

# Compilation of National Progress Reports on the implementation of the Hyogo Framework for Action (2009-2011)

## HFA Priority 2, core indicator 2.2:

*Systems are in place to monitor, archive and disseminate data on key hazards and vulnerabilities*

### Know the Risks and Take Action

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Reporting period: 2009-2011  
Country information as of 18 Aug 2011 (for internal use only)

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This report compiles inputs by Hyogo Framework for Action (HFA) priority for action 2.2 from 86 countries' final national HFA progress reports in order to better facilitate analysis and provide examples by priority and region. Inputs are provided in their original reporting language.

Note that these extracts are provided for convenience only and that national HFA progress reports should be considered in their entirety. To view them, visit:

<http://www.preventionweb.net/english/hyogo/framework/progress/>

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An HFA Monitor update published by PreventionWeb

# Africa

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## Algeria (in French)

### Level of Progress achieved:

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

### Are disaster losses systematically reported, monitored and analysed?

Yes

### Means of Verification:

\* No: Disaster loss database

\* Yes: Reports generated and used in planning

### Description:

Le classement approprié pour l'Algérie se situerait entre 3 et 4. En effet, pour certains types de risques, il existe des systèmes élaborés pour l'évaluation du risque et l'archivage des données y afférentes, même si la diffusion des informations nécessaires reste insuffisante.

Dans ce cadre on peut citer les exemples suivants :

- pour le risque inondations, l'existence au niveau de l'ANRH d'une banque de données hydro-climatologiques, dont une base de données spécifique aux crues sur le nord de l'Algérie et un inventaire (avec analyse) des inondations, ainsi que la diffusion de bulletins et annuaires y afférents.
- Une banque de données météorologiques existe à l'Office National de la Météorologie; le renforcement du réseau d'observation pour la mesure et la quantification des aléas climatiques est en cours. De nouvelles stations sont annuellement mises en exploitation pour améliorer la couverture et répondre aux demandes spécifiques.
- S'agissant des feux de forêts, des systèmes d'évaluation, d'archivage et de communication des informations sont opérationnels depuis de longues années. Des situations sont régulièrement établies et communiquées à différents niveaux (presse et radio). Les informations sont également disponibles sur site web de la DGF ([www.dgf.org.dz](http://www.dgf.org.dz)).
- S'agissant du risque sismique, des banques de données spécifiques existent au niveau des institutions spécialisées (CRAAG et CGS) ; elles concernent les enregistrements sismologiques et accélérométriques et les rapports post-séismiques.

### Context & Constraints:

Le défi principal réside dans la généralisation de l'évaluation, de l'archivage et de la vulgarisation, notamment au niveau local, pour tous les types de risques de catastrophes qui menacent le pays. Des progrès dans ce domaine devraient apparaître avec la mise en œuvre des volets et mécanismes y afférents prévus par la loi 04-20.

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## Botswana (in English)

### Level of Progress achieved:

2 - Some progress, but without systematic policy and/ or institutional commitment

### Are disaster losses systematically reported, monitored and analysed?

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

The NDMO with the help of District Disaster Management Committees (DDMC) collects the data on disaster impacts. The data further analysed by Central Statistics Organisation (CSO) and disseminated country wide for the reference and future planning .

**Context & Constraints:**

The NDMO still lacks a state of the art system of data collection and compilation , many sectors who are responsible to provide data to NDMO also lack capacity to collect and analyse the data.

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**Burundi** (in French)

**Level of Progress achieved:**

2 - Some progress, but without systematic policy and/ or institutional commitment

**Are disaster losses systematically reported, monitored and analysed?**

No

**Means of Verification:**

\* No: Disaster loss database

\* No: Reports generated and used in planning

**Description:**

Des pertes dues aux catastrophes sont constatées et jamais analysées.

**Context & Constraints:**

- Manque du personnel qualifié pour la collecte des données relatives aux pertes dues aux catastrophes;
  - Manque de logiciel de traitement d'informations collectées pour une planification ultérieure.
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**Cape Verde** (in Spanish)

**Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

**Are disaster losses systematically reported, monitored and analysed?**

-- Nothing reported within this timeframe. --

**Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

O Instituto Nacional de Meteorologia e Geofísica (INMG), é a instituição responsável para o acompanhamento da situação meteorológica no país, contínua sendo uma dos principais parceiros do SNPC, com o fornecimento de dados diários, relativos à situação meteorológica de Cabo Verde.

O Projecto MIAVITA, contemplou a instalação de uma rede sismográfica nas ilhas do Fogo, e Brava, e com os fundos do Estado de Cabo Verde em Santo Antão foi instalada uma rede de monitorização da actividade sísmica, colocação de um sistema de transmissão de dados, a colocação de uma rede geodésica para medição das deformações do terreno na ilha do Fogo, bem como a elaboração do draft da arquitectura do WebGIS (Sistema de Informação Geográfica com recurso a internet para a gestão do risco vulcânico). Com esta aplicação está-se a finalizar a cartografia de risco da ilha do Fogo e a modelação numérica dos vários perigos vulcânicos (queda de piroclásticos, fluxos de lava, etc...).

O Projecto Makavol prevê a instalação para o próximo mês de Março uma Rede GPS instrumental composta de 4 antenas GPS e de uma Rede Sísmica instrumental composta por 3 estações sísmicas para a vigilância vulcânica da ilha do Fogo.

Foram realizadas várias colheitas de amostras de gases vulcânicos para seguimento da actividade vulcânica, nas ilhas do Fogo, Brava e São Vicente.

Através do Projecto EMERNET com Canárias esta prevista a instalação do número Único Nacional de Emergência 112.

Existência de um Sistema de Comunicações HF para comunicação entre os Centros Operacionais de P. Civil.

Existência de uma linha verde de emergência (800 11 12).

O SNPC, Instituto Nacional de Meteorologia e Geofísica (INMG), Universidade de Cabo Verde, Direcção Geral do Ambiente, Instituto Nacional de Desenvolvimento Agrícola e a UNDP, estão a implementar o projecto SIERA (Sistema de Inventário e Avaliação do Risco), onde se prevê a criação de uma Base de Dados para os riscos maiores que afectaram Cabo Verde, a criação de um Observatório de Catástrofes, e da elaboração de um perfil de risco de Cabo Verde.

**Context & Constraints:**

O Sistema de Rádio difusão local, de Aviso e Alerta às populações da localidade de Chã das Caldeiras, ilha do Fogo, em caso de erupção vulcânica, composto por 15 grandes altifalantes, que se encontra-se instalado desde 2006, precisa de manutenção e revisão.

O Sistema interno de comunicação VHF funciona com algumas limitações, devido à orografia das ilhas bem como à falta de estações repetidoras.

Mais apoio da comunidade internacional, relativamente ao fornecimento de equipamentos adequados de alerta precoce para as principais ameaças.

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## Comoros (in French)

### Level of Progress achieved:

2 - Some progress, but without systematic policy and/ or institutional commitment

### Are disaster losses systematically reported, monitored and analysed?

-- Nothing reported within this timeframe. --

### Means of Verification:

\* No: Disaster loss database

\* No: Reports generated and used in planning

### Description:

Il n'y a pas d'évaluation systématique des dégâts suite à des catastrophes, ni d'archivage de ces informations.

Cependant, le COSEP a mis en place un formulaire d'évaluation des dégâts et a formé un certain nombre d'acteurs à l'usage de ce formulaire. Des moyens de géo-localisation des zones touchées sont disponibles, mais les procédures pour l'évaluation et l'archivage sont à préciser et le système d'archivage à identifier.

### Context & Constraints:

Les acteurs nationaux de la réduction des risques de catastrophes manquent de moyen de communication suffisants (internet, téléphone, caméra, etc.).

Par ailleurs, lorsque des évaluations sont menées suite aux catastrophes, le partage d'informations entre les partenaires nationaux est défaillant et n'est pas systématique: un mécanisme de partage d'informations et de données (procédures et outil) doit être établi au niveau national.

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## Cote d'Ivoire (in French)

### Level of Progress achieved:

2 - Some progress, but without systematic policy and/ or institutional commitment

### Are disaster losses systematically reported, monitored and analysed?

No

### Means of Verification:

\* No: Disaster loss database

\* No: Reports generated and used in planning

### Description:

Les différentes informations sur les pertes liées aux catastrophes, lorsqu'elles existent, sont disséminées dans les structures qui les collectent et ne sont pas archivées dans un système national de données environnementales qui permette de les divulguer à temps voulu.

**Context & Constraints:**

Un des défis à relever au niveau national est la mise en place d'un véritable système d'enregistrement et d'analyse des pertes liées aux catastrophes comprenant les informations sur les risques et la vulnérabilité.

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## Ghana (in English)

**Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

There are lead sectors or agencies to monitor, collect, collate and store data or information on relevant risks. Data especially on hydrometeorological and hydrological, etc risks and vulnerabilities are released on request.

Available information or data are posted on the NADMO website: [www.nadmo.org](http://www.nadmo.org)

Some hazards have been mapped to enhance monitoring and assessment of risk and vulnerability reduction.

**Context & Constraints:**

There is a great challenge in the area of data collection, processing, storage and retrieval.

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## Guinea-Bissau (in French)

**Level of Progress achieved:**

1 - Minor progress with few signs of forward action in plans or policy

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* No: Disaster loss database

\* No: Reports generated and used in planning

**Description:**

Nível de progressos atingidos :

Houve melhoramento no serviço de sistema de colecta de dados, arquivo e divulgação atempada através de boletins informativos do Serviço Nacional de Meteorologia divulgadas através dos radios também houve a reabilitação das infra-estruturas do Serviço Nacional de Meteorologia nas regiões ( Bolama e Bafata).

Questões Chaves e meios de verificação :

Existência de um sistema de vigilância epidemiológica operacional a todos os níveis do sistema de saúde, também no Serviço Nacional de Meteorologia que regista e analisa as informações de forma sistematicamente.

Existência de um Sistema de Alerta Precoce para a Segurança Alimentar e sistema nacional vigilância epidemiológica para zonas

**Context & Constraints:**

Desafios

Representatividade dos dados do Serviço Nacional de Meteorologia

Consernente a Sistema de Informação Sanitaria (SNT) / Vigilância Epidemiológica (VE) a análise e interpretação de dados sobre tudo a nível das regiões é ainda deficiente.

Recomendações :

Reforço de capacidades institucionais em termo de recursos humanos na recolha, análise, tratamento e divulgação de dados e ainda em equipamentos.

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**Kenya** (in English)**Level of Progress achieved:**

5 - Comprehensive achievement with sustained commitment and capacities at all levels

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

Systems are in place to monitor, especially after the establishment of the National Disaster Operation Centre to monitor and disseminate information on emergencies in the country, The Kenya Red Cross is also doing a wonderful job in this front with their network of everpresent volunteers to disseminate data on key hazards and vulnerability.

**Context & Constraints:**

The key constraint here is accessibility to some of the remotest parts of the country due to bad terrain and poor roadnetwork.

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## Lesotho (in English)

**Level of Progress achieved:**

2 - Some progress, but without systematic policy and/ or institutional commitment

**Are disaster losses systematically reported, monitored and analysed?**

No

**Means of Verification:**

\* No: Disaster loss database

\* No: Reports generated and used in planning

**Description:**

The Disaster Management Authority has no database because there is no equipment that can facilitate a database.

Lack of expertise is another constraint.

Lack of understanding and ownership by responsible ministries such as education, health pose a constraint.

**Context & Constraints:**

Lack of expertise, financial resource and equipment are some of the constraints.

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## Madagascar (in French)

**Level of Progress achieved:**

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

Le BNGRC est l'entité en charge du stockage des données liées aux dégâts post-catastrophes. Ces données sont analysées et diffusées au niveau de tous les intervenants (Gouvernement, Equipe humanitaire et autres) pour qu'il y ait facilité dans la prise de décision.

Actuellement, un projet est en cours dans la mise en place d'un outil d'aide à la décision. Ce projet consiste à la mise à disposition des décideurs et des acteurs de tous les paramètres nécessaires pour une prise de décision rapide. Ces paramètres sont le nombre des victimes, le pré positionnement en vivres et non vivres, les historiques des aléas, les acteurs en place et la monographie.

Les bases de données sur les dégâts seront disponibles avant la fin de cette année sur le siteweb. Cette base de données concerne les dégâts multi-aléas de 2000 à 2010.

Il faut noter par ailleurs que l'élaboration des plans de contingence sur le cyclone découle de l'analyse des chiffres sur les dégâts.

#### **Context & Constraints:**

Les données reçues et centralisées au BNGRC sont incomplètes. En effet, les données sur les divers aléas touchant Madagascar sont détenues par diverses entités (par exemple : les données sur l'invasion acridienne sont du ressort du Comité National Antiacridien ; celles sur la malnutrition et l'insécurité alimentaire en général sont détenues par l'Office National de Nutrition). En d'autres termes, fournir une base de données multi-aléas à Madagascar est encore un défi du fait que les données sont très disparates et « sectorialisées ».

Recommandations : renforcer la coordination entre ces différentes entités en charge d'un ou plusieurs aléas notamment en matière d'échange de données ; assurer la centralisation au niveau du BNGRC de toutes les données relatives aux différents aléas et leurs conséquences.

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## **Malawi** (in English)

#### **Level of Progress achieved:**

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

#### **Are disaster losses systematically reported, monitored and analysed?**

Yes

#### **Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

#### **Description:**

All disaster reports are compiled into the national disaster profile which is shared with various stakeholders. The information is disseminated to various actors through regular meetings, workshops and print and electronic media.

#### **Context & Constraints:**

A number of studies have been done on key hazards and vulnerabilities by different actors on some key

hazards. However, there are various similar databases that need to be linked to enable a comprehensive analysis of vulnerabilities and risk analysis

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## **Mauritius** (in English)

### **Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

### **Are disaster losses systematically reported, monitored and analysed?**

Yes

### **Means of Verification:**

\* No: Disaster loss database

\* No: Reports generated and used in planning

### **Description:**

Data exists mainly on tropical cyclones and to a certain extent on flash flood in terms of rainfall from a network of over 200 stations. Landslide and tsunami are hazards that have been listed only after 2004.

Quantitative data on the extent of damages caused by any hazard have not been systematically archived in a central data bank. However some data, for example in the agricultural sector exist at various institution level.

### **Context & Constraints:**

There is a need to have a central data bank on all hazards likely to affect the country. Data sharing protocols and mechanisms have still to be developed. There is also a lack of geo-spatial data.

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## **Morocco** (in French)

### **Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

### **Are disaster losses systematically reported, monitored and analysed?**

Yes

### **Means of Verification:**

\* Yes: Disaster loss database

\* No: Reports generated and used in planning

### **Description:**

En cas de catastrophes naturelles, les départements concernés par l'intervention établissent des rapports relatant le bilan des pertes humaines et matérielles.

Il est à signaler que le Centre de Veille et de Coordination (CVC) installé au niveau du Ministère de l'Intérieur et qui a pour mission le pilotage des processus relatifs à la gestion des situations d'urgence, collecte également toutes les informations relatives aux pertes humaines et matérielles. Depuis les inondations de 2008 ayant touché certaines régions du Maroc, les services du Ministère de l'Intérieur ont commencé à recenser les pertes engendrées et à tirer les enseignements nécessaires en vue de mieux planifier et se préparer aux éventuelles inondations notamment dans les zones menacées. Des banques de données et des rapports établis au niveau Ministère de l'Intérieur ont commencé à être mis en place. Des applications sont en cours de développement afin de mieux maintenir l'outil statistique.

#### **Context & Constraints:**

Tous les Département qui interviennent lors d'une catastrophes à savoir la Protection Civile, la Gendarmerie Royale ... disposent de leurs propres bases de données.

Il est à noter qu'il existe également une insuffisance des moyens techniques et un manque ressources humaines qualifiées.

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## **Mozambique** (in English)

#### **Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

#### **Are disaster losses systematically reported, monitored and analysed?**

Yes

#### **Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

#### **Description:**

With the support of UNDP, and under the Global Risk Identification Program (GRIP), Mozambique has concluded the collection of information on disaster losses across the country covering the last 30 years. As output, a disaster inventory in the form of a web database has been created and the process to collect day-to-day data on disasters losses will start soon.

Preliminary results of the inventory show that although floods and drought have been the most frequent disasters, epidemics have caused the highest death toll over the last 30 years in Mozambique. This is a typical epidemiological profile of a country with high levels of poverty and weak public sector systems, where access to health facilities, adequate health care and access to drinking water remains low, with large discrepancies between rural, urban and peri-urban households. Additionally, undernutrition remains one of the primary underlying cause of deaths in Mozambique, especially among children below 5 years of age. Among hazards, although less frequent, cyclones have been the most destructive for houses and have accounted for more than 50% of total sustained damages.

However, before the creation of this web database, Government reports have traditionally been used as the source of information of disaster losses. In the recent times, the 2000, 2001, 2007 and 2008 disasters appear as the best examples. With the exception of the 2008 disaster report, besides the physical damages (human and infrastructures), the three reports included the estimates of the financial impacts. The 2000 and 2001 disaster reports were used as the source of information for International Appeal and post-disaster reconstruction program. The 2007 and 2008 reports were used by to guide the post-reconstruction program (resettlement program) underway on the Zambezi River (Central region) and

Save River (Southern region).

**Context & Constraints:**

Two facts emerge as constraints to disaster loss data in Mozambique. First, there are limitations associated with the nature of information on the database. For instance, the web database is relatively limited in terms of time scale not allowing one to go back beyond the year 1979. However, for a country like Mozambique who is regularly affected by extreme disaster, more extensive databases are required for accurate disaster impact analyses, also integrating different indicators.

The second fact is associated with the validation of contentious data, particularly those related to deaths due to floods and droughts. Very often, indirect causes (attacks by crocodiles, boat accident or risky crossings) are always attributed to floods when occurring during the rainy season, although these events can also occur during dry season. Similarly, many local leaders tend to related with drought all the deaths of stunted children, or abandoned elderly or disabled that occur in their areas during drought years. But the officially accepted cause of death reported is that reported by the Health Authorities.

These kind of disputes were frequent during 2005 when 800 000 were reported affected by droughts across the country, and many community leaders and local authorities claimed deaths associated with hunger, against a vehement denial of Government officials. More accurate, timely, and reliable information at all levels and appropriate information dissemination to clarify how and who should be responsible to provide public information etc. Communication systems should also be improved from field to central level and vice-versa.

## **Nigeria** (in English)

**Level of Progress achieved:**

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

Apart from the implementation of the VCA, the Nigeria Meteorological Agency continues to monitor weather and climate related hazards. Equipment for telemetric measure of seismic activities and volcanic eruption at Lake Nyos have been installed.

Flood early warning systems have been established by the Ministry of Environment.

Drought forecast for the Sahel in 2010 informed the decision of the Ministry of Agriculture to expand its capacity for the National Grain Reserve.

**Context & Constraints:**

The level and scope of Monitoring need to be expanded.

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## Senegal (in French)

### Level of Progress achieved:

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

### Are disaster losses systematically reported, monitored and analysed?

Yes

### Means of Verification:

\* No: Disaster loss database

\* Yes: Reports generated and used in planning

### Description:

En 2009, l'Etat du Sénégal a commandité une étude portant sur l'évaluation des pertes, dommages et besoins post inondation (PDNA) de 2009 à Dakar la capitale et à l'intérieur du pays.

### Context & Constraints:

Les initiatives prises dans les années précédentes n'avaient pas permis de juguler les problèmes. Les inondations sont devenues un fléau au Sénégal. et elles risquent d'être exacerbées par les changements climatiques.

Les moyens financiers et la sensibilisation des populations restent les difficultés majeures.

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## Sierra Leone (in English)

### Level of Progress achieved:

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

### Are disaster losses systematically reported, monitored and analysed?

Yes

### Means of Verification:

\* No: Disaster loss database

\* No: Reports generated and used in planning

### Description:

Much progress has being made in this domain. Hazards and vulnerabilities are monitor and information is shared with communities .Hazard profile is continually being reviewed to include new vulnerabilities based on the changing times and circumstances. This information is shared in the disaster management committees nationwide which in turn disseminate the information to the people for an effective disaster management system. total loss of disasters is also being monitored, repored and annalysed by the

department in collaboration with key stakeholders.

**Context & Constraints:**

One of the major constraints is that of accessibility to some remote areas in the country.

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## Tanzania, United Rep of (in English)

**Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

**Are disaster losses systematically reported, monitored and analysed?**

No

**Means of Verification:**

\* No: Disaster loss database

\* No: Reports generated and used in planning

**Description:**

Still there is no formal centralized system for all hazards and/ or disasters data archive and disseminations, but different Sector based systems for monitoring the main natural hazards exist. Central and Local Government, Institutions, Agency and NGOs collect data relevant to their responsibilities, for example the Tanzania Meteorological Agency (TMA) provides information on weather and climate as part of early warning on drought, floods and other weather related risks monitoring in quarter basis. Ministry of Agriculture and Food Security through Early Warning Unit provides information and data on pests, rainfall for crop production, crop status and other externalities that might affect food security. The Ministry of Health and Social Welfare and Ministry of Livestock Development and Fisheries has surveillance systems to monitor human and animal epidemics. Tanzania National Bureau of Statistics (NBS) collects and disseminates data on a more regular basis.

**Context & Constraints:**

There is a process for disaster database updating and development. There is a need to improve coordination and developing data sharing protocols and mechanism.

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## Zambia (in English)

**Level of Progress achieved:**

2 - Some progress, but without systematic policy and/ or institutional commitment

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

DMMU has developed the Emergency Operations Center (EOC) which is supposed to be a depository of information related to vulnerability, risks and hazards among other things. The EOC is still being equipped so that it serves as a nerve center for the Early Warning System for monitoring identified hazards in the country.

DMMU in collaboration with the UN has developed an information platform called Zambia Emergency Preparedness and Response System (ZEPRIS). The ZEPRIS is an integrated Information system consisting of a Database System and data sharing platform developed and deployed using a Scalable Data Warehouse (SDW) as the system backbone whose main purpose is to afford all allowed user access to information that they can use for their planning and response activities. Each critical sector will be expected to contribute relevant information to this database. User trainings for stakeholders have already been conducted in Southern, Copperbelt and Western Provinces of the country.

**Context & Constraints:**

There has been difficulty in getting some data from some of the sectors.

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# Americas

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## Anguilla (in English)

**Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* No: Reports generated and used in planning

**Description:**

Will be improved with HRV assessments and R3i, GIS and Hazard Mapping Initiatives

A storm surge and wave model for a north west hurricane and not only the north east and south east paths is required.

TAOS in use for storm monitoring.

Programme in place to share risk information with large developers and this initiative is maturing.

**Context & Constraints:**

Staff, time and experience

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## Antigua and Barbuda (in English)

**Level of Progress achieved:**

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* No: Reports generated and used in planning

**Description:**

A disaster loss data base is maintained by the NODS. However more work is needed to mandate the use

of this information into the development process.

**Context & Constraints:**

Lack of adequate equipment, skills and other resources are responsible for the low level of achievement. An annual report will reflect any damage impact report in Antigua and Barbuda.

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**Argentina** (in Spanish)

**Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

**Are disaster losses systematically reported, monitored and analysed?**

-- Nothing reported within this timeframe. --

**Means of Verification:**

\* No: Disaster loss database

\* No: Reports generated and used in planning

**Description:**

Por lo mismo expuesto en el anterior ítem, se puede decir que los sistemas están habilitados, aunque el nivel de conocimiento general de la comunidad sobre esos resortes aún es escaso y, en algunos casos, hay desconocimiento sobre las fuentes de datos disponibles entre los mismos actores.

Son escasos los sistemas permanentes y metodológicamente coherentes de gestión de datos sobre amenazas y vulnerabilidades.

Por ejemplo, existe una base de datos de Argentina pública, gratuita y de libre acceso llamada DesInventar que viene registrando sistemáticamente y bajo rigurosos criterios metodológicos de recopilación nacional la recurrencia de eventos derivados en emergencias y desastres entre 1970 y 2009, pero que no es tan conocida por la comunidad.

**Context & Constraints:**

En esta línea los desafíos principales apuntan a armonizar metodologías de investigación y análisis; facilitar el acceso a la información, impulsando proactivamente la diseminación de los materiales incluyendo la interacción entre los niveles nacionales, provinciales y municipales; y su adaptación para facilitar la comprensión por personas y comunidades no especializadas.

Aprovechar los diferentes espacios de coordinación nacional (y federal), incluyendo la Plataforma Nacional de RRD, para relevar y sistematizar estos estudios o informaciones, “atraer” iniciativas no tan conocidas y facilitar un proceso de “armonización” metodológica, capitalizando el fuerte posicionamiento que está teniendo el sector académico en la RRD.

Asimismo, se pueden aprovechar los canales de distribución de información habituales, las redes existentes y las plataformas virtuales en funcionamiento para compilar y difundir estos productos.

Las Organizaciones de la Sociedad Civil (OSC) son actores fundamentales al momento de promover y facilitar el acceso de estos datos, informaciones, estudios, etc entre los niveles comunitarios

El público general necesita que los datos sean accesibles.

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**Barbados** (in English)

**Level of Progress achieved:**

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

**Are disaster losses systematically reported, monitored and analysed?**

-- Nothing reported within this timeframe. --

**Means of Verification:**

\* No: Disaster loss database

\* No: Reports generated and used in planning

**Description:**

Over the years, a number of individual agencies have compiled key data and information within Geographic Information Systems platforms, including DEM, Town and Country Planning, Lands and Surveys and Coastal Zone Management Unit. These data systems have informed limited decision making within the specific ambit of the agency managing it. In some cases, project funding enabled the establishment of the platforms but sustainability of the system was hampered due to insufficient capacity development over time to maintain databases with current information.

Some of the datasets collated such as sea level, seismic, beach profile measurements are housed in specific agencies, but not integrated for use in early warning systems.

The Emergency Management Act 2006 provides the authority for DEM to access any and all available information for DRR and disaster management purposes. While this provision will prove useful in the future, capacity within the coordinating agency does not allow its widespread utilization at this juncture.

Under the previously described coastal risk assessment and management programme, a scientifically-based integrated coastal risk data and information platform will be established, available to all sectors of the national emergency management system, and key economic sectors. Reports will be generated and management options tested. Those identified as best options will be implemented island-wide.

**Context & Constraints:**

Having already obtained the approval for the coastal risk information platform, the only constraint relates to incorporating non-coastal hazard data and information into the platform for use by key stakeholders.

The issue of limited capacity to effectively utilize the platform by key stakeholders will prevent optimal use for decision making.

**Recommendation**

Capacity must be built to ensure that all users of the risk data and information platform are able to fully utilize the available resources for decision making.

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**Bolivia** (in Spanish)**Level of Progress achieved:**

2 - Some progress, but without systematic policy and/ or institutional commitment

## Are disaster losses systematically reported, monitored and analysed?

Yes

### Means of Verification:

\* No: Disaster loss database

\* Yes: Reports generated and used in planning

### Description:

Bases de datos sobre las pérdidas que ocasionan los desastres

Existe un seguimiento por parte de Defensa Civil y que ahora se ha plasmado en los reportes sobre medio ambiente del INE. También se tiene la base de datos de 30 años preparada por el DESINVENTAR.

También existe una base de datos de por lo menos los 3 últimos años de seguimiento a nivel municipal por parte de la FAM. Lo que no hay es una difusión permanente, facilidades de acceso y la calidad del dato no necesariamente es confiable por los diferentes enfoques y metodologías que tiene cada institución.

### Context & Constraints:

Se han utilizado para la formulación de los planes de rehabilitación y reconstrucción, no así en los planes sectoriales de desarrollo.

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## Brazil (in English)

### Level of Progress achieved:

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

## Are disaster losses systematically reported, monitored and analysed?

-- Nothing reported within this timeframe. --

### Means of Verification:

\* No: Disaster loss database

\* No: Reports generated and used in planning

### Description:

: Gerenciamento de informações de riscos e de desastres através de 3 sistemas, o de Monitoramento, Alerta e Alarme- SIMA, o de Resposta, Auxílio e Atendimento à População - SIRAP e o Sistema de Informação de Desastres no Brasil- SINDESB. Os objetivos do SIMA são; permitir o compartilhamento de informações e o monitoramento de parâmetros dos eventos adversos, 24 horas por dia, em articulação com os centros de previsão (climática, hidrológica, sismológica e outros); elaborar e emitir boletins antecipados, resultando na tomada de decisão oportuna, na redução do tempo-resposta, na antecipação de medidas preventivas; e informar os órgãos do SISDEC e a população por meio de emissoras de rádio e televisão, uso de auto-falantes, e outros. Os do SIRAP: quando notificado o desastre, permitir o acionamento e a pronta mobilização dos grupos estaduais e federais de resposta aos desastres; orientar a população atingida pelo desastre sobre o modo de buscar socorro e proteção; utilizar a Rede Nacional de

Emergência de Radioamadores - Rener para suprir os meios de comunicações usuais quando os mesmos não puderem ser acionados em razão de desastre; e coordenar e alocar recursos humanos e materiais para a pronta resposta ao atendimento emergencial dos afetados por desastres. Os do SINDESB: registrar e manter um banco de dados históricos dos desastres ocorridos no Brasil, oferecendo subsídios às áreas de planejamento, operação e técnica da SEDEC e aos demais órgãos do SINDEC; e fornecer informações para consulta e elaboração de relatórios gerenciais, permitindo maior rapidez e eficácia.

**Context & Constraints:**

Promover a consolidação e a interligação das informações de riscos e desastres no âmbito do Sistema Nacional de Defesa Civil, mediante a criação de uma rede de centros de operações dos órgãos de Defesa Civil, nos três níveis de Governo, com operacionalização do CENAD 24 horas por dia e a aquisição dos equipamentos de informática e comunicação/geoprocessamento, consolidando a Rede Nacional de Defesa Civil- RENADEC.

## British Virgin Islands (in English)

**Level of Progress achieved:**

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

The Comprehensive Disaster Management (CDM) Policy and CDM Strategy and Programming Framework 2009-2013 was approved by Cabinet and is being implemented by DDM. An Information Management System (IMS) was developed to monitor, evaluate and report on the CDM Strategy and Policy. The Monitoring, Evaluation and Reporting System provides an innovative approach to improving the delivery of information, products and services related to the areas of disaster preparedness, mitigation, response and recovery. The IMS also allows for the preparation of reports for submission to Cabinet, to CDEMA and other local, regional and international entities. This database is a one of a kind application which is expected to be replicated in the region.

The DDM disseminates information through its website, monthly radio and television programs and an early warning system. Furthermore, continual monitoring of weather conditions and seismic activity is provided through acquired weather monitoring devices and through standing agreements with the Puerto Rico Seismic Network and the Strong Motion Sensor Programme at the University of Puerto Rico, Mayaguez.

**Context & Constraints:**

There is a need to complete the Hazard Atlas and it is expected that this will be achieved through the current R3i Project. Once completed, there will be further need to find mechanisms for incorporating the data and ensuring that it is widely used within the various sectors. The Atlas is expected to provide a mechanism for archived data that will be presented in a format that can be disseminated and monitored

over time.

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## Canada (in English)

### Level of Progress achieved:

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

### Are disaster losses systematically reported, monitored and analysed?

Yes

### Means of Verification:

\* Yes: Disaster loss database

\* No: Reports generated and used in planning

### Description:

Public Safety Canada maintains the Canadian Disaster Database (CDD), a repository of historical information on disasters which have directly affected Canadians, at home and abroad, since 1900. It contains detailed disaster information on over 900 disasters, mostly triggered by natural hazards, but also containing events caused by technological hazards or conflict (not including war).

This data is informed by multiple agencies and provides a publicly accessible source of information on losses incurred as a result of disasters in Canada.

A geospatial mapping component, which permits users to define their search of the CDD by using a spatially-defined area, allowing queries at any scale for better analysis of regional trends without regard to political boundaries, was developed and launched in May 2011.

In the event of a disaster or emergency impacting health, the Health Portfolio has extensive surveillance systems and networks that operate in accordance with a comprehensive plan for surveillance and monitoring within the Health Portfolio's Emergency Response Plan.

Indian and Northern Affairs Canada (INAC) has also begun tracking the number and types of emergencies that impact First Nations communities on-reserve. As more and more data is collected, the Department will be able to use these statistics to further enhance emergency mitigation policy.

### Context & Constraints:

Lessons learned and knowledge generated from evidence-based and qualitative information is used to develop improved practices, which are shared widely. After emergencies or disasters occur, a systematic approach is used to learn lessons from the experience, increase effectiveness and improve emergency management practices and processes. Recovery from a disaster may be completed by documenting and internalizing lessons learned. Continuous improvement, including incremental and transformational change, is undertaken systemically as an integral part of emergency management functions and practices at all levels, as appropriate, to minimize the recurrence of problems.

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## Cayman Islands (in English)

**Level of Progress achieved:**

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* No: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

Damage assessment conducted after each National Disaster

Incident report created for every hazard impact

National Hazard Management Executive reviews incident reports.

Major recent impacts - Hurricanes Ivan and Paloma have resulted in the production of highly detailed reports produced in conjunction with ECLAC.

Reports will be published on the website of Hazard Management Cayman Islands.

**Context & Constraints:**

More sustained effort is needed to identify the vulnerabilities exposed by each incident and to work to mitigate (and learn from) these identified vulnerabilities.

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**Chile** (in Spanish)**Level of Progress achieved:**

2 - Some progress, but without systematic policy and/ or institutional commitment

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

Según los expertos de la ONU en su visita a Chile "Aunque todas las instituciones reconocen tener buenas relaciones con ONEMI y ésta a su vez con las instituciones, no existen protocolos efectivos, canales de comunicación confiables y redundantes, lenguaje común así como tampoco la coordinación eficaz de intercambio de datos, productos e información"

Los sistemas de archivo de información y de registro no responden a criterios modernos de almacenaje.

En general la información se guarda en papel o en bases de datos que no son homologadas entre los distintos organismos. No se posee sistemas automáticos de actualización de la información. El mundo privado posee diversos sistemas de información que no están incorporados en el trabajo de las

instituciones públicas.

Los organismos no gubernamentales y organismos civiles no mantienen una comunicación adecuada con los organismos estatales en el traspaso de información, por lo que las iniciativas públicas y privadas generalmente no están coordinadas.

El organigrama del Sistema Nacional de Protección Civil no establece cadenas de mando claras, ni roles específicos para sus integrantes. El amplio número de organismos participantes en el Comité Nacional de Protección Civil hace inmanejable la convocatoria de estas, el desarrollo y manejo de información, y la generación de políticas eficientes de distribución de datos.

Las bases de datos de pérdidas generadas por desastres y los informes creados a partir de emergencias y utilizados en la planificación existen, pero aisladamente, y varían de acuerdo a la institución. No existe un organismo que unifique la información y en general los sistemas son celosos de compartir los datos obtenidos. Por ejemplo, para el terremoto del 27 de Febrero se trabajó en conjunto desde las oficinas de ONEMI con el Sistema Nacional de Información Territorial (SNIT), sin embargo una vez acabada la emergencia no hubo mayor traspaso de información, situación que se mantiene hasta hoy.

### **Context & Constraints:**

Los modelos internacionales de manejo de emergencias y reducción del riesgo de desastres dan un espacio primordial al registro, traspaso e integración de la información. El Gobierno actual tiene contemplado iniciativas que tienen por objetivo el desarrollo de sistemas unificados de información territorial.

El proceso de fortalecimiento del Sistema Nacional de Protección Civil tiene contemplado el desarrollo de bases de datos modernas. A modo de ejemplo, el Ministerio de Defensa tiene a su cargo la tarea de desarrollar mapas de riesgo o, por otro lado, ONEMI cuenta con una Unidad de Gestión Territorial que tiene por objetivo el desarrollo de Sistemas de Información Territorial y ha establecido convenios de colaboración con distintos sectores para aunar la información. (Por ejemplo hay acuerdos con la Subsecretaría de Desarrollo Regional y el Ministerio de Obras Públicas)

A estas iniciativas no se integra todavía la participación de bases de información de organismos no gubernamentales o del mundo privado.

El desafío para el país consiste en desarrollar instancias, organismos, políticas y procesos que permitan la unificación del lenguaje y el traspaso de información.

En este aspecto, ONEMI ha elaborado propuestas de desarrollo de información y se encuentra en proceso de reformulación de archivos y digitalización de documentos, los que se pretenden poner a disposición de la comunidad a fin de alcanzar estándares internacionales. Además, desde el 2011 se está en un proceso de regulación del traspaso de información con los organismos técnicos como por ejemplo el SHOA, el SERNAGEOMIN y el Servicio Sismológico Nacional.

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## **Colombia** (in Spanish)

### **Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

### **Are disaster losses systematically reported, monitored and analysed?**

Yes

### **Means of Verification:**

\* Yes: Disaster loss database

\* No: Reports generated and used in planning

**Description:**

Frente al tema de recopilación y de diseminación de datos los desarrollos son incipientes, en la actualidad la Dirección de Gestión del Riesgo –DGR- cuenta con el sistema de captura denominado “Registro de Emergencia y Calamidades”, el cual en tiempo real, una vez reportada la información por los CREPADs y CLOPADs, esta se recopila y es la base de actuación tanto para la DGR como para el Fondo Nacional de Calamidades –FNC- en la tematica de atención de emergencias y calamidades. Por otra parte, esta información solo es subsidiaria para algunos procesos de planificación, debido a que sus proceso de diseminación no es el más eficaz y apropiado para el acceso de múltiples usuarios.

De forma complementaria algunas entidades integrantes del SNPAD desde su carácter misional deben y administran cada una su sistema de información, como p.e Instituto Geográfico Agustín Codazzi –IGAC-, INGEOMINAS, IDEAM, OSSO, algunas CARs, los cuales según el nivel de información su acceso puede presentar costos y restricciones según el tipo de usuario.

Sin embargo existen muchas debilidades en la estandarización, generación, procesamiento y análisis de la información a nivel nacional, regional y municipal, lo anterior como consecuencia de una muy baja apropiación de recursos financieros, técnicos y tecnológicos.

En conclusión no todos los sistemas están habilitados para seguir de cerca, archivar y diseminar datos correlacionados en especial aquellos correlacionados a la identificación de amenazas y vulnerabilidades.

**Context & Constraints:**

La carencia de una política integral y definitiva que unifique criterios, metodologías y responsables para la generación de la información básica que coadyuve los procesos de planificación territorial para la toma de decisiones para el desarrollo.

Deficiencias y obsolescencia tecnológica que presentan algunos equipos de las instituciones encargadas de la generación y difusión de la información hacen que esta actividad presente demoras, mediana calidad y mínima capacidad para el intercambio o consulta de la información temática.

De igual forma algunas deficiencias institucionales especialmente desde la órbita técnica hacen que algunas instancias como los CREPADs y CLOPADs no cuenten con los recursos técnicos ni financieros para la generación de información para la toma de decisiones desde su que hacer, a si mismo a nivel regional (CARs), departamental y Nacional (DGR)

La inexistencia de canales apropiados para la difusión de la poca información que se genera en diferentes instancias para la toma de decisiones especialmente correlacionadas a la gestión del riesgo.

Frente a los retos, se han comenzado a generar estrategias para la producción y gestión de Información, en especial las correlacionadas a la estandarización de los parámetros que actualmente se manejan con los internacionales en pro de su implementación para la toma de decisiones.

De forma complementaria, se está trabajando en consolidar acciones y estrategias técnicas y financieras para realizar los cambios tecnológicos necesarios para optimizar los procesos de captura, procesamiento y difusión de los mismos para diferentes grupos objetivo.

Igualmente entre los retos prioritarios de la DGR esta el de la consolidación del Sistem de Información que en la actualidad emprendió un proceso de revisión y reingeniería para responder de forma eficiente y eficaz a las múltiples necesidades del país en materia de información para la gestión del riesgo.

## Costa Rica (in Spanish)

### Level of Progress achieved:

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

### Are disaster losses systematically reported, monitored and analysed?

No

### Means of Verification:

\* No: Disaster loss database

\* Yes: Reports generated and used in planning

### Description:

Se elaboran informes de seguimiento a los eventos con datos de inversión pero el costeo de pérdidas no es sistemático ni obligado.

### Context & Constraints:

La información sobre pérdida solo abarca los eventos que son decretados emergencia nacional, otros eventos carecen de estadística sobre el valor de la pérdida. Hay base de información para avanzar en este tema.

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## Cuba (in Spanish)

### Level of Progress achieved:

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

### Are disaster losses systematically reported, monitored and analysed?

Yes

### Means of Verification:

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

### Description:

La creación de los Centros de Gestión para la Reducción del Riesgo posibilitan, mediante los medios de Informática y de Comunicaciones, la creación de las bases de datos necesarias para monitorear las vulnerabilidades de cada territorio, lo cual permite tomar las decisiones más acertadas y calcular con mayor precisión las pérdidas que pueden haber ocurrido ante un desastre.

### Context & Constraints:

Las condiciones creadas por la Revolución Cubana, desde 1959, garantiza la preservación de valores

tales como acceso universal a la cultura; salud pública, educación y seguridad social para todas las cubanas y cubanos. Las limitaciones que se presentan están localizadas en la escasez de financiamiento para el desarrollo integral y sostenible del país

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## **Dominican Republic** (in Spanish)

### **Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

### **Are disaster losses systematically reported, monitored and analysed?**

Yes

### **Means of Verification:**

\* No: Disaster loss database

\* No: Reports generated and used in planning

### **Description:**

- Existen evaluaciones de daños de los diferentes eventos importantes ocurridos.
- Se elaboran informes tecnicos de las perdidas ocasionadas por esos desastres.

### **Context & Constraints:**

- Conformar una base de datos, con eje focal en un Sistema Integrado de Informacion, que registre los datos de danos y pérdidas evaluadas post eventos, incluyendo los micro desastres, de forma que contribuyan a la obtención de información agil y precisa.
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## **Ecuador** (in Spanish)

### **Level of Progress achieved:**

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

### **Are disaster losses systematically reported, monitored and analysed?**

Yes

### **Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

### **Description:**

Nivel de avance 4

La Secretaria Nacional de Gestión de Riesgos está implementando el sistema nacional de información de

gestión de riesgos, con módulos de emergencias, voluntariado, logística, formación ciudadana, análisis inicial de riesgo local, capacidades, telecomunicaciones, seguimiento de la gestión, documental, SIG.

Asi mismo se esta trabajando en el Comité Nacional de Geoinformática el mismo que ha emitido las “Políticas nacionales de Geoinformación”, y la norma DATOS GEOGRAFICOS MARCO CLASIFICACION, la Norma clasifica los Datos Geográficos Marco y establece los principios de orden y jerarquía, mediante un sistema de clasificación acorde a la realidad nacional, que sea utilizado por las Instituciones Productoras de Información que integran el Sistema Nacional de Información SNI, en el Marco de la Infraestructura Ecuatoriana de Datos Geoespaciales.

**Context & Constraints:**

Implementación y puesta en marcha del Sistema Nacional de Informacion para la Gestion de Riesgos en el país

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## El Salvador (in Spanish)

**Level of Progress achieved:**

2 - Some progress, but without systematic policy and/ or institutional commitment

**Are disaster losses systematically reported, monitored and analysed?**

No

**Means of Verification:**

\* No: Disaster loss database

\* No: Reports generated and used in planning

**Description:**

En los últimos eventos adversos sufridos en el país y a petición del Gobierno de El Salvador, a través de la Secretaría Técnica de la Presidencia, se ha solicitado una misión de evaluación conjunta de daños y pérdidas de la CEPAL, lográndose conformar un equipo de expertos y técnicos tanto nacionales como internacionales, quienes han logrado elaborar sus informes o evaluaciones conjuntas de daños y pérdidas post desastres.

El Ministerio de Obras Públicas, como coordinador de la Comisión Técnica Sectorial de Infraestructura y Servicios Básicos, lleva un registro de datos de pérdidas generadas por desastres

**Context & Constraints:**

A pesar que el Plan Nacional define la organización y sistema de control de la respuesta que el Sistema Nacional adoptara en situaciones de emergencia, esto no se cumple debido a la falta de instrumentos administrativos, que faciliten la sistematización de la información.

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## Guatemala (in Spanish)

**Level of Progress achieved:**

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

## Are disaster losses systematically reported, monitored and analysed?

Yes

### Means of Verification:

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

### Description:

Desde 2001 se tiene la plataforma informática del Sistema de Manejo de Información en Caso de Emergencia o Desastre (SISMICEDE), pero es a partir del segundo semestre 2008, que se fortalece técnicamente para que la misma permita administrar, una base de datos de daños nacional, que fortalece el inventario de desastres que en la plataforma DesInventar Guatemala actualizó hasta el 2009.

Con el SISMICEDE, se cuenta con un registro acumulado de daños y acciones de atención a la emergencia, no así los datos sobre pérdidas y necesidades postdesastre.

Se tienen identificados los territorios susceptibles de inundación y deslizamiento, información entregada a cada uno de los 333 municipios en los que se divide políticamente el país, y se generaron las capacidades técnicas en el Instituto Geográfico Nacional para realizar esta misma tarea.

SEGEPLAN ha impulsado la inclusión de la variable riesgo como eje transversal en la planificación, interesando a las municipalidades a conocer acerca del daño y pérdidas generadas por los desastres.

Con la erupción del volcán Pacaya y el impacto de la tormenta tropical Agatha en junio 2010, se realiza la evaluación de daño y pérdida postdesastre, liderado por SEGEPLAN y la SECONRED, con el apoyo interagencial de CEPAL, BID, BM y PNUD. Proceso que permite a técnicos guatemaltecos, realizar una evaluación integral de daño, pérdida y necesidad.

La comisión de Reducción de Riesgo, de la MNDGRRD, impulsó en el último año:

\* El uso del Índice de Seguridad Hospitalaria elaborado por OPS

\* Creación del Índice de Seguridad de Centros Educativos

\* Elaboración de mapas de riesgo a escala 1:25,000 ante inundación y deslizamiento en las cuencas de los ríos Madre Vieja, Coyolate, Nahualate y Suchiate

\* Evaluación de amenaza sísmica, desde el proyecto RESIS II.

### Context & Constraints:

Guatemala tiene grandes avances en el análisis, valoración y evaluación de amenazas, sin embargo solventar el desafío de analizar y sistematizar los conocimientos generados en torno a la vulnerabilidad ante desastres, establecer conceptos, definiciones e indicadores acordes a la realidad guatemalteca, es un proceso que recién en el 2009 empieza a generar sus primeros resultados.

Aunque el proceso ha mostrado grandes avances en la construcción conceptual, los intentos por la medición de la vulnerabilidad se han centrado principalmente en dos variables; la vulnerabilidad ambiental y la vulnerabilidad estructural, que aunque acortan la brecha existente entre los avances que en relación a la valoración de la amenaza se han tenido, no abordan la vulnerabilidad social, considerada una variable determinante en la disminución de la resiliencia de las poblaciones.

Otro reto considerable es la aplicación de las herramientas que para determinar el índice de seguridad en hospitales y centros educativos tiene Guatemala. Según el último censo de infraestructura escolar levantado en el año 2005 se contabilizaron 14,599 centros educativos en funcionamiento de los cuales

menos del 1% han sido evaluados; situación que el el tema de hospitales no es distante, donde unicamente eñ 9% de los 43 hospitales nacionales ha sido evaluado.

Finalmente el reto es lograr generar compromisos institucionales en los que se comprenda y se reconozca la importancia de generar sinergias en todos los procesos del manejo de información de riesgo ante dresastres; observación, monitoreo, archivo, control de calidad, análisis, sisntesis y difusión. Datos con los que permitan orientar de mejor manera las acciones que desde la implementación de la política pública para la reducción de riesgos a los desastres se impulsen en Guatemala.

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## **Honduras** (in Spanish)

### **Level of Progress achieved:**

2 - Some progress, but without systematic policy and/ or institutional commitment

### **Are disaster losses systematically reported, monitored and analysed?**

Yes

### **Means of Verification:**

\* Yes: Disaster loss database

\* No: Reports generated and used in planning

### **Description:**

Se está haciendo la compra e implementación de un sistema de información a través del cual se llevara el monitoreo de las emergencias y a traes de él se informara a todos los miembros del Sistema Nacional de Gestión de Riesgos de todos los pormenores del desenvolvimiento de cualquier emergencia o desastre.

### **Context & Constraints:**

El Sistema recién se está comprando hace falta que se implemente y se adecue a la realidad de nuestro país para ponerlo en práctica. Deberá hacerse una capacitación masiva sobre el uso del sistema y socialización de los informes que este genera.

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## **Jamaica** (in English)

### **Level of Progress achieved:**

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

### **Are disaster losses systematically reported, monitored and analysed?**

Yes

### **Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

Data is collected at the national disaster office by way of damage assessment reports in post disaster events and incident logs. The damage assessment data includes data from other sectors and specialized agencies that monitor flood gauges, flood data and landslide data and inventories.

Pre impact data is also available through hazard maps prepared by water resources authority, Mines and Geology, and the Earthquake Unit. Some of this work has been achieved through project funding.

GIS is being used more extensively for the before, during and after impact to generate pre-impact scenarios, archive and monitor data on impacts from hazards. Hazard data is also shared with other agencies using GIS.

Data on hazards and vulnerability are also disseminated from a documentation centre operated from a national level coupled with communication strategies, which are used to disseminate information on hazard vulnerability in an effort to place risk reduction issues on the national agenda.

ECLAC methodology for disaster loss assessment embedded in PIOJ - no database but data exists. Process used extensively by sectors and academia.

National Water Authority developing flood and landslide hazard mapping.

Vulnerability ranking methodology used as an analytical tool for making decisions.

LICJ collaborating with agencies to capture geospatial data.

**Context & Constraints:**

- The GIS is used to store several pieces of information. However, data is not stored in a database format which allows for easier access and analysis.
- The reports are sometimes not as comprehensive as they ought to be because of the failure of some entities to submit detailed damage assessment information.
- The documentation centre needs to function as a complete repository of hazard vulnerability data but is affected by space constraints and financial incapacity to improve current technologies.
- Limited pre-impact baseline data exists.

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**Mexico** (in Spanish)**Level of Progress achieved:**

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

Se promueve la investigación y el desarrollo tecnológico para profundizar en el conocimiento de los riesgos y las amenazas. Se ha detallado el estudio social de los desastres y sus causas estructurales.

El CENAPRED desarrolla la “Base de datos acerca del impacto social y económico que provocan los desastres en México”. Dicha base de datos, se encuentra sobre la hoja de cálculo EXCEL, sin embargo en próximas fechas cambiará a un sistema automatizado más robusto que facilite su administración. Al día de hoy, cuenta con alrededor de seis mil registros con 22 campos en cada uno: Fecha, Año, Clasificación del fenómeno, Tipo de fenómeno, Clave del Estado, Nombre del Estado, Municipios Afectados, Descripción general de los daños, Muertos, Población afectada (personas), Viviendas dañadas, Escuelas, Hospitales, Área de cultivo dañadas, Caminos afectados (Km.), Total de daños (millones de pesos), Total daños (millones de dólares), Tipo de declaratoria, Sustancia involucrada, Fuente, Observaciones, Documentado.

Asimismo y con base al Atlas de Riesgos, el sector salud ha identificado las amenazas y vulnerabilidades para establecer escenarios de riesgo en relación a las posibles afectaciones a la infraestructura de los servicios como en la generación afectaciones y riesgos a la salud que pudieran originar el desastre, según la amenaza.

Por otro lado, el Instituto Nacional de la Infraestructura Física Educativa (INIFED) continúa trabajando en el “Proyecto de Verificación Física y Documental de Obras”, con el fin de promover estrategias de supervisión nacional, a través de acciones correctivas y preventivas en la mejora de la calidad y seguridad de la infraestructura física educativa.

Cabe señalar que México se encuentra en una fase de implantación del sistema de alerta temprana, la cual tiene que ser fortalecida por todas las instituciones involucradas en la gestión del riesgo de desastre.

**Context & Constraints:**

Se continuará con el proyecto para incorporar la alerta temprana en el mayor número de municipios del país. En este sentido, el INMUJERES se ha comprometido a impulsar la participación de los institutos municipales de la mujer en el tema de gestión integral del riesgo.

Asimismo, se dará capacitación al personal del programa de acción de urgencias epidemiológicas y desastres de los 32 SESA para mejorar las habilidades de planeación y organización de la preparación y respuesta ante un desastre.

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## Nicaragua (in Spanish)

**Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

Como parte de los componentes de los sistemas de alerta temprana, se realiza mantenimiento de las diferentes redes de monitoreo hidro-meteorológicas y geológicas, además que la entidad científica técnica mantiene servicio de vigilancia las 24 horas del día, toda la semana, mediante la ejecución de un turno sismológico y meteorológico. De acuerdo a los protocolos de funcionamiento existe una comunicación permanente con autoridades correspondientes entre Secretaria Ejecutiva del SINAPRED, Defensa Civil y medios de comunicación.

Se ha avanzado en la generación de información científica técnica, mediante la adquisición de equipos e instrumentos para el mantenimiento de las estaciones de la Red Hidrométrica Nacional, contando con el financiamiento de un proyecto dirigido al fortalecimiento de la Red y del Centro de Pronóstico Hidrológico. Se ha creado el SAT de la vigilancia de la sequía en tiempo real, con estaciones telemétricas de comunicación satelital, el Ministerio del Ambiente y Recursos Naturales (MARENA) ha desarrollado el SAT de Incendios Forestales (SATIFOR) en coordinación con INETER.

Como parte de la transferencia de conocimiento de la aplicación de instrumentos, se han capacitado a más de 400 técnicos municipales sobre la aplicación de las normativas de construcción y urbanismo, desarrollado por la Dirección de Normas y Urbanismo del Ministerio de Transporte e Infraestructura. Otro avance que se tiene en Nicaragua, es que a través del fondo CERF, el PNUD ha avanzado en un plan de preparación con recursos inmediatos para hacer frente a emergencias.

**Context & Constraints:**

Igual que en el indicador 1, hay limitaciones en la transferencia de conocimientos técnicos científicos y su aplicación hacia los gobiernos locales, por otra parte las acciones de Gestión de Riesgo están distantes de ser considerados como sistemas integrales, donde estén incorporados los componentes ambientales, agua y riesgos.

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## Panama (in Spanish)

**Level of Progress achieved:**

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* No: Reports generated and used in planning

**Description:**

La Gerencia de Hidrometeorología de ETESA realiza el monitoreo continuo (24/7) de los eventos hidrometeorológicos en tiempo real utilizando diferentes tecnologías, como: estaciones hidrometeorológicas de transmisión satelital que despliegan datos en tiempo real en la página web ([www.hidromet.com.pa](http://www.hidromet.com.pa)), imágenes meteorológicas satelitales en diferentes rangos de longitudes de onda, imagen de radar (ACP), Sistema de Detección de descargas atmosféricas, modelos numéricos de predicción meteorológica, entre otros. En este caso, la información obtenida (datos e imágenes) es archivada en el banco de datos y servidores. El producto de esta información (Avisos, Boletines y Pronósticos) es diseminado al sistema de protección civil y a los usuarios en general por medio de correos

electrónicos y la web.

Monitoreo de la sismicidad a nivel nacional a través de la red sismológica de la Universidad de Panamá: en los últimos años ha aumentado el número y capacidad de registro de los sensores.

Proyecto de monitoreo iniciado en 2007 con la Universidad de Pensilvania y el Instituto de Geociencias para el seguimiento del desplazamiento de las placas tectónicas, mediante sistemas de posicionamiento global (GPS).

Monitoreo y vigilancia del Volcán Barú

Monitoreo con acelerógrafos en campo libre para medir la aceleración del suelo en caso de sismos.

Proyecto de localización automatizada de sismos.

Estos sistemas archivan y diseminan datos sobre estos eventos.

**Context & Constraints:**

Dispersión de la información.

Es indispensable aumentar los recursos económicos, mejorar las infraestructuras y seguir capacitando el recurso humano.

Falta de sistematización adecuada de las técnicas de análisis de amenaza de riesgo.

Inexistencia de formatos adecuados y homogéneos para la adquisición de datos.

**RECOMENDACIONES**

Establecer una sola base de datos a nivel nacional para la gestión de riesgo.

Crear una biblioteca virtual nacional y/o regional en el tema de gestión de riesgo.

Dinamizar los mecanismos de diseminación de datos sobre las amenazas y vulnerabilidades.

Fomentar campañas educativas para mejorar el conocimiento de la población

## **Paraguay** (in Spanish)

**Level of Progress achieved:**

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

La SEN coordina los sistemas de información y difusión de alertas tempranas, sirviéndose de datos generados por otros organismos como la Dirección de Meteorología e Hidrología, las FFAA, etc. Aún así, estos sistemas aun en un estado inicial básico, precisan de planes de comunicación, de planificación y sistematización de datos que establezcan la formación de redes entre instituciones gubernamentales, universidades, ONGs y público en general, que permitan la consulta y la difusión de información básica sobre eventos meteorológicos y amenazas.

**Context & Constraints:**

Limitaciones principales: los sistemas de comunicación para la difusión no cuentan con un respaldo ante cualquier eventualidad, y no se cumple el protocolo de comunicación y funciones, en el caso de una emergencia.

Se cuenta con buenos sistemas de recolección de información pos evento, con métodos de EDAN (evaluación de daños y necesidades). También otras instituciones como el Ministerio de Salud, el Ministerio de Agricultura y Ganadería y otros, cuentan con sistemas de evaluación de impacto y relevamiento de datos.

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## Peru (in Spanish)

### Level of Progress achieved:

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

### Are disaster losses systematically reported, monitored and analysed?

Yes

### Means of Verification:

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

### Description:

El monitoreo, registro y disseminación de información sobre daños ocasionados, se realiza a través de una aplicación informática denominada SINPAD en la cual los Gobiernos Regionales y Locales registran la información de ocurrencias de sus áreas jurisdiccionales, apoyándose en la información ingresada en el formato de Evaluación de Daños y Análisis de Necesidades – EDAN (aprobado con Resolución Jefatural N° 263-2007), permitiendo generar una base de datos a nivel nacional para las consultas del público e instancias decisorias.

El INDECI ha publicado el año 2011 el estudio: Impacto Socioeconómico y ambiental del Sismo del 15 de Agosto de 2007, que ha sido realizado adoptando la metodología establecida en el Manual para la Evaluación del Impacto Socioeconómico y Ambiental de los Desastres, propuesta por la Comisión Económica para América Latina y el Caribe (CEPAL 2003).

Las instituciones científicas cuentan con sistemas de monitoreo permanente a nivel nacional de las principales amenazas y los diseminan periódicamente.

Existen iniciativas desde organizaciones internacionales en cooperación con entidades nacionales que vienen trabajando en el diseño de escenarios de vulnerabilidad frente a sismos en varias ciudades importantes del país.

En el Perú como el resto de los países que hacen parte del CAPRADE y que han aprobado la Estrategia Andina para la Prevención y Atención de Desastres - EAPAD se ha concertado la elaboración de un inventario histórico de desastres, ocurridos durante los últimos 30 años.

Se ha implementado un Centro de documentación virtual para la Gestión de riesgos y la prevención de desastres.

Los sectores vinculados especialmente con la respuesta como educación, salud, infraestructura de transportes y comunicaciones, producción, vivienda, protección de derechos y asistencia social, en general utilizan la Información disponible en el SINPAD y en los EDAN regionales y locales.

El Sector Salud cuenta con bases de datos sobre las pérdidas ocasionadas por los desastres, la Dirección General de Epidemiología que actualiza a nivel nacional la información de enfermedades de obligatorio

cumplimiento como son las IRAs, EDAs, Neumonías, enfermedades metaxenicas y otros; también se cuenta con datos relacionados con la infraestructura sanitaria.

**Context & Constraints:**

El mayor reto es obtener información en tiempo real para disponer la atención oportuna y adecuada; las limitaciones identificadas se evidencian en la disponibilidad de recursos técnicos y permanencia de recursos humano capacitado, así como la correcta evaluación de daños, especialmente a nivel de Gob.Reg. y Locales.

Es importante establecer lineamientos gales., para la implementación tecnológica y permanencia del recurso humano capacitado; que facilite el acopio y diseminación de información sobre daños por emergencias o desastres.

Se necesita mayor difusión de la información que generan los sistemas de monitoreo.

El conocimiento y la utilización del Sistema de Información para la Prevención y Atención de Desastres (SINPAD), del Centro de documentación virtual para la Gestión de riesgos y la prevención de desastres y del Inventario Histórico de Desastres, por parte de las autoridades y técnicos de los Gobiernos Regionales y Locales, es restringido.

El INDECI realiza evaluaciones de las pérdidas ocasionadas por desastres. Se cuenta con bases de datos sobre amenazas, daños y pérdidas proporcionadas por INDECI y algunas instituciones (INGEMMET); no se ha elaborado una estrategia para que esta información sea trabajada adecuadamente, ni se ha propuesto oficialmente el empleo de la metodología establecida en el Manual para la Evaluación del Impacto Socioeconómico y Ambiental de los Desastres propuesta por la Comisión Económica para América Latina y El Caribe (CEPAL 2003) que el INDECI viene utilizando. Hace falta, en los actores locales mayor capacitación, información e identificación en el proceso de administración de información de desastres.

Para superar esta problemática se requiere efectuar un mapeo, lo que permitiría identificar si la solución pasa por: capacitar, dotar de equipos de computo o por que la ampliación de las líneas de telefonía e internet llegue a la localidad

## **Saint Kitts and Nevis** (in English)

**Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* No: Disaster loss database

\* No: Reports generated and used in planning

**Description:**

A Disaster loss database (mainly hard copy files) is maintained and disaster losses are reported, monitored and analysed. The reports generated are used for planning purposes.

**Context & Constraints:**

The Database is not systematic. Data is normally collected post event. There is need to move to establish electronic databases as a matter of policy.

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## Saint Lucia (in English)

### Level of Progress achieved:

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

### Are disaster losses systematically reported, monitored and analysed?

No

### Means of Verification:

\* No: Disaster loss database

\* No: Reports generated and used in planning

### Description:

The Saint Lucia Met Service (SLMS) provides a 24 hour weather monitoring and forecasting service supported by the National Hurricane Center in Miami and other regional and international weather institutions and networks. The SLMS maintains an archive of weather data collected from multiple manned and automatic platforms in various time scales (minutes, hourly, daily, etc). Comprehensive archive of local effects e.g. floods level and area, extent of wind damage (area and severity) etc need to be established. Weather data is disseminated on various networks in accordance with established regulations. Improvements in local dissemination are necessary especially in real time.

The Seismic Research Centre (SRC) based at the University of the West Indies in Trinidad monitors seismic (volcanoes and earthquakes) activity in Saint Lucia. There are 7 seismic monitoring stations on the island. The SRC archives seismic data which is available online. A local database/archive of seismic activity would improve the current system.

Work towards establishing a Tsunami Early Warning System is currently ongoing at the local, regional and international level. A Tsunami National Focal Point and Contact Point have been identified and efforts are ongoing for establishing community level warning mechanisms and protocols, which should be completed soon. Currently there are two wave and sea level monitoring stations within Saint Lucian territorial waters one of which is owned by the French government. Data from these sensors is expected to all feed into the Global Tsunami Monitoring Network.

The Ministry of Agriculture, Animal and Plant Quarantine Department has a system in place to deal with biological risks.

The Ministry of Health has a surveillance system in place for monitoring for infectious diseases.

### Context & Constraints:

Comprehensive national multi hazard database / archive should be established with protocols and mechanisms to inform the local and regional DRR effort.

Mechanisms for the systemic research, recording and analysis of the hazards which have impacted Saint Lucia and the impacts of these hazards need to be established.

Effort should be made to encourage Saint Lucian graduate and under-graduate students to undertake research focused on disaster mitigation, response and preparedness.

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## Turks and Caicos Islands (in English)

### Level of Progress achieved:

1 - Minor progress with few signs of forward action in plans or policy

**Are disaster losses systematically reported, monitored and analysed?**

No

**Means of Verification:**

\* No: Disaster loss database

\* No: Reports generated and used in planning

**Description:**

There is a disconnect with any reports that are produced and their implications for various agencies, often resulting in reports not being fully utilized in the planning process

**Context & Constraints:**

Given the resources limitations in comparison the agency workloads, follow through on various aspects of any report can prove difficult. Any changes that are to be made must be taken over time to allow for institutional absorption of the information.

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**United States of America** (in English)

**Level of Progress achieved:**

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

Under the Stafford Act and other legislative mandates, responsibility for monitoring and issuing alerts for individual hazards is delegated to specific federal agencies. Significant capabilities exist for monitoring networks, data archiving and rapid dissemination to provide situational awareness for emergency responders and the public at large. For example, the Department of Transportation (DOT) operates the Crisis Management Center (CMC) 24/7 to provide situational awareness of the U.S. transportation system. Through the CMC, senior leadership is notified in near-real-time of any major events impacting the transportation system, ranging from major surface transportation accidents to aviation incidents. The CMC increases resilience of the network by providing accurate information to key decisions makers on the potential need to execute DOT's authorities in response to major incidents.

Data and information are disseminated by several federal agencies and programs, such as FEMA's Risk MAP tool. Additional investments for monitoring, archiving and disseminating data on key hazards have

been identified in the Grand Challenges for Disaster Reduction implementation plans developed by the NSTC Subcommittee on Disaster Reduction (SDR).

Also, multidisciplinary analysis is conducted after hazard events so that lessons learned may inform future hazard mitigation and land use planning. The U.S. National Institute of Standards and Technology has established a Disaster and Failure Studies repository for disaster and failure events to identify common vulnerabilities to which hazard mitigation strategies and technologies can be developed to reduce risk. As part of this program, post-disaster studies provide a unique environment to help determine the causes of failure and valuable data that will help design professionals improve the resiliency of infrastructure and to improve disaster risk reduction through changes in design, materials and building codes and standards.

#### **Context & Constraints:**

While multiple U.S. federal agencies monitor, archive and make available a significant amount of hazard loss information, the United States does not have a single national, integrated database covering multi-hazard losses. Currently, the closest thing to an integrated national loss inventory is the Spatial Hazard Events and Losses Database for the United States (SHELDUS), developed by the University of South Carolina with funding provided by the National Science Foundation. The U.S. academic community has called for the creation of a more comprehensive integrated national loss inventory and the development of consistent and comparable, locally-based vulnerability assessments to improve information for decision-makers. Creation of these tools would require considerable investment and steps to scrub private citizen information from data.

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## **Venezuela, Bolivarian Rep of** (in Spanish)

#### **Level of Progress achieved:**

2 - Some progress, but without systematic policy and/ or institutional commitment

#### **Are disaster losses systematically reported, monitored and analysed?**

Yes

#### **Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

#### **Description:**

Venezuela cuenta con sistemas que monitorean, analizan, archivan y diseminan la información sobre sus principales amenazas, hidrometeorológica y geológica a saber. El INAMEH tiene en su haber una “Sala de Pronósticos Meteorológicos”, dónde se realiza el monitoreo de las condiciones meteorológicas, con el propósito de elaborar el pronóstico del tiempo que será ofrecido a la población. Además, se cuenta con una base de datos hidrometeorológicos, actualmente en proceso de actualización y modernización; herramienta que proporcionará información para la elaboración de estudios climáticos e hidrológicos de carácter preventivo.

La DNPCAD, en cooperación con la Federación de Rusia, está ejecutando el CENAPRAD, un componente científico-técnico de la ONPCAD, cuya misión es “recabar, procesar, analizar, registrar y difundir la información relativa a riesgos y desastres para contribuir a su reducción (...)”. El centro, que estará enlazado permanentemente con todos los sistemas generadores de información sobre amenazas de

origen natural y antrópico del país y los sistemas de alerta temprana, tiene entre sus funciones difundir la información a las instituciones, autoridades y a la población, oportuna y eficazmente.

Como apoyo a las funciones del CENAPRAD, se instauró en Venezuela el Sistema de Inventario de Desastres (DESINVENTAR), promovido en nuestro país a través del proyecto PREDECAN de la Comunidad Andina y la Unión Europea, que permite almacenar información sobre características y efectos de desastres de origen natural y antrópico, con énfasis en el ámbito local, ocurridos en nuestro país desde el año 1530 hasta la actualidad. Así mismo, está a disposición de las instituciones y la comunidad la Biblioteca Virtual para la Prevención y Atención de Desastres (BIVAPAD) que organiza, recopila y disemina información para la mejora de los procesos de gestión de riesgos, en el país y en la región andina. La información que brindan ambas herramientas se encuentra disponible en el sitio en internet de la DNPCAD.

**Context & Constraints:**

- No existe un mecanismo para la difusión de información, de manera oportuna y eficaz, entre las instituciones que estudian las amenazas y vulnerabilidades, y de éstas a la comunidad organizada.
  - Mejorar los procesos administrativos para la difusión de la misma.
  - Estudio sobre las vulnerabilidades.
  - Avanzar en la instauración de BIVAPAD y capacitar al Recurso Humano.
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# Asia

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## Bangladesh (in English)

### Level of Progress achieved:

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

### Are disaster losses systematically reported, monitored and analysed?

Yes

### Means of Verification:

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

### Description:

Disaster Management Information Centre (DMIC) has been established and anchored at Disaster Management and Relief Bhaban which are connected with district and sub-district level offices. Systems have progressively evolved to monitor, archive and disseminate key hazards information including cold wave, fog, nor'wester and high temperature by BMD and Bangladesh Space Research and Remote Sensing Organization (SPARRSO). BRAC has established 5 micro-climatic weather stations to support BMD. Early warning for flash flood & key location specific flood warning is underway supported by CDMP of DMRD. CPP also expanded 5 new upazilas in west coast with support from CDMP & covered to a total 37 upazilas. CPP modify 130 HF & VHF wireless stations in isolated islands & chars in 37 costal upazilas with support from American Red Cross. Limited progress has been made in designing indicators, data collection and analyses of vulnerabilities, though specific aspect exists such as flood related vulnerability and poverty monitoring, including location, specification on base line poverty for better understanding the coping capacity. An ongoing project led by BBS/World Bank/WFP is updating poverty maps, which would be used as one input for risk assessment at pre-crisis situation. During the reporting period, significant amount of research-based information generated on vulnerability of number of high risk districts by GoB and NGOs, which is used as a basis for a systematic monitoring of vulnerability. Early warning information generation dissemination has considerably been improved and further attention is required for wider dissemination at community level. Geological Survey of Bangladesh (GSB) has taken initiative with support from Government of Norway to strengthen its capacity for geo-hazard identification and mitigation.

### Context & Constraints:

Vulnerability as an important element in disaster management is increasingly been recognized for practices in recent time in Bangladesh. A national system remains underdeveloped to monitor vulnerabilities to different hazards especially the social, economic and environmental vulnerabilities which are linked to disaster impacts. However, much of the information needed for monitoring exist with different agencies often on different websites. There are current efforts by DMB to create a web portal through the DMIC to centralize this information focused on hazards and disasters. Substantial progress has been made for DMB's DMIC in delivering information. It is easily accessible through the internet; there must also be a system for the local level planners (DMCs) to access that information base who do not have internet facilities.

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## Brunei Darussalam (in English)

**Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* No: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

Public demand for weather-related data has expanded the function of the Met Department, leaving some gaps unfilled. .

**Context & Constraints:**

Review recent disaster experience towards making improvements; establish inter-departmental task force or work group to deal with data management

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**Georgia** (in English)**Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

National Environmental Agency (NEA), is dealing with all natural hazards (except the earthquake), determines location and extension of the disasters as well as the caused losses and damages (losses of people and economy damages) through the cooperation with governmental bodies &#8211; ministry of Agriculture; ministry of economy and sustainable development, ministry of regional development and infrastructure but there is no database manageable and accessible via local IT network of NEA. The data transfer is still manually made although it is made in digital form or on paper.

M. Nodia Institute of Geophysics together with Ministry of Environment Protection and Natural Resources compiled the natural disaster database for 12 disasters which needs farther replenishment and GIS-based hazard maps of Georgia for 12 kinds of disasters and preliminary maps of risks for seismic hazard.

Georgian legislation envisages local self governing unites obligation to provide disasters statistics.

**Context & Constraints:**

The data base of diverse hydro meteorological and hazardous geological processes, extension of the disasters as well as the caused losses and damages is incomplete, because no coordinated cooperation between corresponding organizations and communities.

Creation of integrated database within the NEA as the first presumption for the Integrated Early Warning of Natural Disasters in Georgia is recommended.

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**India** (in English)**Level of Progress achieved:**

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

Technical Organisations are identified by Government of India to monitor, archive and disseminate data on key hazards .

India Meteorological Department-Cyclone, Earthuakes, Rainfall.

Central Water Commission- Flood data and informations relating to various dams and dam bursts.

Geological Survey of India- landslide informations

Ministry of Agriculture- drought related informations

National Spatial Data Infrastructure, Indian National Centre for Oceanic Information Services (INCOIS), Indian Institute of Remote Sensing(IIRS),National Remote Sensing Agency( NRSA)and Indian Space Research Organization (ISRO) are other such organisations which provide spatial informations on various hazards and disasters.

**Context & Constraints:**

Limited capacity in loss modeling and interpretation of hazard informations to estimate the potential risks. While Situation/Damage Reports are generated on a regular basis in a post disaster situation there is a need to analyse the informations to estimate the loss

Limited use of the hazard informations and disaster database while designing long term development programmes.

There is a need to enhance the data sharing protocols and mechanism at national and state Level.

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## Indonesia (in English)

### Level of Progress achieved:

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

### Are disaster losses systematically reported, monitored and analysed?

Yes

### Means of Verification:

\* Yes: Disaster loss database

\* No: Reports generated and used in planning

### Description:

The system to monitor, store and disseminate hazard and vulnerability data has been available in government technical Ministries/Agencies in many areas to cover remote areas. All kinds of media and information technology have been used in information dissemination, including the radio, mass media, short message service broadcast and social networks such as the Facebook and Twitter. Although the reporting format and type of information available are not uniform, based on the needs of the different government agencies, the difference does not affect significantly dissemination of information. BNPB has recently developed the Indonesian Disaster Data and Information (Data dan Informasi Bencana Indonesia/DIBI) but it has yet to be maximally utilized by the different state ministries.

### Context & Constraints:

One of the constraints faced is that the integration of all early warning systems hosted by the different government agencies has not been optimal. Moreover, there has not been any legal instrument that could serve as an umbrella that regulates the policy related to the monitoring, storing and dissemination of disaster data. Data facilities and infrastructures also need to be improved, besides the human resources tasked with the management of disaster data and information.

The DIBI system developed by BNPB needs to be improved and socialized in a more rigorous manner. The government also needs to develop inter-sectoral integrated network that will engage all the ministries and agencies in the provision of hazard and risk information, if possible through the existing DIBI system. Policy needs to be formulated to enhance the implementation of the DIBI system and strengthen coordination among institutions. Budget allocation from the national budget is needed as well as support from other donor organizations to enhance the DIBI system, including through the provision of facilities, infrastructures and the required human resources. Moreover, guidelines for risk mapping have yet to be formulated so that DM institutions in the regions will be able to support risk sensitive development planning.

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## Japan (in English)

### Level of Progress achieved:

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

### Are disaster losses systematically reported, monitored and analysed?

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

The observation, analysis and dissemination systems are in place for data on climate-related hazard, earthquake and tsunami, volcanic eruption, and river-related hazard covering for all of Japan's national territory. They help to grasp the situation of the disaster early on and promote information sharing among relevant organizations, thereby enabling quick and appropriate decision-making for emergency response operations.

Furthermore, the national government has been currently developing Disaster Information Sharing Platform, a common information sharing system with a standardized information format, where various disaster information provided by ministries and agencies, local governments, relevant organizations and residents, can be posted and freely accessed by all.

In addition, the Cabinet Office has started examination for standardization and utilization of disaster risk information since 2008, in order to make disaster risk information "visible" and promote development of environment where everyone can share such information.

**Context & Constraints:**

Intensive use of urban space such as expanding of underground space, and increase of living areas below sea level and high-rise buildings, brought us unprecedented vulnerabilities and risks. The aspects should be further understood by the public to take effective action.

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## Lao People's Democratic Republic (in English)

**Level of Progress achieved:**

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

**Are disaster losses systematically reported, monitored and analysed?**

No

**Means of Verification:**

\* Yes: Disaster loss database

\* No: Reports generated and used in planning

**Description:**

The Department of Meteorology and Hydrology within the Water Resources and Environment Administration (WREA) is responsible for data collection of hydro meteorological, weather and earthquake data. It is also in charge of flood and weather forecasting and dissemination. Lao PDR has a nation wide hydro meteorological network that would benefit from being upgraded. Key stations are being improved with support from the MRC Secretariat (MRCS) through the Appropriate Hydrological Network

Improvement Project (AHNIP) and the Mekong Hydrological Cycle Observing System (Mekong HYCOS).

The National Disaster Management Office (NDMO) has been implementing two projects under the thematic area of risk assessment and disaster information management. Those are

- a) Establishment of Disaster Information Management System (EDIS) Project of LANGOCA Program
- b) Development of National Risk Profile Project under the project cooperation with UNDP

The EDIS project is being implemented under the Laos Australia NGO Cooperation Agreement (LANGOCA) by NDMO, ADPC and Save the Children Australia. The project is built on web based system (DisInventar) previously tested in Sayaboury province under a pilot project implemented in 2008 - 2009. This Disaster Information Management System was proven effective in Sayaboury province and commenced implementation at national level in 2010.

ADPC have trained the NDMO and key office from line ministries concerned who in turn will train PDMC and DDMC staffs for gathering and inputting of information to the data base thus allowing potentially for a comprehensive nation wide DRR/DRM information data base and will provide particularly useful for NDMO historical collections on information, such as flood data dating from 1966 held although the Lao government will need to dedicate resources to this project to ensure data is gathered and input in a timely manner to produce the maximum benefit.

IASC uses the cluster approach to collect data and manage information and although initiatives are ongoing, no comprehensive data gathering, collating and storage system is in place to date. The vast majority of International organizations and INGOs in Lao PDR collect hazard and disaster related data to assist with individual programmes and projects, with some advanced GIS programs being utilised at the district levels to assist communities with mapping, although there is no uniform or consistent and comprehensive reporting system available.

#### **Context & Constraints:**

Constraints:

Different information systems are available in different organizations and although initiatives are made to share information through the IASC and NGO `disaster `management Group the majority of data collected is for individual organisation and INGO project purposes and more coordination on sharing information amongst the stakeholders in the country needs to take place. While the DisInventar web based data system could be the answer to the collection and access to historical and contemporary disaster information, the NDMO lacks the human and information technology capacities to meet the requirements to put the system into place to allow for a comprehensive national monitoring and dissemination of hazard and vulnerability information data base. Furthermore cooperation should be fostered between WREA and NDMO as well as among other line ministries concerned to ensure all relevant disaster data is recorded on DisInventar.

#### **The Way Forward**

Provision of resources to the NDMO to fund personnel and information technology dedicated resources to the DisInventar database would assist the Lao government in its DRR/DRM efforts. Liaison between WREA & NDMO and other line ministries relating to availability and subsequent input of historical and contemporary disaster related data provides a planning tool that is imperative to the enabling of all government departments planning and budgetary purposes. Furthermore, while this information collection and management tool is a government owned initiative, a coordination mechanism for data sharing can be useful way for word so that respective data sources can be organized and capitalized to their maximum potential.

**Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

**Are disaster losses systematically reported, monitored and analysed?**

No

**Means of Verification:**

\* No: Disaster loss database

\* No: Reports generated and used in planning

**Description:**

There are currently some systems in place for key hazards, including earthquakes and weather changes. However there are no systems in place for vulnerabilities.

An international mechanism to evaluate forest fire risks is currently in place .

In addition, a disaster loss database is in the process of being aggregated and compiled.

**Context & Constraints:**

Recommendations include:

- Setting up individual databases for each hazard
- Establishing a website on hazards that is readily accessible to the public
- Designating an authority on this matter
- Allocating specific funds for hazards and risks

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## Malaysia (in English)

**Level of Progress achieved:**

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

**Are disaster losses systematically reported, monitored and analysed?**

-- Nothing reported within this timeframe. --

**Means of Verification:**

\* No: Disaster loss database

\* No: Reports generated and used in planning

**Description:**

There are several monitoring systems in place for specific hazard. Through the National Slope Master Plan, the Public Works Department established systems for monitoring landslides risks and hazards information. The Malaysian Meteorological Department is continuously monitoring seismic waves, sea level changes and severe weather events as well as haze and drought situation in the country. Atmospheric models have been applied for Quantitative Precipitation Forecasting to enhance reliability and accuracy of forecast, and run in three river basins of Peninsular Malaysia (Pahang, Kelantan & Johor River basin) to provide real-time flood warning and emergency responses in a convenient lead time.

**Context & Constraints:**

There is a need to have more monitoring networks for seismic, sea level, weather observations as well as more efficient dissemination networks and good cooperation from the mass media. The dissemination of information in a timely manner is crucial to ensure that vulnerable communities and responders are promptly informed to enable them to take necessary actions.

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## Maldives (in English)

**Level of Progress achieved:**

2 - Some progress, but without systematic policy and/ or institutional commitment

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

MMS monitors the weather patterns of Maldives and an SOP has been formulated, which specifies the procedures to follow and how to disseminate early warning during hazards and disaster events. DNP is working on the establishment of a GIS system in Maldives, and the progress has to be found out. MMS has two main networks to monitor Meteorological and Seismic hazards. Meteorological network is equipped with 5 synoptic stations, 3 tide gauge stations and 20 automatic weather stations. Seismic network is linked with global seismic network to monitor earthquakes across the region. It has two broadband seismometers, one in the north and one in the south. One short period seismometer is installed in the central. MMS continuously monitors sea level data from local and regional tide gauges as well as DART buoys deployed in the region.

**Context & Constraints:**

Two employees from MMS gained some training about GIS with a trail period working system. The system needs to be upgraded with adequate training.

Statistical downscaling of Climate Modeling is to be carried out my MHE with support from RIMES.

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## Mongolia (in English)

**Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

**Are disaster losses systematically reported, monitored and analysed?**

No

**Means of Verification:**

\* No: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

Currently Mongolia has no disaster loss database. The disaster related data of Mongolia of the last decade has been analyzed, based on which the possible hazards, accidents, and losses for 2009 have been forecasted. The possible hazards and risks have been evaluated based on these forecasts and recommendations have been issued for their prevention.

Within the framework of the research work to determine the general trend and outlook of the hydro-meteorological hazards, the trend, outlook, and possible effects on the population of the strong windstorm, which is one of the major types of meteorological hazards in Mongolia, have been determined and geographically plotted on a map, based on the analysis and integration of all daily logs of the hazardous phenomena that occurred in Mongolia during the period of 1999-2008. As a result of this research, a scientific article titled “The impact of strong winds and storms on the general population” has been delivered to the public attention.

The researchers of the Disaster Research Institute have published a “Compilation of the Hazardous Events and Accidents that occurred in Mongolia in 2000-2009” to help determine any regularities, order, and trend in the geographic coverage and timing of hazards and disasters to optimize disaster management measures.

The data of the hazards, accidents and disaster that occurred in Mongolia in the past decade have been geographically logged into a map. This research has yielded a report titled “Study on the Impact of Certain Hydro-Meteorological Hazards in Mongolia”.

Data on the incidences of contagious human and livestock diseases that occurred during the period of 1999-2008 have been consolidated by provinces, months, and seasons, and mapped geographically yielding useful a database. In addition, the website of the Disaster Research Institute [www.disasterinfo.mn](http://www.disasterinfo.mn) has been created.

**Context & Constraints:**

Lack of financial resources. Firstly, foreign grants could resolve the obstacle. Secondly, the issue should be presented well to the Government for the necessary resources when the situation of the state budget is improved in the near future.

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**Nepal** (in English)

**Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* No: Reports generated and used in planning

### **Description:**

Department of Mines and Geology disseminates information about earthquake to media houses within half an hour of occurrence of earthquake. However, there is no system in place to monitor, archive and disseminate information about other hazards such as landslides and floods. Earthquake risk mitigation project of Government of Nepal carried out detailed earthquake hazard and vulnerability analysis of Kathmandu (2002) and this is the only substantial information on earthquake risk mitigation of Kathmandu valley available so far. Similarly, Department of Water Induced Disaster Prevention (DWIDP) has prepared Water Induced Disasters hazard map of 10 major basins in Nepal.

There are no community level vulnerability assessments carried out for any type of disasters in Nepal. GoN with support from UNDP/ICIMOD conducted Community Risk and Vulnerability Assessment of eight Village Development Committees (VDCs) representing three physiographic regions - the middle mountains, the inner Terai, and the Terai. There are some scanty information on earthquake vulnerability for few cities (Kathmandu, Lalitpur, Ilam) from independent studies. However, for other disasters, there is neither comprehensive information about level of hazard nor about the vulnerability.

### **Context & Constraints:**

Nepal lacks systematic and scientific database system about hazards, vulnerabilities and risk at macro and micro level. Few agencies at the central and district levels regularly publish and disseminate disaster related information. However, transparent and effective systems to monitor and archive of disaster related data are still to be put in place. Similarly, as of now the focus to collect information at any level is only limited to any disaster occurrence or post disaster situation.

Nepal has substantive number of community and local radio stations and print media. Nepal has established mobile phone network all over the country. Effective media management will be an effective tool for collecting hazard and vulnerability information and disseminating relevant information to the communities at risk. However, media involvement is so far limited to disseminating information of the event.

### **Recommendations**

It is important to develop a policy in collaboration with Telecommunication, Media and Journalists for effectively using the reach of media and telecommunication network for information collection, sharing and dissemination for the communities at risk. Involvement of the communities for collection, compilation, processing and disseminating information not only ensures usefulness of the information but also contribute towards sustainability of the approach.

The effort is required to enhance capacity of media persons to report disaster issues effectively by providing orientation, awareness and capacity building training at least once each year in each of the five regional centers. Awareness creating, sensitizing and capacity building of media in disaster risk reduction is necessary for effective use of the reach of media to the society.

It is equally important to develop standard data collection process and ensure collection of timely and reliable data has to be through an institutional basis. Local authorities, school teachers and media persons will be effective medium of collection and dissemination of disaster information.

**Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

**Are disaster losses systematically reported, monitored and analysed?**

-- Nothing reported within this timeframe. --

**Means of Verification:**

\* No: Disaster loss database

\* No: Reports generated and used in planning

**Description:**

With regard to the systems of monitoring of hazards and archiving and dissemination of data on hazards and vulnerabilities, Pakistan can be ranked at level two. Although, Pakistan has a fairly reasonable system of collecting, archiving and disseminate data on hydro-meteorological hazards through the Pakistan Meteorological Department, WAPDA and Federal Flood Commission but the same needs to be streamlined to ensure timely dissemination of data/information to the communities. However, a national comprehensive system needs to be put in place to monitor, archive and disseminate data encompassing all hazards and supported by a comprehensive compatible IT infrastructure. The completion of the National Composite Risk Assessment Exercise alongwith development of compatible IT infrastructure, would allow Pakistan to develop a system for monitoring of hazards and efficient dissemination of data for effective disaster management.

**Context & Constraints:**

The major challenge being the lack of local capacities on account of expert human resources and application of modern technology to develop a comprehensive system for monitoring, archiving data and disseminating information down to the community level. Substantial investment on account of time and resources is required to develop sytemic mechanisms supported by compatible IT infrastructures and trained human resources. However, the resource scarcity being faced by the Government is a major stumbling block in implementing the national policies and strategies on this account.

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**Sri Lanka** (in English)**Level of Progress achieved:**

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

The DMC has developed a web based data portal on disasters from 1974.

Data on disasters collected from newspapers are revalidated with actual records from districts before publishing on the website. A mechanism is available to update data with the assistance of divisional offices. The EOC of the DMC collects data, which is entered into the database on a daily basis. Information on relief and reconstruction assistance is also available.

A similar system is available for event based and routine surveillance of communicable diseases.

A study on damage and loss assistance was initiated after severe floods in Western and Southern Province in 2010. A training module is being developed to improve the capacity of officials from respective sectors to undertake the assessment after future disaster events.

**Context & Constraints:**

Records on damage and loss data and relief provided are kept in Government offices only for about five years; therefore, such data is not available in Government offices for validation prior to 2005 in most cases.

Officers are experiencing difficulties in using the database without assistance. Planning Officers need to be trained as to how data could be analysed.

Non-availability of a proper mechanism for sharing of data within agencies

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## Syrian Arab Republic (in English)

**Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

The database for hazards is being analyzed to be used in the future regional planning, also work is under going on improving coordination and cooperation between various stakeholders to unify and develop databases to reflect the requirements of all parties.

**Context & Constraints:**

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## Thailand (in English)

**Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

**Are disaster losses systematically reported, monitored and analysed?**

-- Nothing reported within this timeframe. --

**Means of Verification:**

\* No: Disaster loss database

\* No: Reports generated and used in planning

**Description:**

Thailand by responsible national agencies has systems in place to monitor, archive and disseminate data on key hazards and vulnerabilities, such as tsunami, landslide, telemetering for flood, and earthquake. Besides, we also set up the community-based systems to monitor flashflood and landslide in the risk prone areas. The information dissemination are providing in the manual, CD-Rom, web-site and other channels. The data base development and updating is accordance with the user requirement. Besides, the warning messages, the data of hazard and vulnerable areas are existed and developing for real time forecasting.

**Context & Constraints:**

Though systems are available, in times of increasing and wider impact of disasters, the existing systems are not able to effectively mitigate the impact. Besides, most of people living in risk areas are not yet well aware of the risk. They sometimes do not follow the warning or instruction from the authorities. As per government side, information on risk and hazards are not friendly for lay people and users. The development of data base is required the commitment, skills, resources and participation of all sectors to fulfill the goal of safer community. All agencies concerned are preparing mapping individually and we are requiring expertise to update the hazard mapping. Therefore, it is necessary to integrate the resources and designate the function clearly together with provide training course for users at all levels.

The amount of early warning equipments for tsunami/earthquake are limited and are not covering all areas such as seismic stations, warning towers and buoys in the Andaman Coastal. Moreover, the maintenance costs are very expensive under limited budget and the limitation of officers to 24 working hours for monitoring the disaster situation. The media does not recognize how severely of disaster when it receives the warning messages they are not disseminate messages immediately.

The recommendation is to develop dissemination to autonomic and continually. In addition, human development capability is essential for warning system and urges the understanding with media for advance forecasting.

**Yemen** (in English)

**Level of Progress achieved:**

2 - Some progress, but without systematic policy and/ or institutional commitment

**Are disaster losses systematically reported, monitored and analysed?**

No

**Means of Verification:**

\* No: Disaster loss database

\* No: Reports generated and used in planning

### **Description:**

Losses are announced after the occurrence of the disaster. Reports and follow-up analysis are implemented by most of the governmental directions in an ad hoc independent way on the level of each sector, based on the efficiency and responsibility of this direction. Decision-makers show their concern by the subject and analysis of those reports ends by mandating and compensating residents for their property to recover after the disaster. The concerned direction gives requirements, and it could be a personal initiative by traders, while the rest of the related directions, the importance of such information depends on the responsibility of that direction and its duties towards the disaster. Within the two past years such reports began to develop into plans gathered in the MPIC, especially after the disaster of Hadramout, but it lacks the database on disasters.

And there is a little advantage from the seismic risks information and mechanisms of its updating. The availability of methods of controlling or monitoring requires achieving the objective of availability. Information is monopolized sometimes.

By UNDP:

- Establishing a (DMIS) Database in NDMU
- Yemen Base map for GIS system complete.

As a regional initiative from UN-ISDR and UNDP Disaster data collection established recently .IT department started to collect disaster data in Yemen which happened in the last 30 years, those information will be integrated with the available GIS system base map during project's DesInventar, use project server in IT department as the main disaster database server in Yemen.

National authorities and particularly the Prime Minister's Office are taking the lead to ensure that DRM is mainstreamed into national development planning. As a result of a shift from a reactive to a proactive approach to risk management, DRR measures are leading to more systematic risk identification and assessment.

### **Context & Constraints:**

- Dispersion of data and information, and the weakness of investigation and scrutiny.
- Inefficiency of collection, analysis and dissemination of data methods.
- The absence of historical information.
- Overlapping of responsibilities and lack of coordination.
- Indifference and negligence about the importance of information as soon as the disaster disappears.
- Delaying of the implementation procedures.
- Lack of experience or lack of efficiency as well as lack of systems and equipment needed to accomplish the task.
- Scarcity or the lack of adequate financial allocations of funding and in a timely manner.

Specific environmental problems are usually dealt with using a mix of policies consists of a variety of tools, monitoring, control, economic instruments and tools for persuasion. The effectiveness and efficiency of economic instruments depend always on the macroeconomic policy mix. The perfect tool should achieve its purpose with the lowest possible cost and at the same time helps to improve the efficiency of resource use, increases productivity and economizes in scarce resources (such as capital, skills and management). It is also desirable that the tool should encourage change towards development and builds technologies that are more efficient and less wasteful for production. In this regard, transitional priorities of the country clearly prefer cost efficiency and flexibility of economic instruments on the harshness of unit-cost tools for command and control, and regular meetings can operate to update the data and exchange of experiences.

Data sharing is not a common practice, hindering the development of national risk reduction and resilience.

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# Europe

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## Armenia (in English)

### Level of Progress achieved:

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

### Are disaster losses systematically reported, monitored and analysed?

Yes

### Means of Verification:

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

### Description:

The national complex evaluation of risk promotes acceptance of rational decisions in the field of planning and development.

In particular in Armenian Rescue Service (ARS) of the Ministry of Emergency Situations of RA the elaboration of documents has been executed:

“The basic directions of increase of stability of functioning of economy in emergency situations”, “Social-economic problems of emergency situations and the system analysis of an exit from emergencies”, “The qualitative and quantitative evaluation of damages of consequences of emergency situations and settlement mechanisms of increase of readiness of economy to functioning in emergency situations”.

Achievements in the field of institutional adherence of the country to reaction to various dangers and its social, economic and ecological vulnerability have found reflection and support in legislative base of the state and special governmental orders of RA:

- Laws of RA – “On population protection during emergency situations” - 02.12.1992., “On Seismic protection”-12.6.2002,

- Government decisions – “On Conception on assistance state policy during emergency situations” (N 726 from 19.11.1998); “On statement of an order of elaboration, examination, coordination and statement of general layouts of cities and rural communities” (N 609 from 02.03.2003); “On works on evaluation of damages caused by emergencies to buildings and constructions, being in state ownership” (N 753 from 14.08.2010); “On resettlement of tenants from inhabited emergency buildings” (N 130 from 05.03.1999); “On order of the organization of the urgent assistance to the population at droughts, other acts of nature and technical accidents” (N 248 from 13.03.2008).

Especially it is important to note the performance of researches by a complex evaluation of influence natural-technical disasters on activity in the field of town-planning development of territories and certification of safety of before erected buildings.

It is important to note the work of National service of seismic protection of Ministry of Emergency Situations of RA under the recommendation of increase of stability and operational reliability of buildings in the cities Gyumri, Vanadzor, Kapan on the basis of tool definition of physical characteristics of bearing constructions of buildings, and also seismicity with recommendations about strengthening of constructions: 46 schools of Yerevan were examined for assessing exploitation risk with granting of recommendations on vulnerability reduction (2005-2007).

For complex evaluation of DRR on vulnerability of buildings and constructions from natural-technical emergencies the Ministry of urban development of RA (2008) has developed the following national

standards and methodical positions:

- A study guide on realization of researches of a technical condition, seismic and operational safety of inhabited and public buildings;
- Certification of buildings and constructions;
- Statement about researches of industrial buildings and constructions.

Armenia is a small highland country with a sharp continental climate; mountain and foothill sites occupy over 70 % with her geodynamic types of territory. Geodynamic position, high irregularity relief and seismic conditions promote display of dangerous natural-technical processes.

Marking the fruitful work of the Center of monitoring of Department on protection of the population and territories of ARS of the Ministry of Emergency Situations of RA on gathering, generalization and the timely analysis of a condition and threats from dangers and risks of natural and man-made accidents, it is necessary to note that the Monitoring Center needs technical re-equipping and thanks to the “ Program of preparation for disasters and strengthening of national capacities on risk reduction” UNDP, the program “Creation of the observant centre for natural disasters” is carried out that will undoubtedly increase the capacities of Monitoring Center.

**Context & Constraints:**

The complex evaluation of multiple-factor synergetic connected processes and risk management is an important state problem.

It is important to note that the negative evaluation of dangers on the territory of the Republic is carried out practically everywhere as in respect of the natural phenomena in natural-technical system, and in respect of technical filling. Qualitative evaluation of damages caused by dangerous processes is in stage of the stage-by-stage solution in each continuous geological display.

## **Bulgaria** (in English)

**Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* No: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

Chief Directorate Fire safety and Civil Protection has a National Operational Communication and Information center that is gathering all data related to hazards and disasters and support the decision makers.

Use of system RAMO and RODOS;

Integrated system for emergency management, developed database for resource security of the country

**Context & Constraints:**

not applicable

## Czech Republic (in English)

### Level of Progress achieved:

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

### Are disaster losses systematically reported, monitored and analysed?

Yes

### Means of Verification:

\* No: Disaster loss database

\* Yes: Reports generated and used in planning

### Description:

Special projects analyzing recent losses caused by bigger floods have been launched by the government after each such event showing some gaps, losses and also proposals for future avoiding drawbacks encountered. The reports dealing with evaluation of these floods could not be attached as they are larger than 8 Mbytes.

### Context & Constraints:

Financial constraints can limit the scope of such projects.

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## Finland (in English)

### Level of Progress achieved:

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

### Are disaster losses systematically reported, monitored and analysed?

Yes

### Means of Verification:

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

### Description:

The Finnish Meteorological Institute is a research and service agency under the Ministry of Transport and Communications. The Finnish Meteorological Institute produces high-quality observational data and research findings on the atmosphere and seas. The Institute uses its expertise to provide services that promote public safety and enhance wellbeing among people and in the environment.

Finnish Meteorological Institute

- observes the physical state, chemical composition and electromagnetic phenomena of the atmosphere

- observes the physical state of the Baltic Sea and the Arctic sea area
- produces information and services about the past, present and future states of the atmosphere and seas
- conducts high-standard research in the fields of meteorology, marine sciences, air quality, space physics and earth observation
- carries out competitive commercial activities, based on expert services, both in Finland and abroad
- takes an active part in national and international cooperation
- actively disseminates information about matters associated with the atmosphere, seas and near space
- foresees changes and responds quickly to changes in the environment and to changing expectations.

The Finnish Environment Institute (SYKE) supports water protection and water resources management by multidisciplinary research, by collecting information and by developing assessment tools and sustainable solutions to issues of water supply, wastewater treatment especially in scarcely populated areas, hydraulic construction, and utilization of water resources. SYKE is also responsible for the monitoring and assessment of the quantitative variations of water resources, the status of surface and ground water bodies and various biological variables.

Changes in the status of waters are examined from a holistic perspective. The results of our research are used in socioeconomic evaluations of water-related issues and in making decisions concerning these issues. Among the most frequently used information services of SYKE are the nation-wide hydrological reports, forecasts and warnings which are based on extensive database material and on hydrological models.

#### Accident Investigation Board

The Accident Investigation Board investigates all major accidents regardless of their nature, including all aviation, maritime and rail accidents or incidents. Investigation report is prepared each time. The report also presents the recommendations, based on the conclusions of the investigation. All reports are written in Finnish with English summaries. An English version is prepared from significant reports.

#### **Context & Constraints:**

The basic monitoring, archiving and dissemination system are in place.

## **Germany** (in English)

#### **Level of Progress achieved:**

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

#### **Are disaster losses systematically reported, monitored and analysed?**

No

#### **Means of Verification:**

\* No: Disaster loss database

\* No: Reports generated and used in planning

#### **Description:**

The "Federal Office of Civil Protection and Disaster Assistance" (BBK) runs a "German Emergency Planning Information System" (deNIS IIplus: see link) together with various partners from all areas of

disaster management. It includes information about hazards (and other dangers), vulnerabilities and risks, but is not completed and currently does not attempt to address climate change risks. In its recently improved version - deNIS IIplus - it also delivers information for civil protection/disaster management (see detailed description in Priority 5). The DWD provides extensive weather forecasts and data through its Satellite Application Facilities and seeks to warn the public and the relevant authorities in case of an extreme weather event. Therefore, the DWD has reached an administrative agreement with the Federal States (Laender) in the areas of storm and thunderstorm warnings and water management. The prediction and consultation headquarters (Vorhersage- und Beratungszentrale: VBZ) in Offenbach is responsible for nationwide information, while the regional headquarters in Essen, Hamburg, Leipzig, Munich, Potsdam and Stuttgart each handle regional warnings. The DWD is currently working on a national warning centre to be established by 2010. The "Federal Environment Agency" (UBA: see link) and its "Competence Centre on Global Warming and Adaptation" (KomPass: see link), aim to identify future regional impacts of climate change and proactive adaptation to mitigate or at least minimize future losses.

Forest fire statistics are available for the whole country, although under the jurisdiction of the Federal States (Laender). At the federal level, statistics are compiled and distributed to key agencies and are publicly available on the website of the Global Fire Monitoring Centre (GFMC: see link). In some states, forest fire defence maps have been developed. The flood centres and local authorities, including responsible members of the fire brigades, collect data about hazards and vulnerabilities.

The NatCatSERVICE of the "Munich Re Group" (see link), with more than 26,000 data set entries, is one of the world's largest damage databases for natural disasters. Between 700 and 900 events are detected and analyzed annually. As a direct result, magnitude and intensity of single damage events can be documented in different regions of the globe and be approached for regional and global danger analyses as well as to examine trends.

The "Helmholtz Research Network" (see link) also provides data on natural disasters in its "Natural Disasters Networking Platform" (NaDiNe: see link).

### **Context & Constraints:**

The challenges for deNIS and the "Joint Hazard Estimation of the Federal States (Laender) and the Federal Government" consist mainly of issues related to a lack of common understanding or appraisal of impacts: which losses are taken into consideration (e.g.: (1) capital stock risks such as damage to residences, lifelines/utilities, crops; (2) environmental risks, such as water/air/land pollution, loss of biodiversity; (3) economic risks, including reduced tax income or increased government expenditures, financial loss to government/business/residents; (4) social and cultural risks, including loss of life or injury and illness, loss of residence, decreased quality of life; (5) institutional and policy risks, such as liability, damage to reputation, increased distrust of government). Therefore experts from all areas of disaster reduction and management (including Public Private Partnerships) are integrated into a standardised structure that is currently in the process of development.

Furthermore, the precipitation prognosis of the DWD must be improved to be able to provide enhanced high water predictions and secure early warnings, the use and utility of statistics and fire defence maps to reduce wildfire risk has to be improved, and an open access rule for providing stakeholders with data needed for adaptation has to be established.

One of the DRR related activities of GRC is to ensure effective early warning on the community level (community based early warning). Therefore GRC and its partner national Red Cross / Red Crescent society are training local emergency committees on early warning and distributing early warning equipment. Furthermore the Red Cross movement concentrated on linking this community based emergency committees with governmental officials, who are observing natural hazards (meteorological department, regional Red Cross branches, national Red Cross headquarters). This linkage is essential to

ensure effective local warnings.

Related links:

NaDiNe [http://nadine.helmholtz-eos.de/intro\\_en.html](http://nadine.helmholtz-eos.de/intro_en.html)

Helmholtz Gemeinschaft <http://www.helmholtz.de/>

Muenchener Rueck <http://www.munichre.com/en/homepage/default.aspx>

Global Fire Monitoring Center (GFMC) <http://www.fire.uni-freiburg.de/>

Bundesanstalt Technisches Hilfswerk (THW) <http://www.thw.bund.de/>

Kompetenzzentrum Klimafolgen und Anpassung

[http://www.anpassung.net/cln\\_046/DE/Home/homepage\\_\\_node.html?\\_\\_nnn=true](http://www.anpassung.net/cln_046/DE/Home/homepage__node.html?__nnn=true)

Umweltbundesamt (UBA) <http://www.umweltbundesamt.de/index-e.htm>

deNIS IIplus - deutsches Notfallvorsorge-Informationssystem

[http://www.denis.bund.de/ueber\\_denis/index.html](http://www.denis.bund.de/ueber_denis/index.html)

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## Italy (in English)

### Level of Progress achieved:

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

### Are disaster losses systematically reported, monitored and analysed?

Yes

### Means of Verification:

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

### Description:

Comprehensive risk assessments are carried out at the different levels of the system under the responsibility of municipalities, provinces and regions, with a strong support given by the National level. The National Civil Protection Department has the responsibility to provide the whole system with guidelines and directives concerning how risk assessments have to be conducted, made available and circulated from one level to the others. These measures are provided through National forecasting and Prevention Programmes. The Regional Administrations are then responsible for translating the National guidelines into Regional Programmes in which roles and responsibilities of lower-level administrations are defined together with information exchange procedures. Provincial and municipal risk assessments are strongly related, since risks very often fall across the boundaries of two or more municipalities. In these cases, the coordination role played by the Provinces, or by inter-municipal cooperation bodies, is critical.

### Context & Constraints:

Experience has shown that, even if standardization and notification procedures have been set, there are still gaps in timing and quality of risk assessments made by small villages, due to lack of resources and difficulties in recruiting skilled personnel. A number of initiatives have been undertaken in order to face this problem, with some success.

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## Norway (in English)

### Level of Progress achieved:

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

### Are disaster losses systematically reported, monitored and analysed?

-- Nothing reported within this timeframe. --

### Means of Verification:

\* No: Disaster loss database

\* No: Reports generated and used in planning

### Description:

There are several systems established to monitor, archive and disseminate data on key hazards. One example is the work on climate change adaptation, where a dedicated secretariat disseminates and coordinates across sectors and administrative levels.

Another concept for disseminating information to the citizens is the project on a new webportal which may be a "one-stop shop" for citizens for risk information. A preliminary version is up and running, a final version will be launched in 2011.

The Norwegian Water Resources and Energy Directorate (NVE) maps and monitors flooding and landslide risks throughout the country. In case of an event, they issue warnings to the areas affected.

There are also local systems for monitoring hazards and disseminating risks to the public. Examples are associated with landslide risks in Western Norway, and industrial risks in the Grenland area.

### Context & Constraints:

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## Poland (in English)

### Level of Progress achieved:

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

### Are disaster losses systematically reported, monitored and analysed?

Yes

### Means of Verification:

\* No: Disaster loss database

\* No: Reports generated and used in planning

### Description:

Disaster loss data base is not dedicate to the private possessions but only to losses in infrastructure within

government and self governments.

**Context & Constraints:**

Improvements are required in the part of the losses dedicated to the private possessions.

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## Romania (in English)

**Level of Progress achieved:**

2 - Some progress, but without systematic policy and/ or institutional commitment

**Are disaster losses systematically reported, monitored and analysed?**

-- Nothing reported within this timeframe. --

**Means of Verification:**

\* No: Disaster loss database

\* No: Reports generated and used in planning

**Description:**

Several monitoring and warning systems are in place, such as: National Seismic Network, National Integrated Meteorological System and Integrated Water Management System (WATMAN). These systems provide early warning of major events to the authorities and to the population.

In order to improve some of these systems, in 2006 a feasibility study has been conducted in order to develop a system which ensures field data collection, validation and processing, information dissemination and decision-making process regarding earthquake events. Moreover, the Integrated Information and Decision System for Water Disasters (DESWAT) is being implemented

**Context & Constraints:**

Some projects require further funding and more human resources in order to be completed

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## Sweden (in English)

**Level of Progress achieved:**

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

All municipalities report annually to the MSB regarding emergencies that have occurred. Statistics are compiled for each municipality in the country and comparisons are made in the form of graphs and tables. The compilation of this data comprises the national emergency services statistics which is published every year. There is also a database where information about injuries is registered. The Civil Protection Act requires that investigations are conducted after emergencies. As a result of these investigations there is data about the types and causes of accidents and emergencies as well as how they can be handled. In addition the MSB has developed and updates a national natural hazards database which can be accessed from the UNISDR's Prevention Web site. The Swedish Geotechnical Institute maintains a landslide database.

The Swedish Forest Agency has decided on a national standard procedure for preparedness for events that can cause extensive damage to forests. This agency has also developed a standard procedure for an indicator system designed to capture trends in biological injury in the forest. The MSB has developed a national information system called, Fire risk - Forest and Land, for municipal fire brigades and County Administrative Boards. This is used to assess the risk of vegetation fires. The system is available on the Internet. It contains, for example, information about how the weather can affect the risk level for vegetation fires. The system provides basic data for prevention work and can also assist in decision-making during emergency response operations.

The Swedish Meteorological and Hydrological Institute collects observational data and climate model data nationally and is responsible for quality control. The Mapping, Cadastral and Land Registration Authority of Sweden, has established a national database of satellite data called Saccess. It provides data for non-commercial use at no cost and contains historical data sets from the 1970s, 1980s, and the millennium year 2005 as well as annual comprehensive national data sets from 2007. This government agency has also built up a new national elevation database with output from laser scanning, starting in 2009. The agency also participates in European Union projects for risk and crisis management, most recently in the SAFER project, starting in 2009.

**Context & Constraints:**

Limited resources but not fully adequate are available for monitoring systems, archives, and dissemination of data.

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## Switzerland (in English)

**Level of Progress achieved:**

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

**Are disaster losses systematically reported, monitored and analysed?**

Yes

**Means of Verification:**

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

Cantons are legally obliged to maintain event cadastres, i.e. records of past disasters. These databases, established by the Federal and Cantonal authorities, provide important information for the elaboration of hazard maps. Hazard and risk assessments are carried out according to systematic procedures, technical guidelines, tools and methods.

A Swiss flood and landslide damage database exists since 1972 with annual publications. Also insurance companies record disaster losses. After major disasters, the Federal authorities usually carry out in-depth event analysis, which are available for the broad public.

**Context & Constraints:**

Some Cantons provide internet-based access to the hazard maps in their territory. At Federal level, a system, which allows a nation-wide overview on hazard maps, is being established.

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## **The former Yugoslav Rep of Macedonia** (in English)

**Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

**Are disaster losses systematically reported, monitored and analysed?**

No

**Means of Verification:**

\* No: Disaster loss database

\* No: Reports generated and used in planning

**Description:**

Substantial achievement has been attained regarding the regular, systematic, appropriate processes for dissemination and archiving of data, as well as the monitoring of risks, with special focus on the seismic activities and floods in the country and the region.

NPDRR serves to improve the production of regular, timely, systematic dissemination of data and risks monitoring. A thematic working group on early warning is established.

Merging of the emergency call centers of the police, ambulance, firefighters and State Operation Center(SOC, located at CMC)into one Emergency Call Service 112 as part of the E-112 System. In this regard, the Early Warning and Alert System(part of the SOC, and, as such, is to be thoroughly reconstructed and modernized in the implementation process of the E-112 system.

Implementation of national GIS network is underway, and will enable spatial positioning and predicting possible hazard scenarios. Once completed, GIS will be available online.

Seismic monitoring and disaster forecasting is performed by IZIIS in the fields of: (1)Strong motion network; (2)Special Site Monitoring - 3D Strong Motion Array; (3)Large scale qualitative and quantitative vulnerability, damage and loss assessments for defining preparedness and emergency response needs.

Seismological Observatory systematically monitors seismic activity on the territory of the Republic and Balkan seismic active regions. For the purpose of prevention and protection as well as for scientific and educational purposes, instrumental and macroseismic data are collected, archived, analyzed and published in seismological bulletins and catalogues as part of international seismological data exchange. Observatory

deals with seismic zonic, microseismic zonic, geology, engineering seismology, Urban plan, construction, rules for aseismic construction, ecology and software for many different problems in seismology; many local and international projects; permanent seismological researches.

HMS is the representative governmental institution for hydrometeorological monitoring, data management, weather forecasts and early warnings.

**Context & Constraints:**

The E-112 system, including GIS network, is still to be fully implemented and put into use. To further this end, it is important to authorize the National Coordinator for Implementation of NPDRR to monitor the activities of E-112 implementation.

The Law on electronic communications obliges IT and Telecom operators to make their network and infrastructure available to the state for the purpose of rapid dissemination of info in case of large accidents and disasters.

Furthermore, in order to correctly monitor hazards, it is essential to develop three sets of methodologies:

(1) risk assessment and risk consequence assessment methodologies;  
(2) risk mapping methodology, based on theoretical knowledge and models, as well as on historic data of the specific event, should (with a high level of probability) confirm the:

- location (answering the question: WHERE?);
- circumstances leading to the phenomena implying risk (answering the question: HOW?);
- expected intensity (answering the question: HOW MUCH / TO WHAT EXTENT?).

(3) risk monitoring methodology (and practice) which can indicate a potential accident or disaster risk. In the context of an occurring accident or disaster, rapid assessment methodology is very important because it should provide:

- damage and threat rapid assessment;
  - rapid needs assessment.
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# Oceania

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## Australia (in English)

### Level of Progress achieved:

4 - Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

### Are disaster losses systematically reported, monitored and analysed?

Yes

### Means of Verification:

\* Yes: Disaster loss database

\* Yes: Reports generated and used in planning

### Description:

A number of Australian Government agencies monitor and analyse disasters and resultant losses and have developed systems and databases to facilitate this. These include:

- Geoscience Australia monitors earthquakes in Australia and the region and provides alerts to Australian Government agencies; its Sentinel 'hotspots' website provides information on fires for emergency and fire management agencies and the public.

- the Australian Tsunami Warning Centre operates 24 hours a day, 7 days a week, to detect and verify tsunami threats to Australia; and

Other systems in operation or under development, include:

- the development of open source natural hazard risk models and information to make available to stakeholders (government, research agencies and the public), in support of disaster prevention, mitigation, preparedness and vulnerability reduction;

- an open source hydrodynamic modelling tool that has underpinned tsunami hazard assessments in Australia;

- an open source earthquake risk model that will underpin the release of the next version of the Australian earthquake hazard map, as well as disaster risk reduction activities in Indonesia;

- an open source tropical cyclone risk model that underpins the National Wind Risk Assessment and disaster risk reduction activities in the Philippines;

- sharing natural hazard risk information and fundamental data, examples include: the Australian Flood Studies Database; providing online access to aggregated data from the National Exposure Information System; and an updated version of the Australian earthquake hazard map;

- a tsunami impact modelling workshop for Australian and State government emergency management agencies;

- workshops with Indonesian agencies to develop the next Indonesian national earthquake hazard map;
- workshops with technical agencies in the Philippines to investigate flood and tsunami, tropical cyclone, severe wind hazard and impact; and
- tsunami impact assessments in the Pacific.

**Context & Constraints:**

At the Australian Government level, there is no one, central disaster-loss database.

The reporting, monitoring and analysis of disaster losses is primarily the responsibility of the government of the State or Territory in which the disaster occurs. It is understood that various systems are in place to achieve this, across a number of agencies, and that such analysis informs the planning processes in those jurisdictions.

While there are some hazards that are common across jurisdictions, such as those arising from climate change, many are not. The impacts of the hazards, and therefore the priority that communities and governments may give to responding to them, also varies between jurisdictions.

Organisations and agencies in the disaster resilience arena, and related arenas, are increasing efforts to collaborate to identify common areas of concern and where combined resources may be efficiently utilised.

The analysis of disasters and resultant losses is also undertaken by non-government bodies, such as insurance industry professional bodies and insurance companies.

The Australian Government Crisis Coordination Centre connects all relevant Australian Government and jurisdictional agencies to centralise an Australian Government response to domestic crises and the domestic implications of an international crisis, in order to develop a single, timely and consistent picture or understanding of a crisis, its implications and the national capacity to respond. In the event of an international crisis the Centre will also contribute to the Department of Foreign Affairs and Trade’s Interdepartmental Emergency Task Force.

A number of Australian Government agencies also operate centres or facilities to assist with the monitoring and response to hazards across the all hazard spectrum. Details of a number of these are included in this report.

**Cook Islands** (in English)

**Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

**Are disaster losses systematically reported, monitored and analysed?**

No

**Means of Verification:**

\* No: Disaster loss database

\* No: Reports generated and used in planning

**Description:**

The Frontline Emergency Response Network (FERN) offers the opportunity to standardize best-practice inclusive assessment methodologies, by establishing standard templates that call for quantitative data disaggregated by age, gender, disability and geographical location, and qualitative data that includes consultations with the most disadvantaged community members. This would ensure that analyses of disaster risks and impacts, as well as impacts of relief and response programs, adequately considered the situation of the most vulnerable.

**Context & Constraints:**

A significant challenge identified is coordinated data management. Currently, no disaster database/information system exists. This stems from the past when no particular agency was fully responsible for DRM and there was often confusion which agency was in charge as agencies had different roles in preparedness, response and recovery. EMCI is currently in the process of developing a disaster database DRM being its responsibility.

Currently, data is frequently gathered in multiple incompatible formats, and not always shared with those with a need to know. Significant gaps exist, both in historical disaster information and in projecting potential impacts of future hazards. Information is frequently lacking on the situation in the Outer Islands, as transport limitations lead to infrequent visits to these islands and consultations with their residents.

FERN, once populated with data and maintained, has the capacity for effective inter-agency information dissemination, and clear provision of checklists, assigned to various agencies, in response to different hazards. It includes a template for communication to the media which should help to resolve conflicting information being spread at the time of a disaster. Ongoing and strengthened investment in community education and preparedness could result in faster and more appropriate responses to a range of hazards, as seen when increasing community awareness of tsunami response protocols resulted in faster and safer evacuation practices during tsunami warnings.

**Fiji** (in English)

**Level of Progress achieved:**

2 - Some progress, but without systematic policy and/ or institutional commitment

**Are disaster losses systematically reported, monitored and analysed?**

No

**Means of Verification:**

\* No: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

Information is not readily accessible for there is no centralized point or database where hazard/risk information is monitored and archived. DRM data sets are spread across departments and NGOs without a national inventory. Some data sets as with Statistics and Planning are not available to the general public.

The development of a national risk exposure database has started. The Pacific Disaster Net it is not yet widely used by national stakeholders.

Systematic dissemination of information becomes a problem given such a spread of sources.

Each agency keeps assessment data mostly for in-house use in planning for response, rehabilitation and development. All sectors submit their development proposals to the Development Sub-committee for approval based on set standards and checklists. DRR is addressed in this process but there is no monitoring system.

Key sector lead agencies are very proactive. Water & Sewage assesses disaster losses in water supply systems; Health assesses and monitors disease outbreaks; the Seismic Unit in MRD maintains an earthquake hazard event database; and Met Office a cyclone event database. Such information kept in key agencies is accessed in EIA processes to assist with incorporation of DRM measures. In practice the integration of assessment information happens with Town & Country Planning (covers urban & rural areas, not squatters) the authority that gives ultimate approval for development interventions.

Community profiles are put together for each village/settlement. This is spearheaded by Health with NGOs support. Community focal points forward information to the provinces where profiles are developed and updated through monthly questionnaires on key baseline in the communities and used for development planning and response work.

There is no systematic policy for monitoring, archiving and disseminating data on key hazards and vulnerabilities. Commitment exists and concerted efforts are being made to improve progress in terms of this indicator.

#### **Context & Constraints:**

Generally there is still difficulty to differentiate between Hazard Assessment (HA) and Damage And Loss Assessment (DALA), perhaps from insufficient understanding of the subject of DRM. As noted in Core Indicator 1 there is no common approach or standardized methodology across the sectors for assessing hazards and vulnerabilities. It is the same weakness in impact assessment of disasters which record direct loss assessments and have not included indirect losses and information on social impacts. Both assessments should sufficiently integrate social elements and desegregated data on gender, age, diversity etc.

The absence of a national information network / system is limiting progress in cross-sectoral coordination, sharing of information and improving knowledge in common DRM activities. Technical Agencies are complacent with design and construction standards they use and unless costs benefit analysis show otherwise will not be convinced of DRR assessment approach. Records from past disasters are available and they are important in building a dossier on vulnerable elements, with understanding on attendant shortcomings:-

- NDMO coordinated disaster reports provide comprehensive summaries of humanitarian/ response assistances but limited in the overview of damages/losses/impacts across all sectors.

- MRD maintains an earthquake hazard event database that records events since 1887; does not record damage/loss information.

- Met Office maintains a cyclone hazard event database; does not record damage/loss information.

In a few sectors where risk evaluation is undertaken and information on hazard and vulnerabilities does reach decision makers (such as ITC, Water sector, Health) insufficiency in resources to mitigate risk completely limits implementation of DRR measures. This leads to high level of accepted risk.

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## Marshall Islands (in English)

### Level of Progress achieved:

2 - Some progress, but without systematic policy and/ or institutional commitment

### Are disaster losses systematically reported, monitored and analysed?

No

### Means of Verification:

\* No: Disaster loss database

\* No: Reports generated and used in planning

### Description:

Detailed data and general information on past disasters is limited in the RMI, with no disaster loss database and few reports on previous events. The inadequate resourcing of NEMCO is partly a reason for this, in addition to the insufficient level of importance placed to data collection and distribution within ministries. The National Weather Service (NWS) provides regular information on hazards and vulnerabilities (e.g. impending drought) to newspapers and radio. However, it is up to the media as to whether or not the information makes the news. NWS also provide weather and climate data to ministries such as the Ministry of Health (MoH), EPA and donors such as USAID. There are a number of technical agencies that collect and maintain GIS databases for their respective areas of expertise. EPA collects and maintains spatial datasets of current land use, vegetation, coastal development, water quality, sewage and potential pollution sources as well as monitor ongoing development.

### Context & Constraints:

As mentioned above, the lack of major disaster events in recent years has led to a little emphasis on this core indicator. It is difficult for time-poor ministry personnel to dedicate themselves to something they see little benefit in doing. Thus, the current lack of a data collection system (and responsibility for doing so) has resulted. There are opportunities within agencies such as EPA to build on existing databases developed for environmental monitoring.

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## New Zealand (in English)

### Level of Progress achieved:

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

### Are disaster losses systematically reported, monitored and analysed?

No

### Means of Verification:

\* No: Disaster loss database

\* Yes: Reports generated and used in planning

**Description:**

There is no centralized system for collecting and collating all hazard information and risk data.

There are different systems for monitoring the main natural hazard agents (meteorological or geological), and these generally form part of, or link to, early warning systems (see Core Indicator 3 below).

Data on the human elements of hazards, including vulnerabilities, are collected and disseminated through many means. Base population statistics are collected five yearly by Statistics New Zealand, with data available at different scales often down to small mesh-blocks. Statistics New Zealand also collects other relevant data on a more regular basis. Local government, central government and NGOs may collect additional data relevant to their responsibilities.

Various agencies gather information on different aspects of losses from actual hazard events. For example, the Earthquake Commission collects claims data for earthquake and land deformation damage to private dwellings and associated land that it insures. Private insurance companies may collect and disseminate their data also. The Ministry of Agriculture and Forestry maintains information on the rural sector economy that includes its losses from hazard events.

A multi-hazard disaster loss modelling capability at the regional scale is being developed under a national research funding contract. It aims to provide decision support for hazard risk planning and for response and recovery.

**Context & Constraints:**

Work is continuing on developing data sharing protocols and mechanisms, to be underpinned by a common national geospatial infrastructure. Development costs and a lack of consistent data are the key constraints on quick progress in increasing loss modelling capability.

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## Samoa (in English)

**Level of Progress achieved:**

2 - Some progress, but without systematic policy and/ or institutional commitment

**Are disaster losses systematically reported, monitored and analysed?**

No

**Means of Verification:**

\* No: Disaster loss database

\* No: Reports generated and used in planning

**Description:**

The system to monitor, store and disseminate hazard and vulnerability data has been available in government ministries, however the format and standards of existing data is not uniform. Monitoring information natural and human-induced hazards and their impacts is not centralised and cost-loss estimates are not systematically collated and analysed, also there is no national disaster information database to assist planners with basic statistics to measure either improvements or setbacks.

Samoa has used expert evaluation methods to combine hazard and vulnerability assessment, where local

efforts to produce these studies have been teamed up with international groups that provide technical and financial support and promote capacity building and knowledge transfer. Despite this, very few ministries are making use of the data and information generated from these studies and do not make practical use of the recommendations, signifying the need to strengthen the links between research and practice.

#### **Context & Constraints:**

The major challenge being the lack of local capacity and resources in the application of modern technology to develop a comprehensive system for monitoring, archiving data and disseminating information down to the community.

In most cases, end users have limited knowledge in the application of research/study results and most often lead to information misuse or misinterpretation. In addition, the concrete actions listed in the different studies often times create confusion and presents difficulties for decision-makers as to where to allocate scarce resources. Though many regional/ international agencies have or have acquired funding to conduct the studies they do not however possess the resources to assist countries to implement the recommended actions.

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## **Solomon Islands** (in English)

#### **Level of Progress achieved:**

2 - Some progress, but without systematic policy and/ or institutional commitment

#### **Are disaster losses systematically reported, monitored and analysed?**

No

#### **Means of Verification:**

\* No: Disaster loss database

\* No: Reports generated and used in planning

#### **Description:**

Disaster losses are not currently systematically reported, monitored and analysed. There is a joint project proposed by Red Cross and NDMO to enable consolidation of data in regards to losses and impacts. Some disaster loss information exists but normally different sectoral Ministries have their own reports/assessments made eg. Health, Education, Infrastructure. Information is currently spread throughout different institutions and no centrally collected information exists. The NDMO plans to begin work soon, with support from SOPAC, to establish a DesInventar database to allow for the analysis of disaster impacts and identification of high-risk areas. The NDMO has recently recruited a Disaster Information Officer who will be responsible for managing and collating information for the system.

Information on exposure to hazards is made available to the public via various forms of media (newspapers, radios, TV, internet, posters), through public awareness campaigns and workshops. During the cyclone season information is disseminated on exposure to storm risk. There does not appear to be many options for communities to proactively acquire information on hazard risks in their area. Contacting the NDMO or Provincial Disaster Officers directly appears to be the only option.

There is currently no systematic policy in terms of monitoring, archiving and disseminating data on key hazards and vulnerabilities, however commitment does exist and concerted efforts are being made to

improve progress in terms of this indicator.

### **Context & Constraints:**

A major challenge is to gather and share existing information between different actors. Some institutions are inclined to keep information to themselves or share it only with donors that provide funding for its collection. Information gathered from joint assessments is distributed through the NDMO and NGOs. It is recommended that systematic, structured information on hazards and vulnerabilities be centrally located and made available in formats that are applicable for use by decision-makers.

There are several challenges in terms of making information on exposure to hazards available to the public. These include; limited ownership of HF-radios & televisions in communities; very limited access to internet throughout the country except for some residents in urban areas; lack of availability of pamphlets in Pidgin and provincial dialects, which is compounded by low levels of literacy. Providing greater opportunities for communities to access appropriate information on hazard risk is required.

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## **Vanuatu** (in English)

### **Level of Progress achieved:**

3 - Institutional commitment attained, but achievements are neither comprehensive nor substantial

### **Are disaster losses systematically reported, monitored and analysed?**

Yes

### **Means of Verification:**

\* Yes: Disaster loss database

\* No: Reports generated and used in planning

### **Description:**

Vanuatu has made good progress to improve its information systems. Meteorology has strengthened its capacity to monitor a range of meteorological and other hazards, including:

> improved monitoring of rain fall through the installation of 28 rain gauges throughout the country (this helps with monitoring and predictions of drought, flood, and potential landslide risks).

> Better monitoring of the impacts of climate change and sea level rise (e.g. through the installation of tide gauges, measurement of sea temperatures etc). The following initiatives contributed to this progress: The South Pacific Sea Level and Climate Monitoring Project and Pacific Islands Climate Change Predication project (PICCP), with support from the Australian BOM. Achievements include the establishment of ENSO alert system (which informs industry, government agencies, academia and the public about the onset and status of La Niña and El Niño). Technical support is also being provided by the National Institute for Water and Atmospheric Research (New Zealand).

Geo-hazards are progressively strengthening monitoring of seismic and volcanic threats:

> Vanuatu now has real time monitoring of earthquakes and tsunami threats, and has established relationship with key international scientific agencies (e.g. Pacific Tsunami Warning Centre, Australian Bureau of Meteorology, GFZ, JMA, US National Weather Service).

> Permanent seismic monitoring stations have been established for three volcanoes, with temporary seismic stations established in Gaua and Ambae.

> There are plans to move towards real time monitoring of major volcanic threats (with donor support).

Meteorology and Geo-hazards have both established web sites to help inform the public about threats.

An historical database of disaster events and losses has been developed on a pilot basis (DESINVENTAR), with training provided in its use. This database, which captures data on past disasters, aims to help Vanuatu better plan for and respond to future disasters. Further updates of the database has been identified a priority,

All of these improvements to information systems are helping the Vanuatu government to better monitor hazards, inform the public and help communities better prepare for disasters.

**Context & Constraints:**

Vanuatu is currently facing an increased threat from volcanic hazards with no real time volcano monitoring and only limited time series data on historic volcano behaviour. Although significant progress has been made to strengthen Vanuatu's DRR-DM information and systems, integration of these systems remains a major challenge. Many of the systems have been developed with support from a number of different technical agencies and donors. This has resulted in a patch work of different systems which are not always well integrated at national level (e.g. different GIS systems / information being developed with support from a wide a range external technical agencies, but information is not well integrated at national level). Intra-government coordination is also a challenge (e.g. the Vanuatu government's GIS is managed by the Ministry of Lands, but it is reportedly difficult for other government agencies to access / share information). The NAP proposes establishing a GIS user group (intended to help address some of these issues), but this is yet to be established.

Sustainability of some information systems has also been identified as a challenge (e.g. significant effort and investment has been made to establish DESINVENTAR, but the data is yet to be used to inform planning and there are currently no dedicated human resources available at national level to keep the database up to date). A dedicated information and data officer has been included in NDRMO's revised staffing structure for 2012, and updating the DESINVENTAR will be an important priority for the coming year.

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