direct investments in tourism development projects around the coastline. Along with increased revenues from tourism there are associated demographic shifts, including increased squatting and its associated stress and damage to existing infrastructure and the environment, as well as demand for additional resources and facilities.

Table 1: Summarized Table of Natural Disasters in Jamaica from 1900 to 2005

Natural Disaster	# of Events	Killed	Injured	Homeless	Affected	Total Affected	Damage US\$ (000's)
Drought	5	0	0	0	100,000	100,000	6,500
Avg. per event	0	0	0	0	20,000	20,000	1,300
Earthquake	1	1,200	0	0	90,000	90,000	30,000
Avg. per event	0	1,200	0	0	90,000	90,000	30,000
Flood	13	767	0	53,422	845,290	898,712	1,262,740
Avg. per event	0	59	0	4,109	65,022	69,132	97,134
Wind Storm	23	574	225	99,420	1,224,516	1,324,161	1,793,912
Avg. per event	0	25	10	4,323	53,240	57,572	77,996

Source: "EM-DAT: The OFDA/CRED International Disaster Database, www.em-dat.net - Université Catholique de Louvain - Brussels - Belgium"

- 1.3 Jamaica's five most recent coastal disasters were caused by Hurricanes Allen (1980), Gilbert (1988), Mitch (1998), Ivan (2004) and Dean (2007). Projected economic growth of 2.6% for the 2004 fiscal year was virtually wiped out by Hurricane Ivan¹ and roads have not yet been restored to pre-Ivan standards. These events showed the need to reduce Jamaica's vulnerability to natural disasters, including the consideration of natural disaster risk information in coastal zone planning. A recent IDB financed report "Indicators of disaster risk and risk management", confirmed this assessment and Jamaica was found to be a high-risk country with high vulnerability as measured by different indexes.
- 1.4 In 1979, after damaging floods, the government recognized the need to establish a permanent disaster management organization. The Office of Disaster Preparedness and

¹ The ECLAC damage assessment estimated the cost of the impact in US\$580 million of which 62% were direct damage to physical assets and 38% were indirect losses.

Emergency Relief Coordination (ODIPERC) was established in July 1980. In 1993, with the Disaster Preparedness and Emergency Management Act, ODIPERC was changed to the Office of Disaster Preparedness and Emergency Management (ODPEM). ODPEM is intended to be a statutory agency of government with powers to raise some revenue privately and currently operates under the Ministry of Local Government and Environment. ODPEM also serves as secretariat to the National Disaster Committee (NDC), a high-level body, chaired by the Prime Minister, that encompasses representatives from all relevant sectors. The NDC meets annually in May to review preparedness for the hurricane season, to review policy, and for coordinating purposes.

- 1.5 In practical terms ODPEM relies on international funding for most of its projects and the *de facto* paradigm is that disaster risk management must primarily be funded through project interventions from international donors. This state of affairs has tended to drive ODPEM actions to focus on disaster preparedness and emergency relief provision – rather than a comprehensive approach to issues such risk identification, risk mitigation and risk transfer.
- 1.6 Multi hazard plans have begun to appear at national level, but these must be further disseminated to local levels where the planning and training process has not filtered down to parishes and communities, where disaster management should be practiced. Local authorities therefore respond intuitively (and willingly) whenever disasters occur, but are either unaware of the many mitigation, prevention and preparedness activities that must be conducted beforehand, or have become frustrated with lack of attention to these concerns due to insufficient resources. Governance at the national level operates through central government ministries, while at the local (parish) level, it is operated through fourteen Parish Councils, which comprises counselors who represent communities throughout their respective parishes and can be from the opposition party. Parish and community authorities have not so far been effectively empowered and few parish officers have been trained in disaster management. This underlies a need for appropriate training for local persons and a public education and awareness programme that promotes parish authorities in much the same manner as was earlier done for ODPEM. These inadequacies apply equally to available technology, where “state of art” digital, hand held communications devices (blackberry) and modern GIS hazard mapping and response management computer technology is effectively used within ODPEM, while critical gaps remain in basic emergency response communications for national and local institutions. Gaps also exist in legislation for enforcement and resources. In some cases, more than one piece of legislation addresses the same issue resulting in conflict, and hence a need to review existing legislation to identify gaps and to recommend future reforms.

B. Disaster risk management strategy and rationale for IDB support

- 1.7 The Bank’s Disaster Risk Management Policy places its emphasis on *ex ante* risk reduction and prevention measures. As such, this operation’s focus on strengthening risk identification, management and planning is well in-line with the Bank’s policy. The operation is also in-line with the country strategy (GN-2422-1), which explicitly identifies Reducing Vulnerability to Natural Disasters as one of three strategic pillars. This strategic pillar emphasizes prevention activities stating that “the Bank will support risk identification activities and provide technical assistance for strengthening risk management in Jamaica as warranted and requested”. Similarly, IDB’s Country Environmental Assessment for Jamaica

(JA-P1030)² recognizes the costs of natural disasters on the country and adds that climate change is likely to worsen exposure of coastal areas to intensity and frequency of hazards. The report highlights the links between land use practices and planning to vulnerability and risk, and recommends that “risk reduction must therefore be part of public policy formulation and development planning”.

- 1.8 The Government of Jamaica requested support from the Bank’s Disaster Prevention Fund (DPF), to address natural hazard management in urban coastal areas. The activities proposed for this operation are eligible for financing under the DPF as described in Operational Guidelines (CC-6077-1), these include: risk identification, land use planning for vulnerability reduction, design of prevention and mitigation investments, and strengthening of national as well as local capacities and institutions for risk management. The proposal also meets the country and project eligibility criteria of the DPF as indicated by a communication from the DPF administrator in October 2006.

C. Related initiatives

- 1.9 To address some of these issues, a number of relevant projects have been undertaken that this operation can build on. On technical aspects of risk identification and mapping, the IDB has financed Adaptation to Climate Change and Disaster Mitigation: Township Planning Strategies for Storm Surge in the Caribbean (RG-T2034), executed by CDERA with a pilot in Portmore, Jamaica. Since storm surge is a major coastal hazard faced by Jamaica, the strategies proposed and lessons learnt from the pilots of this TC can be used by the current operation and incorporated into the local risk planning process across the parishes. Similarly, the IDB is also financing a Country Risk Evaluation quantifying probable maximum losses from Hurricanes and Earthquake risks (JA-P1051). The outcomes from this work include a country risk assessment and an identification of priority areas and hazards. Outcomes from both the Storm surge pilot and country risk evaluation should be available to ODPEM so that the main recommendations are to be incorporated.. This operation also builds on the lessons learned from the Emergency Reconstruction Facility loan (1419/OC-JA), approved to repair damages from torrential rains in 2002, and extended to address the impacts of Hurricane Ivan in 2004. Limited institutional capacity at ODPEM was identified as a critical factor affecting the implementation of the recovery process.
- 1.10 The operation will also advance much work and tools developed in previous projects across Jamaica by the UNDP, CDERA, OAS, DIPECHO and USAID in disaster risk management. Currently ongoing is a UNICEF operation to strengthen the capacity of schools and communities to respond to disasters. As schools frequently serve also as shelters during hurricanes and considering the importance of risk education and awareness, this will be able to benefit from this as it adopts a more comprehensive approach across various sectors and phases of risk management.
- 1.11 Jamaica has also participated this year in Caribbean Catastrophe Risk Insurance Facility (CCRIF), which provides parametric risk insurance to the country in the event of earthquake or hurricane events. The payouts are triggered by pre-agreed characteristics of the hurricane or earthquake (e.g. certain wind speed thresholds exceeded at specific locations) and are not

² Document is very advanced having been reviewed by CRG.

linked to the actual damage done. In this context the country can avoid the moral hazard of ignoring investment in *ex ante* prevention and relying on *ex post* financing to cope with a disaster. As such the IDB's operation will advantage Jamaica by helping to reduce its probable losses from a disaster in coastal areas whilst its CCRIF payout will remain the same. Alternatively Jamaica could in future decide that because its coastal communities will be more resilient, the country can afford to reduce its CCRIF premium payments by raising the event thresholds that trigger a payout.

- 1.12 By executing the activity through ODPEM, the agency will be able to pull together the past achievements in specific locations bringing these to all parishes in a coherent approach. ODPEM will have the opportunity to consolidate the best of the previous piecemeal and small-scale donor funded projects – experiences working with parish councils and communities in training, equipping and awareness raising can be replicated in this operation. This operation will support technical assistance to communities to design new projects and these new designs may draw on the experience with prior pilots in the country. Workshops and local meetings will highlight lessons learnt from other donors and projects and shall enable a community driven approach to mainstreaming risk management at local level.

D. Added value

- 1.13 The technical cooperation (TC) adds value to Jamaica at three levels: (i) It will improve the information on natural disaster risks in coastal urban areas and store this on a common GIS platform to greatly add value and facilitate local planning and the development of risk management plans; (ii) The operation will strengthen parish councils disaster management capacity and improve risk management and community resilience; and (iii) The operation will enhance the effectiveness of ODPEM as an executing and coordinating agency for disaster risk management.

II. PROGRAM DESCRIPTION

A. Program goal and purpose

- 2.1 The objective of this TC is to strengthen disaster risk management in towns and cities located in coastal areas in Jamaica. Specific objectives include improving coordination among ODPEM, local governments and communities; enhancing parish response capabilities; and providing institutional support to ODPEM.

B. Components

1. Component I: Risk Analysis and Planning (US\$289,000)

- 2.2 This component includes the production of multi hazard assessments, hazard specific maps, a hazard vulnerability survey for households, organizations and critical facilities, and the development of disaster risk management tools to support planning decisions This component will consist of:

- a. Risk Assessment: this will be a multi-Hazard assessment including hazard maps using GIS overlay and vulnerability assessment including survey and valuation of critical facilities for 3 major towns – criteria for selection will include: the history of impacts, population, socio-economic characteristics, replicability. (Examples: St Ann’s Bay, Port Maria, Savannah La Mar, Black River).
- b. Risk Management Plans: consultancy services will develop these plans with strong stakeholders participation through workshops (6 at the local level, 3 regional level, 2 national) and community meetings. These plans will contain a Mitigation and Vulnerability Reduction Plan and Contingency Plans.

2. Component II: Improving Communities’ Resilience (US\$201,100)

2.3 This component includes public education and awareness programs; outreach preparedness programs to work with selected organizations, production of information materials and dissemination events; training of key local personnel in the areas of damage assessment, shelter management, development of community mitigation projects with ample stakeholder ownership. These education and awareness programmes will build on previous initiatives and focus on a comprehensive multi-hazard approach that covers all sectors and phases of disaster risk management - many prior projects were either limited in target audience, geography or adopted a single hazard focus. Local parishes also suffer from staff turn over of key persons such that specialized training in shelter management and damage assessment must be reinforced in order to ensure comprehensive skills coverage amongst parishes.

- a. Parish Response and Capacity Building for 10 Parishes³: (i) Basic communication equipment consisting of repeaters and hand-held and base radios; (ii) Consultancy services to review the telecommunications plan and provide some basic training to strengthen capacity; (iii) Strengthening of Parish Emergency teams and PEOC management through training, development of protocols, and manuals – communications training will be done as local counterpart by ODPEM staff; and (iv) Outreach programs carried out at two levels: Targeted outreach with organizations such as Chambers, Business sector, marine parks and general outreach for the public.
- b. Community Risk Management Plan for coastal areas: (i) Development of a model and application using consultancy services and training of ODPEM staff; (ii) Develop Community Risk Management Plan for Coastal Areas - performed by ODPEM staff with some occasional support of individual consultant – anticipating 2 communities per parish per year after development of the model and hosting of community workshops; (iii) Promote and Disseminate Plan (informational material and workshops) amongst policy makers and developers; and (iv) Technical assistance to support implementation of Mitigation Projects identified in the Community Risk Management plans.

3. Component III: Institutional Strengthening of ODPEM (US\$300,000)

2.4 This component will finance technical assistance to strengthen ODPEM’s capabilities to fulfill its mission as the agency responsible for advancing disaster preparedness and emergency management measures. This component includes:

³ Although Jamaica has 14 parishes, the Parish of Kingston will be included with the activities done for the Parish of St. Andrew.

- a. The review and update of the National Disaster Program and Plan and the development of related policies and actions plans including support to the mainstreaming of Disaster Risk Management in different branches of the economy (productive sectors, health, environmental management, etc).
- b. Organizational development including a review of the agency's structure, its administrative and human resources manuals and procedures, and general support to all issues related to organizational development.
- c. Procurement of IT equipment to perform simulation exercises (software and hardware).
- d. The development of a staff training program and staff training activities related to ODPEM's core responsibilities. Staff from other agencies and government bodies who are involved in Disaster Risk Management can also benefit from this component.
- e. Improvement of the legal framework and the development of subsidiary legislation and regulations as needed per the provisions of the Disaster Preparedness and Emergency Management Act.

III. COST AND FINANCING

A. Summary cost table

Table 2: Summary cost table

Budget Items	IDB (FDP) ¹	GOJ	TOTAL
Component 1: Risk Analysis and Planning	235,000	54,000	289,000
Component 2: Improving Communities' Resilience	176,000	25,100	201,100
Component 3: Institutional Strengthening of ODPEM	170,000	28,900	198,900
Administration	180,000	92,000	272,000
Evaluation	20,000	0	20,000
Audit	15,000	0	15,000
Contingencies	4,000	0	4,000
Total	800,000	200,000	1,000,000

1. Funds from the Disaster Prevention Fund (FDP) are granted on a non-reimbursable basis.

B. Description, composition and sources of funding

- 3.1 IDB resources will finance: (i) consultancy services, including travel and per-diem; (ii) logistical costs of workshops, meetings and consultations; (iii) IT equipment and basic communication equipment; and (iv) publications. Following guidelines of the DPF, equipment costs will not represent more than 30% of the IDB contribution. Local counter part will finance the same items and also includes in-kind staff time —technical review of the terms of reference (TOR) for the consultancies, technical review of the products, participation in seminars and other dissemination activities— and the use of office facilities. The staff time will be accounted for in the financial reports as prorated salaries of these individuals' time that is spent on the activities that are part of the operation.

C. Sustainability

- 3.2 This operation will improve the quality and use of information on coastal natural disaster risks. This information will be recorded in GIS databases at ODPEM so that maps can be preserved, and periodically modified and reproduced in future. ODPEM will now count on a GIS specialist as part of their internal staff (previously this position was filled by a CUSO volunteer) thus helping to sustain and keep up-to-date the risk maps this operation will provide. Similarly trained local staff in its use and maintenance will support the IT equipment purchased for disaster simulations at ODPEM. The Government of Jamaica is committed to comprehensive disaster risk management and the outcomes and recommendations of the organizational review of ODPEM will serve as basis for decisions related to budget and staff allocation.

IV. EXECUTING AGENCY AND MECHANISM

- 4.1 Executing Agency: The executing agency is ODPEM, a statutory body established by the Disaster Preparedness and Emergency Management Act, will have overall responsibility for the TC's execution.
- 4.2 Executing mechanism: There will be a small project-executing unit with a project coordinator with technical expertise in Disaster Risk Management, a procurement specialist, a financial officer and a project assistant. Resources will be available to finance Short Term consultancies for specialized technical reviews that support the execution. *The selection and contracting of the Project Coordinator and the Financial Officer with no-objection from the Bank will be a condition prior to first disbursement.* The Project Coordinator will report to ODPEM Senior Director of Projects. ODPEM technical staff under the coordination of the Senior Director of Projects will provide technical support to the execution. The project-executing unit will have the ability to sign off on procurement processes, make contracting decisions, review cost estimates, elaborate progress reports, handle disbursement requests and interact with the Bank.
- 4.3 There will be an Advisory Committee that will meet at least once every six months, with additional meetings that can be summoned by ODPEM. Members of the Committee will be representatives from ODPEM, OPM(LGD), ODPEM Board of Directors, PIOJ, an NGO involved in disaster management and the Private Sector. ODPEM Senior Director of Projects will act as secretary of the committee. This Committee will provide technical support specific to the execution of this technical cooperation. *The establishment of the Advisory Committee will be a condition prior to first disbursement.* In addition, the National Disaster Committee (§1.4) will receive an annual report on the progress of the technical cooperation. The NDC can then make decisions and generate directives to ensure adequate coordination between the implementation of the TC and projects and plans of other agencies (government and non-government).
- 4.4 Program implementation readiness: ODPEM has been involved in the preparation of the Plan of Operations. In particular, ODPEM reviewed and provided comments to this document. Also, ODPEM reviewed the draft versions of the following documents: (i) TOR

for the main consultancies of the operation; (ii) TOR for the personnel of the execution unit; (iii) a detailed indicative cost table; and (iv) an indicative chronogram. These documents were prepared with the support of a consultant hired to collaborate in the design of the operation. The consultant worked very closely with ODPEM.

- 4.5 Execution period and revolving fund: The estimated execution period of the operation, as illustrated with the indicative chronogram is 33 months, and the disbursement period is 36 months. A preliminary assessment of the size for the revolving fund indicated that 15% would be needed to assure adequate provision of resources for the execution, taking into consideration the sequencing of contracting and development of consultancies and activities.
- 4.6 Procurement: Procurement will be conducted in accordance with the Bank's policies for the selection and contracting of consultants (GN-2350-7) and procurement of goods and services (GN-2349-7). ODPEM has received a copy of those documents. Procurement supervision for the operation will be ex-ante.

V. MONITORING AND EVALUATION

- 5.1 Monitoring: The monitoring and supervision of this technical cooperation will be the responsibility of the Bank's country office in Jamaica (COF/CJA), with the technical support of INE/RND.
- 5.2 Progress and final reports: The executing agency will prepare: (i) an initial work plan with a detailed schedule of activities; (ii) bi-annual progress reports, to follow a pre-approved Bank format, due at the end of every semester (June 30, and December 31), detailing the activities for the previous period, problems found and how they were dealt with, and a plan of activities for the next semester and; and (iii) a final report within three months of the end of execution of the program detailing the development of the program, lessons learned and conclusions reached. Additionally, all reports and products originating from the consultancy will be included in the web sites of ODPEM.
- 5.3 Evaluation: External evaluations, contracted by ODPEM, of the program will be undertaken at the mid-point (trigger point is 50% disbursed or 18 months of execution) and just prior to the completion of the program's execution (at least 90% disbursed or 34 months of execution). The TOR and outputs of the evaluations will be shared with the Bank. ODPEM will arrange for an independent audit of the program on its completion. The intermediate and final evaluations will serve as input for the TC Operation Completion Report.

VI. PROGRAM BENEFITS AND RISKS

A. Program benefits and target beneficiaries

- 6.1 Disaster risk management stakeholders will be better able to mitigate, prepare for, respond to and recover from coastal hazards in major cities and towns around Jamaica, thereby reducing loss of life and property during and after such future events. Implementation of the

mitigation projects will help communities to reduce direct threats to their livelihoods and well being. In addition, Parish Councils and Communities will benefit from funding for risk mitigation projects.

- 6.2 Government agencies, in particular ODPEM, will benefit from increased ability to cope during emergencies, with the decentralization of responsibilities and improvement in human resources from training and other project activities. Benefits from decentralization will transcend disaster risk management and find application in wider issues of governance empowering communities.

B. Risks

- 6.3 A major natural disaster during the execution of the operation that could derail the attention and focus of ODPEM, government agencies and parishes from ex-ante emphasis to emergency management. The impact of such event would have to be considered in order to determine how to combine emergency management with disaster prevention planning with a mutual feedback between the two aspects.
- 6.4 There could be a diminished political will to support ODPEM's role as coordinating agency, if natural disasters do not convey a constant level of attention. To mitigate this risk, the operation incorporates the involvement of the National Disaster Committee, chaired by the Prime Minister and comprised by high-level government officials (¶1.4 and ¶4.3). Also the success of the technical cooperation hinges on having the communities coming on board for DRM in face of all the needs they have regarding other issues. As mitigating factor, formulation of local plans is highly participatory to facilitate ownership by stakeholders.
- 6.5 Another challenge could emerge from ODPEM's limited experience handling projects this size. This could affect its capabilities related to reporting, procurement and contracting decisions, internal control, auditing, seeking no-objections, and contract modifications. To mitigate this risk, the project-executing unit will have the authority to deliver on these tasks interacting directly with the Bank.

VII. ENVIRONMENTAL AND SOCIAL REVIEW

- 7.1 The operation focuses mainly on technical assistance, no direct environmental or social impact is expected from the execution of this TC. Following indications provided by the Implementing Guidelines for the Environment and Safeguards Policy (GN-2208-25), this operation is under category "C" and no Environmental Assessment process beyond this categorization is needed. The Bank's Committee on Environmental and Social Impact (CESI) reviewed the TC profile on October 20th, 2006 and did not request any assessment.

NATURAL HAZARD MANAGEMENT IN URBAN COASTAL AREAS (JA-T1019)

Logical Framework

Narrative Summary	Indicators	Means of Verification	Assumptions
Goal Statement			
To improve disaster risk management in Jamaica	By the end of the project, country's vulnerability to natural disasters has decreased.	Reduction in national vulnerability indicators and increase in indicators of risk management. Reduction in reported losses to natural disasters / elements exposed (assets, population).	Assuming no earthquake or hurricane event occurs with a return period above 100 years. Also no dramatic changes in natural hazards in Jamaica – ie. Sea level rise due to climate change is moderate.
Purpose			
To increase the resilience to natural hazards of towns and cities located in coastal areas in Jamaica.	<ol style="list-style-type: none"> By the end of the project 3 major coastal towns will have integrated natural disaster risk information into local planning. By the end of the project ODPEMs capacity to assist Parish in risk management will be improved. 	Final evaluation and inspection during visits.	Cooperation of local communities in sharing vulnerability data and identifying critical facilities.
Components			
1. Multi-Hazard Risk Assessments and Management plans developed	<ol style="list-style-type: none"> By the end of the second year, ODPEM and relevant parish councils have GIS based risk maps for three major coastal towns. By the end of the third year, 10 parishes will have risk management plans including mitigation & vulnerability reduction plans and contingency plans. 	Inspection of physical maps at mid term evaluation. Final evaluation and inspection during visits.	Risk mapping is completed in time for community stakeholder consultations.
2. Resilience of Parish Communities improved	<ol style="list-style-type: none"> By the end of the second year, 10 parishes can count on improved communications capacity including provision of radios and telecommunications training. Community Risk Management plans developed in 26 coastal communities each year – 78. 	Operational and administrative manuals. Mid-term evaluation, final evaluation.	<p>ODPEM and local parishes accept credibility of risk mapping data. Follow-up on the implementation of the DRM plans and retrain staff that participate in the formulation of the plans and training.</p> <p>Parish councils retain trained staff.</p> <p>Telecoms Equipment maintenance is adequate.</p>
3. Increased capacity of national disaster management agency	<ol style="list-style-type: none"> By the end of the second year, the National Disaster Plan and ODPEM organizational structure is reviewed. By the end of the third year, ODPEM receives IT equipment and staff training for simulation exercises. By the end of the second year the legal framework is reviewed and draft text proposed for necessary subsidiary regulations. 	Mid-term evaluation, Final evaluation.	

Narrative Summary	Indicators	Means of Verification	Assumptions
Activities			
1.1 Hire a risk mapping firm to perform risk assessments 1.2 Hire consultants to develop risk management plans and host community workshops	Component 1 - Budget US\$289,000	ODPEM records	
2.1 Purchase repeater base radios and hand held radios 2.2 Hire consultants to develop with ODPEM a coastal community risk management plan model 2.3 ODPEM to work with 2 communities / year / parish to develop each community risk management plan 2.4 Hire consultants to support implementation and detailed design of mitigation projects identified in community plans	Component 2 – Budget US\$201,100	ODPEM records	
3.1 Hire consultant to review National Disaster Programme & Plan and ODPEM organizational structure 3.2 Purchase IT equipment for ODPEM disaster simulations (software and hardware) 3.3 Hire consultant to review legislation and propose changes / additions	Component 3 – Budget US\$198,900	ODPEM records	Availability of consultants specialized in both disaster risk management and institutional organization.

NATURAL HAZARD MANAGEMENT IN URBAN COASTAL AREAS (JA-T1019)
Detailed Budget of Expenditure

Description	IDB	GOJ	Total Cost
I. Project Administration			
A. Project Coordinator	120,000	0	120,000
B. Procurement Specialist	60,000	0	60,000
C. Financial Office	0	60,000	60,000
D. Project Assistant	0	24,000	24,000
E. Transportation (Fuel)	0	4,000	4,000
F. Consumables	0	2,000	2,000
G. Office utilities	0	2,000	2,000
Sub Total Project Administration Costs:	180,000	92,000	272,000
II. Components			
A. Component 1: Produce multi-hazard risk assessments and Parish management plans			
1. Subcomponent 1.1: Risk mapping firm to perform risk assessments for 3 major coastal towns			
1.1 Consultancy services	80,000	0	80,000
1.2 Travel and accommodation	0	12,000	12,000
1.3 Technical support	0	12,000	12,000
Sub Total 1.1	80,000	24,000	104,000
2. Subcomponent 1.2: Consultant develops 10 Parish risk management plans, including mitigation, vulnerability reduction and contingency plans and hosts community workshops			
2.1 Consultancy services	135,000	0	135,000
2.2 Travel and accommodation	20,000	8,000	28,000
2.3 Technical support	0	18,000	18,000
2.4 Consumables	0	4,000	4,000
Sub Total 1.2	155,000	30,000	185,000
Total Component 1	235,000	54,000	289,000
B. Component 2: Resilience of communities improved			
1. Subcomponent 2.1: Purchase repeaters and hand held radios and training			
1.1 Consultancy services	15,000	3,000	18,000
1.2 Equipment	45,000	0	45,000
1.3 Technical support	0	4,700	4,700
1.4 Travel and accommodation	4,500	500	5,000
1.5 Consumables	0	100	100
Sub Total 2.1	64,500	8,300	72,800
2. Subcomponent 2.2: Consultant develops model of a coastal community risk plan			
2.1 Consultancy services	6,000	0	6,000
2.2 Travel and accommodation	500	800	1300
2.3 Consumables	0	100	100
Sub Total 2.2	6,500	900	7,400

Description	IDB	GOJ	Total Cost
3. Subcomponent 2.3: ODPEM to work with two (2) communities/parish /year to develop 78 community risk management plans			
3.1 Consultancy services	0	0	0
3.2 Travel and accommodation	15,000	2,000	17,000
3.3 Consumables	0	2,000	2,000
Sub Total 2.3	15,000	4,000	19,000
4. Subcomponent 2.4: Consultant supports detail design & implementation mitigation projects identified in community plans			
4.1 Consultancy services	15,000	0	15,000
4.2 Material and labor	75,000	0	75,000
4.3 Technical support	0	11,800	11,800
4.4 Travel and accommodation	0	100	100
4.5 Consumables	0	0	0
Sub Total 2.4	90,000	11,900	101,900
Total Component 2	176,000	25,100	201,100
C. Component 3: Increased capacity of national disaster management agency			
1. Subcomponent 3.1: Consultant reviews national disaster programme and plan and ODPEM organizational structure			
1.1 Consultancy services	15,000	0	15,000
1.2 Travel and accommodation	0	3,000	3,000
1.3 Consumables	0	0	0
Sub Total 3.1	15,000	3,000	18,000
2. Sub Component 3.2: Procure IT equipment (hardware and software) and staff training for ODPEM to conduct disaster simulations			
2.1 Consultancy services	10,000	0	10,000
2.2 Hardware and software	130,000	13,000	143,000
2.3 Technical support	0	3,800	3,800
2.4 Travel and accommodation	0	6,000	6,000
2.5 Consumables	0	100	100
Sub Total 3.2	140,000	22,900	162,900
3. Sub Component 3.3: Consultant reviews legislation and propose changes / additions by drafting proposed text for subsidiary legislation			
3.1 Consultancy services	15,000	0	15,000
3.2 Technical support	0	3,000	3,000
3.3 Travel and accommodation	0	0	0
3.4 Consumables	0	0	0
Sub Total 3.3	15,000	3,000	18,000
Total Component 3	170,000	28,900	198,900
III. Other Costs:			
A. Project evaluation	20,000	0	20,000
B. Project audit	15,000	0	15,000
C. Contingencies	4,000	0	4,000
Total Other Costs:	39,000	0	39,000
FINAL TOTAL:	800,000	200,000	1,000,000

NATURAL HAZARD MANAGEMENT IN URBAN COASTAL AREAS (JA-T1019)

Procurement Plan

Period included in this Procurement Plan: From: 01/08 until 06/09

I. CONSULTANCY SERVICES

Description of Contract	Estimated Cost of Procurement (US\$)	Procurement Method	Source of financing and percentages		Estimated Dates		Status
			IDB-DPF (%)	Local counterpart (%)	Publication of Specific procurement notice	Completion of contract	
Perform Risk Assessment for Three Major Coastal Urban Areas	80,000	Limited International Competitive Bidding - Quality- and Cost Based Selection (QCBS)	100	0	Q2 08	Q4 08	Pending
Formulation of Ten Parish Risk Management Plans (includes hosting of workshops and a participatory methodology)	155,000	International Competitive Bidding - Selection based on Quality- and Cost Based Selection (QCBS)	100	0	Q2 08	Q3 09	Pending
Support to Telecommunications Plan	18,000	International Individual Consultant Selection based on Qualifications	83	17	Q2 08	Q4 08	Pending
Development of a model for coastal community risk plan	6,500	National Individual Consultant Selection based on Qualifications	100	0	Q4 07	Q2 09	Pending
Detailed design and implementation of mitigation projects identified in community plans	90,000	Limited International Competitive Bidding - Quality- and Cost Based Selection (QCBS)	100	0	Q2 09	Q3 10	Pending
Review of National Disaster programme and ODPEM's organizational structure -	18,000	International Individual Consultant Selection based on Qualifications	83	17	Q2 08	Q4 08	Pending
Review and analysis of institutional and legal framework – development of subsidiary legislation	15,000	International Individual Consultant Selection based on Qualifications	100	0	Q3 08	Q1 09	Pending
Evaluation	20,000	National Individual Consultant selection based on Qualifications	100	0	Q4 08	Q1 09	Pending
Auditing (according to AF200)	15,000	National Individual Consultant selection based on Qualifications	100	0	Q3 08	Q4 08	Pending

II. GOODS

Description of Contract	Estimated Cost of Procurement (US\$)	Procurement Method	Source of financing and percentages		Estimated Dates		Status
			IDB-DPF (%)	Local counterpart (%)	Publication of Specific procurement notice	Completion of contract	
Procurement of telecommunication equipment (company must provide training)	45,000	National Competitive Bidding	100	0	Q2 08	Q4 08	Pending
IT hardware/software to conduct disaster analysis and simulations (including training)	153,000	International Competitive Bidding	91	9	Q3 08	Q3 09	Pending
Office supplies and consumables	10,000	Shopping (price comparisons)	0	100	Q1 08	Q3 10	Pending