

Compilation of National Progress Reports on the implementation of the Hyogo Framework for Action:

HFA Priority 3, core indicator 3.3:

Research methods and tools for multi-risk assessments and cost benefit analysis are developed and strengthened.

Know the Risks and Take Action

Reporting period: 2007-2009

This document has been compiled from the national progress reports provided by 76 countries through the HFA Monitor.

Note that these extracts are provided for convenience only.
National HFA progress reports should be considered in their entirety and can be found at:

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

Africa

Algeria (in French)

Level of Progress achieved:

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

Description:

L'évaluation environnementale est prévue par les dispositions de la loi 03-10 sur la protection de l'environnement dans le cadre du développement durable

Concernant les analyses de coûts, il n'y a pas d'instruments dédiés à ces activités (pas de réglementation, ni de procédures..). Cependant, les assureurs nationaux, en coopération avec les réassureurs développent des initiatives en vue de préparer un système de tarification et d'estimation des dommages.

Cependant, en ce qui concerne les établissements classés, des instruments ont été prévus pour prendre en charge l'évaluation des coûts des plans de gestion environnementale.

Context & Constraints:

La principale contrainte réside dans la faiblesse des échanges d'informations et des données entre les acteurs nationaux concernés et l'insuffisance du partage des connaissances, notamment avec le secteur industriel.

Angola (in English)

Level of Progress achieved:

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

Description:

Foram feitos estudos sobre riscos múltiplos nas províncias de Luanda, Benguela, Cunene e Kuando Kubango e identificados estratégias de mitigação a serem implementados pelos respectivos governos provinciais.

Context & Constraints:

O estado actual de contaminação com minas impede o desenvolvimento de estudos de forma pormenorizada em várias localidades.

Burkina Faso (in French)

Level of Progress achieved:

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

Description:

Quelques instruments sectoriels existent notamment au niveau de l'Agriculture, de la Santé, de la Météorologie, de l'Hydrologie, de l'Environnement et de certains Instituts de recherche (INERA, IRSAT...).

Context & Constraints:

- L'insuffisance de ressources financières pour la mise en place de ces méthodes de recherche et des instruments d'analyse qui sont coûteuses.
 - L'insuffisance de personnels qualifiés pour la gestion de ces méthodes et instruments d'évaluation.
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Burundi (in French)

Level of Progress achieved:

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

Description:

Ni Les méthodes de recherche , ni les instruments pour évaluer les risques ne sont pas encore mis en place.

Context & Constraints:

Besoins des ressources humaines qualifiées ainsi que les instruments nécessaires.

Cote d'Ivoire (in French)

Level of Progress achieved:

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

Description:

Bien que peu financées, des recherches et des études sont néanmoins faites dans les institutions de recherche et opérationnelles dans le domaine de l'environnement pour la compréhension des phénomènes. Les thématiques sont peu orientées vers les impacts de ces phénomènes sur d'autres secteurs d'activités, cela en raison du fait que la notion de réduction des risques de catastrophes est relativement nouvelle, mais aussi en raison du non financement de la recherche et du peu de moyens disponibles pour les études.

Context & Constraints:

La solution à ce niveau reste fondamentalement le financement de la recherche et des études dans le domaine de la réduction des risques de catastrophes qui nécessitent des équipes pluridisciplinaires. Cela résoudra à terme le problème de la diversité et de la disponibilité de l'information et permettra aux décideurs d'orienter les politiques d'adaptation aux aléas.

Egypt (in English)

Level of Progress achieved:

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

Description:

Research methods for risk assessment were developed in some sectors. Yet, the integrated concept of developing research methods and tools for multi-risk assessments and Cost Benefit Analysis (CBA) is not achieved.

The first significant step towards achieving this concept was the establishment of the SAB. Amongst the mandates of this Board is to strengthen, through cooperation with scientific research institutions and centers of the concerned ministries and agencies, and the academia, the technical and scientific capacities to develop, and apply methodologies, studies and models to assess vulnerabilities and impacts of hazards, including the improvement of regional monitoring capacities and assessments.

Context & Constraints:

Plans, studies and models will be developed to assess vulnerabilities and impacts of hazards, including the improvement of the national monitoring capacities and assessments. Appropriate funding mechanism is to be mobilized and dedicated in sustainable manner. Capacity building for national specialists and experts, mutual cooperation in regional and international bases is to be considered.

Ghana (in English)

Level of Progress achieved:

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

Description:

The country cannot boast of any scientific system or research methods for multi-risk assessments, nor have cost-benefit analysis been developed for disaster risk reduction. So far, risk identification and mapping of only four hazards/risks have been undertaken, with research and cost-benefit analysis to be pursued for any of the major risks/hazards.

Context & Constraints:

There is inadequate researches to conduct scientific enquiries into disaster risk reduction. The interpretation of scientific research in this direction will be difficult for use at the local or community level where the risks persist.

Funding for research into disaster risk reduction and cost-benefit analysis does not exist.

Kenya (in English)

Level of Progress achieved:

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

Description:

Actualization of the programme has not started.

Context & Constraints:

So far no funds to actualize the operations.

Madagascar (in French)

Level of Progress achieved:

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

Description:

Le pays commence aujourd'hui à développer des outils et des instruments pour évaluer les risques multiples auxquels le pays fait face avec l'appui de nombreux partenaires. Le BNGRC travaille avec des institutions spécialisées en la matière (Météorologie, Institut d'Observation de Géophysique d'Antananarivo, Institut Pasteur,...) pour étudier la fréquence, l'intensité des risques (cyclones, inondations, tsunami, risques épidémiologiques,...).

Context & Constraints:

Le pays manque de ressources financières et humaines pour mener des recherches d'évaluation des risques. Nous dépendons encore très largement de l'appui de nos partenaires financiers et techniques internationaux pour ce faire. Le transfert de compétences n'est pas toujours chose acquise.

Malawi (in English)

Level of Progress achieved:

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

Description:

Not much research on tools for multi-risk assessments has been done. But recently some studies have

been done on the economic impact of disasters. One of the studies was on economic and financial decision making in DRR which was funded by UNDP. Another one currently being undertaken (2009) is on Economic Vulnerability and Disaster Risk Assessment funded by the World Bank.

Context & Constraints:

Lack of funding has been the major constraint to undertake the research. Expertise is available in country to undertake the research on methods and tools for risk assessments once funding is available.

Mauritius (in English)

Level of Progress achieved:

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

Description:

Mauritius does not have a particular institution who is looking at multi-risk assessment. The university people have just began to think in this direction.

However, some research on tropical cyclone has been done at the Meteorological Services but not much on the community response to the impacts of cyclone or on methods to reduce risks apart from the existing warning system.

Context & Constraints:

Institutional framework has still to be developed. There is a lack of resources, both human and financial. Necessary incentive need to be created to apply science to practice.

Mozambique (in English)

Level of Progress achieved:

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

Description:

So far few tools for multi-risk assessments are systematically used in Mozambique. It is worth to mention that FEWS-NET has delivered a very well equipped GIS laboratory to University Eduardo Mondlane. UNDP has provided training to university scholars and provincial INGC delegates on the use of risk management tools specially the GRIP system. In case of cost benefit analysis methods a few evidence has been found on the use of those tools, although the World Bank as released a book on Recovery of Mozambique which is accessible at the prevention consortium web page.

Context & Constraints:

High-ranking scholars or technicians in DRR are found in the areas of GIS mapping, early warning systems especially in the areas of water administration and not in other areas. A holistic approach is needed in training economists and socio-anthropologists to allow a joint research effort in the whole area of DRR

Senegal (in French)

Level of Progress achieved:

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

Description:

Des réflexions sont menées pour mettre en place des méthodes de recherche et des instruments apte à l'évaluation des risques multiples ainsi que l'analyse de leur coût.

Context & Constraints:

Le fonctionnement de la plateforme devrait faciliter la mise en place de ces méthodes et instruments. Toutefois, les séminaires annuels ou semestriels qui seront organisés dorénavant dans le cadre de la mise à jour du plan de contingence constituent un cadre approprié pour l'évaluation des risques multiples et l'analyse de leur coût.

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

Description:

The level is FOUR. The vulnerability and capacity assessments is done using scientific methodologies with models to assessment the impact of hazards and capacities at individual and community levels and that future monitoring. However, the resource limitation for such venture limits the focus groups that participate during the assessments and the enumerators are not capacitated on the phenomenon of disaster management.

Context & Constraints:

The level is FOUR. The vulnerability and capacity assessments is done using scientific methodologies with models to assessment the impact of hazards and capacities at individual and community levels and that future monitoring. However, the resource limitation for such venture limits the focus groups that participate during the assessments and the enumerators are not capacitated on the phenomenon of disaster management

Swaziland [\(in English\)](#)

Level of Progress achieved:

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

Description:

The strengthening national and local/community resilience to disasters in Swaziland programme is advocating for a multi sector approach to DRR issues. To date a multi sectoral drought early recovery needs assessment is underway. Methods used in this assessment provide the basis for future assessments of major hazards in the country. Two main outcomes are envisaged from this intervention namely the multi sector drought early recovery (DER) needs assessment and drought early recovery strategic plan. A draft DER startegic plan was developed. It follows a sector discussion approach of the issues.

Context & Constraints:

Capacity to develop multi-sector assessment including cost benefit analysis tools is the major constraints for the country. Constraints include lack of capacity to effectively apply science to practice and policy development.

Tanzania, United Rep of [\(in English\)](#)

Level of Progress achieved:

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

Description:

University College of Land and Architectural Studies (UCLUS) Emphasizes the importance of research in the field of disaster risk management. A wide range of basic and applied research is undertaken in

Tanzania Universities (Dar es salaam University and Sokoine University of Agriculture) for the purpose of improving our understanding of hazards, assessing vulnerabilities, understanding community preparedness and response behaviors.

Context & Constraints:

Tanzanian economy limits the total available investment in hazard and disaster research. There is lack of reward and incentives for researchers to engage in disaster risk issues.

Togo (in French)

Level of Progress achieved:

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

Description:

il existe des recherches épartés notamment les mémoires en matière risque et catastrophe naturls mais acune action dans ce sens

Context & Constraints:

le renforcement des capacités de la plate forme nationale et des chercheurs dans la définition des méthodologies et à l'usages des instruments adéquats

Zambia (in English)

Level of Progress achieved:

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

Description:

The Comprehensive Vulnerability Assessment has not been done. There are efforts at the sector level to conduct multi-risk assessments but these are not very well coordinated.

Context & Constraints:

Level of awareness of the importance of this aspect remains low. Funding for strengthening this aspect is limited or not there.

Americas

Anguilla (in English)

Level of Progress achieved:

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

Description:

Pilot of one village completed

working to add in climate change and adopt the assessment from a community based level

Context & Constraints:

project in process

need better base data

Argentina (in Spanish)

Level of Progress achieved:

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

Description:

El algunas especialidades el nivel de evaluación e investigación es realmente alto. Pero no es parejo ello. Hay temáticas, como la del Desarrollo Territorial, que exigen niveles de evaluación importantes y en base a las investigaciones se ha diseñado un Plan de Inversiones y Desarrollo Territorial por parte del gobierno nacional Pero aún no ha alcanzado el mismo nivel en los niveles provinciales y locales.

Context & Constraints:

Extender el mismo nivel a todas las áreas y espacios, será el reto.

Bolivia (in Spanish)

Level of Progress achieved:

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

Description:

Existen investigaciones aisladas por parte de instituciones no/y gubernamentales.

Context & Constraints:

Promover e incentivar la investigación en gestión de riesgos respetando la propiedad intelectual, profesional e institucional.

Generar mecanismos de apoyo económico para la investigación en gestión de riesgos.

Promover y sensibilizar a las Universidades Públicas y Privadas para la investigación en gestión de riesgos.

Las universidades no han asumido procesos de investigación en el tema de gestión de riesgos.

Los resultados de las investigaciones no son difundidas por celo institucional.

British Virgin Islands (in English)

Level of Progress achieved:

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

Description:

The DDM's focus has changed considerably from that of preparedness to comprehensive disaster management planning. A number of studies and projects have been undertaken including: Seismic studies (1996) that determined the ground shaking hazard to which the VI (UK) is exposed. This study also included a micro-zonation analysis and an assessment of the liquefaction potential of reclaimed land sites throughout the VI (UK). In addition, the impact of tsunamis on the VI (UK) coastline was also assessed. These studies are currently being used in the planning and development process. The Hazard and Risk Assessment Project (HRAP) (1997) identified and assessed the hazards to which the VI (UK) is exposed and recommended hazard mitigation strategies for implementation. This project produced high quality digital data that is now incorporated into the National GIS system used by both public and private sectors. The Quantitative Risk Assessment Project (QRAP) (2006) highlighted economic losses due to various natural hazards and illustrates what impact short and long term mitigation efforts would yield. This project involved converting hazard related maps into a suitable GIS format and the provision of maps for landslides, alluvial soils, reclaimed land and also provision of a revised engineering geology map using the ortho-photography data produced by the Survey Department. The outputs of the QRAP will help to quantify financial losses that could be expected from a given hazard scenario. The QRAP is the first of its kind in the region.

Context & Constraints:

The cost benefit analysis for disaster reduction project has been proposed within several strategy frameworks, as well as a risk reduction incentive scheme for the insurance and banking sectors. Additional resources and policy measures are necessary for implementation.

Cayman Islands (in English)

Level of Progress achieved:

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

Description:

Started with the storm surge mapping and will include other hazards over time. The multi-risk approach is now being incorporated.

Context & Constraints:

Some of the research that is needed is unlikely to be conducted locally because a certain amount of reliance will be placed on regional research institutions and expertise.

Colombia (in Spanish)

Level of Progress achieved:

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

Description:

Existe responsabilidad por parte de diversas entidades Técnicas del Sistema Nacionales de desarrollar investigaciones en torno al tema de su competencia generando herramientas metodológicas para orientar a los demás niveles territoriales para realizar evaluaciones de amenazas y vulnerabilidades. Dichas Investigaciones giran en torno a amenazas principales geológicas, geofísicas, hidrológicas e hidrometeorológicas - las cuales han desarrollado protocolos a nivel nacional. En la actualidad el DNP está liderando un proceso de evaluación de las inversiones realizadas a nivel nacional, regional y municipal en gestión del riesgo, para analizar el costo efectividad de las mismas, y para evaluar como se ha reducido la vulnerabilidad del Estado ante desastres naturales. El Gobierno Nacional otorga mediante el presupuesto nacional disponibilidad de recursos económicos para estas entidades técnico científicas para

investigación, seguimiento y monitoreo de amenazas, así mismo para establecer líneas de investigación en Gestión del Riesgo.

Context & Constraints:

No existe un proceso de descentralización para que entidades a nivel local y regional desarrollen investigaciones de calidad (responsabilidad de generar términos de referencia, disponibilidad presupuestal para estudios e investigación). Se presentan debilidades en cuanto a recursos económicos y capital humano, para desarrollar métodos, herramientas e investigaciones sobre la Gestión del Riesgo. Lo anterior, se complementa con las diversas corrientes de pensamiento, que han obstaculizado desde una visión técnica de los parámetros básicos para realizar el abordaje técnico de las investigaciones. De igual forma, no se han incorporado los análisis de costo beneficio en torno al riesgo para articularlo a los procesos de planificación (investigaciones en proceso de formulación), con las obvias consecuencias de la falta de articulación entre los resultados técnicos de las investigaciones y la toma de decisiones en lo político. Entre las limitaciones importantes para realizar investigaciones sobre el tema, es la escasa información socio económico, ambiental, geológico, hidrometeorológica, etc, a nivel municipal para la elaboración de estudios de vulnerabilidad y 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

Description:

Se desarrollan y fortalecen los métodos y las herramientas de investigación para las evaluaciones de amenazas múltiples y los análisis de costo-beneficio.”

Nivel alcanzado: 4

Históricamente el país ha desarrollado investigación en el ámbito de las ciencias físicas por lo que hay una amplia documentación de amenazas. Ministerios y universidades cuentan con institutos de investigación. Se han desarrollado sistema de información geográfica y una serie de convenios orientados a compartir información. Los investigadores se mantienen actualizados en la generación y uso de herramientas así como en el desarrollo metodológico.

Context & Constraints:

Existe una demanda de los investigadores por el acceso a nuevas tecnologías cuyo costo supera las posibilidades propias de inversión. Se desea contar con la posibilidad de acceder a pasantías y becas para estudios de posgrado en países desarrollados para mejorar el nivel de formación.

Se están iniciando esfuerzos en la determinación y análisis de la relación costo beneficio, en campos como la inversión pública y el aseguramiento de bienes, para lo cual entre otros aspectos se están diseñando los indicadores de vulnerabilidad, pero falta desarrollo metodológico y mayor participación de investigadores.

Dominican Republic (in Spanish)

Level of Progress achieved:

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

Description:

La Universidad Autonoma de Santo Domingo, tiene una unidad de Gestion de Riesgo y planifican hacer trabajo de investigación. Tambien están participando en ejercicios regionales de identificación de un sistema de indicadores para la gestión del riesgo. No existe todavía un consenso sobre los indicadores a

usar ni un uso sistemático de indicadores por parte de entidades estatales

Context & Constraints:

Es necesario promover la investigación de las evaluaciones de amenazas múltiples y los análisis de costo-beneficio.

Hace falta desarrollar un sistema único de indicadores sencillos, aprovechando los ejercicios y experiencias que ya tuvieron lugar en el país.

Ecuador (in Spanish)

Level of Progress achieved:

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

Description:

• AVANCE POLÀTICA 5. Todas las instituciones, organismos colegiados, grupos técnico-científicos, centros de educación superior, etc., deberán iniciar acciones sostenidas de investigación y generación de información de la temática de gestión de riesgos

Context & Constraints:

Recomendación:

- A nivel de la comunidad científica se recomienda incluir los análisis costo beneficio en sus investigaciones (cuánto cuesta hacer o no hacer la Gestión de Riesgos en ámbitos específicos)
 - La inclusión de una línea de financiamiento específica para la Gestión de Riesgos en el seno de la SENACYT esta en proceso.
 - La investigación en escala y (resolución) adecuada
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El Salvador (in Spanish)

Level of Progress achieved:

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

Description:

Se han realizado diversos esfuerzos (en instancias públicas y privadas) en los métodos e investigaciones sobre las amenazas múltiples, que implica un progreso lento con pocos indicios de incidir en planes y políticas.

Context & Constraints:

Existe la limitante en la aplicación de la legislación vigente. No hay una verdadera consideración de los resultados de estudios e investigaciones. Aún persiste una visión de corto plazo, lo cual limita los procesos de desarrollo sostenible.

Jamaica (in English)

Level of Progress achieved:

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

Description:

Agencies with authority have been identified at the national level with the necessary expertise to carry out multi-risk assessments. Accepted scientific methodologies have been used to carry out these assessments with the aid of GIS technology. GIS also facilitates project assessments. At present data is shared between key agencies such as the Meteorological Service, Earthquake Unit, Mines and Geology, Water Resources

Authority and the National Disaster Organisation, ODPEM.

ECLAC and USAID/OFDA methodologies have been used to assess the impact of hazards. Vulnerability assessment methodologies have also been established and models developed for hazard impact analysis. CDERA, as the regional response agency has developed reporting strategies and bench-marking tools for participating states. These tools are used for evaluation and monitoring at the regional level.

Cost benefit analysis, though used in some project analysis, has not been used on a wide-scale.

Context & Constraints:

Challenges

- There is a need for strengthening the capacity of human resources at the National Disaster Organisation to do meaningful work in this area. The additional human resources on implementation would also act as a national coordinator for harnessing the necessary information from the agencies who have done research to bring a more holistic approach to research conducted.
- No effort made to integrate Cost Benefit Analysis as compared to Latin American counterparts.
- Absence of the data formulated at the national level translated to the community based level to effect action.

Recommendations

- Advocate for a comprehensive Hazard Mapping Programme.
 - Greater human resource capacity required in conducting hazard and vulnerability assessments at a larger scale nationally.
 - Hazard Management Plans developed for high risk communities
 - Integrate cost benefit analysis in the hazard mitigation decision making process.
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Panama (in Spanish)

Level of Progress achieved:

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

Description:

Se esta implementando en algunas instituciones el análisis de riesgos económicos al preparar proyectos.

Nuestro país cuenta con investigaciones que permiten mejorar el desempeño y fortalecen las capacidades técnicas y científicas.

Ejemplo de impacto de la amenaza pero en el ser humano:

- Estudio del Impacto Psicológico en situaciones de Desastres, con una población de 50 rescatistas que participaron en Inundaciones ocurridas en el año 2004.
- En el segundo taller Fortalecimiento de capacidades e investigación en el tema las universidades estatales organizadas en el CSUCA, consideran a UDELAS para que coordine a nivel regional en investigación en el área Ciencias Sociales (Salud Mental en desastres), lo que se ratificó en el taller nacional y posteriormente en el tercer taller realizado en Costa Rica.

Ejemplos amenazas físicas:

Modelos de predicción indican que el calentamiento global impactará los sistemas costeros.
(GEOCIENCIAS)

Los impactos pueden incluir un incremento en la erosión costera así como un aumento en la frecuencia y la intensidad de las inundaciones que ocurren en el área.

Modelo de simulación MAGICC para el nivel medio del mar, comparando dos escenarios de emisiones SRES P50 y SRES WRE550. Ejemplo: El rango de valores posibles del nivel medio del mar es de 7 cm a 27 cm para el año 2050 y de 14 cm a 66 cm para el año 2100.

Instituto de Estudios Nacionales (IDEN) Universidad de Panamá:

Realiza investigación sociológica y antropológica del riesgo y sus implicaciones sociales ante los desastres, a través de metodología y técnicas de investigación cualitativa (diseños, sistematización, análisis).

A través de la Unión Europea, el Sistema de la Integración centroamericana, ANAM, SINAPROC, ETESA: se realiza el PREVDA, este programa fortalece la capacidad técnica local a su vez es un programa regional que busca la reducción de la vulnerabilidad y degradación ambiental y que beneficiara a la comunidad a través no solo de la evaluación de la amenaza para la cuenca, sino que buscará protegerla, restablecerla y preparar a la comunidad.

En Chiriquí el instituto de GEOCIENCIAS, mantiene un sistema de estudios y evaluación científicas sobre el Volcán Barú lo cual permite el fortalecimiento de la capacidad local y a su vez permitió desarrollar y aplicar metodologías, estudios y modelos para evaluar las vulnerabilidades y el impacto de las amenazas, lo cual también incluye la percepción que tiene la comunidad ante el riesgo. Esto permitió conocer no solo el nivel de formación en el tema, a su vez ayudo a plantear como ven la realidad lo cual permite orientar y optimizar el uso de los recursos al enfocarlos en las necesidades reales de la comunidad, esto también reduce costos.

Context & Constraints:

Se necesitan más acciones para desempeñar en el fortalecimiento de las capacidades técnicas y científicas de forma que se desarrollen y apliquen las metodologías, estudios y modelos para evaluar las vulnerabilidades y el impacto de las amenazas, lo que incluye el mejoramiento de las capacidades de seguimiento regional y las evaluaciones afines; pero necesitamos más que nada que entre las instituciones se informen sobre que hacen y cual es el resultado para la comunidad.

Algunas limitaciones:

- Se requiere compilación y divulgación de esas investigaciones, en ocasiones las instituciones desconocen de la existencia de tan importantes elementos de avance.
- Hay que motivar a los graduandos universitarios ha realizar trabajos enfocados en estos temas con lo cual son parte del desarrollo y que se despierte el interés de los mismos por integrarse al proceso, donde cada día se requiere mayor personal.
- Hay que integrar a los medios de comunicación para que utilicen estos estudios para informar a la comunidad.

Esta limitante de falta de divulgación quizás se podrá eliminar estableciendo un mecanismo u herramienta en la que todos coloquen sus estudios y avances. Podría ser a través de una pagina Web que permita el acceso a la mayoría de las instituciones y que les de la ventaja de actualizarla directamente desde sus instituciones. El objetivo es divulgar lo que se hace.

Peru (in Spanish)

Level of Progress achieved:

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

Description:

Nivel de Progreso 3:

- Existen instituciones que están involucradas en la investigación de amenazas múltiples.
- Los métodos y herramientas de investigación responden a las características del fenómeno recurrente, los que son desarrollados por instituciones especializadas.
- El Perú es un país proclive a la ocurrencia de una gama de fenómenos naturales que genera desastres, cuya frecuencia facilita su identificación y los impactos facilita su evaluación.
- El compromiso institucional se encuentra reflejado en el marco legal de los documentos de gestión.
- Se cuenta con un Manual sobre la Estimación del Riesgo y un Reglamento de Inspecciones Técnicas de Seguridad en Defensa Civil, así como normas técnicas y legales de algunos sectores públicos

Context & Constraints:

- Limitada disponibilidad de recursos financieros para la renovación de equipos e implementación de nuevas tecnologías de análisis.
 - Limitada disponibilidad de recursos humanos altamente especializado para el desarrollo de nuevas tecnologías de investigación y de análisis.
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Saint Lucia (in English)

Level of Progress achieved:

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

Description:

The Disaster Risk Management Benchmarking Tool (B-Tool) was developed by the OECS as a Disaster Risk Management assessment tool; it is also a methodology for identifying and prioritizing Countries' risk reduction actions and for quantifying reductions in risk profiles. Its assessments may also be used to benchmark DRR strategies and activities of one Country against another. Saint Lucia was involved in the development of the B-Tool and utilizes it.

The Enhanced Comprehensive Disaster Management (CDM) Strategy was embraced and adopted by the CDERA Participating States in 2005. The implementation of this strategy is being monitored, evaluated and reported on using the Results Based Management (RBM) framework which is being promoted by many international donor agencies including CIDA and UNDP. Saint Lucia has been involved in the reviews and refinements of both the CDM strategy and the RBM framework (relative to its adaptation for CDM use). Periodic assessments are conducted by CDERA sometimes targeting specific activities or capabilities (e.g. Emergency Operations Centers (EOC) preparedness). The results of these help inform future actions pursued by NEMO.

Context & Constraints:

More funding and staffing support is required to facilitate more research aimed at improving DRR activities here.

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

Description:

Through the National Science Foundation, the United States supports research and development in a number of social science fields to improve understanding and assessment of disaster risk reduction. Other federal agencies support cost-benefit analyses for individual hazards. For example, the Federal Emergency

Management Agency sponsored a study of the costs and benefits of mitigation grants, finding that the benefits outweighed the costs even without accounting for avoided loss of life.

Context & Constraints:

See above.

Venezuela, Bolivarian Rep of (in Spanish)

Level of Progress achieved:

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

Description:

Las nuevas instituciones de educación superior, como: la Universidad Nacional Experimental de la Seguridad y la Universidad Nacional Experimental de la Fuerza Armada, así como el Instituto Universitario de Tecnología de Ejido y el proyecto del Programa Nacional de Formación en Gestión del Riesgo tienen como objetivo desarrollar las líneas de investigación en riesgos múltiples, elementos socioeconómicos y su aplicación en el entorno ambiental y social.

La realización de seminarios sobre la gestión integral del riesgo con la participación de los países de Cuba, Bolivia, Ecuador, Haití y Nicaragua, en el marco del ALBA, ha contribuido en el intercambio de experiencias y conocimientos de los métodos y herramientas de la investigación.

Context & Constraints:

Fortalecer las capacidades técnicas y científicas nacionales orientadas desarrollar métodos y herramientas de investigación para las evaluaciones de amenazas múltiples y los análisis de costo - beneficio.

Reforzar los conocimientos referentes a la RRD en las diferentes áreas y niveles, fundamentalmente en las comunidades de zonas rurales y urbanas.

Asia

Bahrain (in English)

Level of Progress achieved:

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

Description:

- While a government Institute for research exists, its impact on various sectors of society is not visible in the field of DRR.
- Similarly, the work of other Academic Institutes such as Universities, are not fully utilised.
- However, individual agencies with Key DRR responsibilities do internal studies and liaise internationally.
- Nevertheless considerably more should be done to strengthen technical and scientific capacities and utilise studies and models to assess vulnerabilities and impacts.
- All should be encouraged to contribute more with academic research and ideas.

Context & Constraints:

- The Research Institute needs to greatly increase its multi-dimensional expertise and be used as an effective tool for DRR. It is planned that it should be part of the National Platform.
 - Similarly the Universities will become important members of the National Platform.
-

Bangladesh (in English)

Level of Progress achieved:

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

Description:

Community Risk Assessment methods and tools have been developed and practised in Bangladesh before the reporting period. Risk Assessment Mechanism is also being practised by different development organisations in their respective working areas based on their own research methodology. During the reporting period, similar research methodology and tools are under developed for earthquake and tsunami risk assessment. A awareness raising orientation and training program is going on for the teachers and students in the selected schools of Dhaka, Sylhet and Chittagong city (through MoE). Under the MoPME, DRR issues has been incorporated in the sub cluster training modules of Primary teachers.

Context & Constraints:

While the country has generated substantial knowledge on disaster management by promoting diversity in use of research methods and tools, there is not central location to preserve the findings. The continuity of research initiatives is also a big challenge because most of them are done under various projects. There has been increasing recognition to have uniform methodology in assessing common risks. Proposed institute on disaster management is expected to address some of these challenges. Research methods and tools that have been developed in assessing risks need to be applied in a coordinated way and comprehensive training is needed for conducting action research on risks. A central data Bank needs to be developed for sharing the present available information for DRR inclusive sustainable development mechanism in all sector.

Cambodia (in English)

Level of Progress achieved:

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

Description:

There are some developments of practical, simple and applicable methods and tools for multi-risk assessments and widely utilized in the country such as Hazard, Vulnerability and Capacity Assessment (HVCA), Vulnerability and Capacity Assessment (VCA), developed by the Cambodian Red Cross, and MRC is developing the serial of methods and tools on flood risk management, including Risk assessment tools and flood risk analysis (C1), medium and long term model of flood forecast (C1), flood probability maps for land use management and user's guide (C5), guideline for the development and design of structural and flood proofing measures, guideline for integration flood risk management planning and impact evaluation, and guideline for flood risk assessment (C2 & C3).

The methods and tools have been used to train the practitioner and researchers on how to apply the methods and tools to conduct the disaster risk assessment and analysis the information and formulate action plans for disaster risk reduction activities.

Context & Constraints:

There are many new developments of tools, methods, guidelines and manuals; however, there are a lot of challenges of using these new products, due to many factors, including:

- The new products are looking comprehensive, but they have never been tested with specific related projects and planned for periodic review, especially the new products produced under Flood Management and Mitigation Programme of MRC.
- Capacities of users of new products are limited. In generally, during the processes of development, there were some training courses provided by external experts to only a few national experts and/or users. Then, they were expected to continue and transfer knowledge to others, but the expectations have never been taken place.
- There are less participation of national experts, users and especially community and authorities during the processes of development methods, tools, guidelines, manuals. They have a slim chance to learn and absorb knowledge, experience, competencies and expertise from the external experts

Recommendations to Overcome:

- > There are needs to test and plan to periodically review to ensure that methods, tools, guidelines and manuals are contextual and applicable
- > There are needs to strengthen capacities of users, including government agencies, authorities, communities, and national experts and needs to involve them in the processes of development of the tools, methods, guidelines, and manuals, enable them to have opportunities to learn and absorb knowledge, experiences, expertise from national and external experts.
- > Coordinate/standardize the article made by government and NGOs
- > Share/map data being collected (researches)
- > Link new information produced and integrated with other issues

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

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

Description:

No standardized research methodology or tool exists in the country for multi hazard risk assessments and cost benefit analysis. However Department of Science and Technology, Government of India has developed a model for seismic microzonation with Indian perspective and piloted it in selected cities of India. The model was designed to assess earthquake hazard risks and evolve suitable mitigation strategies. Geological Survey of India is also conducting a study on landslide risk assessment which

includes landslide hazard zonation mapping, site specific study to understand the causative factors and suggest ameliorative measures to prevent further sliding. Few state governments have also taken up initiatives to design methodologies/tools for hazard risk and vulnerability assessment like Gujarat and Uttarakhand. In Uttarakhand Indian Institute of technology at Roorkee and Indian Institute of Remote Sensing, Dehradun, together have developed a methodology for seismic hazard risk assessment and at present is doing an assessment of the important hill towns in the state. For assessing drought risk National Agricultural Drought Assessment and Monitoring system has been developed for in-season assessment and monitoring of drought through application of satellite imageries and geo spatial technologies. Large number nongovernmental organizations have carried out community level hazard risks and vulnerability assessments in different parts of the country.

Context & Constraints:

There is a strong need for basic and applied research to understand various hazard risks and associated vulnerabilities. This issue has been acknowledged by Government of India and efforts are being made to build human resource capacity and strengthen research institutions/organizations in the country. A core group of experts from scientific and technical institutions has already been set up by NDMA to identify the broad research needs and establish linkages and effective collaborations between various knowledge/resource Institutes. The real challenge lies in applying the scientific knowledge and research findings into policy planning and practice.

Indonesia (in English)

Level of Progress achieved:

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

Description:

In the past two years, the disaster research centres have developed rapidly in the institutions of Higher Education. The disaster studies outside the university settings, such as NGOs, Donor organization, government and business institutions have increased in number. Some institutions have gone as far as integrating the disaster research as one of the priorities of the research topics, for example Directorate General of Higher Education Indonesia (Dikti), Disaster Response Network (DRN), Indonesian Science Institute (LIPI) and the State Ministry of Research and Technology (Ristek). However, the program and government funding allocated to develop the methodology and tools to analyze the risks are limited.

In relevance with the methods and tools for multi-risk assessments, many stakeholders, in particular academicians/institutions of higher education have developed them. Nevertheless, the tools are still limited and focused simply on the disaster assessment aspects.

Currently, a team consisting of experts in the relevant fields from various institutions commissioned by Disaster Management National Agency and Research and Technology Ministry is preparing to formulate the guidelines for disaster multi-risk assessment.

A research tool to assess risks has been developed and used by private sectors. However, the tool and the analysis result are not for public because it is considered as the knowledge asset by the relevant private company. Cost benefit analysis for disaster risk reduction has not been developed yet so far.

Context & Constraints:

The first challenge is on how to develop a multi-risks analysis assessment which also integrates the environmental impact analysis (AMDAL).

Secondly, sometimes the research tools and methods developed by some research institutions and universities are not utilized by the local government to plan the development which considers the disaster risk reduction elements. Therefore, the efforts to encourage the local government to utilize the research

methods and tools must be promoted.

The third challenge is on how to motivate the stakeholders including the research institutions, universities, business institutions and other actors to conduct risk assessment and to share information on the result of the risk analysis previously done.

The fourth challenge is on how to build and use the capacity properly to develop the methods and tools for multi-risk assessments.

To meet the challenges, one of the most important things is to increase the human resource capacity to establish and strengthen the research methods and tools for multi-risk assessment. The role of research institutions or institutions of higher education is significant in this field, therefore the establishment of disaster study centres in particular in the hazard-prone areas must be encouraged. The Government can play its most vital role namely by allocating sufficient research grant to be used by the research institutions and disaster study centres in universities. To optimize the use or application of the research results of the multi-risk assessment, programs to arouse interests in conducting applied research in disaster risk reduction must be set up. One of the ways is by raising awareness among the relevant stakeholders on the importance of disaster risk analysis. In addition, publication and accessibility of the information related to disaster research results must be promoted.

To increase the use of disaster research results including multi-risks assessment, a working mechanism must be established among the researchers and practitioners (government, NGO, private sectors, media) so that the research results can be used in practical terms. In view of the cultural diversity in Indonesia, the research related to indigenous research must be encouraged as one of the initiatives of Disaster risk reduction mainstreaming.

To increase the motivation of relevant stakeholders and to optimize the utilization of research, it is necessary to adopt incentive approach or mechanism for local government as well as for research institutes. Furthermore, there must be means to ensure that research on disasters also accommodates indigenous knowledge so that it can be understood and supported by relevant communities.

Iran, Islamic Rep of (in English)

Level of Progress achieved:

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

Description:

Hazards are an unavoidable part of The hazards we face are very diverse. They arise from our society (for example, conflict, terrorism, civil strife) and technology (industrial and transport accidents), as well as natural hazards and threats to public health. Risk, and how we manage it, has become a subject of increasing research and debate in recent years. At the close of the twentieth century, natural hazards and consequence disasters are one of the most common forms of disasters around the world. They continue to be destructive and, if anything, they are more prevalent and harmful than centuries ago, despite some outstanding achievements. The application of science and technology has undoubtedly improved humankind's ability to predict, alleviate and survive disasters, but over time population growth and social, economic and political processes have massively increased human exposure and vulnerability to these hazards.

At the dawn of the third millennium a world without hazards and disasters is, unfortunately, unthinkable and unachievable, but it is possible to reduce them. Much has been achieved, and there is no excuse for not pursuing the ultimate causes of these problems and finding imaginative ways of containing and lessening their impacts. Many successful ways of reducing hazards and disasters are regularly being found and

implemented. There is no rationale for not seeking to avoid the death and destruction that is likely to occur during the next centuries, and to alleviate the suffering of those in many regions of the world. Careful hazard assessment and planning, and a range of social, economic and political measures, can significantly contain these threats. Our hopes for containing and lessening the death and destruction that disasters cause are most likely to be achieved through a more balanced understanding of their nature. Such an understanding is likely to emphasize the importance of societal conditions in producing hazards and disasters, while not ignoring the environmental processes which generate and the effects of human actions upon these processes.

The Islamic Republic of Iran, is a highly disaster-prone country, suffering from droughts, floods, earthquakes, rising sea level, landslides, as well as man-made and technological disasters. The hazards in the country can be classified into three major types as follows:

Type 1: NATURAL HAZARDS

Natural processes or phenomena occurring in the biosphere that may constitute a damaging event. Natural hazards can be classified by origin in: Climatic and Weather, Geological and Biological.

1.1 Climate and Weather hazards

Natural processes or phenomena of atmospheric, hydrological or oceanographic nature are as follows:

- Floods, debris and mud flows;
- Tropical cyclones, storm surges, thunder/ hailstorms, rain and wind storms, blizzards and other severe storms; localized strong wind, frost, heavy, rainfall;
- Drought, desertification, wildland fires, heat waves, sand or dust storms;
- Permafrost, snow avalanches.

1.2. Geological hazards

Natural earth processes or phenomena in the biosphere, which include geological, geotectonic, geophysical, geomorphologic, geotechnical and hydro geological nature are as follows:

- Earthquakes;
- Emissions;
- Landslides, Rockslides, Rock falls, liquefaction, Submarine slides;
- Subsidence, Surface Collapse, Geological fault activity.

1.3. Biological hazards

Processes of organic origin or those conveyed by biological vectors, including exposure to pathogenic micro-organisms, toxins and bioactive substances.

Outbreaks of epidemic diseases, plant or animal contagion, and extensive infestations.

Type 2: TECHNOLOGICAL HAZARDS

Danger originating from technological or industrial accidents, dangerous procedures, infrastructure failures or certain human activities, which may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation. These are sometimes referred to as anthropogenic hazards. Some examples: industrial pollution, nuclear activities and radioactivity, toxic wastes, dam failures; transport, industrial or technological accidents (explosions, fires, spills).

Type 3: ENVIRONMENTAL DEGRADATION

Processes induced by human behavior and activities (sometimes combined with natural hazards), that damage the natural resource base or adversely alter natural processes or ecosystems. Potential effects are varied and may contribute to an increase in vulnerability and the frequency and intensity of natural hazards.

Some examples are: land degradation, deforestation, desertification, wild land fires, loss of biodiversity, land, water and air pollution, climate change, sea level rise, ozone depletion.

Context & Constraints:

Various organizations and institutions have been motivated by HFA secretariat to developed plans and projects against challenges posed by disasters therefore:

Based on the initiative and support of ISDR office in Tehran, the HFA Executive Secretariat and the National Platform of Iran on Disaster Risk Reduction, have prepared this biennial working plan for implementation of HFA at national level for 2008 and 2009.

The objective of this working plan is to support HFA Secretariat of Iran in implementation of five HFA priorities which are as follows:

1. Governance: ensure that disaster risk reduction is a national and local priority with strong institutional basis for implementation
2. Risk identification: identify, assess and monitor disaster risks and enhance early warning
3. Knowledge: use knowledge, innovation and education to build a culture of safety and resilience at all levels
4. Reducing the underlying risk factors
5. Strengthen disaster preparedness for effective response

3- Biennial working plan

No. HFA priority Project Time frame

(Year- Month) Estimated budget (USD)

- | | | | | |
|----|---|---|-----------|---------|
| 1 | 1 | Developing a module for evaluating existing national capacity at different levels on disaster risk reduction | 12 months | 50.000 |
| 2 | 1 | Developing a national strategy on disaster risk reduction | 14 months | 96.000 |
| 3 | 1 | Developing a master plan for NP on the situation of disaster risk reduction in the country | 12 months | 50.000 |
| 4 | 1 | Defining urban development system considering seismic risks | 18 | 150.000 |
| 5 | 1 | Developing criteria for re-construction of the earthquake affected areas in line with social-economic and cultural characteristics | 18 | 180.000 |
| 6 | 1 | Supporting Iran-UNDP project on developing national capacity on disaster risk management | 24 months | 300.000 |
| 7 | 1 | Developing a national data bank for disaster management including a bank of experts, academic specialist related to DRR, managers and etc (Building on the existing initiatives) | 12 | 110.000 |
| 8 | 1 | Developing/defining standards disaster risk management system | 12 | 60.000 |
| 9 | 1 | Developing/defining standards for disaster management system (with emphasis on post-disaster phase) | 12 | 40.000 |
| 10 | 1 | Developing methods for evaluation of capacity of the national agencies, ministries and institution | 12 | 38.000 |
| 11 | 1 | Developing a matrix for follow-up and monitoring of working plan during the two years | 24 months | 28.000 |
| 12 | 1 | Publishing a newsletter for NP on a seasonal basis (12000 volumes) | 24 months | 30.000 |

13 1 Preparing annual report for the Occurred Natural Disaster 12 30.000

14 1 Promoting Secretariat for HFA and NP in Iran 2008-2009 200.000

15 1 Establishing a working group to prepare necessary materials for reporting to ISDR and the global risk assessment, 2009 2008-2009 30.000

16 2 Developing a plan for enhancing disaster national early warning system 2008-2009 50.000

17 2 Developing early warning indicators at different levels 2008 45.000

18 2 Developing comprehensive disaster risk assessment models 2008 45.000

19 2 Incorporating and integrating disaster risk maps of the country 2008-2009 85.000

20 2 Physical vulnerability analysis into earthquake hazard in old urban texture (Case Study: BABOL City) 12 months 55.000

21 2 Supporting Asian Seismic Risk Reduction Center (ASRC) and APIDM 2008-2009 100.000

22 3 Developing/ defining a new training modules for teaching trainers on Disaster Risk Management in all provinces (30 course) 18 months 150.000

23 3 Development and dissemination of innovative training, awareness raising and cultural building texts 2008-2009 67.000

24 3 Inclusion of DRR elements in school curriculums, universities and professional curriculums 2009 50.000

25 3 Development and dissemination of community based disaster management manual 2008-2009 35.000

26 3 Establishing a national community-based disaster risk reduction NGO portal 2009 100.000

27 3 Developing new training and awareness methods for most vulnerable groups, women and children 2009 50.000

28 3 Documentation of good practices and lessons learnt from recent disaster in Iran 2008-2009 50.000

29 3 Developing a module for disaster documentation 2009 65.000

30 3 Holding 2 national workshops on legal frameworks of disaster risk reduction 2008-2009 100.000

31 3 Organizing training workshops for disaster managers 10 2008-2009 50.000

32 4 Developing a national strategy plan for safety promotion of important buildings in rural and urban areas 2009 75.000

33 4 Developing a national plan for school safety building on existing initiatives 2009 75.000

34 4 Developing national plan for hospital safety including designing a plan for evaluation of non-structural risk elements in hospitals, defining a suitable national module and defining standards for a safe hospital, building on existing initiatives 2008-2009 75.000

35 4 Defining national standards for non-structural element 2009 100.000

36 4 Defining national criteria for assisting vulnerable people during a disaster 2008 50.000

37 4 Defining a comprehensive plan for developing the capacity of relevant disaster management bodies, NGOs and research institutions, 2009 50.000

38 4 Support applied researches using new methods in retrofitting the buildings 2009 100.000

39 4 Holding 2 workshops on training retrofitting the buildings 2008-2009 100.000

40 4 Developing a strategy for flood early warning in flood prone rivers 2008 50.000

41 4 Developing a strategy for local flood early warning system in flood high risk areas, building on existing initiatives 2008 50.000

42 4 Developing/defining a national integrated flood management system 2008 100.000

43 4 Developing/defining a flood management system for rivers passing through big cities 2008 50.000

44 4 Developing module for rapid assessment of earthquake damages utilizing seismometer network and satellite images 24 months 320.000

45 4 Developing mechanisms for promotion of insurance and culture of insurance against disasters throughout the country 2009 65.000

46 4 Establishing a national early warning network for responding to vegetation infestation, vegetation diseases, and cold 2008 430.000

47 5 Developing plans for safety promotion against climate related hazards 2009 76.000

48 5 Enabling local communities for disaster resilience 2008 64.000

49 5 Establishing a national disaster management room for coordinating national response activities at the

time of disaster 2009 30.000
50 5 Establishing roads relief and rescue centers 2008 57.000
51 5 Developing local comprehensive relief and rescue plans 2008 100.000
52 5 Natural Disaster Carton Competition& exhibition (subject: Identification and risk reduction) 12 months
35.000
53 5 Natural Disaster Mobile exhibition (Implementing a pilot) 9 months 100.000
54 5 Site section for temporary housing sites for damaged population from earthquake hazard in urban
areas (a case study of zone 6 in Tehran city) 12 months 60.000
Total 4641000

Japan (in English)

Level of Progress achieved:

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

Description:

Scientific Technology Research in Disaster Reduction has been steadily addressed based on the Basic Plan for Research and Development in Disaster Reduction (revised in December 2003). On 6 March 2009, the 10-year policy for earthquake research "Towards Promotion of Innovative Research Study - the Comprehensive and Basic Policy on Promotion of Observation, Monitoring, Survey and Research on Earthquake-" was compiled by the Headquarters of Promotion of Earthquake Research.

The Fire and Disaster Management Agency has drawn up a procedure enabling local public bodies to make an objective assessment of their own disaster risk reduction and crisis-management systems.

National Research Institute for Earth Science and Disaster Prevention has studied the methods for multi-risk assessments in conjunction with the development of disaster information sharing system among various stakeholders in collaboration with local communities.

Context & Constraints:

In the meanwhile, efforts for development of research methods and tools for multi-risk assessments which reflect social and environmental change and cost benefit analysis are currently on going by several actors including governments and academia.

Kazakhstan (in English)

Level of Progress achieved:

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

Description:

There is the Interdepartmental Scientific and Technical Council on problems of ES and Civil Defense (CD) which includes research institutes of Kazakhstan.

Institute of Geography together with MES have initiated at the national level the Project of "Fundamental and applied approaches for safety in zones of natural and man-made ES in Kazakhstan" which is being realized at present. The Project objectives are creation of scientific base for safety provision, risk assessment, development of digital maps and data base to control of risk using GIS-technologies. The question of a space monitoring of the Kazakhstan territory is going into the issue, corresponded programs have been developed.

Context & Constraints:

There is a lack of integrated theoretical and practical basis for population protection, facilities and territories from disasters and accidents.

Underdeveloped system of national monitoring for ES makes problems for early control and warning. Engineering measures for disaster prevention are performing partly because of much financial requirements.

Korea, Rep of (in English)

Level of Progress achieved:

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

Description:

The National Institute for Disaster Prevention under the National Emergency Management Agency is the leading research institution promoting disaster risk reduction technologies and policies.

More than ten specific research projects are executed annually with the pure research fund about US\$ 6 million.

To outreach and promote other institutions' involvement in disaster risk reduction technology and policy, extra research funds exceeding US\$ 15 million are distributed annually.

The topics of the research are broad including socio-economic impact of various disasters, automatic assessment system for tropical cyclone impact, etc.

Context & Constraints:

NEMA (the National Emergency Management Agency) has been developing a system for diagnosis of local safety level including database development and standard protocol.

The system needs to be improved reflecting practical, but hard to estimate criteria such as finance independency, population, local disaster characteristics.

More research funds are required covering emerging disaster types.

Kyrgyzstan (in English)

Level of Progress achieved:

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

Description:

No methodologies on the vulnerability and disaster risk assessment are developed at the national and local levels in the country.

There are some insignificant results achieved by international organizations that implemented such assessments at the community level.

No economic analysis based on the vulnerability and disaster risk assessment was conducted.

The methodology on assessment of the damage caused by disasters at the level of districts, provinces and the country as a whole is developed in the Department on monitoring.

At the moment there is being conducted disaster risk assessment at the community level in the South region within the framework of UNDP and MoES joint project with participation of the Department on monitoring. The most vulnerable settlements, where the activities on disaster prevention and mitigation will be implemented, should be selected basing on this assessment.

Context & Constraints:

Constraints:

1. No unified methodology on the vulnerability and disaster risk assessment and the analysis of possible economic damage
 2. Poor staff and technical capacity of the state institutions
 3. Insufficient funding
-

Lao People's Democratic Republic (in English)

Level of Progress achieved:

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

Description:

Information is not available

Context & Constraints:

Information is not available

Maldives (in English)

Level of Progress achieved:

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

Description:

Research in any form has been very few in the country hence methods or tools for multi-risk assessments do not exist. Cost Benefit Analysis is consideration a pilot basis by one of the international partners and has just been initiated.

Context & Constraints:

Lack of Higher Education institutions and Universities in the country has led to any emphasis on research in the country .A few that is available is done by students for their thesis work.

A separate wing needs to be established in the government with adequate support from international partners

Nepal (in English)

Level of Progress achieved:

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

Description:

Science based disaster risk reduction/ management is a new phenomenon in Nepal. In the recent past, very few government and academic institutions have initiated empirical research on cost benefit analysis and mitigation practices in Nepal. However, with the support from UNISDR, Nepal is undertaking a national levels study on the relationship between poverty and disaster and Nepal is practicing some internationally accepted and practices tools for retrofitting of buildings and vulnerability assessment.

Context & Constraints:

The major hindrances for initiating empirical researches and developing tools are inadequate technical capacity and awareness at all levels, political and bureaucratic commitment and resources.

Pakistan (in English)

Level of Progress achieved:

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

Description:

In this area, Pakistan can be ranked at level two. Pakistan has yet to go a long way to develop its own tools and research methods for multi-risk assessments and for cost benefit analysis. In terms of provisions of the Ordinance, the National Institute of Disaster Management (NIDM) is to be established as the national centre of excellence in the field of Disaster Management. The NIDM will provide state of the art facilities for

planning and promoting training and research and developing core competencies in the area of disaster management. It will also be responsible for documentation and development of national level information base relating to disaster management policies, prevention mechanisms and mitigation measures.

The Government has shown its commitment for the establishment of NIDM through allocation of land and funds. Basic infrastructure design and funds utilization plan have been finalized. The infrastructural development is planned to be undertaken with donors support for which commitment has been secured from JICA. Subject to the availability of funds the NIDM is expected to be fully established by year 2011. In addition University of Peshawar is developing a Masters Program on Disaster Risk Management. This would include training about risk assessment and research in this field.

Context & Constraints:

As discussed earlier, the DRR ,being relatively a new concept in Pakistan, is yet to be institutionalized as a core subject in public as well as private research institutions. These institutions lack the knowledge, expert human resources and technical and scientific facilities to carry out objective research, aimed at developing and applying methodologies, studies and models to assess vulnerabilities and impacts of hazards, including the improvement of regional monitoring capacities and assessments.

Institutional commitment is due on the part of the public as well as private research institutions to treat DRR as one of the core research subjects through allocation of substantial resources and provision of research facilities. The Federal and Provincial Governments are also required to ensure adoption of DRR research as integral part of the institutional competencies in the research and educational institutions under their respective control.

Philippines (in English)

Level of Progress achieved:

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

Description:

The potential of institutes to contribute to the national research agenda is high. However, although numerous disaster studies including assessment of vulnerabilities and hazard impacts have been made, the body of knowledge over the years has not been systematically packaged to advance DRM in a significant way. Many results are unutilized and knowledge is not transmitted.

Some attention was given to DRM in the National Science and Technology Plan for 2002-2020 prepared by Department of Science and Technology (DOST). The plan includes natural disaster mitigation as an area thrust under Environment in the National Program for Basic for Research. Science outreach work is extensively done by PAGASA and PHIVOLCS, DOST service institutes that competently deal with hydro-metrological and geological hazards, respectively. The MGB's major program, National Geohazard Mapping, is producing geohazard maps showing areas prone to landslides, flashfloods, and subsidence and conducting information, education and communication (IEC) campaigns as the maps are disseminated to the LGUs. On the other hand, PHIVOLCS continues its program on multi-hazard mapping related to earthquakes, volcanic eruptions, and tsunamis which have produced national to provincial and to some extent local scale maps. One problem is that government technical and science institutions are losing technical staff to the private sector.

Some assessment tools have been developed or used by DOST and the Department of Environment and Natural Resources (DENR). For risk and vulnerability assessment, users have not agreed on a common method. There is also a need to adopt a suitable damage and needs assessment methodology from among several, including the tool developed by the United Nations Economic Commission for Latin America and the Caribbean (UNECLAC).

A study of the vulnerability of critical sectors to climate change has just been initiated using the Millennium Development Goals Achievement Fund of the Spanish government. Seven (7) UN agencies signed the Joint Programme Document with their implementing partners to include Albay Province and concerned national agencies.

Context & Constraints:

It will be useful to identify the role that can be played by non-government and academic institutions in different regions of the Philippines in future disaster research agenda. Research is not limited to academic and scientific institutions. It shall, however, be noted that the Albay Province also invests in scientific and experience-based research. Both government and private institutions or services will further enrich knowledge in the natural and social sciences.

A study of disaster-related science and technology policy should be made in order to understand the state of disaster loss reduction efforts and the role of research and development within them. This should include contributions from natural and social sciences.

Singapore (in English)

Level of Progress achieved:

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

Description:

SCDF has created a working culture which encourages and supports innovation. This is manifested in an innovation framework that is supported by a mix of physical and virtual infrastructures to create an environment where creativity thrives. SCDF firmly believe in the usage of innovative and cutting-edge technology to boost operational effectiveness. Some of the outstanding projects that were developed include the all-terrain Light Fire Attack Vehicle, the usage of Water Mist technology in fire fighting and the modification of tracked vehicles to combat bush fires. These innovations have enhanced our operational effectiveness.

Context & Constraints:

Nil

Sri Lanka (in English)

Level of Progress achieved:

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

Description:

National science council provides grants to undertake DRR activities as action projects.

Minister of disaster management and human rights had issued instructions to meteorological department and national building research organization to undertake research on weather forecast for drought mitigation and landslide forecasting.

Symposium in place to promote the practical application of academic research in risk reduction, Identify research gaps in the area of disaster risk reduction and possible knowledge management and sharing mechanisms. symposium is planned to be held on 7th and 8th of July 2009. Department of Agriculture has done many research to develop paddy varieties resistant to drought condition. DMC is assisting the Dept. to demonstrate teh practical application to farmers and field officers in selected locations in drought prone areas.

Context & Constraints:

Research on disaster risk, damage assessment and social & economic impacts are not covered in any research undertaken at present.

Professionals and academic are reluctant to undertake research work on disaster management field as there are limited data and material specially in risk profiles. DMC is in the process of developing risk profiles for tsunami, flood, landslides, droughts and cyclone.

It was noted that some of the research work have no practical application in the field.

Research on DRR undertaken by various institutions with donor funding does not get coordinated.

Gaps identified at a symposium could be forwarded to research organizations to include in their research programmes. DMC will have to facilitate the research work and identify areas where DRR is weak. Promote and assist agencies undertaking these works.

Syrian Arab Republic (in English)

Level of Progress achieved:

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

Description:

Context & Constraints:

The constraints are the non existence of specialized institutions for research and tools for multi risk assessment and cost benefit analysis, whereby some academic institutions play a modest role in this field.

Tajikistan (in English)

Level of Progress achieved:

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

Description:

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

The methodology for assessment of vulnerability and risk were not worked out in the country for the national or local levels.

A number of international organizations achieved some progress in conducting such assessment at the community level (Mission East, Oxfam, Caritas, UNDP DRMP, CCDR) and at larger scale (Focus Humanitarian Assistance). The work of two organizations should be specially noted: Focus Humanitarian Assistance conducted assessment of hazard and disaster risk in over 200 settlements in MBAR and Mission East worked at the level of communities.

Economic analysis based on assessment of vulnerability and disaster risk has not been developed. The Information management and analysis center (IMAC) had worked out the methodology for estimation of loss from disasters at the level of districts, regions and the whole country.

The Committee for ES and CD and the German Technical Center within a joint project for reduction of risk of disasters in Tajikistan, with participation of IMAC of CoES and CD, Mission East, Research Center of the Agency for geodesy and Cartography, Directorate of Geology of the Government of RT carry out assessment of hazards and risk of natural disasters on the level of communities in the Zarafshon Valley.

The results of this work will serve the basis for selection of most vulnerable settlements, for organizing works for prevention and mitigation of natural disasters.

Context & Constraints:

Main difficulties:

1. There is no unified methodology for assessment of vulnerability and risk of disasters, as well as analysis of possible economic loss
 2. Lack of willingness of some international organizations to share the methodology for assessment of vulnerability and risk of natural disasters
 3. Weak human and technical potential of state institutions
 4. Insufficient financing
-

Uzbekistan (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

Description:

Vulnerability assessment of assets and capacities is carried out continuously by the operational and territorial subsystems of the SSPR. In case of emergency situations on republican level, the governmental commission comprised of stakeholder ministries and agencies conducts analysis of the socio economic and ecological consequences and losses. The results of the analysis are shared with stakeholder structures by way of recommendations for making decisions and taking urgent measures.

Context & Constraints:

n/a

Viet Nam (in English)**Level of Progress achieved:**

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

Description:

Various stakeholders have developed some tools for multi-risks assessment and analysis. However, in Viet Nam there are two tools: Hazard Vulnerability Capacity Assessment (HCVA), and Vulnerability Capacity Assessment (VCA) that are commonly practiced among NGOs.

Several organizations have applied GIS technologies to develop disaster risk maps with the participation of communities. Multi-risk assessment and cost-benefit analysis of flood risk mitigation have been carried out in several major river basins, such as Huong river basin and Mekong delta. Guidelines on flood risk assessment and, and on integration flood risk mitigation into damage assessment has been applied in several provinces.

Particularly, Damage Assessment And Needs Assessment (DANA) has been developed with the intention to be a national system on assessing disaster damage and aid needs. It includes a system of indicators on summarizing damage caused by natural disasters, emergency relief needs, the needs for recovery during the temporary period after disasters and the needs for post-disaster reconstruction; DANA guided the implementation of indicators collecting, the system to export quick and comprehensive reports on damage and needs assessment. In addition to the information form, DANA also comprises software for the analysis and storage of natural disasters statistics.

This system was jointly established by the Standing Office of CCFSC, GSO with the participation of some local and active international social organizations in the field of prevention and mitigation of natural disasters in Viet Nam such as the Red Cross family, Oxfam Hong Kong. UNDP provides financial support for the development of the system. This system is currently tested in some provinces and it is estimated to be trained and used widespread throughout the country. It is notified that once approved by the government, the system will be commonly used between the GSO and the CCFSC.

Context & Constraints:

Numerous tools, methodologies, and guidelines for multi-risk assessment are available in Viet Nam. There are several challenges in applying these tools and guidelines because each stakeholder has developed different tool and method for risk assessment as a result the risk assessment varies from stakeholder to stakeholder. Hence, the usage and sharing of risk assessment information is very limited.

Another challenge is the limited capacity and competency of tool users. For example, during the development process of risk assessment tools, only several trainings were organized for the users with the expectation that these users will become trainers for these tools. This is facing difficulties. Furthermore, some tools have been developed without the real participation of communities and therefore they are impractical and not applicable.

Proposed solutions:

- > Need to review, develop and approve a standardized and applicable methodology and tool for risk assessment.
 - > Need to enhance the capacities of tool users including relevant staffs at local levels, communities, national experts, etc.
 - > Need to collaborate, coordinate, and standardize the available methods and tools developed by stakeholders.
 - > Need to develop a risk assessment information sharing system and integrate risk assessment information into the development planning of other sectors.
-

Yemen (in English)

Level of Progress achieved:

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

Description:

The is an initiative between MWE and Research Associate (Disaster Vulnerability and emergency management, Asia) Northumbria UK) University , to establish a master degree program in Yemen in cooperation with the Water and Environment Center , Sana'a University)

Context & Constraints:

The main constraints are:

- Almost the absent of the research initiations in disaster risk reduction.
 - Lacking to academic expertise.
 - Lacking to resources.
-

Europe

Armenia [\(in English\)](#)

Level of Progress achieved:

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

Description:

Good results have been achieved in determination of earthquake hazard and vulnerability assessment of school facilities in the southern most earthquake prone region of Armenia. Elaborated and provided technical guidelines to improve performance of school facilities and insure the safety of physical environment have been implemented in 10 public schools, and it was decided to enhance the scope of investigation covering new settlements and dwellings.

Indicators for the initiative are under development, as part of a holistic approach to earthquake disaster risk reduction national platform. The first indicator is expected to be: The inclusion school retrofitting and strengthening measures in regional development programmes and plans.

Context & Constraints:

The initiative demonstrated an urgency and importance of undertaking relevant measures in retrofitting and strengthening the school buildings and facilities. A high level of awareness and advocacy on disaster risk reduction in community level still to be required. It has taken a lot of effort to change mentality of local authorities.

Major challenges were the lack of sufficient initial data on school safety and discrepancy between actual level of seismic hazard and seismic resistance of existing school facilities.

Bulgaria [\(in English\)](#)

Level of Progress achieved:

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

Description:

MES is looking for opportunities for using the scientific potential. Currently MES works together with universities, Bulgarian Academy of Science, National Institute of Metereology and Hydrology.

Context & Constraints:

Better cooperation is needed.

Croatia [\(in English\)](#)

Level of Progress achieved:

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

Description:

For specific segments a good cooperation between the state administration bodies and scientific institutions is already in place, and the goal is to make the cooperation even better and more specific precisely through the National Platform.

Context & Constraints:

The process of adopting the National Platform is slow because of large numbers of actors involved, as well as because of substantial financial means required for its implementation.

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

Description:

Research is devoted to improvement of forecasting and warning systems, modern types of dissemination as well as to improvement of flood protection. Similarly has been solved problems with other types of disasters. Cost benefit analysis has been used in some cases.

Context & Constraints:

Development and application of risk assessment and cost benefit analysis needs strengthening and better financing and capacities.

France (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

Description:

- Un groupe de travail pluri acteurs sur l'analyse des coûts / bénéfiques a été créé. Le MEEDDAT a engagé en 2006 un programme de recherche « Risque Décision Territoire » sur les risques naturels et technologiques avec l'objectif de créer des liens entre les acteurs locaux de la gestion des risques et les chercheurs. Il s'agit en particulier de

-> mobiliser sur un territoire les équipes de recherche existantes, recenser les connaissances nécessaires et de les capitaliser,

-> répondre aux questions des gestionnaires des risques en leur apportant des éléments d'aide à la décision et en associant mieux la société civile à la gestion des risques,

-> renforcer le réseau d'experts français pour aider aux décisions au niveau national et international.

- En outre, les réseaux scientifiques et techniques relient les différents laboratoires et organismes tels que le Laboratoire Central des Ponts et Chaussées (LCPC), le Centre d'Etude du Machinisme Agricole (CEMAGREF), le Bureau de Recherche Géologique et Minière (BRGM), le Centre National de la Recherche Scientifique (CNRS), le Centre National d'Etude Spatiales (CNES), l'Institut de Physique du Globe (IPGP), les laboratoires des grandes écoles (Polytechnique, Mines...) et des universités. Les travaux de ces organismes, structures pour l'essentiel publiques, alimentent les réflexions et les démarches de prévention promues par l'Etat.

- Par ailleurs, une harmonisation des initiatives de niveau européen est recherchée. Il en est ainsi pour ce qui touche aux techniques de satellisations qui appellent des démarches à des niveaux supra nationaux et dont les retombées contribuent à la gestion des risques.

Context & Constraints:

...

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

Description:

There is a sophisticated research structure in Germany and many research projects are granted by the different national and European authorities. One example, the “Center for Disaster Management and Risk Reduction Technology” (CEDIM: see link) has dealt for many years with the subject of multi-risk assessments and analysis. These efforts continue and are readily made available to users at all levels with increasing measurement tools. Its “Synopsis of Natural Hazards” involves the development of probability or scenario-based deterministic methods to compare different types of risks. Currently, the German Free State of Saxony, where flood, storm and earthquake hazards dominate, has been selected as a case study. Additionally, the “CEDIM RiskExplorer Germany” is a web-based map viewer that interactively presents the results of the CEDIM project "Riskmap Germany" and allows the user to retrieve maps of datasets including natural and man-made hazards, vulnerability and risk, as well as assets (elements at risk) (see links). This attempt has kicked off the establishment of a multi-risk-disaster-management-system at the local level (ORTIS).

Together with the UBA (its “Competence Centre on Global Warming and Adaptation” (KomPass) and its professional information system (see links)) the BBK centrally generates data of federal agencies/departments, countries, institutes and international institutions, providing them in a revised form to users of deNIS II. Contents of this data include not only information about personnel, material and infrastructural assistance potential, but also information on the locations of risk-afflicted facilities. In its LUEKEX (Länderübergreifendes Krisenmanagement Exercise) the BBK trains different actors at all levels in various situations of disaster management, in particular the crisis squads of the upper administration levels. The concluded research and development of the “German Research Network on Natural Disasters” (2004) included cluster analyses for floods, storms, earthquakes and wildfires as well as decision-making support for early warning, monitoring, information management and simulation hazards (see link).

The German insurance industry has sophisticated methods such as the databases of the Munich Re Group, e.g., the MRNatCat or MRNathan (see link). MRNathan is an Internet-based tool that helps to develop risk profiles as a basis for risk assessments and rating of natural hazards. Even the direct insurers in Germany use local risk assessments such as ZÜRS to rate the risk for insured facilities.

The German development cooperation aims to enhance its approaches for multi-risk analyses through the promotion of research at all levels. The GTZ accomplishes these mainly in South America and combines this research with cost-benefit analyses. At the World Conference on Disaster Reduction in Kobe 2005 the GTZ presented a concept for “Cost-Benefit Analysis for Disaster Risk Management” (see page 16 in the annex).

Context & Constraints:

Germany has sophisticated research tools for multi-risk assessments, however, there still remain some basic deficits, such as a lack of quality control/oversight mechanisms as well as publicly accessible disaster databases. Generally, with the exception of the insurance industry, cost-benefit analyses are not integrated in the assessments and parts of the research are frequently just research without enough practical application or implementation.

While automatic fire detection systems have been installed in the most fire-prone Federal States (Laender) and a fire-danger rating system with 1-day forecast capability has been implemented nationwide, an advanced fire spread modelling system as well as training/capacity building for utilizing this information is not yet in place. Starting in 2008, a joint initiative of the “Global Fire Monitoring Centre” (GFMC: see link), a professional fire service and forestry school, is building a model for capacity building (wildland fire training academy), inter-agency cooperation, and integrated fire management in the State of Hesse, to serve as model for the other 15 Federal States (Laender).

Taken together, Germany has the right components for a centralised national multi-risk assessment program, which must be addressed in the next years by properly utilising the extensive resources that exist.

The German development cooperation aims to integrate climate change risks into its risk analyses and sees challenges in terms of a global necessity of scientific research.

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

Description:

Both the regional and the National authorities are in charge to identify, develop/acquire and pool resources, capabilities and methods that allow the identification and knowledge of risks. In this framework a particular attention is given to the development of multi-risk assessment tools and capabilities. While different subjects carry out sectoral risk assessment, a structure of multi-risk “functional centres” has been set up in the last years, composed by a Central Functional Centre hosted by the National Civil Protection Department and Regional Functional Centres that are being arranged by regions, in order to improve multi-risk assessment and research capacities. Each centre has to be organized in order to allow risk prevention and early warning by pooling, analyzing, synthesizing and disseminating data and information produced by its own technologies (such as, i.e., remote sensors, etc.) and by systems managed by other subjects. Cost-benefit analysis is an integral part of the procedures of identification, evaluation and acquisition of technologies and tools.

Context & Constraints:

The main limitations to the operative effectiveness of the National system of functional centres are due to delays that some regions have experienced in setting up their centres. According to the principle of subsidiarity, in these cases it is a responsibility of the National authorities to support and to improve the regional capabilities. This goal is accomplished through the Central Functional Centre.

Macedonia, The former Yugoslav Rep of (in English)

Level of Progress achieved:

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

Description:

There is institutional commitment and capacities, and the Law for crisis management authorizes the Government to regulate the Methodology for the risk assessment of the Republic of Macedonia from all hazards.

Although there are certain limitations regarding the development of methodology and tools for crisis management and disaster risk reduction, much has been achieved through the memorandums signed by the CMC and other governmental and non-governmental stakeholders on national and local levels in terms of securing a multisectoral and multi-risk approach.

In order to develop a more coordinated approach to crisis management, the CMC will form and coordinate intersectoral working group, whose aim will be the development of a methodological framework for: (1) reconstruction of hazards; (2) determining the causes and damages of hazards and disasters; (3) complex estimations on the direct, indirect and postponed disaster consequences.

Another intersectoral working group will develop methodologies for: (1) evaluating the risks and hazards; (2) developing of possible risk and disaster scenarios; (3) making plans for dealing with risks and hazards; and, (4) determining the Standard Operational Procedures (SOPs) for all crisis management stakeholders.

Also, different institutions develop appropriate methods and tools for research of different risks, however, their results are not united in a single system.

Finally, in terms of cost benefit analysis, the Crisis Management Center (CMC) has a system for review, implementation, budget regulation and realization. The system is equipped with specialized methods and tools for cost benefit analysis of the crisis management plans.

Context & Constraints:

There are certain limitations regarding the development of methodology and tools for crisis management and disaster risk reduction, despite the fact that much has been achieved through the memorandums signed by the CMC and other governmental and non-governmental stakeholders on national and local levels in terms of securing a multisectoral and multi-risk approach. Although many institutions develop appropriate methods and tools for research of different risks, there is no unified approach.

In order to resolve the legal gaps and contradicting regulations regarding the methodology and competences of the crisis management institutions, the CMC is starting a process of analysis of the normative acts. Consequently, the CMC will coordinate all relevant stakeholders through a intersectoral working group whose aim will be to define the methodology for (1) evaluating the risks and hazards; (2) developing of possible risk and disaster scenarios; (3) making plans for dealing with risks and hazards; and, (4) determining the Standard Operational Procedures (SOPs) for all crisis management stakeholders.

Montenegro (in English)

Level of Progress achieved:

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

Description:

Certain cost benefit analysis exists for important infrastructure, but we do not perform them in a systematic manner.

Context & Constraints:

Absence of practice of cost-benefit analysis applied to disaster management problems in this region.

Norway (in English)

Level of Progress achieved:

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

Description:

Through science programmes on disaster risk, authorities is playing a role in strenghtening the technical and scientific capacities to develop and apply methodologies, studies and models to assess vulnerabilities and impacts of hazards, including the improvement of regional monitoring capacities and assessments. The research is conducted in several scientific networks involving all the major univerisites and research establishments.

The research programme "Societal Security and Risks" - SAMRISK aims at increasing the knowledge about threats, dangers and vulnerability, about how unwanted events can be prevented and crises management be strengthened, whilst respecting basic human rights and privacy. To obtain this the programme will contribute to developing new knowledge, build networks and also qualify the research

community to participate in the EU research programme "Security".

Context & Constraints:

-

Serbia (in English)

Level of Progress achieved:

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

Description:

Nothing reported within this timeframe.

Context & Constraints:

It is necessary to develop research methods and tools.

Slovenia (in English)

Level of Progress achieved:

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

Description:

Approximately one hundred development and research projects concerning protection against natural and other disasters and twenty projects on protection against fire were prepared in Slovenia from 1992 to 2007. The projects provide practical solutions on how to improve the system of protection against natural and other disasters. The research and development projects on disaster management are financed from the national research programme "Knowledge for Security and Peace 2002-2010", the technological programme "Technology for Security and Peace 2006-2012", fire tax funds, Administration for Civil Protection and Disaster Relief funds, and also funds from other ministries.

In 2006 nine research projects were finished. The themes included video detection in the Karst area, dangerous substance databases and electromagnetic radiation of telecommunications systems. In 2007 the emphasis in preparing projects was put on the following themes: fighting terrorism, and information technology and information support in extinguishing fires in the Karst and mountainous areas. In that year 10 projects were finished.

Context & Constraints:

Continue the work.

Sweden (in English)

Level of Progress achieved:

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

Description:

Methods and tools for multi-risk assessments and cost-benefit analysis are available. However, they are not tailored specifically for natural hazards and disaster risk reduction methods.

The ability to utilize existing methods and tools at local and regional level is limited.

Research and development is ongoing (e.g. cause-effect relationships, water front development models).

Context & Constraints:

Additional research and development is required. Identification of areas in need for knowledge is ongoing.

Switzerland (in English)

Level of Progress achieved:

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

Description:

An important harmonization between risk assessments for different types of natural hazards has taken place in recent years. Tools and guidelines have been developed, like "LearnRisk" and "RiskPlan" to learn about risk management and implement it, "EconoMe" to justify investments in risk reduction. Awareness raising for cost benefit issues is made on the basis of specific research.

Context & Constraints:

The tools can still be improved.

Turkey (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

Description:

In Turkey almost all governmental units like GDDA, MTA, etc. uses geographical information system (GIS) tools in their studies including disaster management and other related topics. There are numerous studies on the integration of all historical disaster data into digital databases and all of them are compatible with GIS. For example, relevant data on previous earthquakes, landslides, rockfalls, snow-avalanches, floods and forest fires are stored by using GIS tools. Most scientific and technological development projects also involve GIS as a tool for spatial analysis and visualization. Some municipalities preparing micro-zonation maps, disaster response and rehabilitation maps also use GIS and some of them like Istanbul Metropolitan Municipality, Ankara Metropolitan Municipality and many others established specialized GIS laboratories.

In 2001 GDDA has started a pilot project in Northern parts of Turkey called "Multi-hazard mapping of North Western Black Sea Region".

Another technology used in disaster management is the use of satellite imagery and remote sensing. In this respect, GDDA is acting as national focal point to UN-SPIDER and also is the authorized user of International Charter "Space and Major Disasters". The use of satellite data on disaster related studies is increasing by the day with an increase in experienced people in this field. In the field of GIS and remote sensing, JICA has organized two video conference type educations on these two topics. Experts working on GDDA, G.D. of Hydraulic Works and G.D. of Meteorology benefited from those courses. There are also academic programmes offering Msc. degrees in GIS and remote sensing technologies.

In this field Istanbul city could be termed as a well-prepared since most of the hazard and vulnerability analysis were completed within the boundaries of Metropolitan Municipality. With JICA supported project, all geological and seismic vulnerabilities were determined. In addition to this study, ISMEP project also contributed to this vulnerability analysis and in detail some studies have been carried out in some parts of the city like Zeytinburnu, Avcilar, etc.

Context & Constraints:

Unfortunately cost-benefit analysis is not common on this subject. So we try to improve our capacity of making this type of analysis.

United Kingdom (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

Description:

The Civil Contingencies Secretariat has developed, in partnership with stakeholders, a Business Continuity Management Toolkit to help the commercial and voluntary sector implement BCM.

Business continuity management (BCM) is a process that helps manage risks to the smooth running of an organisation or delivery of a service, ensuring continuity of critical functions in the event of a disruption, and effective recovery afterwards. The Government aims to ensure all organisations have a clear understanding of Business Continuity Management (BCM).

Good BCM helps organisations identify their key products and services and the threats to these. Planning and exercising minimises the impact of potential disruption. It also aids in the prompt resumption of service helping to protect market share, reputation and brand. In order to be successful, BCM must be regarded as an integral part of an organisation's normal ongoing management processes. To achieve this top-level buy-in is vital as it disseminates the importance of BCM throughout the organisation. Engaging senior staff is crucial to the success of any major programme because of the influence they have over resource allocation and the culture of an organisation. Before plans can be written an understanding of the organisations BCM needs is required. There are several tools used to inform this process. It is important to first identify the key products and services that the organisation delivers. A Business Impact Analysis (BIA) identifies these critical activities and resources supporting the key products and services and helps identify the impact of a failure of these. Another useful tool is a risk assessment, which helps identify the potential threats to the organisation, and their likelihood. The Civil Contingencies Act requires the publication of all or part of a risk assessment for the local area (undertaken by local category 1 responders).

Good BCM requires both incident management plans and business continuity plans. Plans cannot be considered reliable until they are exercised and have proved to be workable. Exercising includes: validating plans; rehearsing key staff; and testing systems which are relied upon to deliver resilience (e.g. uninterrupted power supply).

There is a need to train those responsible for implementing BCM, those responsible for acting in the event of disruption and those who will be impacted by the plans. The Emergency Planning College which is part of the Civil Contingencies Secretariat, runs courses on risk assessment and business continuity management.

Context & Constraints:

A range of tools for multi-risk assessment exist in the UK, although there is no overall body who looks at all the resources available nor undertakes any quality control over them. Private industry such as the Insurance industry also have such tools, but all tend to work in isolation of each other.

Oceania

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

Description:

The National Risk Assessment Framework is designed to improve our collective knowledge about natural hazard risk in Australia to support emergency risk management and natural hazard mitigation. The main goal for the National Risk Assessment Framework is to support the development of an evidence base for effective risk management decisions. Related goals are to:

- improve the value of the risk information produced by improving methods, and employing minimum levels of acceptance;
- develop tools, guidelines and databases that assists all stakeholders to conduct risk assessments;
- foster the development of systems for coordinating, sharing, aggregating, and making available consistent information on risk; and
- to improve emergency management decision making through the development of the above tools and systems.

The 'National Risk Assessment Framework for Sudden Onset Natural Hazards' has been developed by the National Risk Assessment Advisory Group. The aim of the Framework is to establish a nationally consistent approach to the assessment of risk across Australia down to local level. Guidelines which will form the basis for assessments under this Framework are being drafted and will be submitted to the Australian Emergency Management Committee (AEMC) for endorsement later in 2008.

These guidelines will augment the existing minimum standard for the Risk Management Standard AS/NZS 4360 which has been adopted for emergency/disaster management for use in all government sponsored programs.

Development continues on producing tools to enable consistent costing of the impact of disasters on infrastructure (including housing). Nationally consistent costing of disaster impacts provides powerful information that will inform priority decisions on preparedness and mitigation works. An AEMC working group is currently developing National Rapid Impact Assessment Guidelines. A national workshop to further these efforts is to be held with a view to developing nationally consistent practices and procedures to undertake initial assessments of disaster affected areas.

Context & Constraints:

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Marshall Islands (in English)

Level of Progress achieved:

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

Description:

Economic Impact of Natural Disasters on Development in the Pacific

Vol 1: Research Report

Vol 2: Economic Assessment Tools

Context & Constraints:

- * Adapt tools for national implementation
 - * Training required. Materials need to be developed.
-

New Zealand (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

Description:

New Zealand's National CDEM Strategy emphasizes the importance of well promoted, coordinated and accessible hazards and disaster research in underpinning national aspirations towards resilience. A wide range of basic and applied research is undertaken in New Zealand for the purposes of improving our quantitative understanding of our complex hazardscape, assessing community and infrastructural vulnerabilities, understanding community preparedness and response behaviours, and developing models and tools that can be applied to inform hazard, risk and emergency management.

Priorities for central government funding of public good hazards and disaster research emphasises an all-hazards approach with research objectives linked to national outcomes.

Central government (via the Earthquake Commission) funds science capability and technology for a nationwide geological monitoring and reporting network (GeoNet). National research and science capabilities are applied to national models and to specific regional level issues within the constraints of local resources.

Context & Constraints:

Key challenges are:

- New Zealand's relatively small economy which limits the total available investment in hazard and disaster research;
 - a highly competitive science funding system with very short funding cycles, which has a heavy administrative burden and tends to limit collaboration between organizations. This issue has been acknowledged by government in a review of the research funding prioritization process and options are being considered for changes to the timeframe and process for funding decisions;
 - constraints on effective application of science to practice and policy development;
 - lack of reward incentives for researchers to engage in technology transfer.
-

Vanuatu (in English)

Level of Progress achieved:

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

Description:

An initial cost benefit analysis of the economic impact of natural disasters on development in Vanuatu was conducted in 2005. Out of this initial study, an economic assessment tool was developed for sectoral (social, economic and infrastructure) assessments of disaster impacts and guidelines on baseline data collection was developed. The Vanuatu DRR and DM National Action Plan stipulates for adaptation and risk reduction measures to be implemented particularly assessments of potential impacts of particular scale of disaster event on at risk communities for input into sector planning for disaster risk reduction and disaster management and the strengthening of systems for the collection of historical / baseline data on hazards and vulnerabilities. In addition, the NAP outlines for government officials are to be trained in the use of such tools to enable them to conduct multi-risk assessments. The Draft NDRM arrangements also recognise the use of tools and techniques from other countries and regions that may be relevant to

Vanuatu.

Context & Constraints:

The first initial study has been the only one since. However the findings of the research is currently being used to highlight at decision-making level of the Finance and Planning Ministry of Vanuatu of the need to incorporate disaster risk reduction and disaster management into national planning and budgetary process.
