EARLY WARNING SYSTEM SURVEY

COUNTRY: **BAHAMAS**

Please complete one form for each Hazard

I INFORMATION ON THE HAZARD

1. The Hazard HURRICANE

2. Summary of events triggered by the hazard

WIND DAMAGE, STORM SURGES, FLOODING OF FLAT AREAS

3. Historical events of significance.

HURRICANES HUGO-1989, GEORGES - 1998

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)** HIGH

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

c. Number of persons exposed **(#)** 270,000

c. Percentage of people exposed to hazard, etc).**(%)** 90%

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

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

II TECHNICAL ASPECTS OF THE EARLY WARNING SYSTEM

1. Type of system employed to monitor the hazard:

SATELLITE (INTERNET) MONITORING, WIND VANES, WEATHER RADAR, RAIN GAUGES, HUMAN REPORTING, 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. ALL ISLANDS

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

6. Routine operation of the EWS:

a. Members of the community; **(Position)** POLICE

b. Personnel from:

1) National; **(Position)** MET OFFICE, DMU, MEDIA HOUSES

2) Regional; **(Position)**

3) Local government agency; **(Position)** ISLAND COMMISSIONERS

4) Research center; **(Name)** NONE

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; ANEMOMETERS, SATELLITE TVRO, WEATHER RADAR COMPUTERS-INTERNET, RAIN GAUGES, 2 WAY RADIOS, SAT PHONES

b. to process information gathered; COMPUTERS, COMPUTER MODELS

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

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**

3) Other **(Name)**

4) Automatic? **(Y/N)** **YES**

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

6) Other **(Name)**

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

10. Are forecast and media agencies fully integrated? (Y/N) **NO**

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

12. Is lifeline equipment (eg standby power) adequate? (Y/N) **YES**

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)** **CDERA, NHC, NOAA**

b. National **(Name)** **MET OFFICE, DMU, POLICE**

c. Technical **(Name)** **POLICE**

d. Scientific **(Name)** **REGIONAL CONSULTANTS**

e. Academic **(Name)**

f. Consulting firm **(Name)**

g. Civil defense agency **(Name)** **DISASTER MANAGEMENT UNIT**

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) **DMU, MET OFFICE, POLICE**

3. Institution (s) which participate routinely in monitoring the hazard (Name) **DMU, MET OFFICE, POLICE**

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, COUNTRY-WIDE MEDIA (RADIO & TV) COVERAGE,**

c. Logistical support (transportation for example) **4WD PICKUPS AND BOATS WITH MAINTENANCE PACKAGES**

d. Monetary resources **ADEQUATE 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)** **NO**

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

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

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

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

f. Donors **(Name)**

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 ETC

c. Regional **(Name)** CDERA

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

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

TELEPHONE, SAT PHONE, CELL PHONE, 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):** ISLAND COORDINATOR

d. Regional **(Name)**

e. National level government **(Name)** NATIONAL DISASTER COORDINATOR

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 / Cell Phone / Sat Phone / Community Members Cascade / Multiple options

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

NATIONAL DISASTER COORDINATOR

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)** ISLAND COORDINATORS

b. Resources provided. AS SPECIFIED ABOVE

10. Community participation:

a. Type of organization **(Name Type)** COMMUNITY 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)** GOOD

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.

HIGHLY EFFECTIVE AND CENTRALIZED EWS WHICH IS WELL RESOURCED AND RESPONSIVE THROUGHOUT ALL THE ISLANDS

2. Strengths and weaknesses of the EWS.

STRENGTHS: CENTRALIZATION WITH HIGH GOVERNMENT COMMITTMENT AND COMMUNITY INVOLVEMENT, VARIETY OF WARNING METHODS ALLOWS REDUNDANCY

WEAKNESSES: MANY ISLANDS WITH TINY POPULATIONS TO COVER

3. Lessons learned, benefits of the EWS.

MULTI ISLAND STATE WITH MANY SPARCELY POPULATED ISLANDS HAVE TO CENTRALIZE RESOURCES AND DEPEND ON A WELLL RUN SYSTEM AND RADIO COVERAGE, TO INVOLVE COMMUNITIES

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

STATE OF THE ART TELECOMMUNICATIONS EQUIPMENT FOR POLICE AND OTHER SERVICES

ANNEX: MAP OF THE REGION WHERE EWS IS OPERATED.