

Disaster Specific Modules

Each disaster brings with it a unique set of problems and situations. If these situations have not been anticipated well in advance, then the difficulties faced by the victims as well as the disaster managers increase enormously. Therefore, there is a need to address the characteristics of each disaster separately. In essence, although the back end activities during a disaster can be addressed through a multi-hazard approach, the front end or site specific needs have to be addressed through separate disaster specific modules. These modules will have to be developed further, keeping in view the brief outline provided in the following chapter.

A response to any situation should occur at two levels; one, there should be a general preparedness for averting all disasters outlined by the HPC; two, there should be adequate preparedness for disaster mitigation. However, each disaster creates unique and unprecedented situations that might require a specific and an in-depth approach in order to tackle it. Although most factors are common and a multi-hazard approach caters to them, specific inventories especially in the area of health, search and rescue, warning and monitoring systems change according to each disaster. Therefore, emergency operators should be well prepared to address the unique problems of each disaster also. There is thus a need to prepare plans that cater to and integrate with the multi-hazard disaster plan. In this section a general introduction to earthquakes and other subgroups has been attempted, in order to highlight the specific needs arising from disasters in terms of:

- ◆ Information Requirement
- ◆ ESF inventories and duties

EARTHQUAKE

Emergency Support Function	Requirements
1) Communication Assess damage to and reinstate communication facilities Establish communication with and from disaster site at the earliest	VSATs, battery charged communication equipment Inventory of mobile communication facilities
2) Public Health and Sanitation Assess extent and type of injuries Special care for epidemic outbreaks Distribute chlorine tablets Ensure purity of drinking water, free from contamination Provide drugs and medications for water borne diseases	Specialised medical team to handle orthopaedic and surgery related injuries, epidemics, preventive medicine practitioners Mobile hospitals
3) Power Assess damage to electric poles and stations etc Short circuiting measures Restore facilities at local and State level on priority	Inventory of power installations of the area Generators etc
4) Transport Provide transport for relief supplies Coordinate with other ESF for clearing of roads and other means of transport Provide appropriate transport for easy access to damaged areas	Inventory of transport/water way facilities in the area
5) Donation Compile information on the specific needs of the people for type of donations required Distribute donations by means of air dropping and boats to marooned victims	Socio-economic needs Cultural needs
6) Search and Rescue Aerial survey for victims Specialised sniffer dogs Collapsed structure search and rescue experts	Equipment cache
7) Public Works and Engineering Clear areas for relief camps Clear roads for easy access Seal areas and buildings that are likely to cause further damage Build temporary bridges, access ways for ease of access	Specialised equipment for large debris Specialised equipment for bridges and other temporary structures
8) Food Provide food packs that contain dry and non-perishable food items	Inventory of non-perishable food items
9) Information and Planning Release flood related information to all ESF Provide access to resource inventories and document all situation- reports and procedures	Disk net All Inventories
10) Relief Supplies Provide basic logistic materials required for local administration Provide other relief materials such as batteries, flash lights etc., to victims and rescue workers	Inventory of relief supplies

11) Drinking water Provide clean drinking water Ration existing water supplies for even distribution Mark and warn people against contamination Isolate contaminated sources of water	Inventory of water sources of the area
12) Shelter Provide weather resistant shelter Place shelters in a safe area Shelters should adhere to the climatic conditions of the area	Inventory of specific type of shelters for earthquakes
13) Media Information on current status	
14) Helplines Provide information on marooned victims Hospitals Receive messages of victims and forward them to relatives outside the disaster area Provide emergency phone lines	Inventory of emergency phone numbers

Depending on the nature of disaster some ESFs may be more actively involved than others. However, for an L3 disaster all ESFs require to be on alert and be prepared.

The following example of the EARTHQUAKE module briefly lists down variables of the disaster and related action/information

EARTHQUAKE MODULE

1. Earthquakes

- National Threat L3
- Vulnerability to earthquakes
- Vulnerability Map
- List of areas that should plan for L3 vulnerability to earthquakes

2. Anticipated Intensity

- ◆ Magnitude
- ◆ Characteristics

3. List of Secondary disasters

Secondary disasters could include major road closures, extensive damage to structures, loss of public utilities, and multiple injuries and deaths. The demands upon public safety agencies

will be overwhelming. Non-public responders such as the Volunteer Center will play a major role in recovery.

- ◆ Floods
- ◆ Urban/Wild Fires
- ◆ Hazardous Material Incidents
- ◆ Accidents -Road, Railway

4. Response Activities

The National Response Plan incorporates common ESF functions and responsibilities. The response to the following areas of functions will have to be specific to earthquakes.

Checklist Incident Command System

- ◆ Injuries: Designate First Aid area and report location to Incident Commander Check for injured and treat as appropriate; if possible move to First Aid area.
- ◆ Gas: If odour of gas is present (check outside as well as inside), get gas shut-off wrench from disaster supplies and shut off gas.
- ◆ Structural Condition: Be cautious — aftershocks may follow earthquakes.

Check for visible signs of damage. Evacuate if structural stability seems questionable (err on side of safety). If possible, retrieve any cellular phones but do not place yourself or others at risk to do so.

- ◆ Telephone and Communications: If electrical power is off, a non-Centrex phone system will probably not work; Centrex systems do not require power to operate and therefore should be a better option. If electrical power is off, the telephone on your fax machine will also probably not work. If available, use cellular phone(s), but only if no other telephones are working.
- ◆ Power: If power is out, do not light candles during an earthquake. There are two dangers — from explosion

caused by gas leak and ignited by spark from match, and from candles falling and starting fires. For lighting, use flashlights, lanterns and lightsticks. Use a generator, if one is available.

- ◆ Building Tenants: Check on welfare of other tenants in the building if appropriate.
- ◆ Hazards: Rope off areas where electrical lines are downed and structural hazards exist. Inform Incident Commander of downed lines, gas leaks and water line breaks. Remove anything blocking street, which may prevent access by emergency vehicles except downed electrical lines.
- ◆ Damage Assessment: Conduct detailed damage assessment as soon as possible and photograph or video record the damage.

MODEL FRAMEWORK FOR DISASTER-SPECIFIC APPROACH – SUB GROUP I

Floods and Drainage Management

Emergency Support Function	Requirements
1) Communication Warn people against areas that are likely to get flooded Assess damage to communication facilities	VSATs, battery charged communication equipment
2) Public Health and Sanitation Assess the advent of infectious diseases Warn people on special measures against epidemics Special care for waterborne diseases and epidemic outbreaks Distribute chlorine tablets Ensure purity of drinking water, free from contamination Provide drugs and medications for water borne diseases	Specialised medical team to handle epidemics, cases of drowning, and water borne diseases
3) Power Damage to electric poles and stations etc., due to flooding Short circuiting measures Restore facilities at local and State level	Inventory of power installations of the area
4) Transport Provide boats as a means of transport	Inventory of transport/water way facilities in the area
5) Donation Compile information on specific needs of the people Distribute donations by means of air dropping and boats to marooned victims	Socio-economic needs Cultural needs
6) Search and Rescue Aerial survey for marooned victims	Deep sea divers S&R boats Equipment cache

7) Public Works and Engineering Clear areas for relief camps Clear roads for easy access Seal areas and buildings that are likely to cause further damage Build temporary bridges for ease of access	Specialised equipment for functioning in flood prone areas inventory Specialised equipment for bridges and other temporary structures
8) Food Provide food packs that contain dry and non-perishable food items	Inventory of non-perishable food items
9) Information and Planning Release flood related information to all ESF Provide access to resource inventories and document all situations-reports and procedures	Disk net All Inventories
10) Relief Supplies Provide basic logistic materials required for local administration Provide relief materials such as batteries, flash lights to victims/ rescue workers	Inventory of relief supplies
11) Drinking water Provide clean drinking water Ration existing water supplies for even distribution Mark and warn people against contamination and isolate contaminated sources	Inventory of water sources of the area
12) Shelter Provide weather resistant shelter Place shelters in a safe area Shelters should adhere to the climatic conditions of the area	Inventory of specific type of shelters for cyclones and floods
13) Media Information on current status	
14) Helplines Provide information on marooned victims and hospitals Receive messages for victims and forward them to relatives outside disaster area Provide emergency phone lines	Inventory of emergency phone numbers

Cyclones, Tornadoes, Hurricanes

Emergency Support Function	Requirements
1) Communication Warn people against areas that are likely to get flooded Assess damage to communication facilities	VSATs, battery charged communication equipment
2) Public Health and Sanitation Assess the advent of infectious diseases Warn people on special measures against epidemics Special care for waterborne diseases and epidemic outbreaks Distribute chlorine tablets Ensure purity of drinking water, free from contamination Provide drugs and medications for water borne diseases	Specialised medical team to handle epidemics, cases of drowning, water borne diseases
3) Power Damage to electric poles and stations etc., due to flooding Short circuiting measures Restore facilities at local and State level	Inventory of power installations of the area

4) Transport Provide boats as a means of transport	Inventory of transport/water-way facilities in the area
5) Donation Compile information on the specific needs of the people for the type of donations required Distribute donations by means of air dropping and boats to marooned victims	Socio-economic needs Cultural needs
6) Search and Rescue Aerial survey for marooned victims	Deep sea divers S&R boats Equipment cache
7) Public Works and Engineering Clear areas for relief camps Clear roads for easy access Seal areas and buildings that are likely to cause further damage Build temporary bridges for ease of access	Inventory of specialised equipment for functioning in flood prone areas and for bridges and other temporary structures
8) Food Provide food packs that contain dry and non-perishable food items	Inventory of non-perishable food items
9) Information and Planning Release flood related information to all ESF Provide access to resource inventories and document all situation- reports and procedures	Disk net All Inventories
10) Relief Supplies Provide basic logistic materials required for local administration Provide other relief materials such as batteries, flash lights etc., to victims and rescue workers	Inventory of relief supplies
11) Drinking water Provide clean drinking water Ration existing water supplies for even distribution Mark and warn people against contamination Isolate contaminated sources of water	Inventory of water sources of the area
12) Shelter Provide weather resistant shelter Place shelters in a safe area Shelters should adhere to the climatic conditions of the area	Inventory of specific type of shelters for cyclones and floods
13) Media Information on current status	
14) Helplines Provide information on marooned victims Hospitals Receive messages of victims and forward them to relatives outside the disaster area Provide emergency phone lines	Inventory of emergency phone numbers

Hailstorm, Cloud Burst, Snow Avalanches, Heat & Cold Waves, Thunder & Lightning

Emergency Support Function	Requirements
1) Communication Warn people against areas that are likely to be hit Assess damage to communication facilities	VSATs, battery charged communication equipment
2) Public Health and Sanitation Assess the advent of infectious diseases Warn people on special measures against epidemics Special care for waterborne diseases and epidemic Ensure purity of drinking water, free from contamination Provide drugs and medications for water borne diseases Prevent occurrence of dehydration, burns	Specialised medical team to handle epidemics, cases of drowning, frost bites, heat strokes, burns, water borne diseases
3) Power Damage to electric poles and stations etc., due to flooding Short circuiting measures Restore facilities at local and State level	Inventory of power installations of the area
4) Transport Provide boats as a means of transport	Inventory of transport/water way facilities in the area
5) Donation Compile information on the specific needs of the people for type of donations required Distribute donations by means of air dropping and boats to marooned victims	Socio-economic needs Cultural needs
6) Search and Rescue Aerial survey for marooned victims	Deep sea divers S&R boats Equipment cache
7) Public Works and Engineering Clear areas for relief camps Clear roads for easy access Seal areas and buildings that are likely to cause further damage Build temporary bridges for ease of access	Inventory of specialised equipment for functioning in vulnerable areas and for bridges and other temporary structures
8) Food Provide food packs that contain dry and non-perishable food items	Inventory of non perishable food items
9) Information and Planning Release related information to all ESF Provide access to resource inventories and document all situation—reports and procedures	Disk net All Inventories
10) Relief Supplies Provide basic logistic material required for local administration Provide other relief materials such as batteries, flash lights etc., to victims and rescue workers	Inventory of relief supplies

11) Drinking water Provide clean drinking water Ration existing water supplies for even distribution Mark and warn people against contamination Isolate contaminated sources of water	Inventory of water sources of the area
12) Shelter Provide weather resistant shelter Place shelters in a safe area Shelters should adhere to the climatic conditions of the area	Inventory of specific type of shelters for cyclones and floods
13) Media Information on current status	
14) Helplines Provide information on marooned victims Hospitals Receive messages of victims and forward them to relatives outside the disaster area Provide emergency phone lines	Inventory of emergency phone numbers

Sea Erosion

Emergency Support Function	Requirements
1) Communication Warn people against areas that are likely to get flooded Assess damage to communication facilities	VSATs, battery charged communication equipment
2) Public Health and Sanitation Assess the advent of infectious diseases Warn people on special measures against epidemics Special care for waterborne diseases and epidemic outbreaks Distribute chlorine tablets Ensure purity of drinking water, free from contamination Provide drugs and medications for water borne diseases Monitor situation	Specialised medical team to handle epidemics, cases of drowning, and water borne diseases
3) Power Damage to electric poles and stations etc., due to flooding Short circuiting measures Restore facilities at local and State level Monitor situation	Inventory of power installations of the area
4) Transport Provide boats as a means of transport Provide transport for evacuation Monitor situation	Inventory of transport/water way facilities in the area

5) Donation Compile information on the specific needs of the people for type of donations required Distribute donations by means of air dropping and boats to marooned victims	Socio-economic needs Cultural needs
6) Search and Rescue Aerial survey for marooned victims	Deep sea divers S&R boats Equipment cache
7) Public Works and Engineering Clear areas for rehabilitation sites Seal areas and buildings that are likely to cause further damage Build temporary bridges for ease of access	Specialised equipment for functioning in prone areas inventory Specialised equipment for bridges and other temporary structures
8) Food Provide food packs that contain dry and non-perishable food items	Inventory of non-perishable food items
9) Information and Planning Release related information to all ESF Provide access to resource inventories and document all situation- reports and procedures	Disk net All Inventories
10) Relief Supplies Provide basic logistic materials required for local administration Provide other relief materials such as batteries, flash lights, etc., to victims and rescue workers	Inventory of relief supplies
11) Drinking water Provide clean drinking water Ration existing water supplies for even distribution Mark and warn people against contamination Isolate contaminated sources of water	Inventory of water sources of the area
12) Shelter Provide weather resistant shelter Place shelters in a safe area Shelters should adhere to the climatic conditions of the area	Inventory of specific type of weatherproof shelters for temporary rehabilitation
13) Media Information on current status	
14) Helplines Provide information on marooned victims Hospitals Receive messages of victims and forward them to relatives outside the disaster area Provide emergency phone lines	Inventory of emergency phone numbers

Droughts

Emergency Support Function	Requirements
1) Communication Warn people against areas that are likely to be affected General Alert and Assistance	
2) Public Health and Sanitation Assess diseases Warn people on special measures against malnutrition Distribute ORS Ensure purity of drinking water Provide drugs and medications for water borne diseases	Specialised medical team to handle malnutrition and starvation related disorders
3) Power General Alert and Assistance	
4) Transport General Alert and Assistance	
5) Donation Compile information on specific needs of the people for type of donations required Distribute donations by means of air dropping	Socio-economic needs Cultural needs
6) Search and Rescue Locate survivors	
7) Public Works and Engineering Clear areas for relief camps	Inventory of specialised equipment for functioning in prone areas
8) Food Provide food packs that contain dry and non-perishable food items	Inventory of non perishable food items
9) Information and Planning Release drought related information to all ESF Provide access to resource inventories and document all situation- reports and procedures	Disk net All Inventories
10) Relief Supplies Provide basic logistic materials required for local administration Provide other relief materials such as batteries, flash lights etc., to victims and rescue workers	Inventory of relief supplies
11) Drinking water Provide clean drinking water Ration existing water supplies for even distribution Mark and warn people against contamination	Inventory of water sources of the area

12) Shelter Provide weather resistant shelter Place shelters in a safe area Shelters should adhere to climatic conditions of the area	Inventory of specific type of shelters for cyclones and floods
13) Media Information on current status	
14) Helplines Provide information on marooned victims Hospitals Receive messages of victims and forward them to relatives outside the disaster area Provide emergency phone lines	Inventory of emergency phone numbers

Sub group II has been addressed in the framework presented for earthquakes on page 102.

MODEL FRAMEWORK FOR DISASTER-SPECIFIC APPROACH – SUB GROUP III

Chemical, Industrial, Nuclear - Special care should be taken to maintain the security precautions during such disasters

Emergency Support Function	Requirements
1) Communication Assess damage to and reinstate communication facilities Establish communication with and from disaster site at the earliest Special care on Security matters	VSATs, battery charged communication equipment Inventory of mobile communication facilities
2) Public Health and Sanitation Assess extent and type of injuries Special care for epidemic out-breaks Distribute chlorine tablets Ensure purity of drinking water, free from contamination Provide gas masks	Specialised medical team to handle orthopaedic and surgery related injuries, epidemics, preventive medicine practitioners Mobile hospitals
3) Power Assess damage to electric poles and stations etc Short circuiting measures Restore facilities at local and State level on priority	Inventory of power installations of the area Generators etc
4) Transport Provide transport for relief supplies Coordinate with other ESF for clearing of roads and other means of transport Provide appropriate transport for easy access to damaged areas	Inventory of transport/water way facilities in the area
5) Donation Compile information on the specific needs of the people for type of donations required Distribute donations by means of air dropping and boats to marooned victims	Socio-economic needs Cultural needs

6) Search and Rescue Aerial survey for victims Specialised sniffer dogs Collapsed structures search and rescue experts	Equipment cache
7) Public Works and Engineering Clear areas for relief camps Clear roads for easy access Seal areas and buildings that are likely to cause further damage Build temporary bridges, access ways for ease of access	Specialised equipment for large debris Specialised equipment for bridges and other temporary structures
8) Food Provide food packs that contain dry and non-perishable food items	Inventory of non perishable food items
9) Information and Planning Release flood related information to all ESF Provide access to resource inventories and document all situation- reports and procedures	Disk net All Inventories
10) Relief Supplies Provide basic logistics materials required for local administration Provide other relief materials such as batteries, flash lights etc., to victims and rescue workers	Inventory of relief supplies
11) Drinking water Provide clean drinking water Ration existing water supplies for even distribution Mark and warn people against contamination Isolate contaminated sources of water	Inventory of water sources of the area
12) Shelter Provide weather resistant shelter Place shelters in a safe area Shelters should adhere to the climatic conditions of the area	Inventory of specific types of shelter for earthquakes
13) Media Information on current status	
14) Helplines Provide information on marooned victims Hospitals Receive messages of victims and forward them to relatives outside the disaster area Provide emergency phone lines	Inventory of emergency phone numbers

MODEL FRAMEWORK FOR DISASTER-SPECIFIC APPROACH – SUB GROUP IV

Accident related disasters – Special care should be taken to maintain the security precautions in speculative accidents

Emergency Support Function	Requirements
1) Communication Assess damage to and reinstate communication facilities Establish communication with and from disaster site at the earliest Special care on Security matters	VSATs, battery charged communication equipment Inventory of mobile communication facilities
2) Public Health and Sanitation Assess extent and type of injuries Special care for epidemic outbreaks Distribute chlorine tablets Ensure purity of drinking water, free from contamination Provide gas masks	Specialised medical team to handle orthopaedic and surgery related injuries, epidemics, preventive medicine practitioners Mobile hospitals
3) Power Assess Damage to electric poles and stations etc Short circuiting measures Restore facilities at local and state level on priority	Inventory of power installations of the area Generators etc
4) Transport Provide transport for relief supplies Coordinate with other ESF for clearing of roads and other means of transport Provide appropriate transport for easy access to damaged areas	Inventory of transport/water way facilities in the area
5) Donation Compile information on the specific needs of the people for type of donations required Distribute donations by means of air dropping and boats to marooned victims	Socio-economic needs Cultural needs
6) Search and Rescue Aerial survey for victims Specialised sniffer dogs Collapsed structures search and rescue experts	Deep sea divers, Equipment cache, Medical First Responders, Collapsed structure search and rescue responders, Fire personnel, Home guards, Police
7) Public Works and Engineering Clear areas for relief camps Clear roads for easy access Seal areas and buildings that are likely to cause further damage Build temporary bridges, access ways for ease of access Check strength of existing structures	Specialised equipment for large debris Specialised equipment for bridges and other temporary structures
8) Food Provide food packs that contain dry and non-perishable food items	Inventory of non perishable food items

<p>9) Information and Planning</p> <p>Release flood related information to all ESF</p> <p>Provide access to resource inventories and document all situation- reports and procedures</p>	<p>Disk net</p> <p>All Inventories</p>
<p>10) Relief Supplies</p> <p>Provide basic logistic materials required for local administration</p> <p>Provide other relief materials such as batteries, flash lights etc., to victims and rescue workers</p>	<p>Inventory of relief supplies</p>
<p>11) Drinking water</p> <p>Provide clean drinking water</p> <p>Ration existing water supplies for even distribution</p> <p>Mark and warn people against contamination</p> <p>Isolate contaminated sources of water</p>	<p>Inventory of water sources of the area</p>
<p>12) Shelter</p> <p>Provide weather resistant shelter</p> <p>Place shelters in a safe area</p> <p>Shelters should adhere to the climatic conditions of the area</p>	<p>Inventory of specific type of shelters for earthquakes</p>
<p>13) Media</p> <p>Information on current status</p>	
<p>14) Helplines</p> <p>Provide information on marooned victims</p> <p>Hospitals</p> <p>Receive messages of victims and forward them to relatives outside the disaster area</p> <p>Provide emergency phone lines</p>	<p>Inventory of emergency phone numbers</p>



MODEL FRAMEWORK FOR DISASTER-SPECIFIC APPROACH – SUB GROUP V

Biological related Disasters

Emergency Support Function	Requirements
1) Provide communication assistance to medical teams	VSATs, battery charged communication equipment for field operations, inventory of mobile communication facilities
2) Public Health and Sanitation - Assess extent and type of diseases. Establish cause. Network with medical institutions for specialised diagnosis and cure. Isolate infected patients. Take medical measures to curb epidemics etc. Special care for epidemic outbreaks. Distribute chlorine tablets. Ensure purity of drinking water, free from contamination. Provide gas masks	Specialised medical team to handle orthopaedic and surgery related injuries, epidemics, preventive medicine practitioners. Mobile hospitals
3) Provide power backup for medical operators and hospitals for uninterrupted power supply. Provide mobile power backup for field operations	Inventory of power installations of the area, generators etc
4) Provide transport for relief supplies and medicines	Inventory of transport/water way facilities in the area
5) Compile donation information on the specific needs of the people for type of donations required. Distribute donations by means of air dropping and boats to marooned victims	Socio-economic needs, Cultural needs
6) Search and Rescue-Search and isolate infected people	Protective gear
7) Public Works and Engineering-Isolate and barricade affected areas and hospitals	Protective gear
8) Food-Provide clean food according to need	Inventory of non –perishable food items
9) Information and Planning-Release flood related information to all ESF. Provide access to resource inventories and document all situation-reports and procedures	Disk net All Inventories
10) Relief Supplies-Provide specific need of relief	Inventory of relief supplies
11) Drinking water-Provide clean drinking water Ration existing water supplies for even distribution. Mark and warn people against contamination. Isolate contaminated sources of water	Inventory of water sources of the area
12) Shelter-Provide isolated structures and temporary structures for displaced/unaffected people	Inventory of specific type of shelters for earthquakes
13) Media-information on current status	
14) Helplines-Provide information on marooned victims. Hospitals-Receive messages of victims and forward them to relatives outside the disaster area and provide emergency phone lines	Inventory of emergency phone numbers