



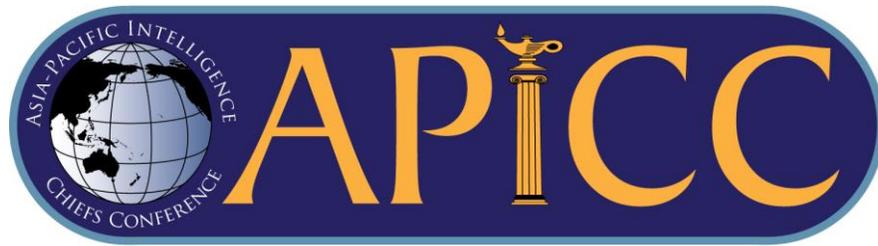
Multinational Guidelines

Information Support to Military Disaster Relief Operations



Revision Date:
30 June 2016

*Multinational Guidelines for Information Support to Military Disaster Relief Operations in
the Asia-Pacific Region*



December 2011 -- "Never before has this world suffered so much economic loss due to natural disaster, most of which has been in Asia and the Pacific."

*-- Sanjay Srivastava,
UN Regional Adviser for Disaster Risk Reduction*

Foreword

The development of the *Multinational Guidelines for Information Support to Military Disaster Relief Operations* is the result of direction from the Asia-Pacific Intelligence Chiefs Conference (APICCC) 2010. At that APICCC, the Directors of Military Intelligence (DMI) agreed on the need for the APICCC process to pursue objectives beyond the conference's annual plenary dialogue. Specifically, they stated a desire to pursue improved multi-national interoperability and other programs that would enhance multi-national intelligence cooperation.

The goal of the *Multinational Guidelines for Information Support to Military Disaster Relief Operations* is to expedite multi-national information sharing among responding militaries and governments. These GUIDELINES are built on the premise that Asia-Pacific militaries can and frequently do provide unique disaster response capabilities. Thus, these Guidelines are intended to ensure that those military forces receive the best information for military planning, deployment and operations.

This information sharing document is not directive in nature, but rather is meant as a guide to assist in developing improved interoperability, facilitate training, and provide a framework for disaster relief operations. For these GUIDELINES to be most effective, countries will need to develop more detailed internal procedures to link their organizations and agencies into the multi-national information sharing concepts laid out in this document.

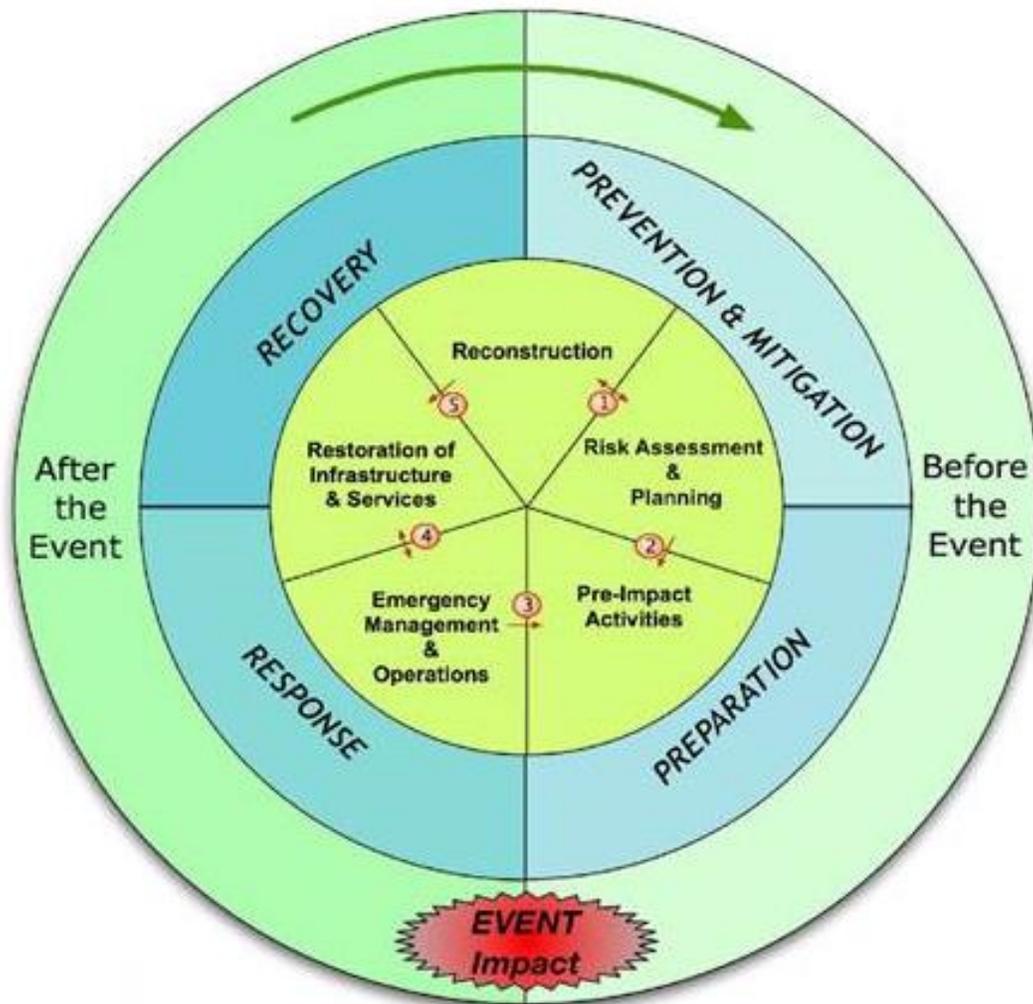


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the Asia-Pacific Region*

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HA/DR CYCLE AND DEFINITION



HA/DR Cycle: The cycle above depicts HA/DR management phases (Prevention and Mitigation, Preparation, Response and Recovery) in relation to the event impact or disaster. The most internal circle details specific activities in relation to each phase. The red arrows and circles depict how each specific activity affects the next one or was affected by the previous event.

HA/DR Definition: HA/DR involves preparing for disaster before it occurs, disaster response, support, and rebuilding society after natural and/or human made disaster have occurred.

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1) GUIDELINES Intent

These GUIDELINES provide a framework for information sharing operations during Humanitarian Assistance and Disaster Relief (HA/DR) support operations. The GUIDELINES are a collaborative effort among Indo-Asia-Pacific countries, usable by any affected and assisting states, to develop a flexible HA/DR information sharing / management template in response to both natural and man-made catastrophes in the Asia Pacific region. These situations can occur with little to no warning, or indicators may present themselves weeks prior to a crisis. It is imperative that processes be in place and understood to rapidly share information critical in effectively assisting the affected state / region, alleviating human suffering.

- a) **Disaster Definition:** In the context of these GUIDELINES, a disaster is defined as a serious disruption of the functioning of society, which exceeds national coping capacities and poses a significant, widespread threat to human life, health, property or the environment, whether arising from accident, nature or human activity, whether developing suddenly or as the result of long-term processes, but excluding armed conflict.
- b) **HA/DR Information Sharing Intent:** Stakeholders will monitor and assist the affected country by sharing critical information for the purpose of providing civilian and military decision makers timely information to focus the assistance and disaster relief efforts. This information is to be coordinated and disseminated between organizations and end users through an unclassified web-based network to enable assisting military forces access to information from the affected state.
- c) **Responsibilities to HA/DR Information Sharing Operations:**
 - i. Assisting military forces require access to an unclassified web-based network; the All Partners Access Network or APAN is the default community tool. APAN's HA/DR Communities of Interest/Communities of Response pages to include e-mail and/or other communications capabilities, enable assisting military forces planners to exchange information with the various relief organizations. Further, foreign military

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forces require the ability to connect with other civilian communications equipment such as mobile and/or satellite telephones.

- ii. Information (data) must be timely (containing date/time reference) and as accurate as possible. Information gathering, analysis and dissemination must be done on a regular, reoccurring basis.
 - iii. The commanders of assisting military forces, affected state military forces and relief agencies must work to maximize information sharing. Maintaining transparency in the information gathering and dissemination process will help foster trust and confidence between the assisting military forces and the humanitarian community.
 - iv. To maximize information sharing between the affected state, assisting militaries, Humanitarian Community and other support agencies information will be UNCLASSIFIED.
- d) HA/DR Preparedness:** Preparedness is an investment and the sum of how nations prepare for HA/DR incidents before they occur. As part of preparedness, the information sharing process should be regularly exercised through various multinational venues. Participating states and agencies should share information as early as possible to allow greater lead time to develop support packages. This ensures that all responding participants are prepared to react and support an HA/DR event throughout the Indo-Asia-Pacific region. The annexes contain various methods and processes that, once implemented, will enhance information sharing in preparation for the response to an HA/DR event. Further, the GUIDELINES will be reviewed annually at the APICC HA/DR Tabletop Exercise to capture lessons learned following any HA/DR events that may have occurred and/or exercises conducted throughout the year.

2) Purpose for HA/DR Information Sharing

The purpose of HA/DR information sharing operations is to provide civilian and military decision makers timely information, to help focus assistance and disaster relief efforts. This information includes analysis of situation and needs assessments. To the greatest extent possible, assisting military forces will seek affected states and international

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partners' situation assessments continually to help gain and maintain situational awareness and to support building a common operational picture. Additionally, HA/DR operations will include assessing affected state's capabilities and progress, monitoring effects of the disaster and providing potential threat assessments for deployed HA/DR forces.

a) Information Tasks

- i. Task 1: Conduct assessment of situation, environment and needs in a collaborative fashion; assisting states will leverage all available information sources.
- ii. Task 2: Provide information to affected state, assisting military forces, international partners and relief agencies.
- iii. Task 3: Assess the response capability of:
 - (a) The international humanitarian community working within the affected state. Affected state provides information to assisting states to enable support to these efforts.
 - (b) Affected state's government
- iv. Task 4: Develop Priority Information Requirements. PIRs will be compiled and shared on the APAN HA/DR Community of Interest / Community Response portal. Note: Assisting militaries may develop country specific PIRs. Annex A lists sample PIRs which may be adopted for various HA/DR operations.

b) Information by Discipline

- i. **Geospatial Information.** Geospatial Information will focus on providing damage assessments, critical infrastructure analysis, landing zones search and suitability, lines of communications which could include related map, imagery products and physical/human terrain products/assessments. Various nations and commercial companies can be called upon to provide Geospatial information/assistance during HA/DR relief operations. The establishment of a Geospatial Forum in the HA/DR Community of Interest will greatly enhance the exchange/sharing of information during non-crisis

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and can be rapidly transitioned to a Geospatial Forum in the HA/DR Community of Response during a disaster event. (See Annex E.)

- ii. **Open Source Information.** Open source provides information and reporting from publicly available broadcast, print, and digital/internet sources. In a HA/DR context, open source focuses on damage assessments, HA/DR operational support, regional/local reaction to relief efforts, and situational awareness. Various nations and commercial companies can be called upon to provide Open Source information during HA/DR relief operations. The establishment of an Open Source Forum in the HA/DR Community of Interest will greatly enhance the exchange/sharing of information during non-crisis and can be rapidly transitioned to an Open Source Forum in the HA/DR Community of Response during a disaster event. (See Annex F).
- iii. **Field Sources:** Information provided by on-the-ground resources; Humanitarian Community, persons from the affected area/region, medical team, etc to report the most current and critical information on the HA/DR event.

c) Collecting and Disseminating Information

- 1) **Collection.** Assisting states will use collection means as requested by the affected state to assist in relief efforts. It is important that information collected be shared with the affected state, other assisting states and Humanitarian Community in the development of needs assessments and to speed aid to areas of need.
- 2) **Dissemination.** Critical information should be disseminated by the most expeditious means available and shared on a virtual community of response ensuring the widest dissemination of information.

3) HA/DR Communications and Dissemination

HA/DR information sharing requires the dissemination of products and coordination between information originators and users. Assisting militaries participating/supporting HA/DR operations must be able to access an unclassified web-based network, to

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include email capabilities, to enable assisting military forces to access and explore information from affected state, international partners and Humanitarian Community. Further, assisting military forces must have the ability to connect with civilian communications systems.

a) Information Distribution and Feedback Mechanisms: To maximize information sharing, forums will be established in the virtual community of interest. The forums must be topically relevant, moderated and managed by appropriate expertise. They must be interactive, allowing users to post and track information queries/responses. The information provided will be discoverable, retrievable, and archived.

b) All Partners Access Network (APAN)

i. APAN.org is an unclassified network on the Worldwide Web designed for partner nations to interface with each other and civilian communities during crisis response. APAN provides a standing HA/DR community of interest. Once a crisis event occurs a community of response is established within that HA/DR community of interest to facilitate the sharing of information. Access to APAN is open to all interested parties while participation in a designated community (HA/DR operation) of response is able to be coordinated.

c) Humanitarian Community sources

i. Humanitarian Community sources of information include OCHA (through ReliefWeb, Humanitarian Information Centers, Virtual On-Site Operations Coordination Centers, etc.), OneResponse, NDMOs and other relief organizations. Links to these and other Humanitarian Organizations

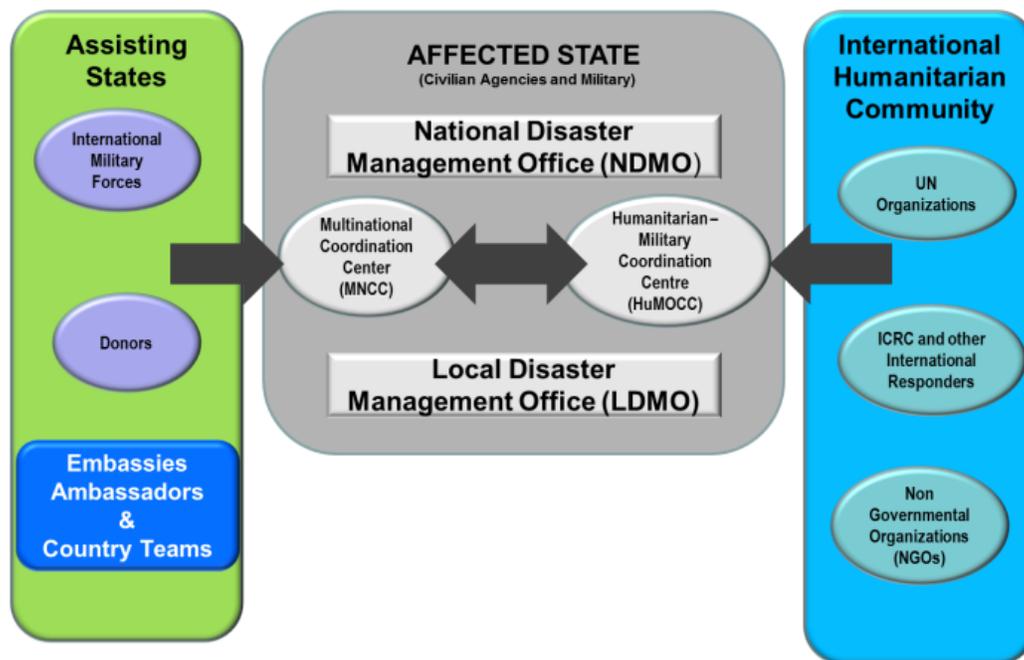
d) Information. Information (data) must be timely (containing date and time reference) and will utilize open data standards (i.e. KML, RSS, GEORSS). Maintaining transparency in the information gathering and dissemination process will help foster trust and confidence between the assisting military forces and the Humanitarian Community. The commanders of assisting military forces, and the

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host / affected state's political leadership should work with Humanitarian Community counterparts to maximize information sharing.

- e) Coordination.** HA/DR assisting states will collaborate using all methods available, including participation in coordination meetings and mechanisms led by the civilian community as well as email, telephone and collaboration tools on a common web based portal.

f) (U) Roles and Responsibilities of NGOs and Government Agencies



As indicated in the above diagram, during humanitarian assistance and disaster relief (HA/DR) support operations, assisting military forces are one of many actors in a large community of aid and relief organizations, each with its own goal and agenda. Regardless of the assisting military forces mission, it must interact with this community. Key humanitarian relief agencies and how they may coordinate in the field are listed below.

i. Affected State

- a)** National Disaster Management Office (NDMO)/Local Disaster Management Office (LDMO). This is the affected state organizational structure to respond to HA/DR requirements, and includes local/municipal, state/province/region, and national governmental agencies, to include military, paramilitary, and police forces.
- b)** Affected State Civilian Agencies /Organizations
- c)** Affected State Military Forces
- d)** Multinational Coordination Center (MNCC)
- e)** Humanitarian Military Coordination Centre (HuMOCC)

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ii. International Humanitarian Community

a) United Nations (UN) Organizations. Within the affected state the UN Resident Coordinator, UN Humanitarian Coordinator or a UN Head of Mission (e.g. Special Representative of the Secretary General (SRSG)) facilitates the coordination of UN agencies. Key UN agencies include:

- (1) Office for the Coordination of Humanitarian Affairs (OCHA)- lead for Emergency Telecommunications
- (2) World Food Programme (WFP)- lead for logistics
- (3) UN High Commissioner for Refugees (UNHCR)- lead for camp coordination and camp management, emergency shelter, and protection
- (4) UN Children's' Fund (UNICEF)- lead for education and nutrition
- (5) UN World Health Organization (WHO)- lead for health
- (6) UN Development Programme (UNDP)- lead for early recovery
- (7) Food and Agriculture Organization (FAO)- lead for agriculture

b) International Committee of the Red Cross & Other International Responders:

- (1) International Organization for Migration (IOM)
- (2) International Federation of Red Cross and Red Crescent (IFRC): Lead coordinator of national Red Cross/Red Crescent societies in a non-conflict disaster situation
- (3) International Committee of the Red Cross (ICRC): Lead coordinator of the Red Cross/Red Crescent Movement in a HA/DR situation
- (4) National Red Cross and Red Crescent Societies: Key national level player in disaster response at the national and local level with significant trained volunteer rosters. Each national society varies in capability and size.

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- c)** Nongovernmental Organizations (NGO): These include major relief organizations (international, regional, national and local) that will most likely be in the assisting military forces AO: e.g. OXFAM, Catholic Relief Services, Médecin sans Frontière. NGOs represent the largest field presence internationally and have a widely varied mandate and mission.
- iii.** Assisting States:
- a)** International Military Forces
 - b)** Embassies, Ambassadors & Country Teams
 - i) Bilateral Assistance Agencies: e.g. U.S. Agency for International Development (USAID), Japan International Cooperation Agency (JICA), Australian Department of Foreign Affairs and Trade), etc.
 - c)** Private Donor Organizations: e.g. Gates Foundation Regional Organizations: e.g. ASEAN Committee on Disaster Management (ACDM), South Asian Association for Regional Cooperation (SAARC), Pacific Islands Applied Geoscience Commission (SOPAC).

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- J. MIC Rapid Reconnaissance Handbook for Humanitarian/Disaster Response

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Annexes

Annex A HA/DR Planning and Priority Information Requirements

Annex B Key Terminology and Definitions

Annex C HA/DR Websites

Annex D APAN Quick Start Guide

Annex E Geospatial Information

Annex F Open Source Information

Annex G HA/DR Checklist

Annex H Operational Area Information Checklist

Annex I Disaster Critical Needs Checklist

Annex J Knowledge Management

Annex K After Action Lessons

HA/DR Planning and Preparation

1) Planning

a) Airfields and Ports

- i. Airfields and ports have a critical role in a disaster relief operation. Aircraft (fixed wing and helicopters) provide the quickest means of delivering relief materials. Ships provide the mass and bulk items. Supply planners will use airfield and port capacities and locations to best stage and distribute relief supplies. For airfields, recommend hard surface (concrete) facilities within 1,000 km, at a minimum, from the disaster zone. For ports, recommend cargo-vessel capable facilities within 300 km, at a minimum, from the disaster zone.

b) Route Analysis

- i. When supporting relief operations, route analysis into and out of a disaster zone is very important. Logistics planners will need to know main roads, alternate routes, road conditions and capacity, choke points, and problem areas. Roads to and from ports and airfields should be analyzed to include load capacity of bridges along the routes.

c) Helicopter Landing Zones (HLZs) / Supply Drop Zones

- i. Like airfields, HLZs are critical for relief operations. HLZs should at a minimum be 25m x 25m, depending on the helicopter size/type. Helicopter Drop Zones (helicopters may not touch down when delivering cargo) will require the same criteria, 25m x 25m or greater. Larger helicopters require a 75m x 75m landing or drop zone.

ii. Common HLZs

- a. Parking Lots
- b. Sports Fields
- c. Airfields
- d. Fields – undeveloped
- e. Highways
- f. Crop Fields – low crop heights
- g. Parks
- h. Lakebeds

2) Preparation Activities

- a) Federate and coordinate monitoring and warning activities.

Annex A HA/DR Planning and Priority Information Requirements

- b)** Determine most likely areas of disaster and identify critical infrastructure (see below) that will likely be utilized in a potential international relief effort. Research and baseline critical infrastructure in disaster prone areas and prepare products associated with critical infrastructure.

Disaster response, critical infrastructure:

- i. Airports with concrete or asphalt runways
 - ii. Seaports with deep draft and loading / unloading capacity
 - iii. Bridges
 - iv. Dams
 - v. Electrical power network
 - vi. Food supplies – large warehouse complexes
 - vii. Fuel supplies – large fuel tank farms
 - viii. Medical facilities / quarantine areas
 - ix. Power plants (i.e. coal, oil, nuclear)
 - x. Shelters for disaster event – evacuees, displaced persons
 - xi. Telecommunications network – what types are present (i.e. cell towers, radio)
 - xii. Water supplies – large freshwater reservoirs
- c)** Build and compile base maps and data for disaster prone areas.
- d)** Plan and collect pre-disaster commercial imagery.

3) Predictive Disaster Analysis

- a)** In addition to basic disaster planning and analysis for likely future events, predictive disaster analysis may be required for the secondary effects of a situation. For example, typhoons and earthquakes may destroy villages and towns outright but disease (caused by the destruction of sanitary services), weakened critical structures, and blocked rivers may generate effects well after the initial impact.
- b)** Secondary effects of a disaster include disease outbreaks, surprise (future) failure of natural features or critical infrastructure, blocked rivers,

Annex A HA/DR Planning and Priority Information Requirements

lahars/mudslides (heavy rains), exposed hazardous materials (previous buried material), and silted river/shipping lanes.

c) Predictive Analytical Products

1. Predictive flood analysis – what areas will be affected most (i.e. flash flood, tsunami)
2. Population graphics – density, demographics. Areas of larger population density will present greater challenges throughout a crisis response (i.e. evacuation routes, overcrowding of shelters, medical supplies). Demographics (i.e. lower, middle, upper classes) of a particular area can dictate varying levels of predicted response (i.e. ability of housing structures to withstand a typhoon or earthquake).

Priority Information Requirements (PIRs)

PIRs are key questions in regard specifically to the natural disaster that will have a significant impact upon friendly operations hence they require detailed collection and analysis as time permits. The following list contains suggested PIRs to be considered for a Humanitarian Assistance/Disaster Relief (HADR) Operation.

Preparedness/Pre-Disaster PIRs

General

- a) What is the existing preparedness plan?
- b) What are the disaster patterns?
- c) Has a hazard prediction study been developed?
- d) What are Aerial Ports of Debarkation (APODs), Sea Ports of Debarkation (SPODs), Helicopter Landing Zones (HLZs) and Lines of Communication (LOCs)?
- e) What are the types of dwellings? What are they constructed of?
- f) What types of communications exist (including back-up), and what is their resiliency?
- g) What kind of emergency responder capabilities exist?
- h) What is the status of additional emergency response capabilities?
- i) What are the population densities in key hazard areas?
- j) What are the country demographics? Specific cultural sensitivities?
- k) What is the Standard Operating Procedures (SOP) for requesting Foreign Humanitarian Aid (FHA)? What is the procedure for accepting FHA?
- l) What is the status of Topographic Products (TOPO)? Do large-scale planning maps exist?

Annex A HA/DR Planning and Priority Information Requirements

- m) Where are the pre-planned disaster response facilities?
- n) What is the general security situation in the country?
- o) What HA/DR support tools are available?
- p) What IGO/NGO and multi-national corporations are present?

1) General Country Information

- a) Which areas of the country are most likely to be affected by regular disasters? What about long-term forecasts? Is this part of a continuing weather pattern?
- b) What is the general evacuation procedure? What are priorities of response?
- c) What area will most be impacted by flooding?
- d) What is the likelihood of a dam or levee failure or breach? Is there potential for hazardous material to be accidentally released? What is the potential for other hazards?
- e) What are the potential geographical choke points?
- f) Where are access points located, and what are the best routes to use to access the disaster area? Are credentials needed to pass into such areas?
- g) What is the potential for (and extent of) drinking water contamination? Is potable water readily available?

2) State's Infrastructure, Transportation, Communication and Agriculture

- a) What, generally, is the status of infrastructure in high-risk areas (e.g. along earthquake fault-lines, coastal cities, low-lying lands, areas with frequent typhoons, etc.), i.e.:
 - i) Levels of maintenance/use
 - ii) Capacity
 - iii) State's dependency on agriculture and primary cash crops
 - iv) What dependencies exist between the different infrastructure sectors (i.e. power, water, roads, airports, fuel, communications)

3) Civil Defense Asset

- a) Is there currently the potential for or ongoing political destabilization in the affected state? If so who are the key actors?
- b) What environmental/medical threats are there to HA/DR personnel?
- c) What are the expected reactions from the local populace to relief efforts? Are there any hindrances to such efforts from the population?

General Disaster PIRs

1) Foreign Military Asset

Annex A HA/DR Planning and Priority Information Requirements

- a) In what form(s) will the government/military of the affected state accept foreign government/military assistance?
 - b) What is the composition your country prefers HA/DR military forces to be sent in? What types of forces would best assist you?
 - c) What are key threats facing assisting foreign military forces should they be allowed to enter the affected state?
- 2) Which areas are most severely damaged / affected by the ongoing disaster?**
- a) Where is the epicenter of the event?
 - b) What are the follow-on effects of the event (ash cover, flooding, crop destruction, disease, water contamination)?
 - c) What is population density and urbanization rates in the vicinity of the epicenter as well as in areas covered by the follow-on effects of the event?
- 3) How many people are currently affected?**
- a) What is the situation with the populace near epicenter of event (injuries, death, missing).
 - b) What economic / livelihood damage has been caused by secondary effects of the event?
 - c) What is the extent of damage to the affected state's infrastructure, transportation, communication and agriculture?
- 4) Where are the locations of the main affected populations (including Internally Displaced Persons (IDPs) and/or refugee centers)?**
- 5) Are any NGOs / IOs actively assisting with relief efforts?**
- a) Where are they based out of?
 - b) What, if any, assistance do they require from HA/DR forces or their assets?
- 6) Communications:**
- a) What entity is emerging / assuming the lead role as the conduit for communications and aid throughout with the affected state?
- 7) Logistics**
- a) What are likely key obstacles to reaching /accessing the damaged/affected areas by rescue teams?
 - b) What damage has been sustained by SPODs? Are cranes still functional and if so what is their capacity? Is the affected state capable of assisting in off-loading operations?
 - c) What damage has been sustained to APODs? Are all services still functional? If not what needs to be repaired to conduct relief operations?
 - d) Which SPODs (included beach landing areas if applicable) and APODs are adequate for relief operations, what are their operational statuses?

Annex A HA/DR Planning and Priority Information Requirements

- e) What is the status of key LOC? Are they capable of sustaining vehicle traffic to deliver relief supplies? What critical repairs if any are required to sustain delivery of relief supplies on key LOCs.

Disaster-Specific PIRs

1) PIRs For All Storms / Disasters

- a) Which jurisdictions are within the projected path of the ongoing storm / fires / typhoon / flooding? What are the jurisdictional boundaries of the disaster area? Are major metropolitan or rural areas involved?
- b) What is the extent of the damage thus far? Which areas of the country experienced the most and / or least damage?
- c) What is the status of critical infrastructures and facilities – telecommunications, medical services, public safety, water, septic and wastewater management, and power plants?
- d) What is the estimated population at risk? How many affected areas need to be evacuated? What is the status of the evacuation?
- e) What is the status of International Aid Agency operations and Assisting Military, International Organizations, and NGO resources? What are their priorities in dealing with the situation?
- f) Are resources staged and in place? What emergency teams have been activated and deployed?
- g) What is the status of local Emergency Operations Centers?
- h) Is the extent of the damages and the response needs overwhelming the affected state's authorities?
- i) What are possible resource shortfalls for the affected state? What are anticipated requirements to be requested from the international donor community? What resources are currently being deployed or staged? By whom?
- j) Are shelters open and if so, how big is the shelter population? Are the available shelters meeting the immediate needs of the affected populations?

2) Hurricane / Typhoon

- a) What is the status of evacuations in the areas directly threatened? What is the estimated number of people who remained behind?
- b) What is the estimated number of people currently in shelters? What is the extent of damage to homes? Will there be a need for long term temporary housing?

3) Flood

- a) What is the current flood forecast outlook?

Annex A HA/DR Planning and Priority Information Requirements

- b) What is the extent of areas currently impacted by flooding? When are floodwaters expected to recede?
- c) Has a dam or levee failure or breach occurred and if not, what is the likelihood of this? Is there potential for hazardous material to be released or for other hazards?
- d) Have flooded roadways been restricted to emergency personnel only? When is it estimated that the area will be safe enough for emergency personnel to access the affected areas?
- e) What is the status of the affected state's Emergency Operations Centers?

4) Earthquake

- a) What is the magnitude of the earthquake? Where is the epicenter located? What are initial reports of damages and injuries?
- b) Is the epicenter within the vicinity of a major population center? What is the estimated population affected? How widespread is the impact?
- c) Are medical facilities functional? Are fire and police still operating effectively?
- d) Are there a significant number of collapsed structures?
- e) What is the weather forecast in the affected area, and implications for impeding operations?

5) Fires

- a) What are current local and/or regional weather conditions? How will this affect fire-fighting operations?
- b) Is the fire restricted to an unpopulated area? If not, where has the fire spread? Is the area contained? If not, what is the expected time frame for containment? Which areas are threatened?
- c) Is a request for a major disaster declaration expected?
- d) What is the potential for additional fires?

6) Tsunami

- a) What is the evacuation procedure? What is the priority of response?
- b) What extent of area has been or will be impacted by flooding? When are floodwaters expected to recede?
- c) Has a levee failure or breach occurred and if not, what is the likelihood of the event?
- d) Is there potential for hazardous material to be released? What is the potential for other hazards?
- e) Have roadways that are flooded been restricted to emergency personnel? When will the area be safe for emergency personnel to access the affected areas?
- f) Where are the access points located, and what are the best routes to use to access the disaster area?

Annex A HA/DR Planning and Priority Information Requirements

g) Are credentials needed to pass into such areas?

7) TORNADOS

- a)** What is the current weather condition? Are tornados still active? What areas are under tornado warnings? How long will these warnings remain in effect? Was the tornado isolated to a particular area?
- b)** What was the intensity of the tornado? What is the extent of the damage? Which areas have been affected?
- c)** How many homes were within the track of the storm? How many were damaged?
- d)** What is the damage (if any) of Host-Nation government facilities and critical infrastructure? Are these facilities safe to occupy during response and recovery operations?
- e)** What is the status of Interagency-and-International Agency operations? What are the actual or potential resource shortfalls of the affected Nation-State(s)?
- f)** What are the anticipated requirements for Assisting Military, International Organizations, and NGO resources? What is the status of critical infrastructures and facilities – telecommunications, medical services, public safety, water, septic and wastewater management, and power plants?
- g)** What is the extent of the damage? Which areas experienced the most and/or least damage?

ANNEX B Key Terminology and Definitions

The standardization of key terminology and definitions contributes to unity of effort by reducing differences due to language. Terminology and definitions for this concept of operations are derived primarily from sources that are widely accepted internationally for disaster management and emergency response, such as the Guidelines for the Domestic Facilitation and Regulation of International Disaster Relief and Initial Recovery Assistance (IDRL Guidelines) and the Multinational Planning Augmentation Team (MPAT) Program's Multinational Force Standing Operating Procedures (MNF SOP).

Aerial Port of Debarkation (APOD) – See Port of Debarkation (POD)

Aerial Port of Embarkation (APOE) – See Port of Embarkation (POE)

Affected state - the State upon whose territory persons or properties are affected by a disaster.

Assisting actor - any assisting humanitarian organization, assisting State or other foreign entity, such as a private company providing charitable relief, or person responding to a disaster on the territory of the affected State or sending in-kind or cash donations.

Assisting humanitarian organization - a foreign, regional or international non-profit entity whose mandate and activities are primarily focused on humanitarian relief, recovery or development.

Assisting state - a State providing disaster relief or initial recovery assistance, whether through civil or military components.

Civil military coordination (CMCoord) - is the essential dialogue and interaction between civilian and military actors in humanitarian emergencies that is necessary to protect and promote humanitarian principles, avoid competition, minimize inconsistency, and when appropriate pursue common goals. Basis strategies range from coexistence to cooperation with the military, with a strong emphasis attached to coordination as a shared responsibility.

Disaster - a serious disruption of the functioning of society, which exceeds national coping capacities and poses a significant, widespread threat to human life, health, property or the environment, whether arising from accident, nature or human activity,

ANNEX B Key Terminology and Definitions

whether developing suddenly or as the result of long-term processes, but excluding armed conflict.

Disaster relief - goods and services provided to meet the immediate needs of disaster-affected communities.

Equipment - physical items (such as vehicles and radios) other than goods necessary to undertake disaster relief or initial recovery assistance.

Goods - the supplies intended to be provided to disaster-affected communities for their relief or initial recovery.

Helicopter Landing Zone (HLZ) - A specified ground area for landing helicopters to embark or disembark cargo and/or personnel. A landing zone may contain one or more landing sites.

Humanitarian Assistance (HA) – Humanitarian assistance consists of activities conducted to relieve or reduce human pain, disease, hunger, or privation created by conditions that might present a serious threat to life or that can result in great damage to or loss of property.

Humanitarian Community (HC) – Agencies and organizations whose primary or significant focus is the provision of humanitarian aid, assistance, relief, development support and human rights advocacy. For the purpose of this Annex, these agencies and organizations include United Nations relief agencies, international organizations, non-governmental organizations, and the Red Cross/Red Crescent movement.

Humanitarian-Military Coordination Centre (HuMOCC) - serve as focal point for information-sharing and updates, task sharing and division, and shared/joint planning on humanitarian needs and gaps (actual, anticipated or projected) and available military capacity on the ground.

Internally displaced persons (IDP): Those persons forced or obliged to flee from their homes, in particular as a result of or to avoid the effects of natural or man-made disasters, and who have not crossed an internationally recognized State border.

Initial recovery assistance - goods and services intended to restore or improve, to a defined level, the pre-disaster living conditions of disaster-affected communities, including initiatives to increase resilience and reduce risk, provided for an initial period

ANNEX B Key Terminology and Definitions

of time after the immediate needs of disaster-affected communities have been met, as determined by the affected State.

Lines of Communication –is the route that connects an operating military unit with its supply base. Supplies and equipment are transported along the line of communication.

Multinational Coordination Center (MNCC) - An organization composed of staff elements required to integrate MNF contributions (forces and capabilities) into a contingency operation. A MNCC focuses on command and control, coordination and cooperation in any given contingency requiring a multinational force response.

Originating state - the State from which disaster relief and initial recovery personnel, goods and equipment begin travel to the affected State.

Personnel - the staff and volunteers providing disaster relief or initial recovery assistance.

Port of Debarkation (POD) – The geographic point at which cargo or personnel are discharged. This is a seaport (SPOD) or aerial port (APOD) of debarkation; for unit requirements, it may or may not coincide with the destination.

Port of Embarkation (POE) – The geographic point at which cargo or personnel are boarded. This is a seaport (SPOE) or aerial port (APOE) of embarkation.

Services - activities (such as rescue and medical care) undertaken by disaster relief and initial recovery personnel on behalf of disaster-affected communities.

Sea Port of Debarkation (SPOD) – See Port of Debarkation (POD)

Sea Port of Embarkation (SPOE) – See Port of Embarkation (POE)

Transit state - the State through whose territorial jurisdiction disaster relief or initial recovery assistance passes on its way to or from the affected State in connection with disaster relief or initial recovery assistance.

ANNEX C HA/DR Websites

- AHA Centre is an inter-governmental organisation established by 10 ASEAN Member States to facilitate the cooperation and coordination among ASEAN Member States and with the United Nations and international organisations for disaster management and emergency response in ASEAN Region. <http://www.ahacentre.org/>
- All Partners Access Network (APAN) is an unclassified, non-dot-mil network providing interoperability and connectivity among partners over a common platform. <https://www.community.apan.org>
- Association of Southeast Asian Nations, ASEAN - www.asean.org
- Brisbane Tropical Cyclone Warning Center: <http://www.bom.gov.au/weather/qld/cyclone/>
- One Response: <http://oneresponse.info/Pages/default.aspx>
- Center for Excellence in Disaster Management and Humanitarian Assistance <http://coe-dmha.org/> - Disaster management and training information. Source of disaster information from a variety of government and non-government agencies.
- The Changi Regional HADR Coordination Centre (RHCC) is housed at the Changi Command and Control Centre (CC2C), Singapore, and leverages on ready facilities available at the CC2C for large-scale multinational operations and exercises. http://www.mindef.gov.sg/imindef/press_room/official_releases/nr/2014/sep/12sep14_nr2/12sep14_fs.html#.V2mofGpf0SQ
- Earthquake Report - <http://earthquake-report.com/> Independent earthquake reporting website.
- Global Disaster Alert and Coordination System - <http://www.gdacs.org/>
GDACS is a cooperation framework between the United Nations, the European Commission and disaster managers worldwide to improve alerts, information exchange and coordination in the first phase after major sudden-onset disasters.
- Global Volcanism Program - <http://www.volcano.si.edu/index.cfm> - Seeks better understanding of all volcanoes through documenting their eruptions – small as well as large – during the past 10,000 years.
- International Charter Space and Major Disasters - <http://www.disasterscharter.org/home> The International Charter aims at providing a unified system of space data acquisition and delivery to those affected by natural or man-made disasters through Authorized Users.

ANNEX C HA/DR Websites

Each member agency has committed resources to support the provisions of the Charter and thus is helping to mitigate the effects of disasters on human life and property.

- International Federation of the Red Cross and Red Crescent Societies: <http://www.ifrc.org>
- International Missions Outreach - www.internationalmissionsoutreach.org/disaster-relief.html
- International Tsunami Information Centre (ITIC): <http://www.tsunamiwave.info>
- Logistics Cluster - <http://www.logcluster.org/> - The Logistics Cluster is a coordination mechanism responsible for coordination, information management, and, where necessary, logistics service provision to ensure an effective and efficient logistics response takes place in humanitarian emergency missions. Due to its expertise in the field of humanitarian logistics, the UN World Food Programme was chosen by the IASC to be the lead agency for the Logistics Cluster. Where there are critical gaps in a humanitarian response, WFP, as the lead agency, acts as a 'provider of last resort' by offering common logistics services.
- Map Action - <http://www.mapaction.org/> - MapAction is a humanitarian mapping charity. Here disaster relief agencies can access free of charge maps from all current and previous MapAction deployments.
- Pacific Disaster Center / EMOPS - <http://emops.pdc.org/emops/>
The PDC Emergency Operations (EMOPS) website provides support for the emergency management community that includes government agencies with Disaster Management (DM) and Humanitarian Assistance (HA) functions at local, state, federal and regional levels. It also includes recognized Non-Governmental Organizations (NGO) and corporate entities known to provide resources for use by governmental and NGO agencies involved in emergency management.
- Pacific Tsunami Warning Center (PTWC) provides warnings for Pacific basin tsunamis to countries around the Pacific Rim. Website www.prh.noaa.gov/ptwc/
- PreventionWeb - <http://www.preventionweb.net/english/> Humanitarian and disaster relief information and history. Source of trends and recent disaster information.
- Regional Specialized Meteorological Centre: http://www.met.gov.fj/about_RSMC.htm

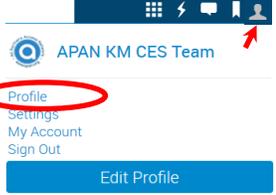
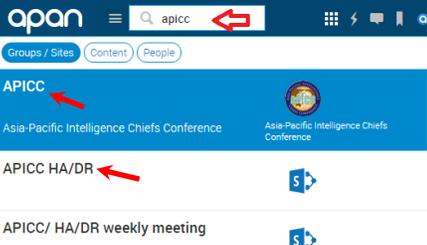
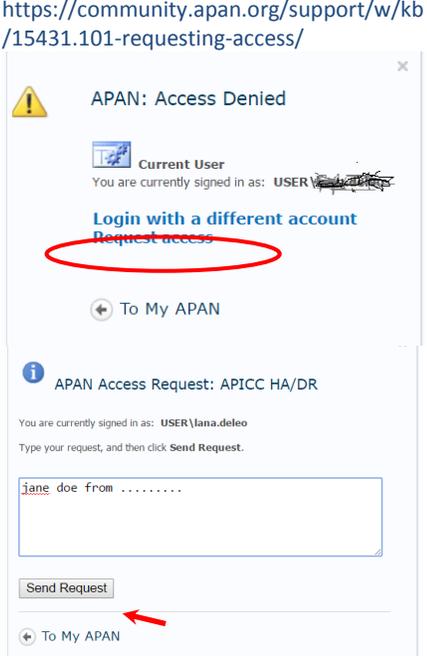
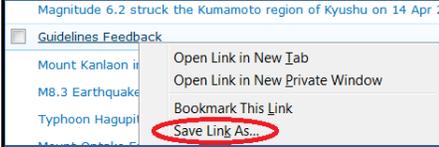
ANNEX C HA/DR Websites

- ReliefWeb - <http://reliefweb.int/>
- Thailand Specific Websites
 - Department of Disaster Prevention and Mitigation – www.disaster.go.th
 - National Disaster Warning Center – www.ndwc.go.th
 - Thailand weather forecast – www.tmd.go.th
- United States Agency for International Development (USAID) Disaster Assistance -
http://www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/ The Office of U.S. Foreign Disaster Assistance (OFDA) is the office within USAID responsible for facilitating and coordinating U.S Government emergency assistance overseas. As part of USAID's Bureau for Democracy, Conflict, and Humanitarian assistance (DCHA), OFDA provides humanitarian assistance to save lives, alleviate human suffering, and reduce the social and economic impact of humanitarian emergencies worldwide.
- United States Geological Survey (USGS) - <http://earthquake.usgs.gov/> Earthquake information, history, and shakemaps. Source of most accurate earthquake related information.
- US Navy Joint Typhoon Warning Centre
<http://www.npmoc.navy.mil/jtwc.html>
- Virtual On-Site Operations Coordination Centre (OSOCC) -
<http://ocha.unog.ch/virtualosoccc>; May also be access via United Nations Office for Coordination of Humanitarian Affairs - Thailand Specific websites
- Weather Underground - <http://www.wunderground.com/> Worldwide weather reports. Source of country and regional weather reports.
- World Food Programme (WFP) - <http://www.wfp.org/>
- World Health Organization (WHO) - <http://www.who.org/>

APPENDIX 1: HA/DR Quick Links

- US Navy Joint Typhoon Warning Center <http://www.npmoc.navy.mil/jtwc.html>
- Pacific Disaster Center (PDC) www.pdc.org
- Pacific Tsunami Warning Center (PTWC) www.prh.noaa.gov/ptwc/
- All Partners Access Network (APAN) <https://www.community.apan.org>
- Pacific Disaster Center / EMOPS - <http://emops.pdc.org/emops/>
- Global Disaster Alert and Coordination System - <http://www.gdacs.org/>
- Virtual On-Site Operations Coordination Centre (OSOCC) - <http://ocha.unog.ch/virtualosoccc>; May also be access via United Nations Office for Coordination of Humanitarian Affairs - <http://www.unocha.org/what-we-do/coordination-tools/osoccc-rdc/overview>
- International Missions Outreach - www.internationalmissionsoutreach.org/disaster-relief.html

ANNEX D APAN Quick Start Guide

#	Action	Additional Instructions	APAN Tool and Support Links
1	Create APAN account	 <ul style="list-style-type: none"> - Validate your APAN account by checking the email you registered with 	https://www.apan.org https://community.apan.org/support/w/kb/13770.1-create-an-apan-account
2	Sign in	 <ul style="list-style-type: none"> - Use 'Forgot' links if you do not remember your username or need to reset your password 	https://www.apan.org https://community.apan.org/support/w/kb/13768.101-username-password-security
3	Update your APAN Profile	 <ul style="list-style-type: none"> - Click your account avatar  at the top right corner of the website - Click >Profile, then click >Edit Profile to update your display name, avatar, or other details you would like to share with other APAN users - Include your full name, title, command/org, and professional email address & phone number 	https://community.apan.org/members/[your-username] https://community.apan.org/support/w/kb/15500.102-profile-settings
4	Optional: Set 2-Factor Authentication	 <ul style="list-style-type: none"> - Click your account avatar  at the top right corner of the website, select >My Account - Toggle off the 2-Factor Authentication setting to avoid having to verify from "unknown locations" 	https://passport.apan.org/apan/self https://community.apan.org/support/w/kb/13768.101-username-password-security
5	Type "APICC" in Search; find the APICC or the APICC HADR community	 <ul style="list-style-type: none"> - The Conference group contains general announcements and information about APICC activities - The main HA/DR SharePoint sites contain references, TTX info and sub-sites for exercise participants 	https://community.apan.org/conf/apicc https://community.apan.org/support/w/kb/14512.102-request-access-to-a-group
6	Click the community name in search results A) Click "Join" to request APICC group membership B) Click "Request Access" to request APICC HA/DR Site membership	<p>https://community.apan.org/support/w/kb/14512.102-request-access-to-a-group/</p>  <p>Today</p>  <p>Reminder: if you haven't updated your profile, be sure to include some details about who you are (name, rank, phone) & what country or organization you are representing so that the community owner can approve your request more quickly</p> <div style="border: 1px solid black; padding: 5px;"> <p>Request Membership</p> <p>To participate in this group, you can request to be a member by clicking the 'Request Membership' button below.</p> <p>Message</p> <p>I am jane doe from staff command hq in australia. phone number +011-999-9999-999 email address jane.doe@defence.gov.au</p> <p></p> </div> <p>After your membership request is approved, locate the community in your list the next time you sign in to APAN by clicking Groups or Sites from the top menu</p>	<p>Join the private communities to view references, announcements, download/upload files or respond to event requests & discussions</p> <p>https://community.apan.org/support/w/kb/15431.101-requesting-access/</p> 
7	Download a file from an APAN group or site	 <ul style="list-style-type: none"> - Click download to save/open files in an APAN group. You can also use the preview feature to quickly view a file (in PDF format) or see an image without having to download it 	 <p>Right-click a SharePoint file and save it to your computer or mobile device</p>

ANNEX D APAN Quick Start Guide

#	Action	IM Guidance & Additional Instructions	APAN Tool and Support Links
8	Navigate to various sections and pages within the group or site and review information shared with the community, including links to external resources and the Adobe Connect Online meeting room		<p>- Click APICCC HADR COI (Adobe Connect) to join a virtual meeting room. Participate in chat discussions, listen to presentations, and review additional files for specific meetings</p>

9	Optional: Use Translate	<p>- use translate.apan.org to translate text or files</p> <p>- Click the language menu (default is English) in the bottom left corner of any APAN community page to change your language</p>	<p>https://translate.apan.org</p>
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		<p>• Administración de cuentas - Localizar el contenido sobre el registro, el restablecimiento de contraseñas, notificaciones por correo electrónico, nombres de usuario, nombres de pan-</p> <p>Spanish</p>	<p>https://community.apan.org/support/w/kb/13786.translate</p>
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10	Use APAN Support Resources Locate help to use APAN applications		<p>https://community.apan.org/support</p>
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<p>All Partners Access Network https://www.apan.org</p> <p>Visit APAN's Knowledge Base (KB) for online support - find information shown in the previously listed Support links, so you don't have to type or remember the specific URLs: https://community.apan.org/support</p>		<p>APAN Support 24x7 Help Desk COMM: 808-472-3361 DSN: 315-472-3361</p> <p>Submit a ticket for further assistance: https://community.apan.org/support/p/contact</p>
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ANNEX E Geospatial Intelligence

- 1) **Geospatial Intelligence (GEOINT)**. Intelligence about human activity on earth derived from the exploitation and analysis of imagery and geospatial information that describes, assesses, and visually depicts physical features and geographically referenced activities.
- 2) **GEOINT Framework**. Foundation Data (Infrastructure, Transportation, Population, Land use, Terrain Data) + Event Data (models, rainfall, wind, storm tracks) + Assessment Data (Remote Sensing, Airborne sensors, situation reports, field reports, news media, social media, responders, affected state, mission partners).
- 3) **GEOINT and Priority Information Requirements**. GEOINT answers the where, what, when, who and how. It is a key enabler for leadership decision making and can answer – location and extent of damage; location and status of affected populations; location and status of transportation networks; and status of critical infrastructure.
- 4) **GEOINT Planning Phases Considerations in Support of HA/DR Event**. GEOINT planning phases and activities are as follows:
 - a) **Phase 1: Prior to Crisis**
 - i. Monitor HA/DR events via HA/DR Information Sharing Nodes, Commercial Industry and Command Watch Centers to provide initial situational awareness
 - ii. Establish GEOINT relationships; use training events, Subject Matter Exchange Events (SMEE), and exercises to foster personal relationships and professionalism
 - iii. Gather foundational baseline data & share data with appropriate agencies
 - iv. Research resiliency index to determine likely areas to focus GEOINT planning efforts to support and HA/DR event
 - v. Understand the GEOINT capabilities of all the HA/DR stakeholders (civilian and military) in order to reduce duplication of efforts

ANNEX E Geospatial Intelligence

b) **Phase 2: Immediately after Crisis**

- i. Task (Collect), Assess, Collaborate, Disseminate and Facilitate GEOINT based on PIRs
 - a. Consider a low bandwidth environment; ask what info is really required and how can I deliver it? Think derived or attribute information instead of satellite imagery
 - b. Use APICC HA/DR Community of Interest Site on APAN
 - c. Consider commercial GEOINT sources; UN activated GEOINT companies
 - d. Consider human terrain (needs of affected local populace)
- ii. Conduct initial assessments
 - a. Consider Open Source such as media, social media, United Nations, Non-governmental organizations, as well as local government, neighboring government sources
 - b. Consider GEOINT capabilities of affected and assisting nations
- iii. Determine the consumer/audience
 - a. How to tell your story
 - b. What is its value
 - c. What insight does it provide

c) **Phase 3: During Crisis**

- i. Continue secondary assessments, adjust GEOINT collection accordingly
- ii. Evaluate secondary effects (disease, displaced persons, etc.)
- iii. Refine GEOINT dissemination plan based on new consumers

ANNEX E Geospatial Intelligence

d) **Phase 4: Mission Turnover**

- i. Redeploy GEOINT assets, turnover mission
- ii. Continue to push knowledge and data to relevant organizations

e) **Phase 5: Post Mission**

- i. Capture and share GEOINT lessons learned
- ii. Continue foundational data collaboration
- iii. Consider GEOINT technology applications to future HA/DR events
- iv. Conduct GEOINT training/Subject Matter Expert Exchanges/exercises

Appendix 1 - Disaster Response – Critical Infrastructure

Appendix 2 - Monitor / Advisory Alert Thresholds

Appendix 3 - Damage Assessment Classification and Criteria

Appendix 4 - Damage Assessment of Structures

Appendix 1: Disaster Response – Critical Infrastructure
to
ANNEX E Geospatial Intelligence

Disaster Response - Critical Infrastructure

- Airports with concrete or asphalt runways and taxiways – within 500km of disaster zone
- Bridges with multiple vehicle lanes or railroad traffic within the disaster zone
- Dams – Significant reservoir dams for power and fresh water within or adjacent to the disaster zone
- Electrical Power Network within the disaster zone
- Food supplies – large warehouse complexes
- Fuel supplies – large fuel-tank farms – may produce secondary hazard in disaster zone
- Medical Facilities/Quarantine Areas in and within 100km of the disaster zone
- Power Plants using oil, coal or nuclear fuel – may produce secondary hazard in disaster zone
- Seaports with deep draft and loading/unloading capacity – in and within 200km of disaster zone
- Shelters for disaster events in and with 100km of the disaster zone
- Telecommunications Network within the disaster zone
- Transportation Network – main roads into and out of a disaster zone
- Water supplies – large freshwater reservoirs within the disaster zone
- Areas of earth which could result in possible landslides

Appendix 2: Monitor and Advisory Alert Thresholds
to
ANNEX E Geospatial Intelligence
Monitor and Advisory Alert Thresholds

	CONCERN	MODERATE CONCERN	HIGH CONCERN	
W E A T H E R	 Cyclone Hurricane Typhoon	• Will make landfall in 72 hours • Winds greater (or predicted) than 60 knots	• Will make landfall in 48 hours • Winds greater (or predicted) than 70 knots	• Will make landfall in 24 hours • Winds greater than 80 knots • Reports of significant damage/deaths
	 Flood	• Reports of heavy rain/flooding beyond seasonal levels	• Reports of extremely heavy rain or damaging flooding	• Reports of significant flooding, landslides and deaths
	 Fire	• Fire damage spreading	• Predicted wildfire hazards	• Reports of significant fire and deaths
G E O L O G I C	 Earthquake	• Magnitude 6.5 – 7.1 and depth of 15km or less, and within 100 km of populated area	• Magnitude 7.2 – 7.8 with a depth of 20 km or less, and within 200 km of populated area	• Magnitude 7.9 or greater at a depth of 25 km or less • Reports of significant damage
	 Tsunami	• Tsunami watch after earthquake/volcanic eruption/landslide	• Tsunami watch/warning after significant earthquake • Reports of tsunami wave	• Reports of tsunami wave/damage
	 Volcanic	• Volcanic activity with an undetermined alert level or eruption report	• Alert Level 3 – eruption possible • Reports of large ash plume	• Alert Level 4 – eruption imminent or reported deaths • Ash plume affects air traffic
S T R I F E	 Conflict	• Reports of significant civil unrest	• Reports of rioting and targeting of groups	• Reports of large scale damage and destruction, or large number of deaths
	 IDPs/Refugees	• Reports of significant civil unrest	• Reports of town/village evacuations	• Reports of mass exodus and population movement
A C C I D E N T	 Transportation	• Reports of missing large aircraft or ship	• Reports of missing large aircraft or ship	• Reports of large air, rail, or ship accident or significant damage/loss of life
	 HAZMAT	• Reports of spill or leak	• Reports of toxic material spill or leak	• Reports of extremely dangerous material leak, or high number of deaths
	 Industrial	• Report of explosion or fire	• Reports of large scale explosion or fire	• Reports of very large industrial accident/fire/explosion
M E D I C A L	 Disease	• Reports of disease outbreak	• Reports of dangerous outbreak	• Reports of widespread/extremely dangerous outbreak or high number of deaths
	 Famine	• Reports of food shortages	• Reports of drought and famine	• Reports of extreme drought, famine and deaths

Appendix 3 Damage Assessment Classification and Criteria
to
ANNEX E Geospatial Intelligence
Damage Assessment Classification and Criteria

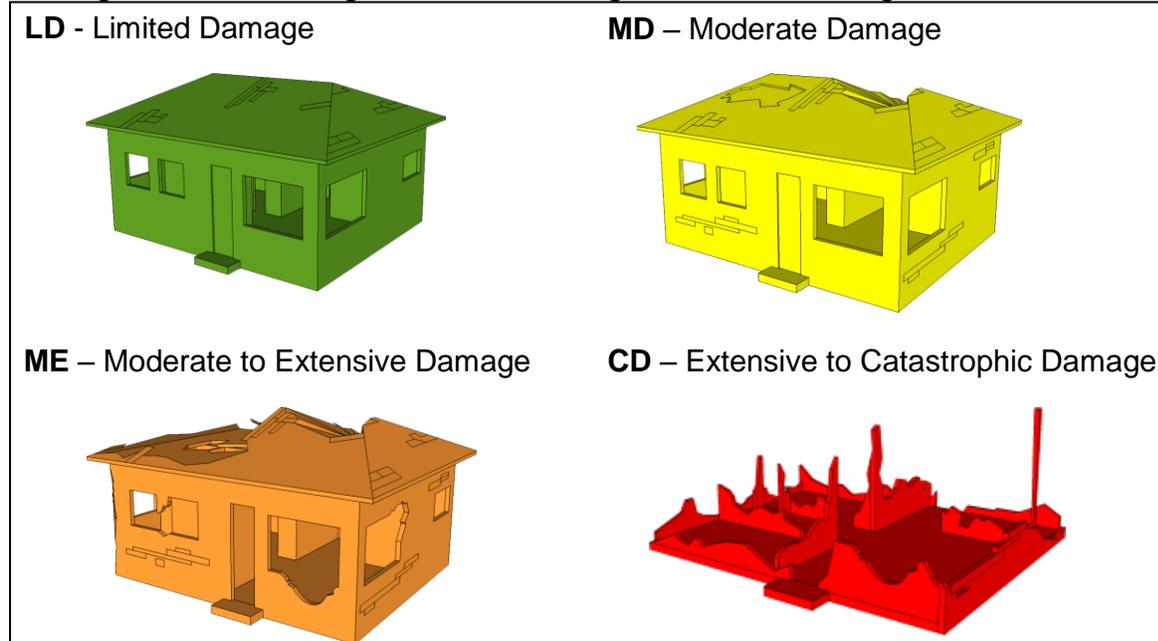
The table below shows the recommended color and notation on images and maps for disaster damage classifications for wind, earthquake and landslide, flood, lava, explosion and fire damage.

Damage Level		Observed Damage (Expanded Definitions)
ND	No Discernible Damage	Color: Gray - No visible or discernible damage in a disaster zone. Do not use unless specified by requestor/potential customer. Do not use for fire damaged areas – actual fire damage may not be visible.
B	Previously Burned	Color: Gray-hatched - Areas observed that have already burned in previous event. Fires that may have gutted structures internally may not be apparent.
LD	Limited Damage	Color: Green - Generally superficial damage to solid structures (such as loss of tiles or roof shingles); some light structures are damaged or displaced. Fire: few structures are burned/destroyed. Unpopulated areas (fields, forests) would be considered limited damage from fire effects. Flood areas will be blue-hatched – water level is less than 0.5 meters deep. For earthquakes, apparent undamaged structures are unusually situated among obvious earthquake damaged structures.
MD	Moderate Damage	Color: Yellow - Solid structures sustain exterior damage (such as missing roofs or roof segments); many light structures are destroyed, many are damaged or displaced. Not used for fire damage. Flood areas will be blue-hatched – water level is between 0.5 and 1 meters deep. Earthquakes: wood structures show signs of foundation shift; for concrete/brick structures, walls have severe cracks and fallen blocks (less than 25% of exterior structure) – evidence of roof damage (wavy or bent roof line). Metal structures may not show any damage but masonry facades may be partially damaged or collapsed.
ED	Moderate to Extensive Damage	Color: Orange - Some solid structures are destroyed; most sustain exterior and interior damage (roofs missing, interior walls exposed); most/all light structures are destroyed. Fire: some structures are burned/destroyed and sustain observable exterior damage. Flood areas will be blue-hatched – water level is between 1 and 2 meters deep (just below first floor door height). Earthquakes: wood structures show signs of sectional collapse up to 50% of structure; for concrete/brick structures, walls have fallen sections (up to 50% of exterior structure – evidence of roof collapse/pancaking of multilevel units, up to 50% of roof surface). Metal structures may show misalignment and bending. Most brick or masonry facades are collapsed. Use term “Extensive” damage only if there is distinguishable difference from previous “Moderate” description.
CD	Extensive to Catastrophic Damage	Color: Red - Most solid and all light structures destroyed. Fire: most structures are burned/destroyed. Flood areas will be blue-hatched – water level is above 2 meters (exceeds the top of first-floor door). Earthquakes: wood structures are 75% collapsed; concrete/brick structures are 75% collapsed/pancaked multi-level structures. Metal structures will be toppled or crushed. Use term “Catastrophic” damage only if there is a distinguishable difference from previous “Extensive” description. For example, if a village is completely destroyed to its foundations, then classify area as “Catastrophic Damage.”
F	Flooded	Color: Blue-hatched - Areas that have observed unusual high water levels. Use solid blue for normal river, lake and ocean water levels. Always distinguish existing bodies of water from flood waters. Depict “as-seen” water levels for damage assessment purposes.

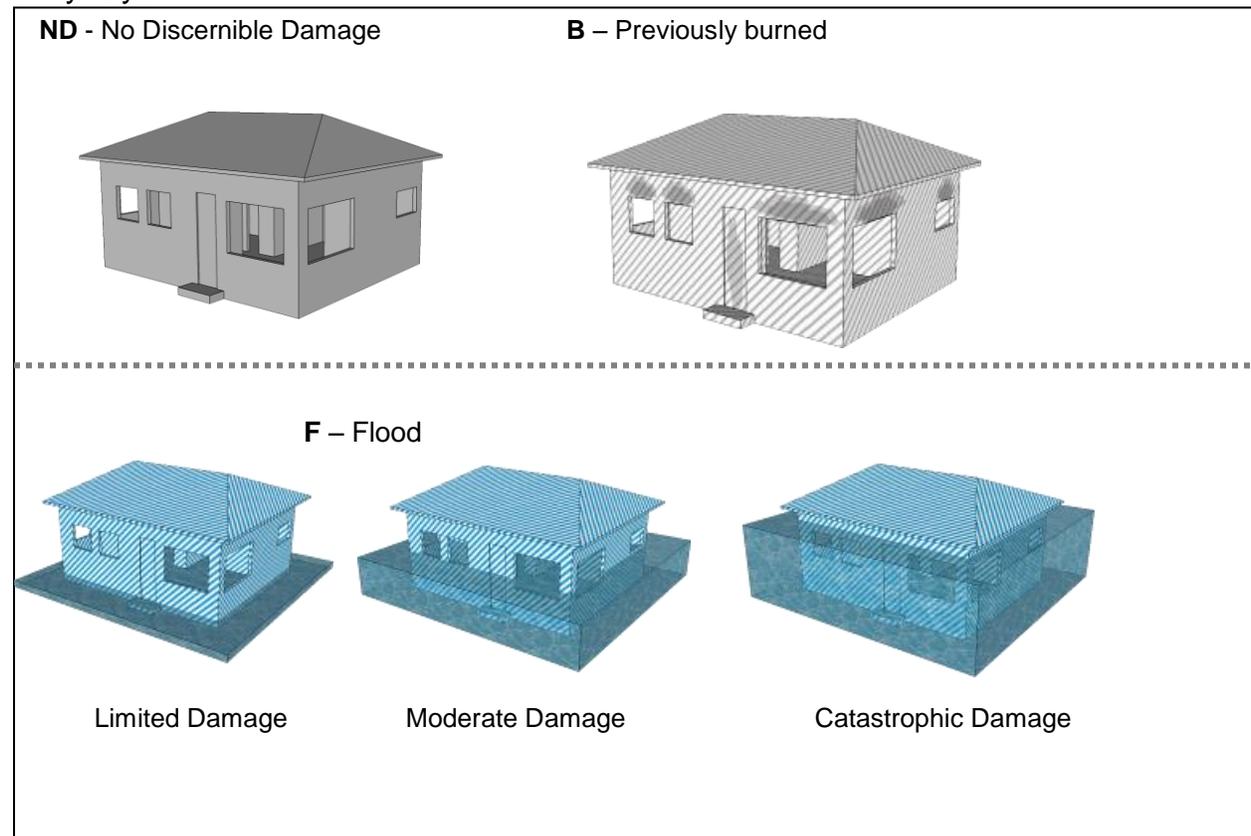
Appendix 4 Damage Assessment Classification and Criteria
to
ANNEX E Geospatial Intelligence

Damage Assessment of Structures

Damage levels for a single-level wood or light material dwelling.

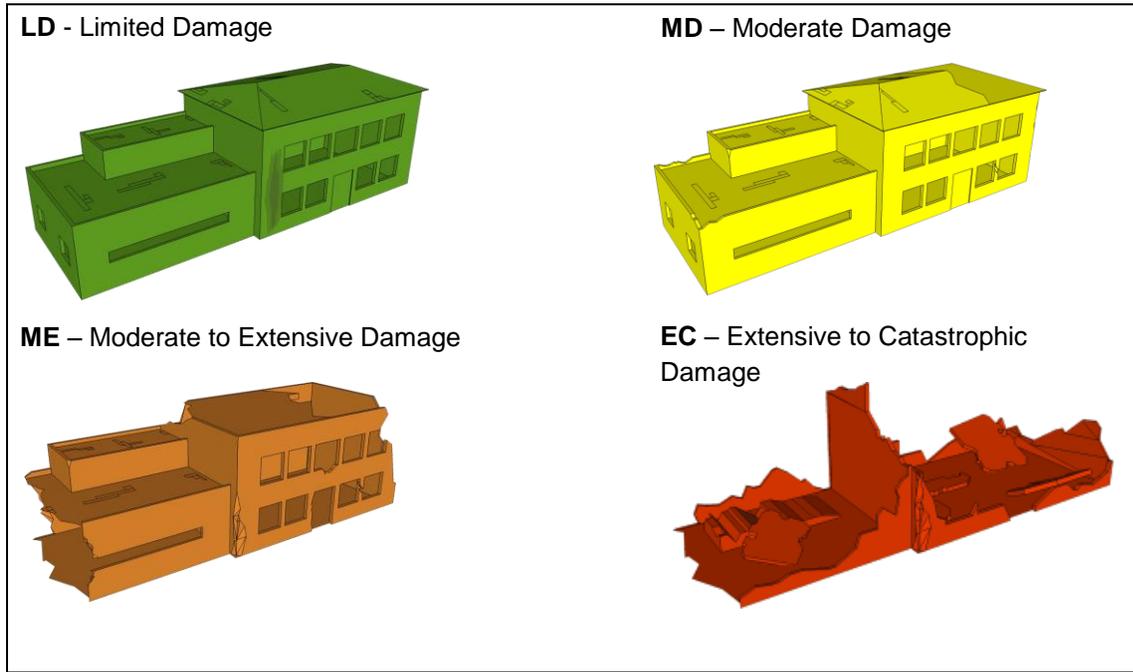


Damage levels for a single-level wood or light material dwelling affected by fire and flooding. Note the water level from flood and inundation by observing the door entryways.

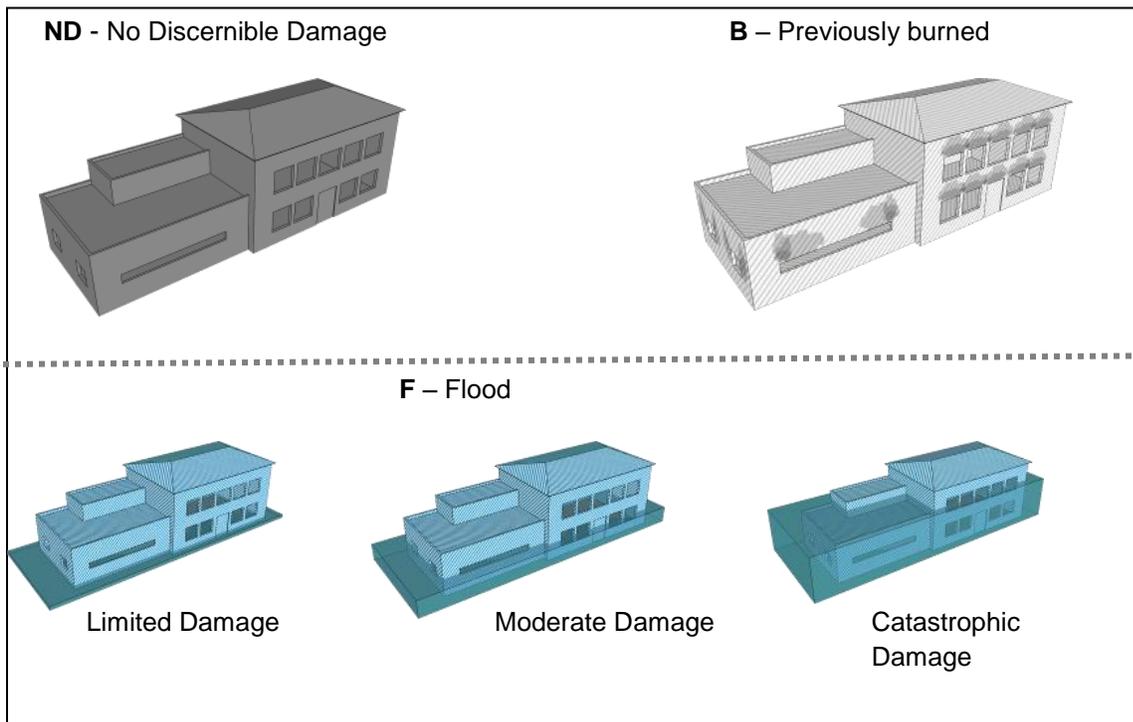


Appendix 4 Damage Assessment Classification and Criteria
to
ANNEX E Geospatial Intelligence

Damage levels for a multi-level light steel-frame or brick building. These building types are likely to withstand higher wind speeds and high earthquake shake intensities. Note any bending or uneven roof lines when assessing damage levels.



Damage levels for a multi-level light steel-frame or brick building affected by fire and flooding.

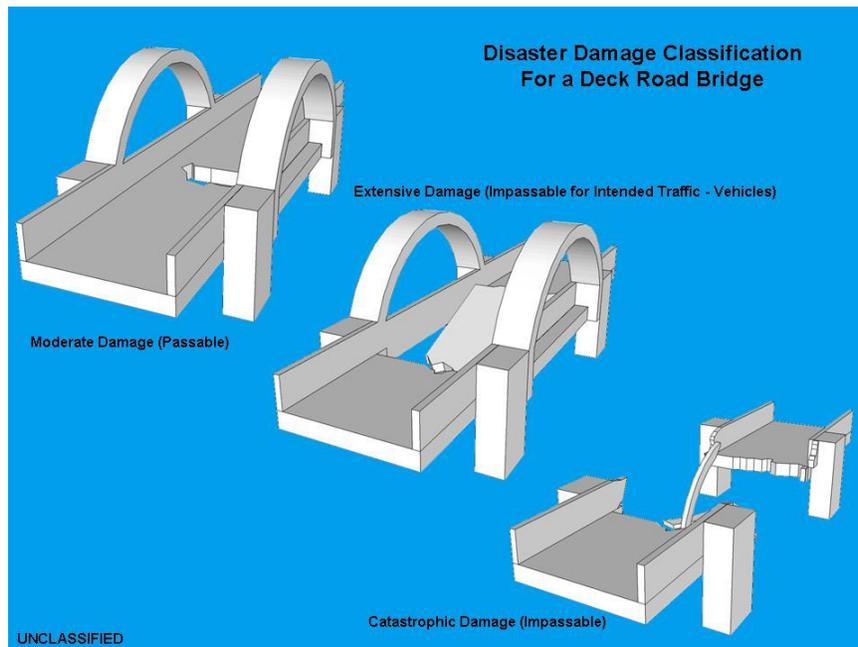


Appendix 4 Damage Assessment Classification and Criteria to ANNEX E Geospatial Intelligence

Damage levels for large multistory building. The roof line in the “pancaking” effect may appear intact (center figure) but multiple floors may be collapsed.



Damage levels for standard 2-lane highway bridge (non-supporting arch is optional). Extensive to Catastrophic damage to large road or rail bridge. In either case, bridge is impassable to vehicle traffic.



ANNEX F Open Source Information

1) Introduction

Open source provides information and reporting from publicly available broadcast, print, digital and social media sources. In an HA/DR context, open source information focuses on damage assessments, HA/DR operational support, regional and local reaction to relief efforts, and situational awareness. Various resources can be called upon to provide open source information during HA/DR relief operations.

2) Background

There are many sources of information available to support HA/DR operations, just as there are many means of accessing that information. U.S. military forces traditionally rely on classified means of information gathering, analysis and dissemination that may conflict with the realities of operating in a HA/DR environment.

a) Section 34 of Reference A (Oslo Guidelines) states:

“Most MCDA provided by Member States explicitly for UN use are diverted from other missions and are only temporarily available. When higher priority military missions emerge these assets and/or forces may be recalled by the Member States or regional organizations concerned. Therefore, as a general principle, UN humanitarian agencies must avoid becoming dependent on military resources and Member States are encouraged to invest in increased civilian capacity instead of the ad hoc use of military forces to support humanitarian actors.”

This “temporary” nature of the deployment of military forces, combined with the need to maintain continuity of the relief effort after the departure of military forces, lends itself to a reliance on open source information sources that can be sustained during and after the deployment.

b) Section 49 of Reference A (Oslo Guidelines) states:

“Critical areas for coordination include security, logistics, medical, transportation, and communications. In these areas, the steady flow of timely information is essential for the success of humanitarian missions. Within these areas there will often be opportunities for task division and planning at both senior levels of the UN and the military and at the field level.”

Given the need to have a timely (seamless) flow of information, coupled with the reality of sharing information with both Affected Nation and Assisting Nation civilian agencies and military organizations, as well as international organizations (IO's), and Non-Government Organizations (NGO's), reliance on classified means of obtaining, analyzing and disseminating information may not be practical or efficacious. As stated in

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the base CONOP, maintaining transparency in the information gathering and dissemination process will help foster trust and confidence between the assisting military forces and the Humanitarian Community. The commanders of assisting military forces, along with the affected state's political leadership, should work with Humanitarian Community counterparts to maximize information sharing.

3) Concerns/Considerations

HA/DR operations present particular issues of concern for Assisting State military forces. Effective collection and analysis of open source information will help address those issues while improving coordination in the response, resulting in the saving of lives and protection of property while achieving U.S. Government objectives.

- a) Working with Humanitarian Organizations. Humanitarian organizations, by nature, operate in the unclassified environment and generally demonstrate a high level of comfort in transparent reporting of their activities and funding. Humanitarian organizations are dependent on donor funding to conduct operations, which means that reporting of spending and activities is important for soliciting funds. From a historical perspective, the international humanitarian community learned from the Indian Ocean tsunami, the Japan earthquake/tsunami/radiological disaster, the Haiti earthquake, and other catastrophic events, that a lack of transparency leads to redundant activities and gaps in response coverage.
- b) Volunteers and donations. In every HA/DR situation, individuals and groups will send donated supplies and volunteer in-kind services to try to help the affected population. While these contributions are made with the best intentions, they have the potential to overwhelm responders and logistics pipelines that are already at capacity, which can delay vital support. Open source information resources can provide information on how to appropriately direct donations and volunteers.
- c) Validity of Sources. The proliferation of HA/DR information resources and the use of social media to report on humanitarian crises has contributed to a rise in the quantity of information available, but unverified sources create concerns about the quality of that information and whether reports are actionable. Open source analysts can provide invaluable support in helping to verify reports and corroborate information across different sources.
- d) Public Sentiment. Public sentiment is a critical aspect of HA/DR. Humanitarian organizations rely on public support for safety, security, and funding, so these organizations are sensitive to public opinion. Assisting State militaries should be equally attuned to public opinion. HA/DR is

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generally viewed as an apolitical and non-controversial activity, but the public backlash against the abuse or misuse of HA/DR is severe and lasting.

- e) Ground truth. HA/DR open source information gathering and analysis is conducted in a rapidly changing operational environment. As a rule of thumb, discrepancies in the reporting of impacts and needs varies widely in the initial days after the onset of a disaster or crisis, but the clarity and coherence of information increases with each day as more assessments are conducted. Open source analysis will help address rumors and misinformation to prevent the allocation of resources to address problems that do not exist.
- f) Expectation Management. The provision of humanitarian assistance by an Assisting State to an Affected State is the result of a negotiation in which the Affected State details its needs and the Assisting State offers support to address those needs. Over the course of the negotiations and the ensuing relief operations, it is important to understand the expectations of each party to properly align the assistance to match capabilities to needs. However, open source information will often portray expectations that do not reflect reality, so proper and thorough analysis of publicly stated expectations is useful to inform the planning and execution of HA/DR operations.

4) Trends.

Media - newspapers, magazines, radio, television, and computer-based information - has expanded open-source capabilities to every corner of the world. Access to geospatial information (e.g. maps and commercial imagery products) is now available world-wide to a degree of sophistication formerly available only to major intelligence services.

The Internet, of course, has revolutionized the open source environment. It contains a multitude of sources, ranging from the web sites of governments and “big media” to individual bloggers and tweeters – “social media”.

Just days after the earthquake hit Port-au-Prince, Haiti in 2010, an Urban Search and Rescue (USAR) team from the United States was directed to survivors who were trapped in the rubble of a collapsed supermarket. The team knew the survivors' condition and location because one of the survivors used a cell phone to text a message to a relative in the United States. The relative posted the information online where it was noticed and the information was then forwarded to the USAR team to mount a rescue operation. In a modern HA/DR operation, this level of access to information will be critical in shaping public opinion – positive and negative, providing a means to disseminate critical response/recovery information to

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the affected population, and providing a quick responsive means to share information between response organizations.

a) Social media.

- i. Organizations working to respond to humanitarian disasters have built strong reputations based on sound science, years of service, and direct community engagement. Yet, the communications landscape is evolving rapidly, and the implications for managing messages and engaging the public - especially during times of crisis - can be staggering. Fortunately, a wealth of new and accessible communication platforms presents the possibility of reaching more people with more relevant messages than ever before.
- ii. Social media (e.g., YouTube, Facebook, and Twitter) are popular and influential because they help satisfy the human need to create and connect. It is imperative that emergency communicators not only monitor the information shared across social media, but also engage the dialogue to help shape the conversation and, by extension, facilitate the humanitarian assistance operation.

Tool	Description
Blogs	Short for weblog, a type of website that is updated frequently; written in a conversational tone and contains regular entries of commentary; descriptions of events or other material
Podcasts	Web-based audio and/or video content made available on the Internet for downloading to a personal audio player
Social Networking Sites (Facebook)	Online communities that allow users to connect, interact, and exchange information with those who share interests and/or activities
Microblogs (Twitter)	Form of blogging that allows users to write brief text updates (usually 140 characters) and to publish them so that their network can view and comment on them
Mobile Text Messaging	Short text messages exchanged between mobile devices
Wikis	Collaborative web page or collection of web pages that allow all users to contribute or modify content
Widgets	Piece of self-contained code (a small application) that can be embedded into a website or program to perform a specific function
Social Bookmarking (Delicious, Digg, etc.)	Sites in which a virtual community exchanges links to content and stores links for future use
RSS Feeds	Short for Real Simple Syndication; a file that contains frequently updated information (such as news headlines or blog posts) that can be subscribed to using programs

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	called feed readers or aggregators
Image/Video Sharing Sites (Flickr, YouTube, etc.)	User-generated sites that allow people to upload pictures or videos and then view and comment on the uploaded content of others
Virtual Worlds (Second Life, Whyville, etc.)	A computer-based, simulated environment in which users interact with each other via avatars, virtual representations of themselves
Internet Forums	Also called message boards; online discussion sites in which users can discuss issues, exchange information, and share views
Mobile Websites	Websites geared for mobile devices

ANNEX G HA/DR Check List

1) **GENERAL INFORMATION**

- a) Type of disaster (earthquake, typhoon, etc.)?
- b) Are there expected developments/likely secondary hazards (landslides, floods, fire, release of toxic substances, civil unrest, conflict, landmines) in the affected area?
- c) At what time did the disaster occur (local)?
- d) What areas were affected (geographic)? GIS/map coordinates?
- e) Estimated total population in affected area?
- f) Does the Department/Agency of International Development have any programmes in the affected area?
- g) If so, what are they and are all national and local staff accounted for?
- h) What population density/settlement pattern building types are in that area?
- i) What are the current and forecasted local weather conditions?
- j) Has the government (or is it likely to) formally requested international assistance (for what)?

INITIAL ESTIMATE OF IMPACTS

2) **Population Affected**

- a. How many reported: deaths, injured, missing, displaced, homeless?
- b. What is the situation of those affected: coping mechanisms, accommodation, etc?

3) **Public Health**

- a) What diseases are endemic, any outbreaks reported?
- b) What percentages of hospitals are functioning and what are their capacities?

4) **Shelter**

- a) What is the extent of housing/shelter damaged?
- b) What housing type is specific to the affected area? (mud, stone, high-rise, etc).

5) **Water and Sanitation**

- a) What are the effects on water supply, waste disposal, and availability of drinking water?

6) **Transportation Infrastructure**

- a) What are the means of access to the affected areas, road/bridge damage?
- b) Which is the nearest functioning airport(s): what is the handling capability (type specific)?
- c) Which is the nearest functioning seaport(s): what is the handling capability (type specific)?

7) **Food**

- a) What is the impact on food availability and access?

ANNEX G HA/DR Check List

8) Communications and Power Supply

- a) What are the impacts on power supply?
- b) Do local facilities (hospitals/water pumping stations, etc.) have backup generators?
- c) Are land-lines/mobile phones functioning?
- d) Are satellite communication assets available?

9) Search and Rescue (SAR) Requirements

- a) Has the disaster caused structural collapse (percentage)?
- b) What types of structures have collapsed (e.g. hospitals, schools, government buildings, multi-story housing units)?
- c) What types of materials are they constructed from (concrete/brick etc)?
- d) Are the local authorities requesting assistance with SAR?
- e) Who is conducting/coordinating the present rescue effort, and for how long has this been underway?

INFORMATION ON INITIAL RESPONSE

10) Assessments

- a) What assessments have been made/planned?
- b) By whom, what outcome?

11) Government Response

- a) What has been the Government response so far?
- b) Which is the lead Government ministry/body?
- c) Is there a well-established in-country emergency response mechanism? Was it effective in previous disasters?
- d) What is the role of other relevant structures (Military, Emergency Committee, Civil Defense Structure)?
- e) What are the capabilities of the above to respond?

12) Other Responses

- a) What is the response to date of the humanitarian community (UN/Red Cross/Donors/NGOs/Other)?
- b) What are the capabilities of those responding? What are the gaps (food, water, shelter, clothing)?
- c) Which is the lead UN agency?
- d) Is the UN Disaster Management Team present/have they met/is a disaster plan in place/has it been activated?
- e) Have any 'situation reports' been issued? Has any other information on the disaster been shared?

13) Coordination

- a) What coordination structures are in place for the disaster (Government/UN/local community)?

ANNEX G HA/DR Check List

14) Factors Affecting Response

- a) What is the security situation? Is the disaster site(s) safe for personnel to operate in?
- b) What other country specific factors may affect response (e.g. public holidays)?
- c) How is the situation being reported in the local and national media? Are they reliable?

15) KEY IN COUNTRY CONTACTS

- a) This information is required in order to liaise directly and discuss response support needs and options with relevant in country contacts among governmental, UN, Red Cross and non-governmental agencies. Overseas posts can play a key role in providing this information.

ANNEX H Operational Area Information Checklist

1) **MISSION ANALYSIS**

- a) What and how much of the affected nation's infrastructure should be restored?
- b) How will our projected actions solve the long-term problem of the mission area?
- c) What recommendations can be made to the national TF headquarters to control mission creep?
- d) What is "one thing" the national TF can do to stabilize the situation?
- e) What tolerance should the national TF have for violence?

2) **INFORMATION ISSUES**

- a) What links should be established with civilian agencies, to include the media? Have efforts been made to pool information with applicable civilian agencies?
- b) What links should be established to local authorities (e.g. police) to gather information about the civilian criminal threat?
- c) What infrastructure exists that could result in low-level radiation or toxic industrial chemical hazards, such as nuclear power plants, chemical industries, hospital radiotherapy sources?
- d) Who are the host nation, civilian agency (i.e. government, information, communications, social services agencies, etc), and media contacts?

3) **OPERATIONS ISSUES**

- a) What is the current situation in the AO?
- b) What are the special customs and courtesies of the population in the AO?
- c) What areas are affected?
- d) What is the estimated total population in the affected area?
- e) Has the disaster caused structural collapse? What types of structures have collapsed?
- f) Who is conducting/coordinating the present rescue effort?
- g) What is the in country's emergency response mechanism?
- h) What is the role of other relevant structures (military, emergency committee, civil defense structure, etc)?
- i) What is the response to date of the humanitarian community?
- j) What local emergency services are present?
- k) What is the security situation?
- l) What are the key welfare agencies, institutions, and programmes in place?
- m) Who are the key officials and business leaders? Industry leaders?
- n) Is rationing in place and on what?
- o) What local monuments, institutions, and artifacts are valued?
- p) How is the government structured and what is its relation to the local government in the area of responsibility?
- q) Describe the armed forces and local and or regional and or national militias and paramilitaries?
- r) Are the attitudes of the population cooperative or uncooperative regarding our presence? From which of the subcultures, ethnicities, or religions?

ANNEX H Operational Area Information Checklist

- s) Do non-governmental organizations and civil-military cooperation activities affect the ground, sea and aviation plan?
- t) What are the coordinating provisions for the HN aircraft / shipping services?
- u) What are the HN perceptions and cultural issues that will likely impact aircraft / maritime operations?
- v) What infrastructure exists that could result in low-level radiation or toxic industrial chemical hazards, such as nuclear power plants, chemical industries, hospital radiotherapy sources?

4) Support and Capabilities

- a) What areas will remain national issues?
- b) What logistics support is available?
- c) How will the national TF headquarters ensure compatibility and interoperability of communications and information systems, to include automated data processing interfaces, between other military forces, civilian aid agencies and national support systems?
- d) What is the relationship between other supporting nations, national and HN logistics elements?
- e) What is the division of responsibilities between national, and HN logistics support?
- f) What are the in-theatre capabilities and resources of civilian agencies in the AO?
- g) What in-theatre staging, national command element and national support element areas, have been identified?
- h) What is the projected logistics budget?

5) Host Nation

- a) What HN logistical support is available for law enforcement, sanitation, medical services, facilities, power, water, transportation, rations, storage, and materiel?
- b) What are the capabilities of existing infrastructure, to include water treatment plants, power stations, reservoirs, and bulk and retail fuel storage?
- c) What support negotiations have been established or completed?
- d) What is the impact of obtaining HN support on the host country's national economy?
- e) What are the possible environmental impacts on the HN providing this support?
- f) What specific technical agreements—such as environmental clean-up; customs duties and taxes; and hazardous material and waste storage, transit, and disposal—must be developed to augment agreements that may have been concluded with HN support?
- g) What HN legal considerations are there when contracting with HN suppliers?
- h) Is there a requirement to establish multiple sources of supply to guarantee support?

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- i) What specific technical agreements such as environment clean up, customs duties and taxes, hazardous material and or storage, transit and disposal must be developed to augment agreements that have been concluded with the HN?

6) Medical

- a) What medical facilities have been identified to support the operation?
- b) Are chemical threats known, and are troops and medical facilities capable of coping with their possible use?
- c) What graves registration and mortuary procedures have been put in place to service casualties to include recognizing cultural differences in dealing with casualties and procedures and policies for local civilians?
- d) What is the public health policy?
- e) What resources are available for hygiene and sanitation with regard to water, living conditions, food, refuse management, industrial pollution and post-operation pollution?
- f) What are the animals of medical significance with regard to snakes, venomous arthropods, insects and stray animals?
- g) What civilian health services are in the area of operations?
- h) What non-governmental organizations are in the area of operations?
- i) What infrastructure exists for assisting national task forces to deal with low-level radiation or toxic industrial chemical hazards like medical treatment facilities or detection equipment supply houses?
- j) How will medical regulations, both in and out of theatre, be affected?
- k) How is the area of responsibility set up for its own medical equipment and supplies?

7) Transportation

- a) What are the requirements for and capabilities, limitations, and availability of airfields, railways, seaports, and inland transportation systems in the departure, intermediate staging, and objective areas? What resources are required for new construction or necessary improvements to existing facilities?
- b) What is the ability of the HN to receive personnel and equipment at ports and airfields?
- c) What are the access rights in the AO? The command must coordinate diplomatic efforts to arrange for support, country, and diplomatic clearances, over flight rights, and basing for forces in transit from one locality to another.
- d) What is the capability of transportation systems to move forces once they arrive in theatre?
- e) How will the movement into and out of airfields and seaports be controlled?
- f) What are the customs, immigration and health requirements for movement in and out of the area of operations?
- g) What fuel types are available?
- h) How will transportation facilities be shared with other nations, civilian agencies and contractors?

ANNEX H Operational Area Information Checklist

- i) What air transport agencies exist?

8) **COMMUNICATIONS ISSUES**

- a) What areas remain national issues?
- b) Will commercial companies establish telephone service for use by other national forces?
- c) Do national laws require agreements defining payments for using the information systems networks or military satellite communication assets?
- d) Have arrangements been made to allow contract host nation employees to work on C2 staffs without exposing them to automated data processing and classified information used in daily operations?
- e) What are the key laws governing communications?
- f) Will commercial companies provide Internet access?

9) **CIVIL-MILITARY COOPERATION ISSUES**

- a) What are the civil centres of gravity that need to be addressed? What are the associated decisive points?
- b) What key civil organizations will be operating in the AO? Has an analysis been conducted on their respective end states, culture, objectives, and methods? How will they affect a military operation?
- c) Where the national TF commanders is to be reliant on HN support, is sufficient resources available to sustain his force and are memorandum of understandings and technical agreements in place? What will be the impact on the local economy as human and personnel resources are drawn to military HN support?
- d) What national civil-military plan(s) have been coordinated with the other governmental departments?
- e) Is the civil administration sound, or will one be established? If the latter, what resources will be required?
- f) What are the requirements for restoring, or rebuilding the local infrastructure?
- g) What are the requirements for restoring or providing essential services in the short, medium, and long term? The short-term tasks may become military tasks, and the military will need to plan accordingly—such as urgent provision of shelter, water, sanitation, and power.
- h) What national TF support is required to assist or establish the HN civilian law and order system?
- i) What IO, NGOs, and international and national donor agencies will be operating in the operational area?
- j) What do the NGOs, IOs and donor agencies anticipate wanting from us?
- k) What is the relation of the community as to the political, trade, school, and religious areas with that of the adjoining communities?
- l) How do the inhabitants, groups, organizations, and governmental entities communicate within the community and with other communities?
- m) What are the economic, religious and political situations?

ANNEX H Operational Area Information Checklist

10) LEGAL ISSUES

- a) What areas remain national issues?
- b) Do legal advisors understand national policies?
- c) Has the SOFA been established with the receiving nation? Who has been designated to negotiate technical agreements to implement SOFA's?
- d) What are the environmental constraints and factors that may affect the conduct of operations?
- e) What are the legal and fiscal restraints involving logistic assistance to non-military organizations and other nations' forces?
- f) What are the force's obligations to the HN police forces, international police force, or both forces deployed within the AO?
- g) What are the estimated bounds of civil rights in the AO?
- h) Is the HN military judicial infrastructure intact? If so, has liaison been affected? If not, what resources and procedures are required to establish them?
- i) What are the systems of civil and criminal law?
- j) Describe the administration of justice (i.e. The judicial system in place or lack thereof?)
- k) What is the relationship between HN MP and civilian police with MP and national civilian police forces?
- l) What is the present status of civil authority?
- m) What information is available on the criminal threat?

11) ENGINEERING ISSUES

- a) What capabilities is the HN providing?
- b) What are the unique area of operations characteristics that affect interoperability, such as severe climactic conditions?
- c) What are the humanitarian and national assistance engineering requirements?
- d) Are there any specific engineer contracts with the HN or other contractors?
- e) What is the HN actually providing in terms of engineer services?
- f) What, if anything, is the impact of non-governmental organizations (NGO) and CIMIC activity in-theatre on the engineer plan?
- g) What are the in-theatre engineer coordination mechanisms? Are they capturing lessons learned and informing all nations to allow in-theatre adaptations to doctrine and new problems?
- h) Are there any HN cultural constraints and restrictions that are or could impact on engineer operations?
- i) Describe the current interagency cooperation and coordination in the area of responsibility?
- j) What sustainment capabilities are foreseen by the NGOs?
- k) What do the NGOs anticipate wanting from us?
- l) What are the environmental considerations?

12) PUBLIC AFFAIRS AND MEDIA ISSUES

- a) What areas remain national issues?

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- b)** What are the main local and national media organizations operating in and around the area of operations?
- c)** What is the broadcasting situation?

ANNEX I Disaster Critical Needs Checklist

I. Water System Checklist

1. Determine the amount of water available per person per day.
2. Determine the source and quality of the water.
3. Determine how long the daily amount has been available.
4. Determine the evidence of water related diseases.
5. Determine the length of time users wait for water.
6. Determine whether there is safe access to water for vulnerable groups.
7. Determine the types of wells, transportation, and or storage systems used.
8. Determine if there are problems with well repair/rehabilitation.
9. Determine if there is equipment/expertise onsite, on order, or available for repair.
10. Determine the availability of additional sources of safe water if required.
11. Determine the need for water engineers to assist with evaluating requirements.
12. Describe the types of systems and sources that existed prior to the disaster in the affected areas (treatment facilities, mains, pump stations and distribution network).
13. Specify how many people have been deprived of a functional water supply.
14. Determine who is in charge of the local water system(s) (community group, committee, and national authority).
15. Determine whether the system is still functional or what the requirements for repair are.
16. Estimate the number of people who depend on the water sources by type (river, city water system).
17. Outline the impact of water loss on key facilities and on individual users.
18. Determine how quickly the responsible ministries can be expected to restore services.
19. Describe options for restoring minimum essential services.

II. Sanitation Checklist

1. Determine the placement, number and cleanliness of latrines.
2. Determine if the design and placement of latrines are affecting their use because of cultural taboos.
3. Determine if there is a sanitation plan if the population increases.
4. Determine if there is safe access to latrines for women and girls.
5. Determine the evidence of water related disease.
6. Determine the proximity of latrines and refuse areas to water sources, storage areas and distribution points.
7. Determine the placement and plan for the disposal of copses.
8. Determine if there is a plan for the collection and disposal of garbage.
9. Determine if there is an insect and rodent control plan.
10. Determine the need for a specialist to assist with evaluating requirements.
11. Determine the adequacy of sewage disposal facilities in any public buildings or other areas being used to temporarily shelter homeless people.
12. Determine if waste disposal/sewage if forming ponds in public areas.

ANNEX I Disaster Critical Needs Checklist

III. Electrical Power Checklist

1. Describe the complete power system.
2. Inventory auxiliary equipment that may be available locally.
3. Determine why power is not available.
4. Ascertain the condition of generating units.
5. Check the integrity of the fuel system.
6. Determine whether towers, lines and or ground lines are down.
7. Assess the condition of substations.
8. Outline the impact of power loss on key facilities.
9. Describe the options for restoring minimum essential services.
10. Ascertain whether load shedding and or switching to another grid can restore minimal services.
11. Identify local/regional suppliers of equipment and materials.
12. Determine the local/regional availability of technical services available for repair.
13. Describe the function of the facilities, their proximity to the stricken area and their relationship to the disaster itself.
14. Identify the host country organization that controls and operates the facilities.
15. Identify the suppliers, contractors and or donors that built the facilities.
16. Check on any proposed assistance from the original donors of the facilities.
17. Describe any damage to the system.
18. Check the soundness of the structures, outlet works and whether the reservoirs are watertight.
19. Identify any immediate or near term safety risks.
20. Assess the condition of canals or downstream channels.
21. Identify any changes in watershed conditions.
22. Evaluate the management of the facilities.
23. Determine whether storage and outflow quantities are being managed in accordance with prescribed curves.
24. Identify preparations for follow on storm conditions.
25. Describe the probable impact of discharging on downstream damage and or relief efforts.
26. Outline the repair plans of the host country officials.

IV. Communications Checklist

1. Describe where the system's facilities are located.
2. Determine the broadcast/reception area or zone of influence.
3. Identify the organization/firm that is responsible for the operation and maintenance of the system.
4. Determine if there is a disaster response plan with identification of priority facilities, material supply and priority screening of messages.
5. Obtain technical information, such as broadcast power, operating frequencies, call signs, relay/transmission points, hours of operation, standby power

ANNEX I Disaster Critical Needs Checklist

sources, mobile capacity, and repair/maintenance facilities and language of transmission.

6. Identify key personnel.
7. Determine the degree of integration of military and civilian communications networks.
8. Determine what communications facilities exist that are operable or easily repaired and could be used to pass on assessment information and assist in coordination of life saving responses.
9. Identify the type of system assessed.
10. Describe specific reasons why a system is not operating.
11. Outline options for restoring minimum essential services.
12. Identify local/regional suppliers of communications equipment and materials available for repair.
13. Determine the local/regional availability of technical services available for repair.

V. Health / Medical Checklist

1. Ascertain demographic information (total number affected, age sex breakdown, identification of at risk population, average family or household size, and number of female headed households).
2. Determine background health information (main health problems in the area, previous sources of health care, important health beliefs and traditions, social structure, strength and coverage of public health programs in the area).
3. Mortality rate.
4. Morbidity rate.
5. Determine the need for immunization programs.
6. Determine the capability of relief officials to begin or sustain an immunization program.
7. Determine or estimate the number of major injuries.
8. Determine the number and locations of health facilities that existed prior to the disaster.
9. Determine the number of facilities that are still functioning and the total number of usable beds.
10. Determine the number of indigenous health personnel who are available.
11. Determine the amount and type of medical supplies and drugs that are available onsite or in country.
12. Determine additional amounts and types of medical supplies and drugs needed immediately from sources outside the stricken area.
13. Determine what additional medical equipment is needed and can be readily obtained to deal with major injuries.
14. Identify water sources.
15. Ascertain the local disease epidemiology.
16. Assess local availability of materials for shelter and fuel.
17. Assess existing shelters and sanitation arrangements.
18. Determine if a health information system is in place to monitor the affected

ANNEX I Disaster Critical Needs Checklist

population and provide surveillance and intermittent population based sample surveys.

19. Determine if the affected country has in place or plans to begin various health programs.
20. Determine the pre-disaster conditions of the health/medical infrastructure.
21. Ascertain from the affected government the minimum needs for health/medical infrastructure recovery.

VI. Transportation Checklist

1. Describe the road networks in the affected area by type.
2. Determine load capacity of bridges.
3. Identify the responsible ministries and district offices and constraints on operations.
4. Describe any damage to the network.
5. Determine which segments are undamaged, which can be traveled on with delays, and which are impassable.
6. Describe any damage by type.
7. Identify alternate crossing and or routes.
8. Evaluate the importance of the road network to the relief effort and rehabilitation.
9. Outline the options for restoring minimum essentials services.
10. Determine which elements must be restored first.
11. Describe the need for traffic control on damaged or one-way segments.
12. Determine how long the emergency repairs can accommodate relief traffic.
13. Determine if there is a requirement for emergency maintenance and fuel points in remote areas.
14. Identify the host country agencies, military and or civilian forces that are available to make repairs.
15. Identify whether these forces have the required equipment, spare parts and maintenance support.
16. Determine whether local or expatriate construction companies can loan equipment and or expertise.
17. Determine if regional sources of equipment and or expertise is available for repair.
18. Ascertain that arrangements can be made for standby forces, at damaged sections, to keep roads open.

VII. Housing / Shelter Checklist

1. Determine the number of people requiring shelter and whether the need for shelter is temporary or if it is a displaced population requiring shelter for an indeterminate time.
2. Determine the average number of people in an individual dwelling.
3. Identify obstacles that prevent victims from meeting their own needs, both for

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- temporary and permanent shelter.
4. Determine the area affected.
 5. Approximate the number of private dwellings and public buildings damaged or destroyed by city, village or region.
 6. Determine the number of damaged dwellings that are habitable without immediate repair, that are habitable only after repair, and that are not habitable and must be destroyed.
 7. Inventory existing structures and public facilities that can be used as temporary shelters, giving careful consideration to access to sanitation and water.
 - a. Damage assessment data to be collected during the disaster assessment are as follows:
 - 1) Identification of the common types of buildings, building trends and housing preferences;
 - 2) Determination of the patterns of failure of each building type;
 - 3) Identification of sighting problems;
 - 4) Identification of urban design problems;
 - 5) Determination of material needs;
 - 6) Determination of the local building process;
 - 7) Identification of issues affecting program management;
 - 8) During the damage assessment, it is important that adequate photographs be taken of both damaged and non-damaged structures. It is especially important to photograph new buildings under construction to determine whether people are making any adaptations on their own to improve the performance of buildings;
 - 9) It is important to quantify some of the data collected in the assessment, including:
 - i. Estimates of the number of buildings damaged and destroyed;
 - ii. Estimates of material needs; and
 - iii. Estimates of the stock of building materials already on hand in the project area;
 - 10) Determination of whether local material suppliers will be able to obtain replacement material stocks;
 - 11) Determination of the amount of materials that will be supplied by other donors;
 - 12) Determination of extent of insurance coverage for housing within the affected area;
 - 13) Determination of the cost of materials;
 - 14) Determination of the production capacity of local material producers;
 - 15) Determination of the shortage and handling capacity of ports, airports and warehouses in the project area;
 - 16) Determination of the transport capacity of local trucking firms, and of the availability of fuel and usable roads;
 - 17) Estimates of the cost reductions that could be made through local production of building materials; and
 - 18) Determine the capacities, efficiency, credibility and commitment of

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each agency that might be involved. A unified approach by government and non-governmental organizations in regard to rehabilitation greatly enhances individual agency efforts to assist the victims.

VIII. Food Source Checklist

1. Describe the normal consumption pattern of the affected population, any taboos and acceptable substitutes.
2. Describe the normal food marketing system (including government involvement, imports, subsistence).
3. Indicate what food aid programs, if any, exist and describe them.
4. Outline the indigenous food processing capacity.
5. Ascertain the disaster's effect on actual food stocks and standing crops.
6. Determine if access to food has been disrupted and, if so, how long it is likely to remain disrupted.
7. Check market indicators of food shortages.
8. Check nutritional indicators of food shortages by sex.
9. Check social indicators of food shortages.
10. Determine how much food can be expected from future and or specially planted, quick maturing crops.
11. Determine where in the production cycle was the affected area when the disaster struck.
12. Estimate the local government stocks on hand and those scheduled to arrive.
13. Estimate the local commercial stocks on hand and scheduled to arrive.
14. Estimate the local PVO/NGO/IO stocks on hand and scheduled to arrive.
15. Determine regional availabilities.
16. Canvass other donors to find out what they expect to contribute.
17. Estimate how much food aid would be required during specific time periods.
18. Describe existing food aid distribution systems.
19. Describe the effectiveness of the distribution system.
20. Describe the role of women in the distribution system.
21. Describe government-marketing mechanisms.
22. Judge the capacity of the above to expand/begin emergency aid.
23. Explain the country's previous experience with mass feeding.
24. Determine the availability of facilities and materials, including fuel.
25. Determine whether repackaging facilities exist.
26. Analyze the likely price impact on normal food suppliers.
27. Decide whether food aid would free cash and labor for other aspects of relief, or divert labor and create a dependent attitude.

IX. Displaced Population Checklist

1. Determine the approximate number of displaced people.
2. Determine their location, movements.
3. Determine how many are arriving per week and how many more could come.
4. Determine how they are arriving (scattered individuals or families, clans, tribal,

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- ethnic or village groups) and by what means.
5. Determine the approximate number and ages of men, women and children.
 6. Identify ethnic/geographic origin (urban or rural).
 7. Determine their health status.
 8. Determine the percentage of the male/female population that is literate.
 9. Determine what emergency related skills are represented in the population that could be drawn upon by relief organizations.
 10. Determine what the displaced population has as personal property and what was lost as a result of the disaster.
 11. Estimate the number and types of blankets needed.
 12. Identify what blankets are available within the country from personal, commercial, UN/NGO/IO, or government stocks.
 13. Determine what is needed from external sources for blankets.
 14. Describe the clothing traditionally worn, by season and area.
 15. If clothing is needed, estimate the amount by age group and sex.
 16. Determine if used clothing is acceptable, and if so, for which groups.
 17. Describe normal heating/cooking practices.
 18. Determine whether heating equipment and/or fuel is required.
 19. Estimate the types and quantities of heating equipment and fuel needed over a specific time period.
 20. Determine appropriate fuel storage and distribution mechanisms.
 21. Identify what fuel is available locally.
 22. Identify what is needed from external sources.
 23. Determine if other personal effects, such as cooking utensils, soap, and small storage containers, are needed.
 24. Determine if the displaced personnel brought any financial assets. Determine if those assets could be converted to local currency.
 25. Determine if livestock was brought along.
 26. Determine if shelter materials were brought along.
 27. Determine if other possessions, such as cars, bicycles, or boats, were brought along.

HA/DR Knowledge Management (KM)

1) Introduction

- a)** This annex describes Knowledge Management (KM) as it supports APICC's information sharing and collaboration in providing Humanitarian Assistance and Disaster Relief (HA/DR). KM will benefit Asia Pacific countries in planning for, responding to, and recovering from disasters. Applications of KM include developing Knowledge and best practices for HA/DR preparedness, developing situational understanding during events, maintaining vigilance and aligning resources in preparation to help other countries in impending disasters, and sharing lessons learned after response operations.
- b)** The focus of APICC members must be on acquiring information, and developing and sharing the knowledge needed to rapidly respond to disasters, providing the necessary support and resources to save lives, avoid suffering, and restore capacity.
- c)** This annex provides an overview of KM concepts and necessity, and basic procedure of Transform information into knowledge and to use it effectively.

2) KM Definition

- a) Definitions:**
 - i. – *Knowledge*: information, skills, and understanding gained through learning or experience
 - ii. – *Management*: the activity of controlling and organizing the work a company or organization does
 - iii. – *Knowledge Management* therefore can be defined as: the activity of controlling and organizing an organization's work in order to transform information into knowledge and using it effectively.

3) KM Necessity

- a) Intelligence in HA/DR response**
 - i. Is not an objective in itself, but a tool of supporting HA/DR operations.
- b) Intelligence services need to provide intelligence**
 - i. This will help commanders of assisting military forces make decisions in a timely and proper manner
- c) To achieve this purpose, we need to understand the answers of following six "W" questions:**
 - i. **Why** is the information critical / high priority?
 - ii. **What** does the information suggest?
 - iii. **Who** has the information and who needs to know?
 - iv. **When/Where** was the information obtained?
 - v. **How** should the information be used?

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- d) The answer to the above questions is Knowledge. All commanders need to share common knowledge to act on a basis of common situational awareness (SA).

4) KM Goals

a) KM Objectives

- i. – To transform information into knowledge
- ii. – To use knowledge effectively

b) KM Goals

- i. – To establish procedures of building and updating knowledge (to transform information into knowledge).
- ii. – All members of the HA/DR COI can then share proper knowledge in a timely manner, and use knowledge effectively.

5) KM in HA/DR

a) Typical challenges of KM in HA/DR:

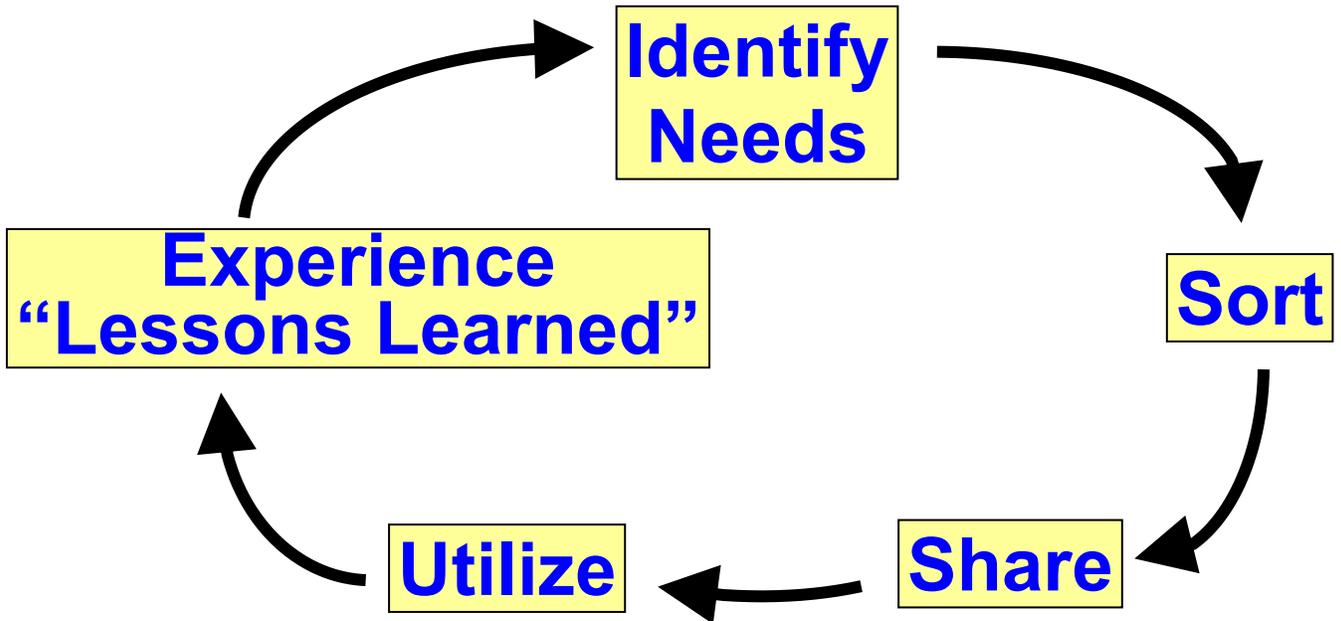
- i. Variations in the structure and labeling of available information.
- ii. Inefficient organization of materials and information.
- iii. A lack of awareness among agencies / groups of what data and knowledge others possess.
- iv. A lack of knowledge of which groups should have what knowledge in an HA/DR effort, and how it should be used for desired results.
- v. A lack of understanding of how technology can facilitate knowledge-capture and sharing.
- vi. A lack of interactive websites / portals during disaster responses.

6) Basic KM Procedure

- a) Knowledge consists of both “Information” and “Experience”.
- b) In order to transform information into knowledge, each piece of information needs to be related to experience.
- c) Nobody can transform information into knowledge except for those who already have related and relevant experience.
- d) COI members need to share experiences for the sake of sharing knowledge.
- e) Knowledge is used for both “Information collection work” and “HA/DR responses”.
 - i. Knowledge comes from information and experience.
 - ii. Only past HA/DR response gives us HA/DR experience.
 - iii. We need to transform the experience in HA/DR operation into knowledge smoothly.

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- iv. In order to use knowledge effectively these pieces of experience need to be reflected in information collection work and HA/DR responses.
- f) The “NEED loop” approach:
 - i. Identify experiences and HA/DR needs, then sort and share this as knowledge. Afterwards, utilize knowledge in HA/DR situation and generate new experiences.



- g) “NEED loop” - Identify:
 - i. Objective: to use experiences more efficiently by not accumulating all experiences as they are, but scrutinizing then prioritizing them.
 - ii. Tasks:
 1. Clarify what experience
 2. Clarify details (time, location, activity)
 3. Evaluate the effectiveness/versatility of experience
- h) “NEED loop” - Sort:
 - i. Objective: to sort knowledge effectively so that HA/DR information activity can be smoothly conducted.
 - ii. Tasks: to sort identified experiences in the form of 'knowledge' related to information into disaster and operation categories while aligning chronologically, to index them.
- i) “NEED loop” - Share:
 - i. Objective: to enable all COI members to act based on the common knowledge in a certain situation.
 - ii. Tasks: to make sorted knowledge accessible to all COI members.
 1. Sharing on APAN is recommended.

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2. Information gathering process can be simplified by making and utilizing templates.
3. In order to mature the 'knowledge sharing culture', it is recommended to grant rewards or appreciation within the established sharing system.

j) “NEED loop” - Utilize:

- i. Objective: to utilize knowledge during HA/DR activities.
- ii. Tasks: To ensure all COI members conduct HA/DR responses on a common base of understanding, by utilizing knowledge.

k) “NEED loop” – New Experiences:

- i. Objective: to review the effectiveness and versatility of already built knowledge in HA/DR responses and to establish more effective and versatile ways of KM.
- ii. Goals:
 1. To review the knowledge through actual HA/DR activities with already built knowledge, then renew the existing experience with newly-obtained experiences.
 2. To re-evaluate and renew the procedures of the ‘NEED Loop’ by newly-obtained knowledge.

ANNEX K After Action Lessons

Annex K: After Action Lessons is recently added and will include broad and universal lessons learned from HA/DR operations.

