



Office Of Disaster Preparedness & Emergency Management

Project Number:

Project Title: Jamaica National Emergency Telecommunications Network

Project Short Title: JNETN

Start Date: October 2012

Estimated End Date: October 2014

Government Coop. Agencies: Ministries of Communications, Regulatory bodies, Ministries of Education

Implementing Agency: Office of Disaster Preparedness & Emergency Management

Project Site: Jamaica

Beneficiary Country: Jamaica

ITU Project Manager:

SUMMARY OF CONTRIBUTIONS	
A) Project Budget	
Description	US\$
Project Personnel	80,667
Equipment	2,100,000
Training of Trainers	21,873
Monitoring & Evaluation	20,000
Miscellaneous and Other Costs	348,754
Total: 2,571,294	
B) Cost Sharing	
US\$ 2,571,294	
Jamaica Contribution (in kind)	US\$116,977
<ul style="list-style-type: none"> - Trainers - Training Room / Business Centre - Communication Facilities - Infrastructure 	

Brief Description:

The primary Objective of the Jamaica's National and Local Emergency Radio Networks is to provide Emergency Telecommunication Services to support the multiple efforts of Office of Disaster Preparedness and Emergency Management (ODPEM), the premier agency responsible for the management and preparation of emergency and disaster, such as: Hurricane, Earthquake, Tsunami, Flood, and Among others. The general purpose of the system is to provide regional, national and local emergency telecommunication services from any and or all community and districts threaten and or affected by emergency and or disaster.

For the	Signature	Date	Name/Title
ITU:	_____	_/_/____	
Partner(s):	_____	_/_/____	
	_____	_/_/____	

1. BACKGROUND AND CONTEXT

General Introduction

This proposal invites donor and global businesses to partner with the National Disaster Office of Jamaica to build out a world-class integrated network for emergency communications designed for use in developed countries. The proposed system has the following characteristics:

- Provides 99% redundant communications access from even the most remote town or location
- Is linked into a national emergency response and disaster management system that promotes community involvement and responsibility within an informed, coordinated enabling environment.
- Fosters the growth of new (small) businesses in telecoms equipment supply and maintenance
- Targets businesses (large and small), national agencies and organizations, service clubs and citizens groups, schools, hospitals and clinics, libraries, families and other organizations for the supply and maintenance of telecoms equipment and systems.
- Does not replace mobile or landline technologies
- Increases users and members of citizen and amateur band radio frequencies.

The project intends to (a) procure and equip emergency communications control and incident command stations across the island and (b) train and equip 200+ emergency radio operators islandwide in a sustainable manner using an updated business model for emergency communications system that will first be rolled out in Jamaica and with potential for replication across the Caribbean.

Rationale

Townsend and Moss (2005) have effectively articulated that the breakdown of essential communications is one of the most widely shared characteristics of all disasters, noting that the failure of telecommunications infrastructure, whether partial or complete, leads to preventable loss of life and damage to property, by causing delays and errors in emergency response and disaster relief efforts. They further contend that despite the increasing reliability and resiliency of modern telecommunications networks to physical damage, the risk associated with communications failures remains serious because of growing dependence upon these tools in emergency operations.

Citing the example of the Indian Ocean tsunami of December 2004, Townsend and Moss note that a lack of procedures for communicating warnings to governments and inadequate infrastructure had put the region at risk due to the delayed transmission of warnings. They further noted that, “based on the successful evacuation of the handful of communities that did receive adequate warning through unofficial channels, it is clear that better communications could have saved tens or hundreds of thousands of lives”. Citing another example of the result of communications failure in Kobe, Japan in 1995 where communications failure prevented relief from be supplied in to tens of thousands of homeless, stranded victims outdoors in freezing winter weather a timely fashion and noting that the loss of at least 300 fire-fighters on September 11 was attributed to communications failure during each catastrophic event, causing the system to be overwhelmed, they articulate three main causes of communications system failure during a crisis:

1. Physical destruction of network components
2. Disruption in supporting network infrastructure
3. Network congestion

In Jamaica - communities, businesses, schools and families and other groups of persons are often stranded/isolated due to flooding or landslides during and for days, weeks or months after an event. Jamaica is one of the few countries globally to have over 95% mobile phone coverage, boasting a competitive system of fibre optics and two major global mobile phone conglomerates. While mobile phones are not always compromised, access to communications in emergency situations becomes particularly critical during emergencies of catastrophic proportions. The impact of the loss of

communications in Haiti remains clearly etched in the collective minds of Jamaicans and the need for having a robust, reliable system for emergency communications in the event of the worst catastrophes underscored. However, in order to drive and sustain emergency communications with at least 99% coverage for vulnerable communities and through which all communities are able to have access, organizations, businesses and persons require equipment and user licences/certification to be a part of this network.

Context

Jamaica experiences an average of one severe weather event annually since 1998, the year Hurricane Gilbert devastated the island and its economy. Natural disasters have resulted in losses of J\$108 billion in the last decade (2001-2010), representing some 1.5% of the national GDP in an economy that has been beleaguered by negative growth or growth rates of less than 3% at the best of times. The cumulative effect of disasters has taken a toll not just on life, livelihoods and property, but has resulted in significant deterioration of the overall national infrastructure, despite of significant investments to upgrade main arterial roadways. Climate change and disaster management specialists alike have indicated that the frequency and severity of natural hazards are likely to maintain current trends given the changes in the atmospheric and geology changes being experienced on our planet and the effects are anticipated to exacerbate the effects on our economy, productivity and society.

In spite of limited available local resources to recover from and mitigate against disasters, Office of Disaster Preparedness and Emergency Management (ODPEM) has consistently continued to put in place measures to improve the management of disaster related risks, emphasizing the need for the government, businesses and residents to not only focus on preparedness activities but also to include risk assessment and involvement in mitigation as a part of their normal operations and planning. By leveraging partnerships with various sectors, agencies and donors ODPEM the, in order to carry out the components of the National Strategic Plan, is able to undertake a national programme for disaster risk reduction, management and resiliency which is to make some measure of achievement in:

1. Enhanced community capacity to cope with the adverse effects of climate change and disasters,
2. Disaster Risk Management mainstreamed at national and parish levels and incorporated into key sectors,
3. Disaster risk management information utilized to build a culture of safety at all levels, and
4. Preparedness, Mitigation, Response and Recovery systems strengthened.

Output 4.2 and 2.2 of the Strategic Plan, intends to build out and develop protocols to expand the existing Emergency Communication Systems. The projected expansion of the current telecommunications infrastructure will move current communications from 85% to 95% coverage of the island immediately before, during and after a disaster or emergency, and also provides a backbone for ongoing data uploads to ODPEM's GIS and other information systems to provide the necessary risk assessment data and management.

Other components of the Strategic Plan are inter-linked to the building out and improvements planned for telecommunications infrastructure and capabilities across the island in order to take steps towards achieving the intended results by 2014. The elements that are linked to or dependent on the building out of the telecommunications infrastructure and capabilities are highlighted in the diagram below.

As the Government of Jamaica is not fully able to fund programmes to the extent in which they can be optimally implemented, ODPEM relies on partnerships with various sectors, agencies and donors in order to carry out the components of the National Strategic Plan to which reflects the work required of a number of agencies, sectors and NGOs in order to improve indicators for disaster resiliency and risk reduction.

Successful application for funding the building out of the telecommunications infrastructure and increasing telecommunications capacities will contribute to the required improvements and redundancies in

emergency communications and also facilitate the integration of various strategic elements systematic upload

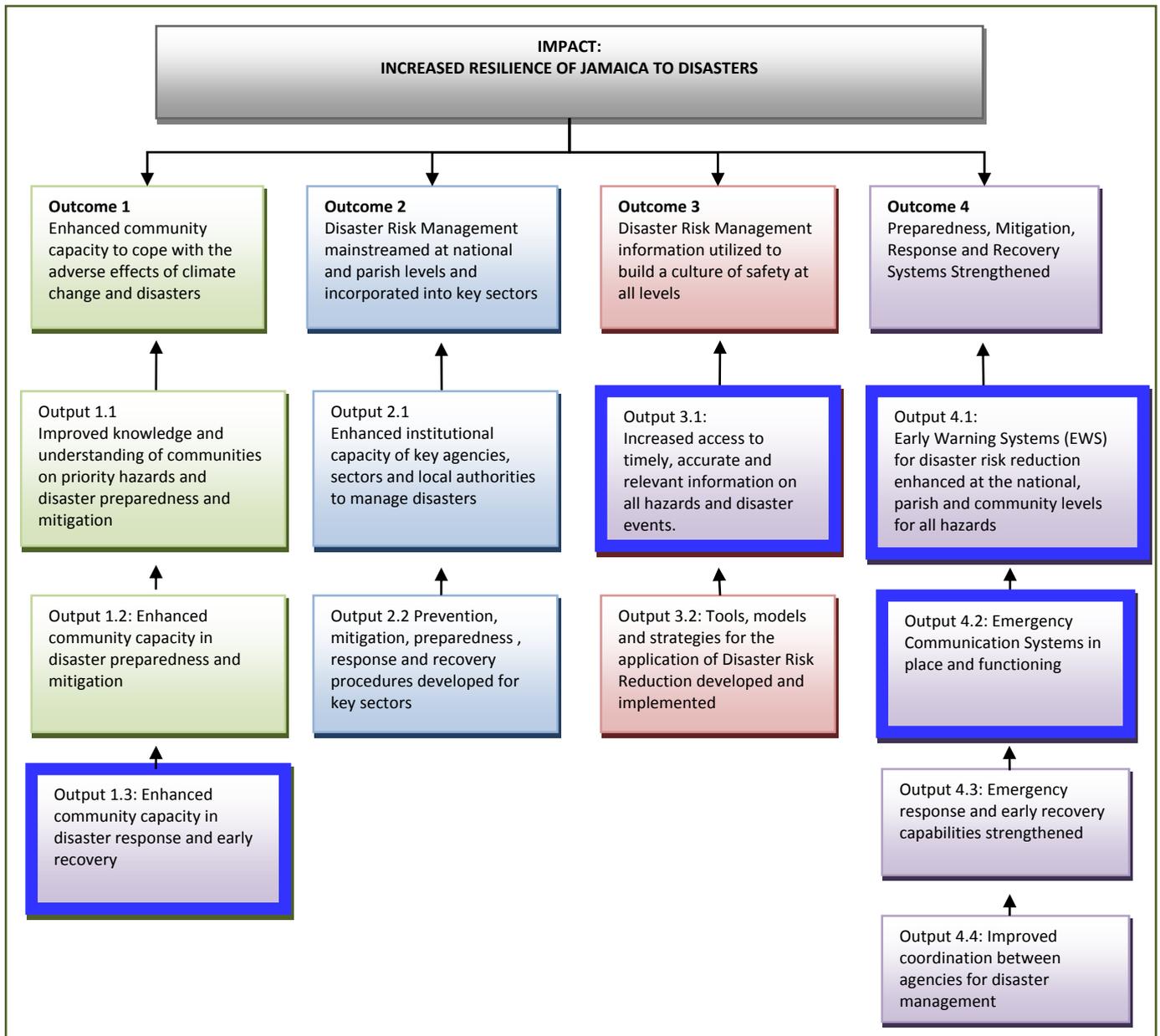


Figure 1: ODPEM Results Framework (2011-2014)

Present Situation/Context

Jamaica susceptibility to natural disasters such as flooding, heavy rains and hurricanes earthquakes, fires, storm surges, landslides and possibly tsunami's is further exacerbated when normal means of communications become disrupted. The many recent lessons learned from past disasters in Jamaica, New York (Terror 2001), Louisiana (Hurricane 2005), Haiti (Earthquake 2011) and Japan (Tsunami 2011) tell ODPEM that any and all normal and emergency telecommunication systems consisting of permanent and fixed relay facilities have a very high probability of failure in any major unpredictable and or anticipated catastrophes. However, these same past experiences indicate that mobile services can be rectified, due to either reduced demand for communications and/or re-establishing infrastructure, in as little as a few days up to a couple of weeks, depending on the severity of destruction of broadcasting or relay infrastructure. Landline and fibre-optic communications take much longer, with reconstruction taking up to a few years to

be completed. In very simplistic terms, it is the multiple point-to-point or building out of communication systems in “small” recoverable unit which lowers the risk of complete system failure due to failure at one or two points and enables rapid, agile recovery efforts. Mobile companies are noted to have become quite agile in recovery efforts and re-establishing contact.

Emergency communications today includes reliance on Existing Normal Telecommunications Infrastructures, portable telecommunications (radio and satellite) services and infrastructure and mobile technologies. Emergency response and recovery efforts that are over-reliant on any one technology has been found to have higher failure rates than those which are flexible to adapt to the situation on the ground, having redundant, portable communications strategies and infrastructure in place with a network of communication points that have been fairly well established.

There are three general types of communication:

- Normal communications: telephone (landlines, fibre optic and mobile technologies), internet and radio.
- Emergency communications for emergency services such as the fire department, police, military, ambulance, the Ministry of Health and ODPEM.
- Disaster and Military Communications: tactical rapid deployable communications infrastructure and systems utilizing BGAN phones, VSAT system, 2-way, HF radios, solar panels and power system. These are rapid deployable packages able to operate in even the most remote, communications sterile environment.

In a disaster situation HAM radio operators are often the first able to provide communication access to the disaster sites. HAM operators give a disaster site a distinct advantage in that these operators are almost always the first to begin providing on the ground information for reporting, deployment of rescue and response services and for assessing the situation on the ground. The rapid local deployment of HAM and other (trained/exposed) local radio operators provides an emergency system with an immediate point of on-the-ground contact. Consequently, ODPEM is resolute to implement NADEC with a view to provide Jamaica with communication preparedness to rapidly and effectively establish and maintain disaster-emergency communication services from anywhere in Jamaica, upon demand. The table below outlines the possible emergency communication options for Jamaica in the event of a catastrophic disaster.

Stage of Disaster or Emergency Response	Possible/likely Damage in Catastrophes	Extent of Communications Loss	Possible/Likely Emergency Communications Options
Emergency Response and early relief and welfare	Appears to be near total damage in some areas. Extensive infrastructural damage across a relatively wide/large area. Can last for weeks.	Immediate wide spread loss of comms capabilities (voice, data – including sms, mms, internet) Normal communications do not function Normal Emergency communications can fail	Technologies that are most likely to work: satellite terminals (radio/phone/data/voice/video/picture), Fibre optic, VSAT and microwave technologies, wireless broadband, amateur radio. (NB Infrared is not currently used in Jamaica as an emergency response alternative). Normal communications and even amateur operations may be compromised due to damaged structures. However, amateur radio operations can be restored within minutes using portable systems. Military and Satellite communications may be available.

<p>Restoration and repair (immediate, may be temporary) of infrastructure – focus on ongoing relief/welfare, search & rescue, clearing debris,</p>	<p>Response and relief, land search and rescue and disaster assessment operations typically start within 1-3 days of the event and may last for months. Chaos and destruction abound.</p>	<p>Congestion may be sufficiently reduced to begin restoration of mobile services. Some power may also be returned; limited power availability makes possibility of internet low; sms possible</p> <p>Normal communications likely to be still not functional. Some infrastructure operability for mobile services may be up but congestion may result in system failure</p> <p>Normal Emergency communications may still be in failure. Rapid deployable systems may be up and running with varied level of clarity and reliability.</p>	<p>Satellite, satellite phones, infrared, VSAT, radio communications, mobile, GSM (may be operating temporarily from portable base stations & earth stations)</p>
<p>Reconstruction of destroyed infrastructure and systems for functional replacement</p>	<p>Depending on extent and type of external assistance available and accepted, reconstruction can begin within months to years.</p>	<p>Normal communications (mostly mobile some landline, fibre optic and internet) likely to be returned but may not be 100% functional.</p> <p>Rapid deployable systems may be up and running for specific purposes.</p>	<p>Satellite, satellite phones, VSAT, and rapid deployable systems are being scaled down if normal telecommunications is back on stream.</p> <p>GSM (mobile) services may be 50% or more over disaster state</p> <p>May possibly have limited fibre optic, limited landline services. Repeater and other radio communications services back on line and may be operating some unity with backup power, etc.</p>
<p>Reconstruction for re-development</p>	<p>Typically govt. & private sector driven. Reconstruction can Take years to complete but a greater level of “normality” would have returned.</p>	<p>Disaster communications deactivated.</p> <p>Normal emergency communications returned (or returned to best possible status)</p> <p>Back to normal or near normal communications.</p>	<p>GSM (mobile) services may be 50% or more over disaster state</p> <p>May possibly have limited fibre optic, limited landline services</p> <p>Repeater and other radio communications services back on line.</p>

Problem Statement/ Description Of The Problem

ODPEM currently relies on persons calling into the National Emergency Operations Centre in order to identify areas that have been affected during a crisis or disaster and to request for assistance in cases of loss of access or where the impact of the hazard is beyond the communities’ immediate coping capacity. Additionally,

National/Government Commitment

The Government of Jamaica is committed to the programme of Comprehensive Disaster Management that is currently being pursued by the ODPEM and expresses this commitment in the involvement of ministries and agencies leading disaster risk management initiatives and review of legislation for a more effective monitoring and involvement of sectors and ministries in this area of development and protection.

Process Followed In Project Identification/Formulation

Coming out of an assessment of the emergency communications across the region by Information and Communications Systems Advisory Committee with CDEMA, an analysis of the conditions all across the region was conducted. This review indicated that there is a need to design and implement comprehensive emergency communications system using advanced technologies that can be deployed rapidly in catastrophic disasters. There is also a need to institutionalize emergency communications at the institutional level. ODPEM has begun to address this problem by establishing frequency standards and identify opportunities to undertake the training of additional and past HAM and other radio operators in order to infuse disaster risk management in all areas of life, businesses and agency operations.

National/Regional Strategy

The NADEC rolls out a disaster-emergency communication system that utilizes satellite and terrestrial two-way radio equipment to provide Jamaica with the full capability to allow simultaneous communication response of the Fifteen (15) Parish-Municipals Emergency Operation Commands (PEOC), Two hundred and twenty-eight (228) major Districts Emergency Operation Commands (DEOC) that has first responsibility for its respective High Risk Communities-areas (HRA) and affected places. This capability will be enabled through standardization of frequencies and the training and equipping of PEOC, DEOC, Mobile and Executive stations.

All major districts (parochial governments and community councils - representing the lowest level of community governance) will have at least the minimum communication assets to provide them with disaster and or emergency first communication request and response, without the dependence of post assistance from central government that generally arrive long after the catastrophe and or the unnecessary suffering and deaths of several persons.

Furthermore, the modular system of the NADEC enables rapid redeployment of communications assets from unaffected districts to the most affected, upon demand. Under another project, the deployment of communications assets for rapid emergency communications will build out regional and global emergency communications capabilities. The critical features of the communications equipment include being able to be easily transported by foot, motor vehicle and aircraft over rough terrain or transportation routes. The equipment deployed are to be of professional (commercial) grade for affordability but the inclusion of the necessary Military Standards (MILSTD) for operations in tough and wet (submergible, moisture-laden) places and with Intrinsically Safety (IS) ratings for operations in potentially explosive places (petroleum and munitions storage facilities and crash sites with raw petroleum). The equipment will provide both voice, video/picture and data capabilities.

Project Strategy

The NADEC system for Jamaica has twelve (12) major components:

1. A National Executive Station, located in the Office of the Prime Minister.
2. National Command Station located at the National Disaster Office – ODPEM (currently in place).
3. Fifteen (15) Parish-Municipal Control Stations (a revised evaluation of the status of each parish would be required at the time approval).
4. Two Hundred and Twenty-Eight (228) District Sub-Control and Operation Systems.
5. Two (2) Mobile Major Incident Command Stations placed strategically immediately outside of the two major cities – Kingston and Montego Bay.
6. Standardized Frequency Plan (FREPLAN) for the allocation of frequencies licences to operate within specific bands and authorization of users.
7. System management, security and maintenance.
8. Standard Operating Procedures for Emergency Operations and Communications.
9. Certification and authorization operators.
10. Continuous training, testing, evaluation and practice – general or hazard specific emergency operations and communications.
11. Organization of volunteer human resources for the system operations and maintenance via an Emergency Affiliated Radio Operator Society/ Services (EARS) – comprised of amalgamation of Amateur Radio Operators (HAM), other Citizens groups (including schools) and participating business and sector groups.
12. Inclusion of citizenry, sector and community efforts.

Composition of NADEC station's equipment

- A. Control Stations for all Parish and Municipal EOC
 - 1 HF-SSB Base Station
 - 1 VHF/UHF-FM Base Station
 - 5 Portable (IS) Radios
 - 1 Solar Charger
- B. Cross Band Relay Stations, typically four (4) per Parish
 - 1 VHF/UHF-FM Relay Station
 - 1 Solar Charger

C. District Operation Stations for all Parochial Division of the Councils and Municipals therefore include communication asset for the HRA first response communication.

- 1 HF Radio Base Station
- 1 VHF/UHF-FM Base Station
- 5 Portable Radios
- 1 Solar Charger

D. Mobile Major Incident Command Station based close to Kin & Montego bay

- 1 Lot Satellite Communication Terminal
- 1 Communication interface for Wi-Fi and Two-way radio
- 2 VHF/UHF-FM Base radio station
- 10 Portable Radios
- 1 Lot Solar Charger

E. National Command Station for NDO-ODPEM

- 2 HF Radio Base Station
- 2 VHF/UHF-FM Base Station
- 10 Portable (IS) Radios
- 1 Solar Charger

F. National Executive Station for OPM

- 1 VHF/UHF-FM Base Station
- 1 Encryption (OPM-ODPEM)
- 1 Solar Charger

G. Training:

- One (1) per Parish
- Two (2) executive trainings – OPM and National Disaster Office
- Each training takes two (2) days
- Trainers

2. OVERALL PROJECT OBJECTIVE

The proposed National Disaster-Emergency Communication System (NADEC) for Jamaica is to provide the country with a comprehensive Disaster-Emergency Telecommunication System that makes available all levels and phases of communication responses that can meet the demanding situation caused by any magnitude and number of national catastrophe(s) (environmental and or human and technological) including the partial or full failure of the vital Normal-Public Telecommunication Systems include wireless (mobile) and landline (fixed) telephone and internet services and Normal Emergency Telecommunication Systems including police, fire and rescue radio systems.

3. PROJECT EXPECTED RESULTS AND INDICATORS

Each parish will be able to rapidly establish communications and provide assessment reports and documents as required by donors, media and concerned persons and authorities, quantifying damages and providing

timely updates on the event and state of being and operations. The table below outlines the main outcomes and indicators for the project.

Indicators		Means of Verification
GOAL:		
<p>To provide the country with a comprehensive Disaster-Emergency Telecommunication System to provide all levels and phases of communication responses that can meet the demanding situation caused by any magnitude and number of national catastrophe(s) (environmental and or human and technological) including the partial or full failure of the vital Normal-Public Telecommunication Systems include wireless (mobile) and landline (fixed) telephone and internet services and Normal Emergency Telecommunication Systems including police, fire and rescue radio systems.</p>	<ul style="list-style-type: none"> • Rapid deployable systems enable almost immediate communications (within minutes of the event) nationally and with the outside world. • Emergency and Disaster system failures are minimal or non-existent • Zero disaster or emergency system failures due to faulty or unsynchronized equipment and lack of knowledge on the part of operators, system administrators or policy directors • 99% coverage of reliable/functional normal and emergency communications systems during normal times • Continuous training, testing, evaluation and practice – general or hazard specific emergency operations and communications • Volunteer human resources for the system operations and maintenance via an Emergency Affiliated Radio Operator Society/ Services (EARS) – comprised of amalgamation of Amateur Radio Operators (HAM), other Citizens groups (including schools) and participating business and sector groups. • Inclusion of citizenry, sector and community efforts • System management, security and maintenance • Standard Operating Procedures for Emergency Operations and Communications • Certification and authorization operators 	<p>Certificates and licensees</p> <p>Locations of equipment deployed found in ODPEM and other GIS</p> <p>After Action Report</p> <p>Invoices</p> <p>Final Reports</p> <p>Maintenance and training schedules</p>
OUTPUTS:		
<p>A National Executive Station established in the Office of the Prime Minister</p>	<ul style="list-style-type: none"> ○ 8-10 persons trained in use, trouble shooting, maintenance and administration of the system • System tested in simulation • Equipment used during an incident, as appropriate. 	<ul style="list-style-type: none"> • Invoices • Simulation exercise guidance notes & after action report • Incident reports from OPM & ODPEM
<p>Deployable disaster communications infrastructure in each parish or</p>	<ul style="list-style-type: none"> ○ Equipment procured and installed for Fourteen (14) Control Stations, one in each Parish and Municipal EOC. Equipment installed includes 1 HF-SSB Base Station, 1 VHF/UHF-FM Base Station, 5 Portable (IS) Radios, 1 	<ul style="list-style-type: none"> • Licensee and certified user data found in ODPEM GIS • Certificates and Licenses

<p>municipality (local authority).</p>	<p>Solar Charger</p> <ul style="list-style-type: none"> ● Fifty-six (56) Cross Band Relay Stations positioned for deployment/engagement: 4 VHF/UHF-FM Relay Station and 1 Solar Charger ○ Two Hundred and Twenty-Eight (228) District Sub-Control and Operation Systems across the island, each equipped with 1 HF Radio Base Station, 1 VHF/UHF-FM Base Station, 5 Portable Radios and 1 Solar Charger. ○ Number of users and licensees issued certification and licenses. 	<p>issued</p> <ul style="list-style-type: none"> ● Contact listing of authorized officers/radio operators and their call signs ● Invoices ● Pictures ● Parish Installation Report ● Simulation After Action Report ● Final Report
<p>Two (2) Mobile Major Incident Command Stations placed strategically immediately outside of the two major cities – Kingston and Montego Bay.</p>	<ul style="list-style-type: none"> ○ Each Mobile Major Incident Command Station equipped with 1 Lot Satellite Communication Terminal , 1 Communication interface for Wi-Fi and Two-way radio, 2 VHF/UHF-FM Base radio station, 10 Portable Radios, 2 Lot Solar Chargers ● Each command station strategically and securely station outside of each metropolis ● Testing schedule for equipment and reporting schedule on test outcomes established and submitted to the Sub-Committee and Prime Minister (as chair of the National Disaster Committee) 	<ul style="list-style-type: none"> ● Current and alternative locations of stations found in ODPEM GIS and adequately labeled/noted to indicate current location, authorized officers with contact info ● Invoices ● Pictures ● Installation Report ● Final Report
<p>Minimum of 516 persons trained in equipment use, deployment and Communications for Emergency Operations (national, parish or community)</p>	<ul style="list-style-type: none"> ● Approved training curriculum/course materials ● Number of persons certified in training 	<ul style="list-style-type: none"> ● Pictures ● Reports ● Record and grading sheets and reports for certification
<p>Disaster communications infrastructure and systems tested</p>	<ul style="list-style-type: none"> ● Clear demonstrable linkages with the National Emergency Systems ● National simulation exercise held and reported on 	<ul style="list-style-type: none"> ● After Action Report ● Final Report

4. ACTIVITIES

The main activities for the project are:

1. Opening Ceremony and Press Announcement
2. Establish Project Secretariat
3. Initial Project Meetings
4. Training
 - a. Donor review and acceptance of training curriculum and course materials
 - b. Training of Trainers
 - c. Training Users
 - d. Certification

- e. Uploading licensee and certification data
5. Procure Equipment
 - a. Donor Review and Acceptance of Procurement Plan
 - b. Procure Equipment (meeting GOJ & Donor requirements)
6. Simulation
 - a. Planning Meeting
 - b. Conduct simulation exercise
 - c. After Action Review
 - d. Report
7. Closing Ceremony and Press Announcement
8. Project Evaluation
9. Submission of Final Project and Financial Report

The curriculum, course materials and process of certification is currently being finalised for the training activities. ODPEM and the Spectrum Management Authority are also in the process of establishing the necessary infrastructure and regulations for the FREPLAN.

5. INPUTS

- The Jamaica Amateur Radio Association will be providing training support, assist in identifying and mobilizing community persons, along with the Parish Disaster Committees in the local authorities, the Social Development Commission and the Jamaica Red Cross.
- ODPEM will establish criteria for selection of persons/radio operators to be engaged formally in the National Emergency Communications System manage the project and provide technical direction and oversight for training and deployment of equipment. ODPEM will also be responsible for reporting and financial prudence for the implementation of the project.
- The ITU will provide support for the identification of suppliers that will enable the long-term building out of the NADEC.
- The GOJ may provide counterpart funding to support the training and simulation exercise, as well as local official coordinators and support for the project.
- In kind Contribution (of approximately \$500,000) from the ODPEM will provide technical and administrative staff to coordinate and manage the Project.
- Staff will be provided to grant the coordinating efforts for the Project by the ODPEM.
- Provision of technical support staff.
- Provision of administrative staff to maintain accounts.

6. RISKS

The primary risks to the project are:

- Over commitment of human resources at the time of project approval,
- Major event occurring just prior to or during the project period.

The primary partners have endorsed the project concept and the Technical Advisory Committee are champions for the project. An initial assessment for the uptake of the training and engagement of radio operators into the National Emergency Communications Network indicates that there is a ready “market” of radio operators, whose inclusion in the Emergency Communications network will add value beyond just communications and who are likely to be committed to the operations of the network – during and outside of emergency events. The risk that human resources in the organizations that are champions for the project is mitigated against the high priority given to the implementation of the project by the proposing organization -

ODPEM and the lead supporting organization – Jamaica Amateur Radio Association (JARA). The Technical Committee is a standing committee that will meet despite competing priorities.

By allowing for a two year implementation for the project, the risk of disruption associated with a major event is provided for. The main project activities can be implemented within a 6-8 month time period and the lead organization will be aiming to implement all project activities in the shortest time possible, upon approval, while ensuring that acceptable levels of performance are achieved.

7. SUSTAINABILITY

The project has been developed with the input and support of the National Sub-Committee of the Operations and Transportation Sub-Committee of the National Disaster Committee. ODPEM will lead the project with full support from partner organizations that also sit on this committee including the Jamaica Amateur Radio Association, the security forces and fire brigade, marine and CB radio operators. The outcomes of the project are sustainable as ODPEM and the Parish Disaster Offices have exercises as a part of their annual preparation for disasters.

In addition to this, ODPEM promotes disaster risk management as a developmental, social and economic activity. Business continuity planning, involvement in telecoms operation and local disaster preparedness and mitigation activities are critical to Jamaica's national disaster management programme. It is envisaged that the strategic and creative input of equipment into the marketplace will promote small business growth for servicing and sale of equipment, encouraging linkages between various service providers and provide businesses with the opportunity to brand and service equipment.

A sustainable system of radio operations, that is supported by both national and private (large and small, business and family) communications systems and infrastructure has benefits to the average Jamaican, as well as the National Disaster Organization and Emergency Response Agencies, under even normal conditions. As the proposed system does not require users switching out or replacing existing mobile communications, (low cost) and which add benefits beyond emergency operations reliable emergency communications, agencies, businesses and various social groups. All users are to be registered within the regulatory Framework now being in place for the management and enforcement of frequency use and management. The Emergency Communications Frequency Plan is currently being rolled out with the allocation of frequencies and planning for the regulatory framework.

8. MANAGEMENT

The Project will be managed and coordinated with the ODPEM Office in Kingston Jamaica through a project team comprised of a Project Secretariat and Technical Advisory Team. The Project Manager will coordinate and execute all project related procurement and training logistics (air travel, training venue and locations, accommodation, meals) and also provide direction and oversight for the simulation exercises to be conducted from the four SRFPs. (Sub Regional Focal Points). The Secretariat will also provide oversight for the evaluation of the receiver, storage and maintenance capabilities and distribution/use of the equipment within each sub-regional group and the SRFPs. The composition of the secretariat is as follows:

- Project Manager (ODPEM),
- Project Assistant (ODPEM),
- Technical Advisory Team (External).

The Technical Advisory Committee is the current advisory committee to the National Disaster Committee, as stipulated by law under the National Emergency Management Act of 1993. The National Emergency Telecoms

Sub-Committee of the Operations and Transportation Sub-Committee for the National Disaster Committee which is composed as follows:

- Ministry of Transportation (Chair),
- Jamaica Fire Brigade,
- Security Forces (military and police),
- Meteorological Office of Jamaica,
- Jamaica Amateur Radio Association,
- CB Association,
- Spectrum Management Authority,
- Public Utility Companies,
- Office of the Prime Minister,
- Local Security Firms with Advanced Communications Systems,
- Main communication providers in Jamaica: FLOW, Digicel & LIME.

This is an active working group that has been charting new developments in the use of Information and Communication Technologies in Jamaica and has been support the ODPEM in its drive to integrate current technologies in Disaster and Emergency Management Systems in local business and governance systems.

9. MONITORING AND EVALUATION

The progress of the project will be monitored through periodic evaluation reports issued by the project and an evaluation report will be prepared at the end of the project. Special reports may be required from some of the sites. Field visits will be arranged to those learning centres that may require a direct evaluation of their progress and the adherence to the project standards.

10. BUDGET

The estimated budget is attached as Annex 1.

11. WORK PLAN

The Work Plan is attached as Annex 2.

Annex 1: The Estimated Budget

	Description	US\$
	Project Personnel	80,667
	Equipment	2,100,000
	Training of Trainers	21,873
	Fellowships	
	Monitoring & Evaluation	20,000
	Miscellaneous and Other Costs	348,754
	TOTAL	2,571,294

Local Contribution

	Description	US\$
	Project Personnel	50,000
	Equipment	
	Training of Trainers	5,000
	Fellowships	
	Monitoring & Evaluation	27,977
	Miscellaneous	34,000
	TOTAL	116,977

