EARLY WARNING SYSTEM SURVEY

COUNTRY: JAMAICA

Please complete one form for each Hazard

I INFORMATION ON THE HAZARD

1. The Hazard RAINFALL FLOODING

2. Summary of events triggered by the hazard

FLOODING OF FLAT AREAS AND MOUNTAIN VALLEYS, FLOODING FROM RIVER OVERFLOWS

3. Historical events of significance.

ANNUAL EVENTS

4. Description of the region and the population under hazard and of the existing vulnerabilities

b. Degree of exposure of population to hazards **(High/Medium/Low)** MEDIUM

a. Number of communities affected by the hazards **(Approximate #)** 100

c. Number of persons exposed **(#)** 500,000

c. Percentage of people exposed to hazard, etc).**(%)** 20%

5. Is there adequate public awareness about the hazard? (Y/N) YES

6. Attitude towards freedom of hazard information: (Very good/Good/Poor/None) VERY GOOD

II TECHNICAL ASPECTS OF THE EARLY WARNING SYSTEM

1. Type of system employed to monitor the hazard:

SATELLITE (INTERNET) MONITORING, WEATHER RADAR, WIND VANES, RAIN GAUGES HUMAN REPORTING, COMPUTER FLOOD MAPPING MODELS, CABLE CHANNELS, MIXTURE

2. Year in which system became operational. 1989 - 2003 (GRADUAL DEVELOPMENT)

3. Time employed for the design and implementation of the system. 14 YRS

4. Geographic coverage of EWS. ISLAND WIDE

5. Arrangements made for remote areas? (Y/N) YES

6. Routine operation of the EWS:

a. Members of the Community; **(Position)** COMMUNITY LEADERS

b. Personnel from:

1) National; **(Position)** MET OFFICE, HYDROLOGY DEPTS, ODPEM, MEDIA HOUSES

2) Regional; **(Position)**

3) Local government agency; **(Position)** PARISH DISASTER COORDINATORS

4) Research center; **(Name)** MET OFFICE, HYDROLOGY DEPTS, UWI

5) Consulting firm; **(Y/N)** NO

6) NGO; **(Name)**

7) Other **(Name)**

8) Mixed; **(Y/N)** YES

7. Type of instrumentation used

a. to monitor the hazard; SATELLITE TVRO, WEATHER RADAR, COMPUTERS-INTERNET, RAIN GAUGES, 2 WAY RADIOS,

b. to process information gathered; COMPUTERS, COMPUTER MODELS, CALCULATORS

c. to transfer it. BROADCAST RADIO AND TV, SIRENS, BULL HORNS, FAX, HF/VHF/UHF RADIO, EMAIL, TELEPHONES, CELL PHONES, SATELLITE PHONES, SMS,

8. Mechanisms used to forecast the events:

a. Procedures? **(Y/N)** YES

b. Are procedures documented in a national plan? **(Y/N)** YES

c. Are procedures backed by legal authority? **(Y/N)** YES

d. Who carries out this task?

1) Members of the community? **(Y/N)** **NO**

2) Personnel from technical institutions? **(Y/N)** **YES - MET OFFICE, HYDROLOGY, ODPEM**

3) Other **(Name)**

4) Automatic? **(Y/N)** **YES - MANUAL AND REAL TIME AUTOMATIC SYSTEMS**

5) Mixed? **(Y/N)** **YES**

6) Other **(Name)**

9. Is warning adequately published in public broadcast media? (Y/N) **YES**

10. Are forecast and media agencies fully integrated? (Y/N) **YES**

11. Is there redundancy and backup for the EW system? (Y/N)

NO BUT THIS IS CHECKED REGULARLY BY COMMUNITY MEMBERS

12. Is lifeline equipment (eg standby power) adequate? (Y/N) **NO**

13. Is there adequate provision for maintenance of the EWS? (Y/N) **YES**

14. Technical support used for the Design, Implementation, Development of the EWS:

a. International **(Name)**

b. National **(Name)** **MET OFFICE, HYDROLOGY DEPT'S, ODPEM, LOCAL CONSULTANTS**

c. Technical **(Name)** **UNDERGROUND WATER AUTHORITY, HAM OPERATORS**

d. Scientific **(Name)** **UNDERGROUND WATER AUTHORITY, UWI**

e. Academic **(Name)** **UWI**

f. Consulting firm **(Name)** **DIVERSE**

g. Civil defense agency **(Name)** **DEFENCE FORCE, FIRE SERVICE, POLICE**

h. NGO **(Name)** **RED CROSS**

i. Other **(Name)** **NEWS MEDIA (CABLE OPERATORS, PRINT, TV, RADIO)**

III INSTITUTIONAL AND FINANCIAL ASPECTS OF THE EWS.

1. Is there a legal framework for the EWS? (Y/N) **YES**

2. Institution(s) in charge of design and implementation (Name) **HYDROLOGY, MET OFFICE, ODPEM**

3. Institution (s) which participate routinely in monitoring the hazard (Name)

HYDROLOGY, MET OFFICE, ODPEM

4. Is there adequate public awareness of the EWS? (Y/N) **YES**

5. Is there parity between forecasting and warning? (Y/N) **YES**

6. Is there provision for nightime warning and response? (Y/N) **YES**

7. Type of resources required for the implementation, routine operation, and maintenance of the EWS:

a. Technical personnel **METEOROLOGISTS, HYDROLOGISTS, TELECOMMUNICATIONS ENGINEERS, COMPUTER PROGRAMMERS, OPERATORS AND TECHNICIANS, RADIO OPERATORS, MEDIA PERSONNEL**

b. Equipment: **COMPUTERS, RADIOS, CELL PHONES, SATELLITE PHONES, SIRENS, BULL HORNS, WEATHER RADAR, AM TRANSMITTERS, FIXED FREQUENCY RECEIVERS GIS SYSTEMS, SMS READY CELL SYSTEMS, INTERNET ACCESS, ISLANDWIDE MEDIA (RADIO & TV) COVERAGE,**

c. Logistical support (transportation for example) **4WD PICKUPS WITH MAINTENANCE PACKAGE**

d. Monetary resources **REVENUE STREAM GENERATED FROM DISASTER MANAGEMENT SERVICES, BUDGETED GOVERNMENT REVENUES,**

e. Other **(Name)** **COMMUNITY PERSONNEL FOR A VARIETY OF MANUAL OPERATIONS**

8. Origin of resources required to implement, operate, and provide maintenance to the EWS:

a. Community **(Y/N)** **YES**

b. National **(Name)** **GOVERNMENT MINISTRY**

c. Regional **(Name)** **CDERA, CMO, UWI**

d. Local institutions **(Name)** **GOVERNMENT MINISTRY**

e. International agencies **(Name)** **UNDP, OCHA, ECHO, DFID, USAID, CIDA,**

f. Donors **(Name)** **INDIVIDUAL COUNTRIES THROUGH MULTILATERAL AGENCIES**

g. NGOs **(Name)** **RED CROSS**

h. Mixed **(Y/N)** **YES**

9. Inter agency and Inter personal relations between emergency agencies and personnel: (Very good/Good/Poor/None) **GOOD**

IV MECHANISMS TO ISSUE A WARNING AND AN ALERT

1. Who is warned or alerted by those who monitor the hazard?

a. Community **(Y/N)** YES

b. Local **(Name)** FIRST RESPONDERS AND COMMUNITIES VIA MASS MEDIA

c. Regional **(Name)** CDERA

d. National Government **(Name)** PRIME MINISTER, ALL MINISTRIES, RESPONSE AGENCIES

2. Which means are employed to warn the people and the various agencies or institutions?

TELEPHONE, FAX, EMAIL, PUBLIC MEDIA,

3. Who is in charge of declaring the state of alert:

a. The Community **(Y/N)** NO

b. Technical personnel who monitor the hazard **(Y/N)** NO

c. Local **(Name)**

d. Regional **(Name)**

e. National level government **(Name)** ODPEM

f. National civil protection agency **(Y/N)** NO

4. Type of public alert employed:

Siren / Bells / Public Radio / TV / Flags / Whistles / Megaphones / Email / Fixed Frequency

Radio / Fax / Satphone / Cell Phone / Community Members Cascade / Multiple options

5. Who is in charge of operating the alert mechanisms/equipment and orders the activation of alerts?

UNDERGROUND WATER AUTHORITY, ODPEM

6. Official policies, norms, and procedures in place to issue warnings and alerts (if any)

YES - NATIONAL DISASTER PLAN

7. Local government participation: YES

8. Is the content of the alert message adequate? (Y/N) YES

9. Is there verification that the information is correct and acted on? (Y/N) YES

a. Type of municipal organization **(Name Type)** LOCAL GOVERNMENT PARISH COUNCIL

b. Resources provided. AS SPECIFIED ABOVE

10. Community participation:

a. Type of organization **(Name Type)** CITIZENS ASSOCIATIONS, NGO'S, CHURCHES, ETC

b. Participants **(Name Organizations)** RED CROSS, ADRA, ST JOHNS AMBULANCE, ETC

c. Relation with the local government. **(Very good/Good/Poor/None)** BETWEN GOOD AND POOR

11. Special arrangements for social groups with limited resources and special needs? (Y/N) YES

V ANALYSIS OF EWS

1. Comments regarding successful and unsuccessful results during the operation of the EWS.

VERY SUCCESSFUL AND ACCURATE BUT LIMITED REAL TIME APPLICATION. COMMUNITY INVOLVEMENT ASSISTS WITH SYSTEM OPERATION AND SERVICEABILITY OF EQUIPMENT.

2. Strengths and weaknesses of the EWS.

STRENGTHS: DECENTRALIZED, COMMUNITY INVOLVEMENT, TECHNICAL, PUBLIC AWARENESS, VARIETY OF WARNING METHODS ALLOWS REDUNDANCY, MOST COMMUNITIES HAVE ACCESS TO PUBLIC ELECTRICITY

WEAKNESSES: GOOD EW OFTEN RESULTS IN COMPLACENCY AT COMMUNITY LEVEL, INSUFFICIENT COMPUTERS AT COMMUNITY LEVEL TO MAXIMIZE EW VIA INTERNET, TARGETED AT COMUNITY INSTEAD OF MOST VULNERABLE

3. Lessons learned, benefits of the EWS.

INVOLVE COMMUNITY, DECENTRALIZE EWS BUT ONLY WITH GOOD PUBLIC EDUCATION AND AWARENESS PROGRAMMES,

4. Added value gathered from the EWS (benefits not initially conceived during the planning stages, which emerged during standard operation of the system).

COMMUNITY EXPOSURE TO TECHNICAL SYSTEMS

ANNEX: MAP OF THE REGION WHERE EWS IS OPERATED.