



THE CARIBBEAN DISASTER EMERGENCY MANAGEMENT AGENCY (CDEMA)

National Damage Assessment and Needs Analysis

Model Plan

Draft 1

For National Adaptation

CDEMA Plans Development and Review Committee

5/14/2015

The National Damage Assessment and Needs Analysis Model Plan have been updated from the 2005 version of the “Model Plan, Damage Assessment and Needs Analysis”. It has been updated to facilitate a more systematic and cohesive methodology in order to maintain continuity in the assessment process.

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ACKNOWLEDGEMENTS

SIGNATURE PAGE

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ACRONYMS

CDERA	Caribbean Disaster Emergency Response Agency
CDEMA	Caribbean Disaster Emergency Management Agency
CERT	Community Emergency Response Team
DaLA	Damage and Loss Assessment
DANA	Damage Assessment and Needs Analysis
DSR	Detail Sector Report
EOC	Emergency Operations Centre
HRNA	Human Recovery Needs Assessments
IDA	Initial Damage Assessment
ISO	Initial Situation Overview
NDAT	National Damage Assessment Team
NDO	National Disaster Organization
NEOC	National Emergency Operations Centre
NGOs	Non-Government Organizations
OECS	Organization of Eastern Caribbean States
PDNAs	Post Disaster Needs Assessments
PSs	Participating States
RNA	Rapid Needs Assessment
Recce	Reconnaissance
SITREP	Situation Report
SOPs	Standard Operating Procedures
UN ECLAC	United Nations-European Commission for Latin America and the Caribbean

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1.0 BACKGROUND

[Country] is part of the Caribbean which is one of the most hazard prone regions in the world and it is widely accepted that reporting on the impacts of these hazards have not been consistently accurate. The methodologies used do not presents the correct picture of the hazard impacts that is required for proper response, rehabilitation and recovery.

Over the years several methodologies have been used to collect data on the extent of damage to facilitate: impact analysis at different levels, proper responses for those in need and to quantify the need for relief supplies immediately after the impact. In 2005, the CDERA DANA Framework, Plan and Standard Operations Procedures (SOPs) were completed and promulgated as the “standard” to be used in the CDEMA PSs. These have been successfully utilized for ten (10) years across the region and in [country] but now require updating and streamlining.

The 2005 Framework document sought to simplify the process as it incorporated and made linkages between the physical and macro-economic assessments. However, as national, regional and international supporting partners in disaster response and rehabilitation require more in-depth information for Post Disaster Needs Assessments (PDNAs), Damage and Loss Assessment (DaLA), Human Recovery Needs Assessments (HRNA), and post-impact socio-demographic information, the DANA Framework is being reviewed to ensure that all requisite post-hazard/disaster information is collected in a timely and coordinated manner in order to maintain continuity in the assessment process.

This updated DANA methodology, Plan and SOPs confirm to CDEMA’s Regional Disaster Response Support Doctrine which was developed in 2014 and is in concert with [country] relevant legislation/procedures for DANA.

NATIONAL DAMAGE ASSESSMENT AND NEEDS ANALYSIS (DANA) PLAN

2.0 INTRODUCTION

The Government of [country] is committed to meeting the needs of its population in the face of threats from natural and man-made hazards. As part of this commitment, the [National Disaster Office] has been mandated to ensure that there are national systems in place to cope with multi-hazards impacts within the framework of Comprehensive Disaster Management that is within the context of all phases of the Disaster Continuum: Prevention and Mitigation, Preparedness, Response, Recovery: Rehabilitation and Reconstruction.

Damage Assessment is an important emergency response function only to be superseded by search and rescue and medical response. It can be described as the process by which the extent of damage, following a major hazard impact, is defined by the collection and analysis of damage information, which is used ultimately to determine the needs of victims and the strategies to provide appropriate assistance to restore the affected area to a sense of normality in the shortest possible time.

This Damage Assessment & Needs Assessment (DANA) Plan is therefore an Annex of the [country] Multi-hazard Disaster Plan, and outlines the framework within which damage assessment is carried out. The Plan outlines the Authority, Purpose and Objectives along with the institutional framework for planning and executing DANA in addition to the Standard Operating Procedures to be followed in the event of a major response operation.

3.0 ASSUMPTIONS

The following assumptions are made:

- The Damage Assessment and Needs Analysis [DANA] Committee is the lead responder to situations requiring DANA.
- A large scale emergency will result in increased demands on DANA Committee Members.
- The Government of [country name] shall respond to a National Disaster.
- That Emergencies in [country name] may be categorised in two ways:
 - Those that are preceded by a build-up (slow onset) period, which can provide the DANA Committee and the NDO with advance warnings, which is used to facilitate timely and effective activation of national arrangements

- Other emergencies occur with little or no advance warning thus requiring mobilization and almost instant commitment of resources, with prompt support from the Government of [country name] just prior to or after the onset of such emergencies

4.0 AUTHORITY

This Plan derives its authority from [Disaster Preparedness and Response Act; National Disaster Management Plan/ executive order or equivalent].

The National Damage Assessment and Needs Analysis (DANA) Plan is a sub-set of the National [Disaster Response Plan]. The activation of the national plan will therefore inform the activation of the DANA plan.

5.0 PURPOSE OF PLAN

The purpose of the DANA Plan is to provide a systematic approach for conducting damage assessment and determining needs in an effective and time sensitive manner in order to influence response and recovery actions in [country name].

6.0 SPECIFIC OBJECTIVES

The Plan:

- 6.1 Defines all the phases of the Damage Assessment process and the strategies used to facilitate them.
- 6.2 Ensures the collection of damage data after any hazard impact to inform immediate needs.
- 6.3 Define the time allocated to prepare and submit detailed and accurate reports.
- 6.4 Standardizes the procedures used for damage assessment and needs analysis inclusive of estimating costs of impact and recovery.
- 6.5 Guide the process of assessing, estimating and reporting damage.
- 6.6 Facilitates the Recovery phase by identifying the facilities for urgent rehabilitation and long-term reconstruction.

7.0 CONCEPT OF OPERATIONS

7.1 DANA Framework

After the “All Clear” is given, or when it is safe to commence response operations, DANA Teams will be deployed at the earliest possible time to undertake assessments.

Details of deployment will be contained in Standard Operating Procedures annexed to this Plan (Annex A). The DANA process will be conducted in three stages.

7.1.1 STAGE 1 (Initial Situation Overview)

This is the first stage of the damage assessment process, which is carried out to rapidly obtain a broad picture of the extent of the damage caused by the impact of the hazard. The damage assessment should ideally be undertaken within 4-8 hours after the all clear has been given. The assessment will be informed by one or all of the following;

- An aerial reconnaissance done by national or regional teams
- District/Local surveys
- The application of pre-established baseline vulnerability database

The objectives of this stage in the DANA process are to:

- Obtain a general overview of the damage.
- Identify the predominantly impacted and affected areas
- Identify the initial needs of the impacted population including emergency response requirements
- Identify existing and potential threats
- Identify access routes and levels of entry into the affected areas

A report will be generated from this stage on completion of the assessment. The reporting mechanism will be in accordance with the first stage reporting form which is attached at (Annex A).

Data collected at this stage allows officials to determine immediate actions necessary to respond to the effects of the disaster. This information is collected within 4-8 hours of the all clear/after the impact (depending on the type of event) and will therefore:

- Provide a general overview of the extent and magnitude of the damage etc.
- Determine the need for a Disaster Declaration
- Provide information that would inform the responses of the International and Regional Donor Community

- Assist in determining the initial response to the event
- Help to determine the need for the second phase of the assessment process.

The DANA/Recce Team associated with the first stage will consist of representatives of the following agencies (Selection made is dependent on hazard type)

[List agencies]:

- Community (CERT)
- Agriculture
- Housing
- Transport & Works (infrastructure)
- Disciplined Forces
- Social
- Education
- Government Information Service
- DANA Committee Chair
- Health
- Statistics
- NDO

7.1.2 STAGE 2 (Initial Damage Assessment)

This phase must be conducted within the first seven (7) days after the all clear has been issued. Within these 7 days, an interim SITREP must be prepared and submitted at the end of the first forty-eight (48) hours followed by Situation Reports (SITREPS) at the end of each 24 hour period. These SITREPS/Reports are then compiled at the end of the 7 days to produce the Stage 2 DANA Report.

In some Cases, a Rapid Needs Assessment (RNA) will be carried out within the first 48-72 hours. This will also feeds into the Initial Damage Assessment Report which will be submitted at the end of Day 7 following the impact.

The method for collecting this data will be by either house to house surveys or farm to farm etc. where applicable. A pre-designed form (Annex A) will be used to execute the assessment in the field. DANA Teams comprising both community and sector personnel along with members from the National Damage Assessment Team will be deployed to carry out the surveys.

These teams are responsible for conducting the Initial Damage Assessment (IDA) for all major disasters within the country. The members of the National Damage Assessment Team (NDAT) are drawn from the National Damage Assessment and Needs Analysis (DANA) Committee. It will operate in close

collaboration with the National Emergency Operation Centre. The Chairperson of the National Damage Assessment and Needs Analysis Committee (DANA) will provide information to the Director of the National Emergency Operations Centre (NEOC) or the National Disaster Coordinator (if the NEOC is not activated). The members of the team will carry out assessments independently or jointly, but each agency will report damage to the Chairperson of the DANA at least once every 24 hours initially and then as required.

The main objective of this stage is to obtain more detailed and specific data on damage and needs. This data is intended to be more quantitative than qualitative.

The main outcomes are as follows;

- A report on specific needs generated within 48 hours or two days after impact. The 48 hr report should include where possible preliminary cost estimates of damage.
- Ongoing daily situation reports (SITREPs) of damages.
- A comprehensive report generated at the end of the 7 day period which will:
 - Identify and classify type of damage.
 - Identify the priorities of the affected people
 - Estimate the additional support required from local, national and international sources for relief and recovery.
 - Identify damage to critical buildings, infrastructure/facilities.
 - Identification and documentation of existing resources.
 - Identify access routes and the levels of entry into the affected areas
 - Identify areas that may be unfit for habitation where evacuation is necessary.

The DANA Teams associated with the second stage will consist of representatives of the following agencies (Selection made is dependent on hazard type)

[List agencies]:

Engineers,	Evaluators,	Quantity Surveyors,
Ministry of Health	Ministry of Works	Ministry of Tourism
Architects	Ministry of Physical Development	Ministry of Housing
Ministry of Agriculture	Ministry of Education	Department of Statistics
Chamber of Commerce	Red Cross Society	Utility Companies
CERTs	NGOs	Church Groups
Hydrology Department	Geology Department	

7.1.3 STAGE 3 (National Damage Assessment)

This stage will be conducted within 14 to 21 days of the all clear or after the “Event”. Surveys will be conducted primarily by sectors. Various technical approaches employed by sectors (engineering, land use planning, economic) will be used to determine detailed damage in terms of absolute numbers, structural integrity of infrastructure and recommendations for demolition, retrofitting or continued use of structures. The direct costs and recovery/rehabilitation costs associated with these elements should as far as possible be included in the assessment. The method for reporting this information will be on a specific form (**Annex B**).

The main outcomes are as follows;

- To generate the direct and indirect cost of impact.
- To determine an estimate of the recovery cost (inclusive of rehabilitation and reconstruction)

A detailed damage report on the full extent of the impact of the hazard on the country will be produced to include best estimates of direct and recovery/rehabilitation costs. **This report will be used to inform the macro-economic assessment usually conducted by the Organization of Eastern Caribbean States (OECS) and/or United Nations-European Commission for Latin America and the Caribbean (UN ECLAC) and the PDNA conducted by the World Bank.**

This stage of the assessment will contribute to the Damage and Loss Assessment (DaLA) and **Post Disaster Needs Assessment** (PDNA) and will:

- Determine the overall direct cost of the impact
- Determine the rehabilitation and reconstruction needs of each sector
- Determine the types of long term assistance required

7.2 The DANA Process

The Damage Assessment process, led by **[the lead agency]**, operating out of the **[Coordination Centre]** will analyse the data to determine the following:

- Extent of the damage
- Impact on built and natural environment
- Immediate humanitarian needs and emergency response needs
- Quantify needs and existing local resources that can be applied
- Assistance/support required from external parties

Based on the analysis **[the lead agency]** will recommend to government a course of action to be undertaken.

The damage assessment will inform SITREPS to regional and international organizations.

7.3 Damage Assessment Teams

There are three (3) types of Damage Assessment teams:

- 7.3.1 Reconnaissance Teams (Recce Team) – to conduct the Initial Situation Overview.
- 7.3.2 Damage Assessment Teams (National/District/Community) – To conduct the Initial and Detailed Damage Assessment
- 7.3.3 Sector Assessment Teams – to conduct the Sectoral assessments

Damage Assessment will be undertaken by Teams, which will be comprised of community based persons; technical and professional persons trained in the field of data collection damage and needs assessment. These include the following:

7.4 First Stage (ISO)

The First stage will be conducted by Ground and Aerial Reconnaissance Teams (Recce Teams), the vulnerability database which will be made up of the following:

- i. Ground Teams
[To be detailed, but will be composed mainly of:
 - Municipality
 - District
 - Community (CERT), CDRT etc.)]
- ii. Aerial Team
[Agencies to be listed by country] e.g.:
 - Agriculture
 - Works
 - Housing, etc.

7.4.1 Roles and Responsibilities

The roles and responsibilities for the Recce Teams are as follows:

- Conduct the Initial Situation Overview.
- Identify the predominantly impacted and affected areas
- Identify the initial needs of the impacted population including emergency response requirements
- Submit a report detailing priority needs and actions

7.5 Second Stage (IDA)

The second stage of the damage assessment process ideally should employ a multi-disciplinary team of persons to execute the necessary surveys. The Multi-Disciplinary Damage Assessment Team (MDDAT) will be comprised of representatives from the following agencies:

[List members]

DANA Committee

Key Ministries & Departments

Utilities

NGOs

7.5.1 Roles and Responsibilities

The roles and responsibilities for the MDDAT are as follows:

- Conduct the Initial and Detailed Damage Assessment
- Assess the extent of the damage and loss
- Determine humanitarian and other needs
- Identify areas for priority detailed Assessment.
- Submit completed forms on a daily basis to Damage Assessment Committee

7.6 Third Stage (NDA)

This Stage again employs the use of a multi-disciplinary team to execute the detailed assessment. The team may be the same as that used at the second stage or be expanded to include specialists in the various sectors being assessed. Their focus in the third stage is to do a more detailed assessment to include estimation of direct damages and recovery/rehabilitation costs.

Roles and Responsibilities

- To collect detailed sector information on the impact of disaster as it relates to that sector
- Estimate the overall extent and magnitude of the damage within the sector.
- Identify and classify type of damage to critical infrastructure and facilities within the sector.
- Identify, characterize and quantify populations placed at risk by the impact of the hazard
- Recommend emergency restoration/rehabilitation strategies and needs
- Reporting - 14 to 21 days (Final Report submitted at 21 days)

8.0 DAMAGE ASSESSMENT AND NEEDS ANALYSIS PROCESS

The Damage Assessment process is comprised of the following components as defined in Figure 1:

- ✓ Data Gathering and Collation
- ✓ Data Analysis, Synthesis and Interpretation

- ✓ Needs and resources quantification
- ✓ Reporting

8.1 Data Gathering and Collation

The systematic collection of details on damage from specific units (i.e. households, infrastructure, agencies, farms etc.) impacted by the hazard. This involves the deployment of the Damage Assessment teams conducting field surveys in accordance with the Standard Operating Procedures.

In order to

8.2 Data Analysis, Synthesis and Interpretation

This component focuses on the analysis of the data and provides information to the [Coordination Centre]. This information will assist with the determination of the following:

- Define and prioritize the actions and resources needed to reduce suffering and deaths;
- Identify existing local and functional response capacity;
- Anticipate future problems
- Make use of available technology for analysis and interpretation.

8.3 Needs and resources identification

This component involves the identification of the needs and resources based on the previous analysis of the data and on the type and extent of damages.

8.4 Reporting

This component involves the preparation of DANA reports and other reports at the end of each stage. The DANA reports should inform SITREPS. These reports should be disseminated to CDEMA and other regional/international organizations. The reporting will be done via the mass media, internet and other forms of information dissemination.

DANA reports are to be updated daily with the main milestones for ISO, IDA and NDA set as per **Annex C**.

INSERT REPORTING STRUCTURE AND INFORMATION FLOW (THIS IS COUNTRY SPECIFIC)

9.0 INSTITUTIONAL FRAMEWORK FOR DANA PLANNING & EXECUTION

Under the [name NDO/EOC] mechanism the responsibility for damage assessment planning is vested in the [Committee/Lead Agency].

9.1 Composition of Committee

The membership may comprise of the following:

- Ministry of Works (Roads/Bridges, Heavy Duty Equipment, Engineers)
- Ministry of Health
- Ministry of Agriculture
- Ministry of Tourism
- Ministry of Education
- Ministry of Human Development (Social/Gender Affairs etc.)
- Ministry of Housing
- Ministry of Environment
- Ministry of Finance
- Utilities (Electricity, Water, Telecommunications, etc.)
- Chamber of Commerce
- Head, Critical Facilities
- Department of Statistics
- Association of Engineers
- Districts/Municipalities Committees
- Faith Based Organisations
- Non-governmental organizations

The [Damage Assessment Committee or Lead Agency] will be responsible for administering the DANA Process on behalf of the National Disaster Organisation in [Country]. They will develop appropriate work implementation plans for activities associated with Planning, Preparing for and Executing DANA in the field.

9.2 Roles and Responsibilities of the Dana Committee

The planning and the execution of activities will be guided by the following roles and responsibilities but are not limited to.

- To devise and maintain a system for the collection and collating of data.
- To process any data about the disaster as the need arises.

- To ensure that information is collected in a scientific way.
- To develop/update assessment and report forms.
- To select assessment teams and train personnel in data collection.
- To develop and maintain data-bases necessary for support of post-disaster damage assessment, emergency response and recovery planning
- To coordinate the resources needed to rapidly assess the damage caused by a disaster.
- To prepare a report from the first stage of the damage within four to eight hours of a disaster, and a second report within forty-eight hours later along with daily SITREPS this should be consolidated after the seventh day.
- Within 21 days to assess damages in all sectors in order to produce a report to reflect cost of impact and recovery.
- To organize, staff and manage Committee Coordinating Centre and provide liaison for Emergency Operation Centre.

STAGE 1 DATA COLLECTION FORM

Event _____ Assessor _____

Date of the Event _____ Date of Assessment _____

AREAS AFFECTED

<i>Name of Village/Zone</i>	<i>Type of Impact</i>			
	<i>Flooding</i>	<i>Landslide</i>	<i>Wind Storm</i>	<i>Other</i>
<i>Affected By:</i>				

IMPACT

Sector	Yes	No	Comments
Infrastructure			
➤ Primary Airport damaged			
➤ Secondary Airport damaged			
➤ Primary Sea Port damaged			
➤ Secondary Sea Port damaged			
➤ Roads Impassable			
➤ Bridges broken			
➤ Rivers flooded			
➤ Other			
Housing			
➤ Destroyed			
➤ Major damage			
➤ Minor damage			
➤ Other			
Population displaced			
➤ Shelters opened			
➤ Private buildings, used			
➤ People in need of shelter			
Water			

Sector	Yes	No	Comments
➤ Available			
➤ Water mains broken			
➤ Pumping Stations damaged			
➤ Water Treatment Facility			
Electricity Available			
➤ Lines Down			
➤ Poles down			
➤ Emergency Generator required			
Telephone			
➤ Land Lines			
➤ Cell			
➤ Sat			
➤ Infrastructure damaged			
Health Facilities Functional			
➤ Hospitals			
➤ Clinics			
➤ Ambulances			
Casualties (if Known)			
➤ Dead			
➤ Missing			
➤ Injured			
Other Public Buildings damaged			
➤ Administrative			
➤ Residential			
Agriculture Affected/Impacted			
➤ Crops			
➤ Livestock			
➤ Infrastructure			

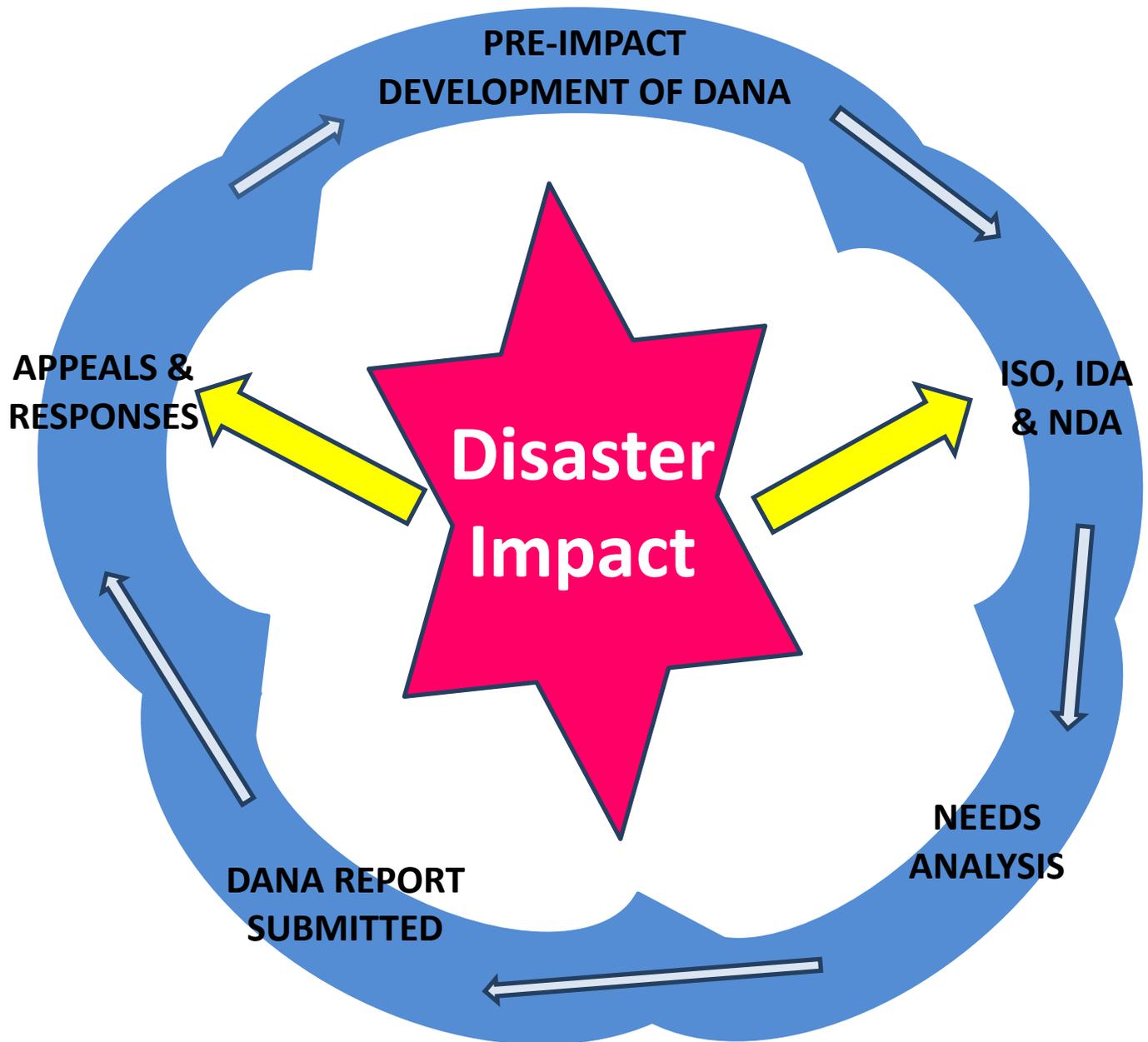
PRIORITY LIST

Tick if applicable	Needs	Comments
	Food	
	Water	
	Tarpaulin	
	Blankets	
	Medical Supplies/personnel	
	Tents	
	Containers	
	Kitchen Utensils	
	Emergency Generators	
	Heavy Duty Equipment	
	Vehicles	
	Boats	

Tick if applicable	Actions	Comments
	Search and Rescue Teams	
	Road Clearance Teams	
	Food Drops	
	Medical Teams	
	Other Experts	
	CDRU	
	RNAT	
	SUMA Teams	

Signature of Assessor

THE DAMAGE ASSESSMENT PROCESS



The Damage Assessment and Needs Analysis Process

Serial	Type of Assessment	Time Period	Purpose	Responsibility
1.	Initial Situation Overview (ISO)	4 to 8 hours after the disaster has occurred and/or the All Clear given	To provide a “snap-shot” of the situation	District/Local and DANA Committee
2.	Initial Damage Assessment (IDA)	12 to 24 hours after the disaster has occurred	To provide information on overall damages and casualties and needs to permit allocation of critical supplies in the first 24 hours after a disaster	District/Local DANA Committee
3.	Detail Sector Report (DSR)	24 to 36 hours- after the disaster has occurred	To summarize data on overall damages and casualties by sector	Sector Committee
4.	National Damage Assessment Report # 1	48 hours after the disaster	Summary of information provided over time in the ISO, IDA, DSR. It also provides more details on damages in order to continue the allocation of emergency resources	DANA Committee
5.	Rapid Needs Assessment (RNA) Report	48 to 72 hours after the disaster has occurred	To identify the priority needs and priority areas for response activity and also to provide a Priority Needs list for Donor support.	DANA Committee
6.	National Damage Assessment Report # 2	7 days after the disaster	Revision and update on the First DANA Report	DANA Committee
7.	National Damage Assessment Report # 3	14 to 21 days after the disaster	Revision and update on the Second DANA Report * This process can be repeated as needed	DANA Committee
8.	Macro Socio-Economic Report	From 21 days after the disaster has occurred	Starting with the DANA Report, a Sector-by-Sector analysis of the impact of the event is produced. Sectors are grouped into four categories: <ul style="list-style-type: none"> • Social • Productive • Infrastructural and • Environment 	ECLAC/OECS/ DANA Committee