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ASSESSMENT AND OPTIONS FOR DISASTER RISK REDUCTION AND CLIMATE CHANGE ADAPTATION PROGRAM IN INDONESIA

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ACRONYMS

AADMER	ASEAN Agreement on Disaster Management and Emergency Response
AIFDR	Australia Indonesia Facility for Disaster Reduction
ASEAN	Association of Southeast Asian Nations
AUSAID	Australian Government's Overseas Aid Program
BAPPENAS	<i>(Bahasa)</i> National Planning Agency
BMKG	<i>(Bahasa)</i> Meteorological and Geophysical Agency
BNPB	<i>(Bahasa)</i> National Disaster Management Agency
BPBD	<i>(Bahasa)</i> Local Disaster Management Agency
CCA	Climate Change Adaptation
CDE	Consortium for Disaster Education
CSO	Civil Society Organization
DIPECHO	Disaster Preparedness European Commission's Humanitarian Aid Department
DM	Disaster Management
DRR	Disaster Risk Reduction
EC	European Commission
GFDRR	Global Fund for Disaster Risk Reduction
GIZ	German Bilateral Cooperation Agency
GoI	Government of Indonesia
HFA	Hyogo Framework for Action 2005-2015
HFI	Humanitarian Forum Indonesia
IFRC	International Federation of Red Cross and Red Crescent Societies
INGO	International Non-Governmental Organization
ISDR	International Strategy for Disaster Reduction
ITB	<i>(Bahasa)</i> Bandung Institute of Technology
JICA	Japan International Cooperation Agency
LIPI	<i>(Bahasa)</i> National Institute of Sciences
MDF	Multi Donor Fund
MoHA	Indonesian Ministry of Home Affairs
MoMAF	Indonesia Ministry of Marine Affairs and Fisheries
MPBI	<i>(Bahasa)</i> Indonesian Society for Disaster Management

NAP DRR	National Action Plan for DRR
NU	Nahdlatul Ulama (<i>Bahasa</i>) Islamic Grassroots organization
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
PfR	Partners for Resilience
PLANAS	(<i>Bahasa</i>) National Platform for Disaster Risk Reduction
PNPM	(<i>Bahasa</i>) National Rural Community Empowerment Program
PMI	(<i>Bahasa</i>) Indonesian Red Cross Society
RENAS PB	(<i>Bahasa</i>) National Disaster Management Plan
RISTEK	Ministry of Research and Technology
SC-DRR	Safer Communities for Disaster Risk Reduction
SATGANA	(<i>Bahasa</i>) Disaster Response Units (Indonesian Red Cross)
SOP	Standing Operating Procedure
TAGANA	(<i>Bahasa</i>) Disaster Alert Youth
EWS	Early Warning System
TNI	(<i>Bahasa</i>) National Defence Forces
UNDP	United Nations Development Program
UNESCO	United Nations Educational Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
UNTWG DRR	UN Thematic Working Group on Disaster Risk Reduction
USAID	United States Agency for International Development
WB	World Bank

SECTION 1

INTRODUCTION

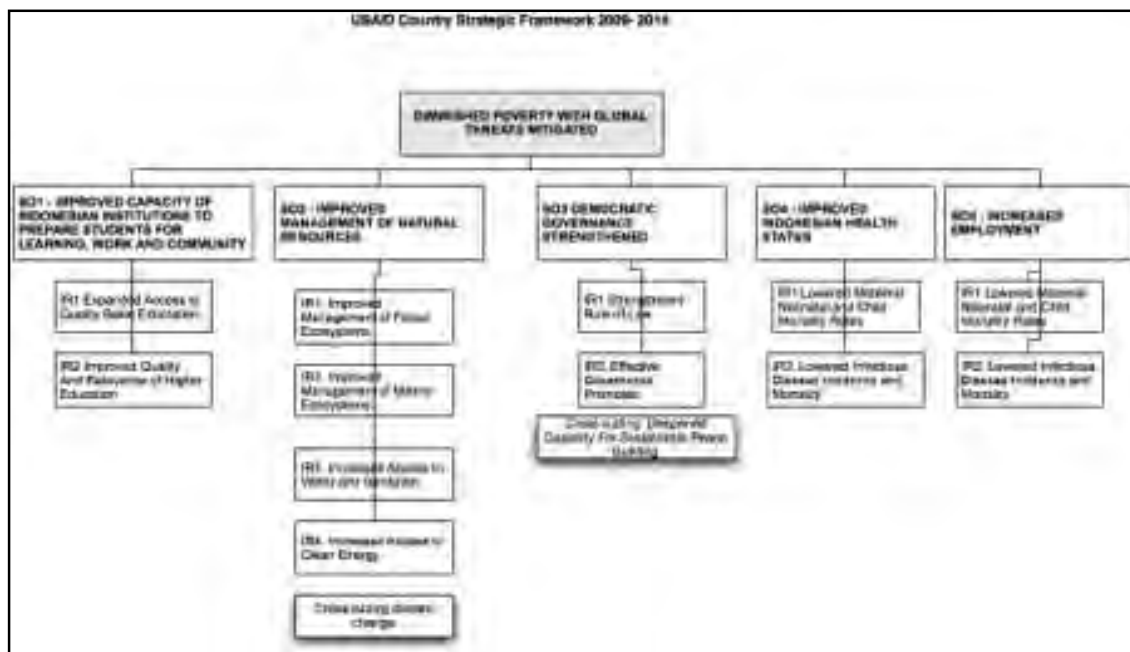
This report presents the findings of an independent assessment of opportunities for the development of a USAID disaster risk reduction program in Indonesia under its country strategic plan 2009-2014. It is based on a review of country-specific literature on DRR and CCA, field visits and the engagement of stakeholders by the team members.

1.1 USAID INDONESIA COUNTRY OPERATIONAL PLAN

USAID/Indonesia's Country Strategy covers the period 2009-2014. Its main objective is "Diminished poverty with global threats mitigated" and includes five strategic objectives: (1) improved capacity of Indonesian institutions to prepare students for learning, work and community, (2) improved management of natural resources, (3) democratic governance strengthened, (4) improved health status of Indonesians, (5) increased employment.

In spite of rapid economic growth in the last decades, approximately 140 million people still live on less than US\$2 per day and average per capita income is \$814. Seventeen percent of the population lives in rural areas where poverty levels have begun to decline thanks to a concerted government effort. Climate variability and change are exacerbating many of the disaster risks that Indonesia faces today. During the past four decades, floods, droughts, storms, landslides and forest fires have posed the greatest threats to livelihoods, economic growth and environmental sustainability.

Figure 1 USAID Country Strategy Framework 2009-2014



The Strategic Objective 2 Framework provides the overall matrix through which USAID's DRR and CCA program activities are monitored and evaluated.

USAID disaster risk reduction work falls under Strategic Objective 2: 'Improvement in management of natural resources' as a cross cutting strategy under IR2 Improved Management of Marine Eco System. The objective is: "strengthened community resilience to disasters and ability to adapt to climate change."

1.2 ASSESSMENT GOALS

The overall objective is to analyze opportunities for the US Government to support the Government of Indonesia in implementing disaster risk reduction programs that will better prepare communities and government before disasters strike (see Appendix 1 Statement of Work).

The purpose of this program assessment is threefold:

- **Assess current Indonesian disaster risk reduction programs**

To present an overview of current disaster risk reduction programs at the national, provincial and district levels in Indonesia.

- **Identify GOI Disaster Management Program Priorities**

Identify and summarize GOI priorities in disaster risk reduction programs and the funding mechanisms for different GOI institutions to implement activities. Identify the gaps and opportunities for effective DRR implementation, at the national, provincial, and district levels.

- **Recommend options for a disaster risk reduction program for Indonesia's current and future needs**

Suggest a range of options for the best investment of USAID funds in the new disaster risk reduction program. The goal is to enable district governments to implement a successful climate adaptation and disaster management program that will involve relevant stakeholders, such as non-governmental organizations, schools, parliaments and the private sector. Identify priority provinces and districts and activities for USAID funds.

1.3 RATIONALE FOR DRR AND CLIMATE CHANGE ADAPTATION

Globally, there is a reported **trend of increasing frequency and impacts of disasters**. As stated in the Hyogo Framework for Action 2005 – 2015 (HFA), disaster loss is on the rise with grave consequences for the survival, dignity and livelihood of individuals, particularly the poor, and for hard-won development gains. Disaster risk is increasingly of global concern and its impact in one region can have an impact on risks in another, and vice versa. This, compounded by increasing vulnerabilities related to changing demographics, technological and socio-economic conditions, unplanned urbanization, development within high-risk zones, under-development, environmental degradation, climate variability, climate change, geological hazards, competition for scarce resources, and the impact of epidemics such as HIV/AIDS, points to a future where disasters could increasingly threaten the world's economy and its population, and the sustainable development of developing countries. In the past two decades, on average more than 200 million people have been affected every year by disasters (**UNISDR, no date**)

Disaster risk arises when hazards interact with physical, social, economic and environmental vulnerabilities. The social and economic debilitation triggered by disaster events has prompted a transformation in the practice and goals of disaster management (Table 1). The change is to a DRR agenda that requires a comprehensive and integrated approach to hazard management, emphasizing the significance of vulnerability to hazards as a fundamental determinant of potential loss (FCCC/TP/2008/4).

**Table 1: The established shift of disaster management
to a disaster risk reduction agenda**

Disaster Management	Disaster Risk Reduction
Focus on hazards	Focus on vulnerability
Reactive	Proactive
Science – or expert - driven	Partnerships with a wide range of stakeholders including those at risk
Response management	Risk management
Symptoms	Causes
Local focus	Broader context

Source: FCCC/TP/2008/4

Disaster Risk Reduction (DRR) is a systematic approach to identifying, assessing and reducing the risks of disaster. It aims to reduce socio-economic vulnerabilities to disaster as well as dealing with the environmental and other hazards that trigger them. According to [UNISDR](#) and [UNDP](#), disaster risk reduction is "the conceptual framework of elements considered with the possibilities to minimize vulnerabilities and disaster risks throughout a society, to avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazards, within the broad context of sustainable development."¹

Climate change threatens to exacerbate the impacts on development and livelihood security in two ways. First, the occurrence of weather-related and climate hazards is likely to increase. Second, the impacts will become more dramatic on account of increases in the vulnerability of communities to natural hazards, particularly as a result of ecosystem degradation, reduction in water and food availability, and changes to livelihoods (UNISDR, 2008). **This means climate change will increase vulnerability to both climate and non-climate hazards.** (FCCC/TP/2008/4).

Climate change adaptation is a broad concept and it addresses a wide range of risks not only associated with disasters. The progressive drying out of continental interiors, the melting of glaciers, sea level rise, changes in ecosystems, including extinction of species, and the salinization of groundwater, are examples of climate related risks that do not manifest themselves in the form of rapid disasters. Similarly, the economic sectors, livelihoods,

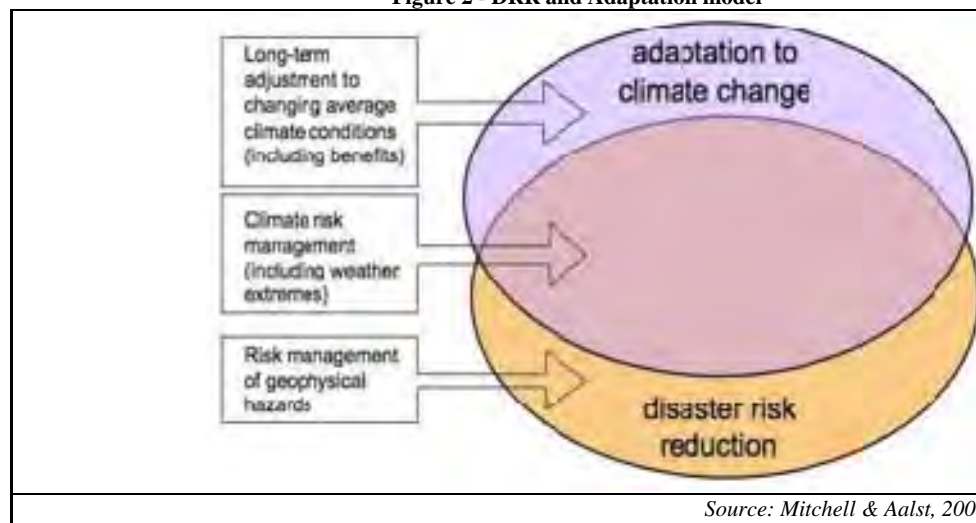
¹ In the Indonesian Disaster Management Law (24/2007), disaster risk reduction (or pengurangan risiko bencana as termed in Bahasa Indonesia) is defined as an afford or activity conducted before disaster happen rather than an overarching concept (see Article 35). However, the overall contents of the Law reflect the concept of DRR as defined by international community.

stakeholders and decision-makers involved in adaptation are not synonymous in all cases with those involved in DRR. In spite of this, the implementation of DRR policies and practices can facilitate adaptation; indeed, the United Nations Secretary-General has described DRR as a first line of defence in adapting to climate change. (FCCC/TP/2008/4).

As adaptation is necessary to address impacts of climate change due to past emissions (IPCC, 2007), the integration of adaptation and DRR into national policies and programs is now imperative, especially for the States and communities that are most vulnerable to climate hazards. Both the Bali Action Plan and the Hyogo Framework for Action recognize this importance. The Bali Action Plan calls for enhanced action on adaptation including consideration of DRR strategies and means to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change. (FCCC/TP/2008/4).

However, while reducing the risk of weather extremes is a substantial component of managing climate risk and of the overlap between DRR and adaptation (Figure 2), DRR does not equal adaptation, and effective disaster risk management in a changing climate is more than business as usual. (FCCC/TP/2008/4).

Figure 2 - DRR and Adaptation model



Hydro-meteorological factors have contributed the most number of disaster events in the last 20 years (1990-2009) in Indonesia, affecting the most number of people and causing the biggest financial losses, including loss of agricultural productivity. Climate change is expected to contribute to more frequent, severe and unpredictable hydro-meteorological hazards such as recurring floods and droughts. Prolonged drought in turn is projected to worsen the impact of forest fires. Climate change will also impact on the vulnerabilities of communities to cope with disasters due to decreased food security as production patterns and outputs change due to shifts in rainfall, evaporation, run-off water and soil moisture. DRR and CCA share the same agenda and similar interventions and approaches are required to reduce vulnerabilities for both disasters and climate change impacts.

Joint work in terms of DRR and CCA towards the common objective of reducing threats to development is an effective use of resources. In areas both affected by climate change,

climate related hazards and other hazards, duplication of efforts, administrative inefficiencies, and even competition among various groups, not only hamper DRR and adaptation efforts, but also compromise the overall effective use of resources.

From a technical perspective, the growing climate change efforts may waste time and impact by reinventing the wheel if they do not take into account the wealth of experience, methods and tools developed for DRR. On the other hand, efforts on DRR that do not take account of changing hazards may not only fail to achieve their objectives, but even increase vulnerability, for instance when flood mitigation measures provide a false sense of security, but then fail to provide lasting protection against future flood risk due to changes in weather patterns.

1.4 METHODOLOGY OF THE STUDY

The assessment team consisted of three consultants, Sébastien Fesneau (team leader), Hening Parlan, governance specialist, and Djoni Ferdiwijaya, DRR/Community Specialist. The team carried out its work between July and August 2011. Its methodology is summarized in the following paragraphs. (The Work Plan appears in Appendix 2)

Literature Review. The team reviewed publications including those on policy regulations, NAP/ DM Plan, HFA progress reports, USAID program and policies, project documentation, policy frameworks, general DRR and CCA reports, and a variety of other documents. (A list of documents and publications reviewed appears in Appendix 4)

Meetings with Key Stakeholders. Team members met and interviewed dozens of individuals from USG/USAID and implementing partners, government officials at national and provincial levels, donor representatives and institutions implementing DRR programs. These interviews served to educate the team about the history of DRR programs. (A list of these meetings and summaries appear in Appendix 5)

Site Visits and Interviews. The team selected a sample of areas to visit. The sample was chosen while keeping a number of factors in mind. Key characteristics included the province hazard profile, the presence of USAID CADRE partners, ongoing DRR programs, interest and research on climate change, established BPBPs, and representation of West, Central and Eastern Indonesia.

Focus Group Discussion. The assessment team conducted one facilitated focus group discussion involving individuals from the government, including BNPB, donor and multilateral agencies, United Nation agencies, and international and national non governmental organizations². The dialogs afforded the team an opportunity to present some of its preliminary findings, to receive feedback and to explore program recommendations and options. (See Appendix 6, Focus Group Discussion.)

Limitations

The consultancy was impacted by some challenges. Considering the scope of work, the size of the country, and the assigned duration for this consultancy, time has been the main limitation. Part of the consultancy was also implemented during the Muslim fasting month,

² in total, 46 participants: 12 representatives from government (Public Work, Ministry of Social Affairs, Ministry of Health, Basarnas and 3 from BNPB), 7 staffs of 2 donor organizations, 2 from United Nation agencies, and 23 staffs from international and national non governmental organizations and 2 from the Red Cross

which resulted at times in limitations on organizing interviews, for instance with government officials, due to government agencies' work schedules often being adjusted to the working day ending at around 2.30 or 3.00 pm. Also, only a half day instead of a full day was allocated for the Focus Group Discussion held in Jakarta to accommodate participants who were fasting. Jakarta's very traffic congestion limited the number of interviews per day and consumed a lot of time with travel; as a result, the interview period for Jakarta, which was initially planned for three weeks, was extended until the end of August.

Map of Indonesia



SECTION 2

INDONESIA DRR FRAMEWORK

2.1 DISASTERS IN INDONESIA

2.1.1 GENERAL

Indonesia is one of the most disaster prone countries in the world. Situated in the earthquake belt and Pacific ring-of-fire, it is a hot spot where several types of disasters such as earthquakes, tsunamis, volcanic eruptions, floods, landslides, droughts and forest fires frequently occur. The areas most vulnerable to earthquakes are Sumatra, Java, Bali, Nusa Tenggara, Maluku, Sulawesi and Papua. Indonesia also has 129 active volcanoes, 70 of which are classified as dangerous. Between 2001 and 2007 alone, 26 volcanic eruptions were recorded, predominantly in Java. Recently the people of Yogyakarta were recovering from eruptions of Mount Merapi, which killed 353 people, and displaced over 400,000 people.

In the last decade, Indonesia has experienced a number of major disasters, such as the earthquakes and tsunami of Aceh-Nias in December 2004 which killed 165,708 people and caused material losses of IDR 48 trillion (US\$ 5.6 billion) ; the earthquake in Yogyakarta and Central Java in May 2006 which killed 5,716 people, damaged over 300,000 houses and caused material loss worth IDR 29.1 trillion (US\$ 3.4 billion); the Jakarta flood in February 2007 inundated 145,742 houses and caused material loss of IDR 967 billion (US\$ 113 million); and the earthquake and landslide in West Sumatra in 2009 killed 1,100 people and approximately 265,000 collapsed houses with material loss of IDR 21.6 trillion (US\$ 2.5 billion).

From 1990 to 2009 (20 years), the BNPB-managed historical database (DIBI) recorded 7,730 disaster events. Disasters that were caused by hydro-meteorological hazards (e.g. floods, droughts, typhoons, landslides) comprised the majority of these events (4,945 events recorded), followed by geological hazards (1,086 events, e.g. earthquakes, tsunami, volcanic eruptions), man-made disasters (1,598 events, e.g. transportations, industry, conflicts) and epidemics (102 events, e.g. malaria, cholera, diarrhoea). Geological disasters killed the most people (182,141) and destroyed the most houses (1,628,289). However, hydro-meteorological disasters affected the most people in terms of disruptions to their daily lives, e.g. being evacuated, disruption of crop production and livelihoods, as well as financial losses due to disasters.

Appendix 8a shows the 20 year historical period of disasters in Indonesia (1990-2009) and Appendix 8b shows villages and populations ever exposed to various types of hazards.

Based on the National Action Plan 2010-2012 and the National Disaster Management Plan 2010-2014³, **428 out of 498 districts face high to extreme high risks from either one or more hazards (earthquake, tsunami, volcanic eruptions, drought, floods, land movements)**. These districts are prioritized by the government for disaster risk reduction. The list of identified and prioritized districts is presented in Appendix 11 - Priority Areas.

Based on current understanding, climate change is expected to have impacts on water availability, rising sea level, biodiversity and human health in Indonesia. Decreased rainfall during critical times of the year may translate into high drought risk, unreliable water availability, and consequently, uncertainty about the ability to produce agricultural goods. It can also lead to economic instability, and a drastic increase in the number of undernourished people, which will hinder progress in reducing poverty and food insecurity. By contrast, increased rainfall during already wet times of the year may lead to high flood risk. Stronger, more frequent El Niño events will exacerbate drying and/or flooding trends and could lead to decreased food production and increased hunger. One million people are at risk from flooding and sea-water intrusion due to a rise in sea-level and declining dry-season precipitation negatively impacting the aquaculture sector (e.g., fish and prawn industries) and infrastructure along the coasts of South and South-East Asia. More frequent forest fires are having significant impacts on wildlife habitats and biodiversity and are translating into serious economic and domestic and trans-boundary pollution consequences. For instance, the economic costs of the droughts and fires in 1997-1998 were about US\$ 9 billion. Climate change is also expected to have impacts on human health: increased vector-borne infections (e.g., malaria and dengue), an expansion of water-borne diseases, such as diarrhoea, an increase in infectious diseases, poor nutrition due to food production disruption, ill-health due to social dislocation and migration, and increased respiratory effects from worsening air pollution and burning⁴. Climate change will have impacts on the hazards as well as people's vulnerabilities and their capacity to manage disasters.

2.1.2 DISASTER RISK ANALYSIS

Disaster risk analysis, as implicitly and explicitly laid out in the Disaster Management Law (Law no 24/2007) serves different purposes, such as for prevention and early warning. The Law stipulates that disaster management planning should be carried out before disasters happen and should comprise of, among others, the identification and assessment of hazard, understanding community vulnerability, and the analysis of potential disaster impacts. The disaster management planning is subject to occasional review by the governments, thus its information about risks should also be updated. The Law also requires any development activities that potentially create disasters to be equipped with risk analysis. The Law requires the BNPB to prepare and stipulate the requirements for disaster risk analysis, and to monitor and evaluate its implementation. As such, disaster risk analysis is not a one-off activity, but a continuous process of collecting, analyzing, disseminating and updating information regarding hazards, vulnerabilities and capacities. The many purpose of disaster risk analysis, as mentioned above, to achieve an effective disaster management in a country as big and diverse as Indonesia, will require systematic and effective governance for the collection, documentation, analysis, and dissemination of disaster risk information, not only through a project driven approach.

³ It is to note that the NAP-DRR 2010-2012 and RENAS 2010-2014 have identified slightly different list. This report combines both lists into one considering both are semi-official government and multi-stakeholders references.

⁴ WWF, Climate Change in Indonesia: Implications for Humans and Nature

There are different government agencies and stakeholders collecting data and information in different formats and using methodologies, according to their own disciplines and mandates. The main stakeholders in the assessment and analysis of hazards, vulnerabilities, capacities and risks of disasters, located in various institutions, include: Department of Geology, ESDM, BMKG, LIPI, Public Works, Ristek, BPS, etc. All have specific tasks in identifying and analyzing particular hazards and specific aspects of a hazard. For example, earthquake risk analyses may need information collected by many other organizations.

There have been some initiatives to identify disaster risks in Indonesia, mostly focusing on hazards and, to some extent, including exposure to disasters at the national, provincial and district level. Among the initiatives are: earthquake shake map by Team 8 supported by AIFDR; the Georisk project by GIZ-Department of Geology; Risk Mapping/indexing in 33 provinces by BNPB/UNDP; and many other risk mapping initiatives by relevant GoI agencies, etc. As found in the Indonesian country report on the achievement of HFA, social economic vulnerability analysis has not yet meaningfully incorporated into risk analysis (see BNPB 2009).

Some efforts to conduct climate change vulnerability and risk assessment in Indonesia, e.g. WWF-GIZ-Bappeda NTT climate change vulnerability assessment in Lombok Island of NTB, the first ever provincial level analysis in Indonesia. There are now plans for the methodology to be conducted in two more provinces in 2011.

Disaster risk analysis is happening at different levels. As part of the process, disaster risk analysis (e.g. using the Vulnerability Capacity Assessment tool) is a common practice in community-based disaster risk management. The results have been used to inform action plans at the community level. However, the risk information generated from community processes has not yet been used to inform the higher level analysis. There are many community-based disaster risk reduction projects currently being implemented in Indonesia (see Program section).

AIFDR is currently developing a disaster risk analysis tool, called ‘Risk in a Box’, intended as a common tool for use by different governmental and non-governmental stakeholders at different levels. Once adopted and used nationally, this tool has the potential to become a technological platform for the collection of information, analysis and dissemination of risk information.

Indonesia has developed its own disaster loss database called DIBI (Database Pengelolaan Data dan Informasi Bencana Indonesia). DIBI is a historical disaster database managed by BNPB and was officially launched in 2008, using the DesInventar and DesConsultar methodology. According to BNPB⁵, DIBI has been used by the GoI and stakeholders to develop risk mapping and risk indexing, and for the determination of which districts are disaster prone and should establish their own BPBD. The index is also used by the Ministry of Finance to allocate a Special Allocation Fund for Disaster Management in District/City level; support the National Disaster Management Strategic Plan (RPB); support the National Action Plan for Disaster Risk Reduction (RANPB); support for national program policies and development plans to reduce the vulnerability of people living in highly disaster prone areas in many ministries/agencies, such as: the National Rural Community Empowerment Programme (PNPM Mandiri); School and Hospital Safer Programme; the

⁵ Presentation by Dr. Sutopo P. Nugroho at the launching of Global Assessment Report 2011 in Jakarta, August 2011.

Rice for the Poor Programme; and Social Security for Vulnerable Senior Citizens Programme as well as used by universities for research, etc. DIBI has been linked to the Management Information System for PNPM Mandiri, hence enabling cross-referencing between DRR and poverty. Although it has been widely used as a reference for policy making purposes, DIBI has some weaknesses and constraints in fully accounting the disaster losses in Indonesia. DIBI has no clear parameter to determine and keep account of disasters. It is also currently being brought down to provincial level (e.g. in Central Java, Yogyakarta, West Sumatra) and has not yet reached district level.

2.2 LEGAL, POLICY & INSTITUTIONAL FRAMEWORK

2.2.1 LEGAL AND POLICY FRAMEWORK

The Government of Indonesia has long had an in-principle commitment to disaster risk reduction but the 2004 tsunami the global conference on disaster management and adoption of the Hyogo Framework for Action 2005-2015, along with the push from Indonesian civil society organizations⁶, were the main drivers for the GOI to accelerate ongoing policy

Hyogo Framework for Action 2005–2015

The Hyogo Framework for Action 2005–2015: Building the Resilience of Nations and Communities to Disasters, is a 10-year plan for all stakeholders on disaster reduction efforts. It was adopted by 168 Member States of the United Nations in 2005 at the World Disaster Reduction Conference, which took place just a few weeks after the Indian Ocean Tsunami.

The Hyogo Framework’s overarching goal is a substantial reduction in disaster losses—in lives and in the social, economic and environmental assets of countries and communities. The Framework outlines five priorities for action:

1. Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation.
2. Identify, assess and monitor disaster risks and enhance early warning.
3. Use knowledge, innovation and education to build a culture of safety and resilience at all levels.
4. Reduce the underlying risk factors.
5. Strengthen disaster preparedness for effective response at all levels.

A summary of the Hyogo Framework for Action is in Appendix 10.

debates and the development of a formal legal framework for disaster risk management and disaster risk reduction.

Disaster Management Law 24/2007

The Disaster Management Law No.24/2007 represented a stepping stone in shifting the paradigm from response to a wider risk management perspective, taking a rights-based approach to the protection of the public and viewing disasters as “everybody’s business”, not

⁶ The Indonesian Society for Disaster Management (MPBI) played a critical role in leading the advocacy for the legislation

simply of the government's responsibility. The DM Law aims to address the synchronization of the existing laws and regulations, as well as the establishment of a comprehensive disaster management system. It allows for the establishment of the National and Local Agencies for Disaster Management, (BNPB⁷ and BPBD⁸) and rationalizes the structure of existing agencies under the leadership of a National Disaster Management Agency (BNPB) with strengthened powers to act during times when a state of emergency is declared. These powers include authority to (a) mobilize response resources, (b) exercise influence over customs, immigration and quarantine, and when necessary, (c) exert "command" over sectors and locales. The DM Law has triggered the enactment of regulations at national⁹, regional and local levels. The DM also stipulates systematic integration of DRR into development planning at the national, provincial and local level through various means, including the formulation of a National Action Plan (NAP), a Local Action Plan (LAP) and a National Platform for disaster risk reduction.

The National Mid Term Development Plan (RPJMN)

The National Medium Term Development Plan 2010-2014 (RPJMN) has adopted both DRR and CCA as national priorities. Key targets are (a) to strengthen disaster management capacity in terms of policy framework, institutional and community capability to cope with current and future crises; (b) to reduce emissions from peat fires and peat land degradation; and (c) to manage industrial waste, river basin rehabilitation and sustainable forest management. The plan includes disaster management as one of nine national priorities, and stresses the importance of mainstreaming DRR as an integral element of development at both at the national and local levels. Under the plan's DRR focus, 7 programs and 33 activities for the pre-disaster phase are proposed and are to serve as a reference for ministries and agencies in the formulation of future Government Work Plans (RKPs). By 2015, the Plan calls for the completion of Local Action Plans for all 33 provinces and 275 districts and municipalities that are considered to be vulnerable to natural disasters in coastal and mainland areas.

The National Disaster Management Plan 2010-2014 (RENAS PB)

The National Disaster Management Plan 2010-2014 (RENAS PB) is a five-year plan that consists of policies, strategies and priorities of disaster management. The purpose of the plan is twofold: (1) identification of hazard prone and high risk areas and formulations of actions, priorities and indicative budgets; (2) provision of a reference for government and other DM stakeholders to formulate and implement disaster management plans in a planned, integrated, coordinated and comprehensive manner. The plan also informs the development of Local DM Plans at the provincial level and below. The plan thus aims at facilitating coordinated and comprehensive plans and action in DM and DRR throughout Indonesia.

The DM plan emphasizes the importance of multi-stakeholder partnerships though clear roles to actors outside the government or suggested mechanisms for cooperation. The DM plan refers to the National Platform (DRR PLANAS) and similar multi-stakeholder forums at regional levels and their objectives to facilitate cooperation in DM/DRR.

The National Action Plans for Disaster Risk Reduction 2010-2012 (NAP-DRR)

⁷ Badan Nasional Penanggulangan Bencana or BNPB National Disaster Management Agency

⁸ Badan Penanggulangan Bencana Daerah or BPBD - Local Disaster Management Agency

⁹ The Disaster Management Law No 24/2007 was supported by other legislation including: Law No 26/2007 on spatial planning No 27/2007 on disaster management for coastal areas and small islands, No 08/2008 establishing the National Disaster Management Agency (BNPB); No 21/2008 covering the implementation of disaster management No 22/2008 on funding and management of disaster relief.

The National Action Plan for Disaster Risk Reduction 2010-2012, reflects Indonesia's commitment to Hyogo Framework for Action. The NAP DRR 2010-2012 follows the first plan which covered the period 2006-2009 and was formulated through a process of multi-stakeholder consultation led by BNPB and the National Development Planning Agency (Bappenas). The plan outlines the division of responsibilities between government, development partners, NGOs and civil society, and includes a set of indicative programs and budgets for implementation. In practice, this NAP DRR should be broken down into the Local Disaster Risk Reduction Action Plans or LAP DRR at the provincial and district/municipality levels. The NAP DRR and LAP DRR are the guidance for local agencies (K/L or SKPD) to integrate their programs and activities in disaster risk reduction.

Figure 3 - Planning Process



Planning Mechanism - Programs and activities related to DRR are developed in different sectors. The Annual Work Plan (RKP) sets out all programs for each sector on a calendar year basis.

2.2.2 INSTITUTIONAL FRAMEWORK FOR DRR

BNPB & BPBDs

The national disaster management agency (Badan Nasional Penanggulangan Bencana, BNPB) is a non-departmental government agency equivalent to a Ministry, reporting directly to the President of Indonesia. It consists of three components: (a) Chief of BNPB; (b) Steering component; and (c) Implementation component. The Chief of BNPB has the role of leading the BNPB as well as the implementation of its responsibilities and functions. BNPB is under the coordination of the Coordinating Ministry of Public Welfare. It has the following functions:

- Drafting and setting disaster management policy and the management of displaced people responsibly, appropriately, as well efficiently and effectively; and
- Coordinating the implementation of planned, integrated and comprehensive disaster management activities.

The Steering component of BNPB consists of 10 Echelon I government officers from the Ministries, Police and the Military, and 9 members from professional communities. The Steering component is headed by, and responsible to, the Chief of BNPB.

The organization of BNPB reflects the components of the disaster management cycle; the functions of the Implementation component of BNPB are to coordinate, command and implement disaster management and it consists of:

- (a) the Main Secretariat;
- (b) Deputy for Prevention and Preparedness;
- (c) Deputy for Emergency Response;
- (d) Deputy for Rehabilitation & Reconstruction;
- (e) Deputy General Logistics & Equipment;
- (f) Main Inspectorate;
- (g) Centre; and
- (h) Technical Implementation Units

2.2.3 CLIMATE CHANGE ADAPTATION (CCA)

The GOI has introduced several initiatives in relation to climate change:

- The National Action Plan for Mitigation and Climate Change Adaptation was published in 2007, presenting long term scenarios and objectives until 2050.
- In 2008, the National Council for Climate Change (DNPI) was established under Presidential Regulation No.46/2008.
- In May 2010, Bappenas issued the Indonesia Climate Change Sectoral Roadmaps (ICCSR), which serve as a reference to mainstream climate change as part of the National Medium-Term Development Plan 2010 – 2014. ICCSR provides a strategic vision which focuses on the challenges in key sectors such as forestry, energy, industry, transport, agriculture, coastal areas, water, waste management and health. It also outlines several strategies in relation to : (a) data, information and knowledge management, (b) planning and policy, regulation and institutional development, and (c) implementation, monitoring and evaluation.

The Indonesia National Committee on Climate Change (DNPI) consists of 17 ministries and 1 agency (BMKG), while BNPB is not part of it. The main actors in terms of climate change in Indonesia are Ministry of Environment, Ministry of Agriculture, Ministry of Public Works, Ministry of Marine and Fisheries, Bappenas and BMKG. They lead the discussions on climate change. These actors have their own sectoral perspectives. Disaster is seen as a cross cutting issue in these sectors. While disasters (e.g. floods, landslides, droughts, etc.) are prominently mentioned in climate change documents (e.g. in the Indonesia Country Report: Climate Variability and Climate Changes, and Their Implications, GoI 2007), disaster risk management is not a priority sector in the climate change strategy. Fisheries, agriculture and health are the main priority sectors in tackling the impacts of climate change.

DNPI seem to encourage¹⁰ adaptations that address the negative or positive impacts of climate change on development and on anticipative (planned) adaptation rather than

¹⁰ from stakeholder interview

reactive ones. Most of the disaster risk reduction measures in Indonesia are short term and addressing more immediate vulnerabilities, such as preparedness for disaster, rather than root causes. This is seen by the Climate Change communities as not enough to address the vulnerabilities to climate change.

There have been some efforts to promote DRR as an effective tools for climate change adaptation (see, for example FCCC/TP/2008/4. Also Mitchell et al, 2008). The IPCC Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX)¹¹ in November 2011 is expected to be a milestone in the integration of DRR and climate change adaptation.

While there is no specific national budget for adaptation, there are budget allocations for adaptation in sectoral departments, such as in Ministry of Public Works, Ministry of Agriculture, Ministry of Forestry, Ministry of Environment, etc. These are more reactive adaptations and attributive rather than planned adaptation.

2.3 BNPB CAPABILITY ASSESSMENT

As newly established agencies, BNPB and the BPBDs have crystallized a lot of expectations but also criticisms. BNPB's leadership and ability to synergize all DRR stakeholders, in particular, has been questioned. BNPB faces several major challenges in promoting DRR: (a) the continuing legacy of the old Disaster Management paradigm i.e. a focus on response and recovery, (b) the BNPB does not wield sufficient authority over Line Ministries to ensure coordination and align them behind a DRR agenda. As in other countries, Line Ministries are concerned about cross-cutting mandates such as DRR and possible competition for resources.

The ability of the BNPB and the BPBDs to carry out their mandate hinges in part on the way the organizations are structured and the operational procedures adopted for administration, management, planning, budgeting and implementation. The institution lacks clear parameters as to the basic commitment of collaboration between the stakeholders and BNPB. In 2010, SCDRR commissioned a capacity assessment of the BNPB which highlighted strengths and weaknesses, outlined general concepts and road maps for strengthening capacity. One constraint observed in the field is that the heads of BPBDs have little control over the recruitment and retention of staff. Instead they depend on others to transfer staff from other departments to fill vacancies and may lose key personnel that are transferred out to other departments. Staff capacity is listed as a first priority for basic knowledge on DRR, but also core competencies including management, project management and leadership.

BNPB capacity is growing and has GoI confidence as indicated by the substantial increase of the national budget allocation to the agency increased from IDR 28 billion (US\$ 3.1 million) in 2010 to IDR 260 billion (US\$ 28.9 million) in 2011.

2.4 BUDGET

The overall funding for the NAP DRR 2010-2012 is about 5 US\$ billion and primarily comes from the national budget (APBN), while also, to a lesser degree (about 0.01% of the GoI

¹¹ <http://www.ipcc-wg2.gov/AR5/extremes-sr/index.html>

budget), from donor agencies and the private sector. Budget funds sourced from the APBN are routinely allocated through the budget of each ministry/agency to allow consistent and sustainable implementation of disaster risk reduction efforts.

Budgeting for NAP-DRR implementation is not “on top” funds from the strategic plan of ministries/agencies, but it may potentially serve as an instrument for the mainstreaming of budget funds related to the disaster risk reduction initiatives. The mechanism of funding originating from non- government budget is regulated in accordance with the regulations of the respective institutions or agencies.

Funding sourced from the APBN in the context of disaster management refers to the budgeting system provided for in Decision of the State Minister for National Development Planning/the Head of Bappenas and the Minister of Finance. This means that the implementation of programs/activities specified in the matrix of the NAP-DRR 2010-2012 must be adjusted to the budget nomenclature related to disaster management of each ministry/institution by referring to the Governments Work Plan (RKP) documents.

Also, budget allocations in multi-sector long-term plans such as the NAP DRR do not automatically translate into annual budget allocations at the sector or local government level and should be generally taken as indicative rather than actual.

While DRR measures are being developed through the National and local Action plans, available resources are still centralized at the national level; as such local authorities have limited capacities to independently implement local disaster management and contribute to address the underlying cause of vulnerabilities related to DRR. Furthermore, BPBDs have often been established after the middle term development planning and annual budgeting period. This, combined with the lack of capacity of BPBD staff to develop DRR programs, causes unrealistic and ineffective risk reduction measures being taken.

The disaster management plan and related budget exist in few regions, whether in provinces or districts. This budget exists in some SKPD and is being coordinated by the BAPPEDA (local development planning agency). There are two types of budgets: on call or response budgets and disaster risk reduction (DRR) budgets. Unfortunately, the DRR budget cost line is either inappropriate or non-existent. The result is at times only 20-30 percent of the DRR program budget remaining, as the team observed during field visits to Padang Pariaman (West Sumatra) and NTB province. National Action Plans (RAN PRB) have not been used as guidelines for DRR budgeting at local level.

Table 2 - National Action Plan Budget 2010-2012

HFA PRIORITY / PROGRAM	2010	2011	2012	Total	US\$ million	% total allocation
HFA1						
Strengthening Laws & Regulations and Institutional Capacity	204,463	393,458	255,261	853,182	\$100.4	
Disaster Management Planning	164,991	172,957	193,272	531,220	\$62.5	
TOTAL HFA1	369,454	566,415	448,533	1,384,402	\$162.9	3.3%
HFA2 :						
Research, Education, and Training	384,164	465,215	502,345	1,351,724	\$159.0	
Total HFA2	384,164	465,215	502,345	1,351,724	\$159.0	3.3%

HFA PRIORITY / PROGRAM	2010	2011	2012	Total	US\$ million	% total allocation
Disaster Prevention and mitigation	13,449,284	7,481,712	8,118,856	29,049,852	\$3,417.6	
TOTAL HFA3	13,449,284	7,481,712	8,118,856	29,049,852	\$3,417.6	70.2%
HFA4						
Early Warning	280,342	316,395	352,490	949,227	\$111.7	
TOTAL HFA4	280,342	316,395	352,490	949,227	\$111.7	2.3%
HFA5						
Enhancement of community participation and capacity	269,111	277,566	302,178	848,855	\$99.9	
Preparedness	1,865,795	2,854,809	3,097,112	7,817,716	\$919.7	
TOTAL HFA5	2,134,906	3,132,375	3,399,290	8,666,571	\$1,019.6	20.9%
TOTAL	16,618,150	11,962,112	12,821,514	41,401,776	\$4,870.8	

OVERVIEW OF DRR PROGRAMS

3.1 INTRODUCTION

Providing an exhaustive overview and mapping of DRR initiatives in Indonesia is almost an impossible exercise, given the complexity of DRR, the size and diversity of the country, its actors, and at the local level in particular. It is also difficult to capture programs which integrate risk reduction or adaptation measures to climate change which are not necessarily labelled as such.

The program overview below does not aim to be exhaustive but instead to provide a review of program trends and funding mechanisms. The first section focuses on main government plans and key initiatives. The second section presents the main initiatives implemented in Indonesia with international support.

3.2 GOVERNMENT DRR INITIATIVES

3.2.1 DM PLAN AND NAP 2010-2012

The Disaster Management Plan 2010-2014 identifies 9 programs and 52 focus priorities for disaster management and also defines the targets for each of the priorities. The 9 programs are as follows:

1. Strengthen legal framework and institutional capacity (9 focus priorities);
2. Establishment of Comprehensive Disaster Management Plans (2 focus priorities);
3. Research, Education and Training (7 focus priorities);
4. Increased capacity and Community Participation and other Stakeholders in DRR (7 focus priorities);
5. Disaster Prevention and Mitigation (with an emphasis of risk mapping; spatial planning and non-structural and structural mitigation) (7 focus priorities);
6. Early Warning (1 focus priority);
7. Preparedness (10 focus priorities);
8. Emergency response (8 focus priorities);
9. Rehabilitation and Reconstruction (6 focus priorities).

The National Action Plan 2010-2012 provides a comprehensive list of programs (it is over 400 pages long), organized according to the priorities of the Hyogo Framework for Action.

The NAP provides a comprehensive description of the action plans of all parties, the Government, NGOs, international communities, the Indonesian Red Cross (PMI), the media and the private sector. These priorities are then divided into several activities, including: enhancement of regulatory frameworks and institutional capacities; integrated disaster management planning; research, education and training; capacity building and improvement

of people's and stakeholders' participation in DRR; disaster prevention and mitigation; early warning systems; preparedness, emergency response, and rehabilitation and reconstruction. It identifies 36 Ministries and Government Agencies with a role in disaster management or risk reduction but with few ministries' engagement as indicated from their individual contributions to the National Action Plan:

- The Ministry of Public Works (urban planning issues and zoning);
- The ministry of Education (DRR education; earthquake-resistant school building standards);
- The Ministry of Social Affairs (vulnerability mapping and community preparedness);
- The Ministry of Transport (resilience and safety of transport systems);
- The Ministries of Health (risk assessments and monitoring);
- The Ministry of Forestry (landslide and fire prevention);
- The Ministry of Marine Affairs and Fisheries (earthquake and tsunami disaster mitigation in coastal areas);

Out of the 323 activities implemented by Ministries/Agencies, Disaster Prevention and Mitigation is the main focus of the Plan, representing one third of all activities and 70% of the budget.

A main gap identified in the NAP-DRR 2010-2012 is the implementation of, socialization, training, and simulation on emergency response mechanisms as well as the procurement and preparation of materials, goods, and equipment for infrastructure and facilities recovery; some ministries/Agencies have not definitely determined the locations of activities/regions of activity plans they are proposing and the funding allocation for several activities has not been indicated either (E.g MoH).

The following section presents the plans from key agencies and ministries.

3.2.2 BNPB

BNPB's priorities are divided into prevention and mitigation, CBDRM, response, recovery and logistics (table 3). The total indicative budget per year is 2.376 million IDR for 2010, 2,850,950 million IDR for 2011 and 3,325,000 million IDR for 2012. Disaster Mitigation and Preparedness take a more prominent place in this program and focus on identification and monitoring disaster risk (such as the risk mapping of 33 provinces planned for 2011), spatial planning, environment management, dissemination guidelines of building regulation and construction of facilities and infrastructure. Preparedness program include community based program Desa Tangguh (resilient village) preparation of mechanism for disaster preparedness, preparedness for response, evacuation, drill and provision and preparedness of materials, goods and equipment of recovery. BNPB will also support the capacity development of BPBDs.

Table 3- BNPB plan 2010-2014

NO.	PROGRAM/ACTIVITY	GOAL	INDICATOR

NO.	PROGRAM/ACTIVITY	GOAL	INDICATOR
1	Prevention and reduction of disaster risk	1. Document of area action plan for disaster risk reduction is in place	1. Number of area action plan for disaster risk reduction (provincial & regency/city) is developed
		2. A support for establishing area disaster risk institutions is in place	2. Area disaster risk management institution (provincial & regency/city) is established
2	Empowering community in developing disaster preparedness	The capacity of apparatus is improved; the construction of government and community institution in area disaster management is in place	Training and construction of apparatus and community in disaster risk management (provincial & regency/city) is conducted
3	Preparing facilities and logistic in location which vulnerable to disaster	1. Logistic needs is in place	1. Provision of logistic needs (province & regency/city) is conducted
	Preparing logistical needs in location which vulnerable to disaster	2. Logistic needs in area affected by disaster is distributed	2. Distribution of logistic needs in area affected by disaster (province & regency/city) is conducted
4	Preparing facilities and logistic in location which vulnerable to disaster	1. Facilities needs is in place	1. Provision of facilities needs (province & regency/city) is conducted
	Preparing facilities in location which vulnerable to disaster	2. Facilities needs in area affected by disaster is distributed	2. Distribution of facilities needs in area affected by disaster (province & regency/city) is conducted
5	Developing information and communication technology application to reduce natural disaster risk and mitigation	1. Spatial disaster data is in place	1. Spatial disaster data is in developed
		2. Information data system of disaster management is in place	2. Information data system of disaster management is developed
6	Establishing preparedness facing disaster	1. Consultation on preparing contingency plan is in place	1. Number of contingency plan is developed
		2. Preparedness is in place through establishing Quick Disaster Response Force (SRC-PB)	2. Quick Disaster Response Force (SRC-PB) is in place
7	Emergency response in area affected disaster	Coordinating and implementing of emergency response in central and regional	Coordination and implementation of emergency response in central and regional are in place
8	Organizing refugee as a disaster victim	Organizing refugee as a disaster victim effectively and integrated	Organizing refugee as a disaster victim effectively and integrated is in place
9	Rehabilitation and reconstruction physical infrastructures in area in post-disaster stage	Coordinating and implementing rehabilitation and reconstruction physical infrastructures in area in post-disaster stage (West Java, West Sumatra and others post-disaster area)	Coordination and implementation of rehabilitation and reconstruction physical infrastructures in area in post-disaster stage (West Java, West Sumatra and others post-disaster area) are in place
10	Rehabilitation and reconstruction social economical in area in post-disaster stage	Coordinating and implementing rehabilitation and reconstruction social economical in area in post-disaster stage (West Java, West Sumatra and others post-disaster area)	Coordination and implementation of rehabilitation and reconstruction social economical in area in post-disaster stage (West Java, West Sumatra and others post-disaster area) are in place

3.2.3 OTHER MINISTRIES

Ministry of Home Affairs (MOHA/MENDAGRI)

The MOHA controls development activities related to disaster management conducted by local governments. In this ministry, disaster management issues are under the Directorate General of Public Governance (Ditjen PUM), at the Directorate of Prevention and Disaster Management. MOHA's program focuses on the strengthening coordination mechanisms and in improving the role of regional government and support to the new BPBDs and will support the implementation of SCDRR at the central and regional levels.

Specifically MOHA plans to emphasize the facilitation, coordination and understanding of regional government linked with the new BPBDs¹², support hazard analysis and capacity mapping in six provinces (Riau Islands, Yogyakarta, North Sulawesi South Kalimantan West Nusa Tenggara Papua), strengthen preparedness and capacity to mitigate fire hazards, support community based activities (CBDRR), improvement in preparation of disaster mitigation based on regional spatial plan; identification of disaster risk reduction measures; preparation of planning documents as well as laws and regulations; identification and monitoring of disaster risks, taking physical and non-physical steps as well as making arrangements for disaster management, and development of facilities and infrastructure.

The above activities are supported by the MOHA Strategy Plan for 2010-2014 which aims at increasing and improving institutional capacity, government facilities and infrastructure for post-disaster situations and DRR, and supporting poverty alleviation in the poorest regions affected by disasters, by improving the PNPM Mandiri Perdesaan (National Program on Village Community Empowerment).

The total indicative funding for disaster management activities for MOHA for 2010-2012 is IDR 26.494 billion with the source of these funds being APBN (State Revenues and Expenditures Budget). Meanwhile, the amount of funding provided by the APBN is IDR 211.7 billion for 2010-2014 based on RPJMN (national medium term plan).

Ministry of Defense (MOD)

In terms of DRR, the MOD maintains security in disaster affected areas, both during the emergency response and during post-disaster recovery. Its DRR activities are as follows: to coordinate the distribution of duties, authorities, and resources; environmental management; enhancement of the commitment of disaster management actors; and strengthening of the social resilience of the community. In terms of emergency response, MOD, or in this matter the Indonesian Army (TNI), has its own Rapid Response Team Force For Disaster (RRTF) that is stationed in both the east and west of Indonesia. The military also has Standby Unit Forces (from the navy, army, and air force). The total indicative funding for all of these activities amounts to IDR 57.564 billion from the APBN. In RPJMN, this budget is indicated in the OMSP or non-war military operation activities which has an allocation for 2010-2014 of IDR 1,485 billion.

The Ministry of Marine Affairs and Fishery. (MoMAF)

¹² MOHA issued ministerial Regulation No. 46 Year 2008 on Organization Guideline and Working Mechanism on Regional Disaster Management Agency (BPBD)

The MOMAF plans and controls mitigation efforts in tsunami and coastal abrasion. Its DRR activities include: preparation of planning documents as well as laws and regulations; development of culture of disaster awareness; environmental management; and construction of facilities and infrastructure. The total indicative funding for all of these activities is IDR 91 billion. The DRR activities are under the Directorate General of Maritime, Coastal, and Small Island. Furthermore, the legal basis of its activities is Government Regulation Number 64 Year 2010 on Disaster Mitigation in the Coastal and Small Islands.

These activities are facilitating of disaster mitigation on plan in coastal areas, improving community readiness in facing disaster, cultivation of green belt and construction of disaster friendly structure facilities.

Coastal Resilient Village (CRV) Empowerment (“BerKat”) Of particular interest is the Coastal Resilient Village program, a new initiative launched under presidential decree No 10/2011 on the improvement of fishermen livelihoods. The project targets 150 villages (50 districts and 4 cities) in 28 provinces between 2012 and 2015 and involves 11 ministries under the chair of MoMAF.

The program includes six areas, in relation to DRR and CCA:

- Human development – related to education and health
- Business development – skills, alternative livelihoods, etc.
- Resources development – access to information/resources, local wisdom/indigenous knowledge, etc.
- Environmental development – infrastructure included
- Disaster preparedness and climate change adaptation development – disaster data, DRR/response plans, exercises, etc.
- Institutional development in communities

MoMAF plans to work closely with other line ministries and BNPB, and complement as relevant other community based initiatives in coastal areas. A series of consultation with key stakeholders is planned for 2011 with an effective implementation starting in 2012. An initial budget for planning of US\$ 10.6 million (US\$ 70k per village) has been allocated. The overall budget will be contingent to the proposals, for which MoMAF seeking for external donor support.

Ministry of Public Works

The MOPW has a role in planning risk sensitive spatial planning, and locations and routes for evacuation and the need for recovery of public facilities and infrastructure. The DRR activities that are carried out by the ministry is under responsibility of several directorate generals, including: Directorate General of Highway Construction And Maintenance, Directorate General of Spatial Management, Directorate General of SDA, and Directorate General of Human Settlements. Its DRR activities as mentioned in the NAP DRR 2010-2014, are as follows: taking physical and non-physical steps as well as making arrangements for disaster management; accurate identification and recognition of the sources of hazards or disaster hazards; monitoring the control and management of natural resources that potentially inflict disaster; spatial planning control and management; environmental management; arrangements for development and building codes; development of facilities and infrastructure; dissemination of disaster warning information; and planning of involvement in disaster management.

The total indicative funding for all of these activities is IDR 13,450.75 billion. The activities related to DRR that have allocations in the MOPW budgeting program are in total IDR 37,306.2 billion for the period 2010-2014. Furthermore, the MOPW has a Disaster Management Task Force (based on the Ministry of Public Work Decree Number 523/KPTS/M/2005) and Disaster Management Post (DM Post) which is under the Directorate General of SDA, Directorate Bina Marga, Cipta Karya, and Tata Ruang. The DM Post's main function is to monitor the disaster events or hazards that happen around provinces in Indonesia.

Ministry of Health (MOH/MENKES)

The MOH plans health and medical services in the event of disaster, including medicines and medic/paramedic staff. The MOH has its own special team which is coordinated under PPK or Pusat Penanggulangan Krisis (Crisis Management Centre). The PPK was established by Ministry of Health Decree Number 876/MENKES/SK/XI/2006. The PPK's main vision is to establish "Crisis Management and Other Health Issues quick, accurate and integrated towards an independence community to live a healthy life".

The DRR activities that are carried out by the MOH, include: establishing coordination of the distribution of duties, authorities and resources; introduction and assessment of disaster hazards; implementation of disaster risk analysis; identification of disaster risk reduction actions; preparation of planning documents as well as laws and regulations; development of a culture of disaster awareness; organization of education, counselling and training; identification and monitoring of disaster risks; taking physical and non-physical steps as well as making arrangements for disaster management; improvement in understanding of community vulnerability; planning of involvement in disaster management; enhancement of the commitment of disaster management actors; formulation of mechanisms for preparedness and disaster risk reduction; formulation and trials of emergency disaster management plans; organization, installation, and testing of early warning systems; compilation of accurate data and information; as well as updating of permanent procedures for disaster emergency response. The total budget allocated for the crisis management activity related to disaster, based on the RPJMN 2010-2014, is IDR 651 billion rupiah.

Ministry of National Education (MONE/MENDIKNAS)

The MONE plans and controls emergency education for disaster affected areas, the recovery of education facilities and infrastructure, and coordinates disaster awareness education. In 2010, the MONE issued the Ministry of National Education Letter Number 70a/MPN/SE/2010 instructing all governors and mayors in Indonesia to mainstream DRR into the school curriculum. The ministry's DRR activities as listed in the NAP DRR 2010-2012, include: establishing coordination of distribution of duties, authorities and resources; organization of education, counselling and training; and also construction and architectural regulation. The total indicative funding for these activities is IDR 305.75 billion. Furthermore, DRR has taken into account, as a part of its educative components, a University Forum for DRR that has been set up, consisting of 33 universities from all over Indonesia that are committed to mainstreaming DRR, along with several disaster management study centres that have been established in some universities.

Ministry of Social Affairs (MOSA/MENSOS)

This ministry plans the provision of food, clothing and other basic needs for people displaced by disaster. In all provinces and districts/cities, MOSA, through its Social Affairs Bureau, sets up buffer stock, a stockpile of basic needs for households that can be distributed during an emergency situation as part of rapid response to the disaster in the affected areas. MOSA also establishes TAGANA or Youth Disaster Preparedness, consisting of skilled and trained personnel that are able to be deployed immediately by way of response and mobilized during an emergency or crisis, while also being able to promote disaster preparedness in the communities through awareness raising activities. MOSA also develops a community based disaster preparedness model known as Kampung Siaga at the village level to strengthen or improve the community coping mechanisms in the face of disaster.

According to the NAP DRR 2010-2012, MOSA's DRR activities include: coordination of the distribution of duties, authorities, and resources; preparation of planning documents as well as laws and regulations; organization of education, counselling and training; development of facilities and infrastructure; dissemination of disaster warning information; and procurement and preparation of supplies to fulfil basic needs. The total indicative funding for these activities is IDR 986,258.86 billion. Meanwhile the budget allocated from the ministry itself is IDR 3,285.3 billion.

3.3 GLOBAL AND REGIONAL PROGRAMS

3.3.1 GLOBAL INITIATIVES

a. Global Facility for Disaster Reduction and Recovery¹³ (GFDRR)

The World Bank managed GFDRR is an international partnership committed to supporting developing countries reduce their vulnerability to natural hazards and adapt to climate change through the mainstreaming of disaster risk reduction (DRR) and climate change adaptation (CCA) in country development strategies. In Indonesia, GFDRR phase I (US\$ 15 million) covered the period 2007-2009 and supported the implementation of the national policy framework for DRR with specific focus on four areas:

1) **Policy and Strategy development:** supporting BNPB and BAPPENAS with the formulation of the National Action Plan for DRR (2010-2012), including the development of general risk maps. Building on the lessons from the previous NAP 2006-2009, the main purpose was to ensure mainstreaming of DRR into several major governmental planning processes, namely the Disaster Management Plan, the Medium Term Development Plan, and the National Spatial Plan.

2) **Capacity building for DRR at national and sub-national levels** through the direct support to the National Disaster Management Agency (BNPB) in the form of auxiliary technical experts and assistance to the national platform for DRR and on the development of Training of Trainers (TOT) programs. GFDRR also supports the implementation of the Climate Resilient Cities (CRC) Primer in three cities (Jakarta, Yogyakarta and Surabaya).

3) **Risk financing strategy:** the main focus is the development of a catastrophic risk insurance framework and a strategy for Indonesia's risk financing system, potentially including recurrent reserve (on-call) budget, contingency line of credit, as well as possible future catastrophic bonds.

¹³ <http://gfdrr.org/ctrydrmmnotes/Indonesia.pdf>

4) DRR mainstreaming in the World Bank program, primarily in the ongoing post-earthquake rehabilitation and reconstruction program in Yogyakarta and Central Java funded by the Java Reconstruction Fund (JRF), and the US\$20 million Local Economic Development project, financed through the MDF for Aceh and Nias. Technical support is also provided in the road sector for the Western Indonesia Road Improvement project, by incorporating seismic and landslide analysis as part of the project design, and a major program on Jakarta flood mitigation, by building links between flood rehabilitation infrastructure with broader water resource management initiatives, such as improved basin retention and enhanced drainage and water supply systems.

GFDRR is co-chaired by BNPB and BAPPENAS. Phase II was launched in 2011 and will last for three years (2011-2013). It will build upon phase I to support (1) DRR mainstreaming in development and post disaster recovery programs, (2) the capacity building of BNPB and newly established BPBDs through the provision of training, (3) risk financing linked with DRR, and (4) linking DRR and Climate change adaptation. The latter will focus on strengthening linkages at national level between DRR and CCA actors as well as piloting DRR and CCA initiatives in rural and urban communities. The planned overall budget is US\$ 15 million with an initial US\$ 2 million annual allocation secured for 2011.

b. Climate-Smart Disaster Risk Reduction - Partners for Resilience (PFR)¹⁴

Partners for Resilience is an alliance of the Dutch Red Cross, the Red Cross Climate Centre, CARE Netherlands, Cordaid and Wetlands International with support from the Dutch Ministry of Foreign Affairs. PFR aims at increasing the resilience of communities by means of natural disaster reduction and climate adaptation programs in nine countries: Ethiopia, Kenya, Mali, Uganda, Guatemala, Nicaragua, Indonesia, the Philippines and India. The budget for five years 2011-2015 is Euros 40 million (US\$ 57 million). Under this partnership The Climate-Smart Disaster Risk Reduction program is targeting both rural and poor urban communities in locations prone to disaster risk and environmental degradation aggravated by climate change and focuses on three areas:

1. Strengthening community resilience: including disaster preparedness and early warning, livelihood security, preventing environmental degradation, poverty reduction, and the protection of water resources;

2. Empowering civil society: increase the capacities of civil society organizations (CSO) and strengthen cooperation between government knowledge centres and non governmental actors. The work will include: risk analysis; risk-reduction plans; early warning across a range of timescales; support to communities and civil society;

3. Policy dialogue. The PFR seeks to create a policy context more conducive to DRR and CCA at the local, national and international level to make communities and institutions all more resilient;

In Indonesia the 5-year consortium program is targeting 5 districts of East Nusa Tenggara (TTS, Kupang, Sika, Ende, Lembata) with an overall budget of 6.6 million Euros (US\$ 9.5 million).

c. Emergency Capacity Building Project¹⁵ (ECB)

¹⁴ PFR Introduction - Youtube <http://www.youtube.com/watch?v=XwoBhAm6I2E>

The Emergency Capacity Building Project (ECB) is an international initiative of several international NGOs that aims at improving the speed, quality, and effectiveness of preparedness and humanitarian response. Members of the Indonesia Consortium include: CARE, CRS, Mercy Corps, Oxfam, Save the Children, World Vision, The International Medical Corps, and the Indonesian Society for Disaster Management. The Project is further committed to sharing of knowledge and learning. Coordination and cooperation has not only been strengthened with the BNPB, but also with the Response Unit of the Ministry of Social Affairs and the Crisis Unit of the Ministry of Health. The ECB has supported BNPB in the development of a policy on the engagement of international actors in disaster response. ECB has also socialized a joint needs assessment tool with BNPB and conducted training of key senior management staff on needs assessment. While having slowly engaged in DRR as a consortium, the ECB is in the process of developing a practitioner's guide for DRR compiling best practices from the member agencies.

3.3.2 REGIONAL DRR PROGRAMS AND INITIATIVES

a. The Asian Cities Climate Change Resilience Network (ACCRN) Project¹⁶

Funded by The Rockefeller foundation, ACCRN¹⁷ is a regional project which aims at supporting selected cities in South and East Asia to plan, finance, coordinate, and implement climate change resilience strategies; support networks for learning and engagement; and ultimately to scale up and expand this approach to other cities. In Indonesia the project targets Semarang and Bandar Lampung and is implemented by Mercy Corps in partnership with URDI and ICLEI¹⁸. The impact of disasters and DRR (e.g. floods) are often taken as an entry point to engage city governments and stakeholders on climate change adaptation or mitigation. The project started in 2008 and is expected to run until 2012.

b. South East Asia 7th Action Plan DIPECHO (Disaster Preparedness ECHO)

The DIPECHO Program aims to support to the implementation of the Hyogo Framework for Action and concentrates specifically on preparedness for natural disasters with an increasing focus on climate change. The South East Asia action plan's objective is "to increase resilience and reduce vulnerability in local communities and institutions through support to strategies that enable them to better prepare for, mitigate and respond to natural disasters"¹⁹. The Seventh Action Plan 2010-2011 builds on previous plans in promoting tools and transfer of knowledge and experience to governments and relevant programs of other donors. The Action Plan aims also at promoting a stronger sustainability of the interventions for disaster preparedness and response²⁰. From the total allocation of 10 million Euros (US\$ 14 million)

¹⁵ <http://www.ecbproject.org/Indonesia>

¹⁶ <http://www.rockefellerfoundation.org/what-we-do/current-work/developing-climate-change-resilience/asian-cities-climate-change-resilience/>

¹⁷ <http://www.rockefellerfoundation.org/what-we-do/current-work/developing-climate-change-resilience/asian-cities-climate-change-resilience>

¹⁸ ICLEI is an international association of national, regional and local government organizations from 70 different countries who have made a commitment to sustainable development. ICLEI provides technical support to local government in the implementation of sustainable development at the local level. ICLEI's involvement in Climate Change Adaptation and DRR is reflected in its adherence to the UNFCCC Nairobi Work Program on Adaptation in 2009.

¹⁹ EC, Commission Decision on the financing of humanitarian actions in South East Asia from the general budget of the European Union (Seventh DIPECHO Action Plan)

²⁰ EC, Guidelines for proposals under the 7th DIPECHO Action Plan for South East Asia
http://ec.europa.eu/echo/files/funding/opportunities/interest_dipecho7_2010_SEA_guideline_en.pdf

for the countries targeted²¹ 1.45 million Euros has been allocated to four grants in Indonesia, in addition 746,000 Euros for a multi-country program including Indonesia and 700,000 Euros for a regional projects with some activities implemented in Indonesia.

A summary of the select projects and core activities is presented below:

- **Arbeiter Samariter Bund (ASB) - Building resilience for children with disabilities: strengthening DRR information delivery.** This project aims at providing Institutional capacity building, DRR information delivery, children with disabilities outside of school, community based DRR, multi-hazard, focusing on HFA priorities for Action 4 and 5.
- **International Organization for Migration (IOM) - Enhancing Disaster Preparedness and response Capacity in Garut District, West Java.** project will provide CBDRR (Community based disaster risk reduction), capacity building, health component, community action plan.
- **CARE Netherlands - Linking and learning to strengthen capacity and collaboration on DRR in NTT, Indonesia** - This project is focuses on capacity building and learning, risk assessment, mitigation, advocacy, mainstreaming disability, climate change awareness.
- **Mercy Corps- Community-based Disaster Management and Local Government Capacity Building in West Sumatra-** activities include capacity building, DRR and Government Partnership and advocacy in West Sumatra
- **Handicap International Mainstreaming disability in Disaster Risk Management Initiatives, in Indonesia and Philippines** - Core activities include mainstreaming disability, CBDRM, capacity building and advocacy on disability and mainstreaming disability in Disaster Risk Management activities
- **Oxfam - Inception and Elaboration of Civil Society Partnership Modalities in the AADMER Priorities (regional project with some activities implemented in Indonesia)** - Capacity-building, training, knowledge management on AADMER and CB-DRR, multi-stakeholder partnerships
- **International Federation of Red Cross and Red Crescent (IFRC) Enhancing Red Cross and Red Crescent capacity to build safer and more resilient communities in Southeast Asia - Phase 2 - (regional project with some activities implemented in Indonesia)** Regional project focusing on institutional linkages and advocacy, IEC and local disaster management.

3.4 INDONESIA SPECIFIC DRR PROGRAMS

3.4.1 US GOVERNMENT (USG) DRR INITIATIVES

Program history

The United States Government has a long history of involvement in disaster management in Indonesia through various initiatives including OFDA's support for disaster response and recovery assistance.

OFDA's global and regional DRR initiatives are using the Hyogo Framework for Action as their reference and those involving Indonesia include:

²¹ Cambodia, Indonesia, Lao, Vietnam, Philippines, Burma/Myanmar are targeted with the possibility to propose multi country or regional projects

- **Support to the Emergency Events Database maintained by CRED²²** (Center for Research on the Epidemiology of Disasters): This online tool provides information on disasters that have occurred since 1900, allowing for trend analysis and historical comparisons.
- **Volcano Disaster Assistance Program (VDAP)**: VDAP aims at working with national observatories to build and maintain volcano monitoring systems to improve independent volcano responses in the future. VDAP assistance also includes instruction on conducting risk assessments and development of early warning plans, as well as transfer of volcano monitoring equipment and technology. VDAP can deploy an international rapid-response volcano crisis team anywhere in the world and supported Indonesia in 2010 for its response to the eruption of the Merapi volcano.
- **Program for the Enhancement of Emergency Response (PEER)**: PEER promotes disaster preparedness through development of national and regional cadres of professional emergency response instructors. Phase I of PEER began in Indonesia in 1998. Phase II increased the corps of trainers, adapted courses to national requirements, and created a coordinating network of disaster responders. Phase III (2009-2014) will focus on enhancing first responder capacity and improving hospital and medical facility capacity.
- **National Oceanic and Atmospheric Administration (NOAA²³) Technical Assistance**: NOAA provides technical support on weather, climate, and hydrology and information to build the capacity of national, international, and regional response bodies in reducing vulnerability to extreme hydro-meteorological events.
- **ASEAN Technical Assistance and Training Facility**: The USG and Association of Southeast Asian Nations (ASEAN) are collaborating to enhance disaster early warning capabilities among ASEAN member countries through the ASEAN Technical Assistance and Training Facility. The facility is providing technical support to the ASEAN Committee on Disaster Management Task Force and working to support the development of the ASEAN Center for Humanitarian Assistance and Disaster Relief, particularly in the design of a multi-hazard early warning system to facilitate regional information sharing. The early warning system is designed to allow ASEAN member states to share information and support decision-making processes on policy making, preparedness, mitigation, response, and recovery activities.
- **Incident Command System (ICS) Training for ASEAN Region**: ICS training was initiated in 2003 under the ASEAN-U.S. Disaster Management Cooperation Program to build capacity for disaster response within the region and later on as part of the AADMER work program. Phase 1 of the program introduced the ICS to the region through training given by the U.S. Forest Service (USFS) and a study tour of the United States. Under Phase 2, regional training activities continue, including basic/intermediate ICS courses and the development of ICS training modules. Three countries are targeted for this phase, Thailand, Brunei and the Philippines. Indonesia (BNPB) has requested to be included as a target country.

USAID/Indonesia Current DRR programs

In 2009 USAID has launched CADRE (Climate Change Adaptation and Disaster Resilience Activities) a five-year program framework which jointly considers disaster risk reduction,

²² Center for Research on the Epidemiology of Disasters // www.emdat.be/

²³ National Oceanic and Atmospheric Administration <http://www.noaa.gov/>

climate change and environmental sustainability as these issues overlap significantly. The resulting projects aim to support the district and sub-district levels and to build local capacity to strengthen governance and take action to tackle disaster and climate risks in various sectors including agriculture, water and natural resource management.

Four projects are currently being implemented and a fifth is under review:

The Stakeholder Coordination, Advocacy, Linkages and Engagement for Resilience (SCALE) The three-year project, managed by Mercy Corps, aims at improving linkages among government, civil society, and private sector stakeholders for more coordinated and inclusive planning; increase awareness of the risks associated with disasters and climate change; and reduce vulnerabilities in select areas through pilot projects. The project targets both urban (Jakarta) and rural areas (West Sumatra, Lampung, and Maluku Islands).

The Adapting to Climate Change in Eastern Indonesia Project is managed by World Neighbors. The project aims at strengthening the ability of vulnerable, upland communities in ecologically fragile areas of East Nusa Tenggara (NTT) and West Nusa Tenggara (NTB) to effectively respond to the impacts of climate change and reduce disaster risks. The holistic approach addresses vulnerabilities at the ecosystem level through multi-stakeholder collaboration.

The Building Disaster and Climate Change Resilience in Padang Pariaman (West Sumatra) Farming Communities Implemented by FIELD, the project links livelihoods to the reduction of disaster risks and climate change vulnerability. Field schools in topics such as eco-rice, agro forestry, and small animal husbandry for methane and organic fertilizer production will serve as an entry point. The project will also train a group of volunteers to serve as disaster management and climate change advisors in their communities, and support the development of community driven initiatives addressing climate change.

The Increasing Coastal Resiliency and Climate Change Mitigation through Sustainable Mangrove Management in Sumatra Project Managed by Lutheran World Relief is essentially a mitigation project with component of adaption and awareness raising on disaster risk reduction. The project aims at rehabilitating mangrove areas of Simeulue and Singkil in Aceh Province, train community organizations and develop school curriculum on climate change and environmental protection, and develop micro-enterprise opportunities that reduce pressures on the forest and increase climate change and disaster resilience.

Other USG initiatives in DRR/DM in Indonesia

International Criminal Investigative Training Assistance Program (ICITAP)

ICITAP has been providing training on the Incident Command System to the Indonesia national police forces since 2006. Activities have included adaptation of the ICS curriculum to the Indonesian context (2006-2008) and the training of master instructors within the police (2008 to date). The program is divided into 3 phases, based on geographic target areas: Sumatra (phase 1, 2008), Eastern Indonesia (phase 2, 2009-2010), Java and Kalimantan (phase3 2011-2012). At the request of the GoI, the program has expanded its scope to include other government agencies, including local government, fire brigade, health services, social services, Satkorlak (an ad hoc emergency response coordination body in place before the BPBDs). During a two-year period (Jan 2008 to 2010), over 1,100 members of the Indonesia National Police have been trained as master instructors, and they have transmitted their knowledge to over 13,000 personnel.

At the request of BNPB, the program started including newly established BPBDs (from 2009) and other local agencies involved in emergency response, i.e., Social Services, Public Works, Search and Rescue, Health Department, Fire, Community Organizations, local governments etc. The program is expected to run until 2012, but would not have sufficient capacity or funding to support the training of recently established BPBDs, especially at district level.

The recent eruption of the Merapi volcano serves as an example of the effectiveness of ICS. When the disaster occurred, the central Java BPBD, which had received ICS training, were recognized by external actors to be better prepared to deal with the unforeseen magnitude of the eruption and massive population displacement.

Linkages with other similar capacity development initiatives (e.g. AIFDR, EOC from BNPB, UNDP assessment, PMI/French Red Cross support and SOP development) has however been limited to date.

3.4.2 OTHER DONOR FUNDED INITIATIVES

a. Australia Indonesia Facility for Disaster Reduction²⁴ (AIFDR)

AIFDR is by far the largest international program framework for DRR to date in Indonesia, with a budget of AU\$67 million (US\$ 70 million) for five years (2008-2013). The Facility has operated since April 2009 and was officially launched by the Australian and Indonesian Foreign Ministers in July 2010. Its goal is to "strengthen national and local capacity in disaster management in Indonesia, and promotion of a more disaster resilient region".

The goals of the Facility are:

1. To build Indonesia's capability to self-manage disaster preparedness, disaster risk reduction and disaster response.
2. To build disaster risk reduction partnerships with BNPB, science and technical organizations and provincial-level authorities.
3. To build disaster risk reduction partnerships with key regional institutions, including the ASEAN Secretariat and the United Nations.

AIFDR emphasizes a scientific approach to disaster management, as well as research and training under three work streams and one modality:

- **Training & Outreach:** Works with BNPB to develop, standardize and deliver training materials to build the capacity of national and sub-national governments to manage disaster risks. This program also develops materials to promote disaster risk reduction across Indonesia.
- **Risk & Vulnerability:** Works with Government of Indonesia by facilitating partnerships between Australian and Indonesian scientists to develop and demonstrate hazard assessment methods, tools and information for a range of natural hazards.
- **Partnerships:** Supports key risk reduction partners of Indonesia and the Southeast Asia region. By fostering stronger linkages between these partners. This program ensures that the AIFDR adds value to Indonesian and regional efforts to make communities safer.

²⁴ www.aifdr.org

- **Grants:** A modality that promotes a culture of disaster risk reduction research and innovation in Indonesia and the region, as well as supporting linkages between community and government.

The AIFDR is co-chaired by BNPB and AusAID. Program and funding decisions are developed and jointly agreed by AusAID and BNPB. A review of AIFDR was recently conducted and will inform the future direction of the Australia Indonesia partnership beyond 2013.

The Facility also manages the Building Resilience in Indonesia Program, a US\$ 4 million (2009-2012) initiative, funded by AusAID and implemented by Oxfam. The program targets 120 villages in 16 districts in Sulawesi, Papua and NTB and addresses the need for institutional strengthening for local governments, including the newly created BPBDs at district level, and the implementation and adaptation of national DM policy and legislation. The program also supports integrated disaster and development planning processes. At the community level the focus is on better preparedness and the strengthening of community institutions to plan for and address disaster risks, to build resilience working with both district governments as well as with communities and schools. Oxfam works with local partner NGOs and CBOs. At the national level, Oxfam advocates lessons learnt with the government, UN and the private sector in cooperation with MPBI.

b. Safer Communities through Disaster Risk Reduction²⁵ (SC DRR)

UNDP led SC DRR program has been one of the flagship DRR programs for Indonesia for the last few years. Phase I (2007-2011) aimed at integrating DRR into development, as part of the day-to-day business of government through UNDP's support to the institutional and legal reform process at the central level, national DM and DRR planning processes and capacity building for the BNPB. SC DRR phase I consisted of four components:

1. Establishing a legal and policy framework for DRR at national and sub-national levels;
2. Establishing Institutional systems supporting DRR with local level development;
3. Promoting public awareness and education to inform communities and decision makers about disaster risks and risk reduction measures;
4. Promoting local level application of DRR processes, methodologies, guidelines and tools developed, applied, documented and fed-back into the policy framework through pilot projects.

The overall budget for this project is US\$ 13 million. The project initially covered five provinces, Bengkulu, West Sumatra, Central Java, Yogyakarta and East Nusa Tenggara (NTT) and one municipality (Palu in Central Sulawesi) and was recently expanded to three other provinces (Bali, North Sulawesi and Maluku). SC DRR has played an instrumental role in supporting the establishment of an 'enabling environment' for DRR, by supporting the development of policy and institutional framework at national and provincial levels and supporting the establishment of BNPB and BPBDs, and of the national platform for DRR.

SC DRR is planned to be extended as Phase II for four years (2011-2015) and will include other projects related to disaster management. Phase II is entitled Safer Communities Through Disaster Risk Reduction in Development (SCDRRD) aims to achieve three main outputs:

²⁵ <http://www.sc-drr.org>

1. National and local government policies and regulatory enabling framework for disaster risk reduction (DRR) in target areas is designed and implemented;
2. Disaster management (DM) agencies in target areas are functioning effectively and utilize risk assessment for DRR initiatives in partnership with multi-stakeholder DRR forums; and
3. DRR principles and techniques to minimize disaster risk are adopted and applied by communities.

Phase II aims to scale up and replicate models and procedures for DRR, with: inclusion of additional risks related to climate change and emerging infectious diseases; strengthening the capacity of the BNPB and BPBDs; information management on the implementation of DM activities in line with the Hyogo Framework for Action; and mechanisms to mainstream support for community based DM activities. The overall target budget for the five-year project is US\$ 15 million but these funds have not been secured yet.

c. United Nations Partnership For Development Framework 2011-2015²⁶

Besides UNDP's SC DRR project, several DRR and CCA programs are being developed as part of the United Nations Partnership for Development Framework 2011-2015 under the objective 'Strengthen National and Local Resilience to Climate Change, Threats, Shocks and Disasters'. The projects aim to strengthen local capacities to minimize the risk of disasters and to mainstream conflict sensitivity into the development planning process. A special focus is expected on sectoral standards for risk reduction, response and recovery, human rights, transparency, accountability and community engagement. This framework expects to bring a stronger alignment with GoI's plans and within the UN system (UN agencies include UNOCHA, UNDP, UNFPA, WHO, WFP) on DRR and climate change policy & planning.

d. Japan International Cooperation Agency (JICA)

The Japanese government has a long history of bilateral assistance to Indonesia but expects to scale down this support to Indonesia in the coming years. On DRR, the Japan International Cooperation Agency provides government to government technical assistance through the following initiatives:

- **Technical assistance to BNPB** on DM policy development in the form of an expert serving as auxiliary staff to the Disaster Preparedness Unit for the period 2010-2013.
- **Capacity Development of BNPB/BPBD.** This new 4-year project is expected to start by October 2011 and will target provincial BPBDs in North Sulawesi (Manado) and Bali. Japanese consultants will provide assistance to BPBDs for basic management support including the development of training guidelines, also support on the development of risk maps.
- **Seismic Resilience - Phase 2 (2011-2014).** This project is a continuation of a phase 1 (2008-2011) project which aims at supporting the Ministry of Public Works (Department of Home Settlements) for the development and dissemination of policy on construction standards and will expand areas from the initial pilot areas (Jakarta and North Sumatra/Medan)

²⁶ <http://unesdoc.unesco.org/images/0018/001888/188895e.pdf>

- **The Water Resource Management project:** a 3 year project supporting the Jakarta flood management program undertaken by the government.
- **Support to the Ministry of Public Works for the construction of dams and dikes**

e. GiZ - German Technical Cooperation - Tsunami Early Warning System²⁷

GiZ provides technical support for the development of the Indonesia Tsunami Early Warning System (InaTEWS) as part of a German-Indonesian cooperation agreement. Since mid-2006, GiZ has worked in partnership with the Indonesian Ministry of Research and Technology (RISTEK), the Indonesia Institute of Science (LIPI), and BMKG. GiZ also works as part of the International Oceanographic Commission for Asia Pacific chaired by UNESCO. The project provides capacity development to its partners, including the development of standard decision-making procedures in the event of disaster alerts, processes and technologies for issuing and disseminating warnings, and evacuation plans at district level. GiZ is also supporting the Indonesian authorities in a broadly-based public awareness campaign. The program promotes the development of local disaster protection plans, development of risk maps, as well as the strengthening of decentralized disaster protection structures. The procedures developed have demonstrated their effectiveness under testing and the InaTEWS is considered one of the most significant models to date.

g. Integrated Community Based Risk Reduction - Indonesian Red Cross -

PMI's country strategy serves as an overarching program framework for IFRC the international federation of the red cross and the 15 national societies present in Indonesia. PMI's main DRR program, entitled Integrated Community Based Risk Reduction (ICBRR), started in 2002 and covering 13 provinces. The program is twofold: it seeks to (1) to address community everyday health issues as well as natural disasters and the impact of climate change and (2) to develop the capacity of PMI chapters (provincial) and branches (district). At the community level the PMI has started to establish SIBAT teams (disaster handling units) which are involved in preparedness, mitigation, awareness-raising and response activities. Over 55,000 volunteers are organized in disaster response units throughout the country. These teams are often amongst the first teams to reach affected communities. Through its Red Cross Youth Volunteers, the PMI works on school preparedness issues using a peer education approach in extracurricular hours. The overall budget for the period 2010-2012 is US\$ 4.3 million. PMI has also been engaged in a specific initiative regarding the establishment of Emergency Operations Centers managed by the French Red Cross (see section 2.6 Issue, Gaps and Opportunities).

h. Private Sector

Although formally part of the national platform for DRR, and indirectly identified as one of actors under the DM law 24/2007, the engagement of the private sector in DRR is quite limited in practice. While private firms can significantly engage during disaster response,

²⁷ Experience from three years of local capacity development for tsunami early warning in Indonesia: challenges, lessons and the way ahead GTZ 2010; <http://www.nat-hazards-earth-syst-sci.net/10/1411/2010/nhess-10-1411-2010.html>

through the provision of funding²⁸, distribution of essential items or deployment of rapid response teams (e.g. Sampoerna), the contribution to the debate at national level (Planas) or in mitigation measures is limited.

²⁸ an estimated funding contribution of the private sector during the recent response to the eruption of Merapi volcano exceeded US\$ 50 million

Table 4 - Summary of key international initiatives

Program/initiative	Funding / bilateral Agency	Budget	Period	HFA priority
AIFDR	AusAID	74 million (Au\$ 67million)	2009-2013	1,2,3,4,5
Program supporting DRR projects	AusAID	1 million/yr		1,2,3,4,5
Technical Assistance	JICA	3-4 million for	2011-2014	
CADRE	USAID	3 million	2009-2014	1,2,3,4,5
SC-DRR I	UNDP	13 million	2007-2011	1,2,3,4,5
SC-DRR II	UNDP	15 million	2012-2014	1,2,3,4,5
GF-DRR 1	World Bank	1.25 million	2008-2010	1,2,3,4,5
GR-DRR 2	World Bank	15 million	2011-2013	1,2,3,4,5
7th Action Plan for south Asia	DipECHO	2 million(2.83 million Euros) for Indonesia and regional initiatives	2010-2011	1,2,3,4,5
Indonesia country plan	PMI/IFRC	4.3 million	2010-2011	1,2,3,4,5
Partners for Resilience	CARE, Netherland RedCross, Cordaid	7.5 million for Indonesia	2010-2011	1,2,3,4,5
IndonesiaTsumani Early warning System	GiZ	5.75 million	2010-2012	1,2,3,4,5

GAP ANALYSIS AND OPPORTUNITIES

The President of Indonesia recently received a “Global Champion for Disaster Risk Reduction” award at the UNISDR Global Platform in Geneva, primarily for his government’s development of policy and institutional frameworks. Indeed, Indonesia has been recognized internationally for its efforts and approach to DRR. However much still remains to be done. The main gaps and opportunities, including for USAID engagement, are as follows:

4.1 NEED FOR A COMMON UNDERSTANDING OF RISK

4.1.1 INSUFFICIENT CAPACITY FOR RISK ANALYSIS

Indonesia with its more than 237 million culturally diverse people residing in over 70,000 villages and governed under 33 provinces and 498 districts/municipalities is considered one of the most complex countries in terms of disaster risks. Its recent ongoing decentralization process, in which more provinces, districts and villages have been created, has made it more complicated to measure its people’s vulnerabilities and capacities to cope with disasters. Appendix 7 shows the administrative and topographic divisions of the country.

Achieving a comprehensive and common understanding of disaster risks remains a challenge in Indonesia due to its geographic, diverse populations and administrative spreads and scales, complicated by many stakeholders and duty bearers with different perspectives and interests. There are also different government agencies and stakeholders collecting data and information with different formats and methodologies, in accordance with their own disciplines and mandates. All have specific tasks in identifying and analyzing particular hazards and specific aspects of a hazard. For example, earthquake risk analyses may need information collected by many other organizations.

Social and economic vulnerability analysis is not yet meaningfully included into risk analysis. This is partly due to the dominance of physical scientists in the discussions of risk and disasters and partly due to lack of interest in, and awareness of, disaster management by social economic scientists. This may reflect the low level of the changing paradigm in understanding disaster as a whole. While it is well acknowledged that climate change will have an impact on the frequency and magnitude of hydro-meteorological hazards in particular, most of the disaster risks analysis have not yet incorporated climate change into their analysis.

There is lack of capacity in climate change vulnerability and risk assessment in Indonesia. Some efforts were made to fill this gap, e.g. WWF-GIZ-Bappeda NTT climate change vulnerability assessment in Lombok Island of NTB, the first ever provincial level

analysis in Indonesia. There are now plans for the methodology to be conducted in two more provinces in 2011.

Disaster risk analysis is happening at different levels. As part of the process, disaster risk analysis (e.g. using a Vulnerability Capacity Assessment tool) is a common practice in community based disaster risk management. The results have been used to inform action plans at the community level. There are many community based disaster risk reduction projects currently being implemented in Indonesia (see Program section).

The linkage between community risk information and district/provincial/national risk analysis is not well established and no system and governance to accommodate different perspectives of risk from different levels and stakeholders. The Indonesian National Platform initiated in 2009 that mirrors the International Platform, should have been an ideal forum for different stakeholders to enter into a dialog about their perspectives and interests on disaster risk and to achieve a common understanding of risk. However, the National Platform has not yet functioned as expected. Currently, local platforms are being initiated at the provincial and district levels, supported by BNPB and local BPBDs. Civil society groups are playing a significant role in creating the platform as shown in the Yogyakarta Platform and West Sumatra Platform. The Platforms are also a potential forum to accommodate and engage in dialog on new and emerging risks, such as climate change.

While it is acknowledged that disaster risk analysis is the precondition for effective disaster risk reduction, **disaster risk analysis has not yet been used meaningfully to inform planning.** In addition, the multiple hazard approach has not yet been fully performed. A fundamental principle of DRR (and HFA) is that multi-hazard risk assessments are a basis for planning. Data about risk should be used to inform planning along with the coordination and harmonization of measures for different hazards. The result is a single multi-hazard approach, the main advantage of which is efficiency. While the process of development of the national and local action plans should allow this to happen, it does not happen in practice. This does not represent a suitable indicator for prioritizing locations in need of DRR investment.

The National Action Plan for DRR 2010-2012 is not following or promoting a multiple hazard approach. A fundamental principle of DRR (and HFA) is that multi-hazard risk assessments are a basis for planning. Data about risk should be used to inform planning, along with the coordination and harmonization of measures for different hazards. The result is a single multi-hazard approach, the main advantage of which is efficiency. While the process of development of the national and local action plans should allow this to happen, it does not happen in practice. This does not represent a suitable indicator for prioritizing locations in need of DRR investment.

4.1.2 NEED TO IMPROVE DIALOGUE ON DISASTER RISK REDUCTION AND CLIMATE CHANGE ADAPTATION

There have been some efforts to promote DRR as an effective tool for climate change adaptation (see, for example FCCC/TP/2008/4. Also Mitchell et al, 2008). The IPCC Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX)²⁹ in November 2011 is expected to be a milestone in the integration of DRR and climate change adaptation.

²⁹ <http://www.ipcc-wg2.gov/AR5/extremes-sr/index.html>

Although there is a wide acknowledgement of the close relationship between disaster risk and climate change³⁰, **the communities of DRR and CCA are working separately.**

In Indonesia, there were few, **sporadic and not well structured efforts to integrate DRR and CCA at the national level.** While the National Platform for DRR facilitated a dialogue between DRR and CC practitioners in 2010 in Jakarta, key recommendations have yet to be implemented. At the community level, there are some projects that explicitly integrate adaptation into DRM, such as CADRE by Mercy Corps, Partnership for Resilience (PFR) by a consortium of NGOs (CARE International, Cordaid, Netherlands Red Cross and Wetland International) funded by the Netherlands Ministry of Foreign Affairs. Some existing DRR projects, such as Oxfam's Building Resilience in Eastern Indonesia funded by AusAid have also been trying to integrate adaptation, at least in terms of raising awareness.

Indonesia is focusing its climate change response on mitigation³¹, as shown in the Indonesian National Action Plan for Climate Change. It is only recently that the need for adaptation has started to emerge. However, there are some challenges to translate this into action. Globally, the concept of climate change adaptation is also not well developed and has sparked debate. Indonesia is still very lacking in adaptation projects. There have been sectoral adaptation strategies by various government agencies, notably by the Ministry of Agriculture, Ministry of Marine and Fisheries, and Ministry of Public Works.

The biggest constraint is the **lack of climate change vulnerability assessments** that are useful in informing the type of adaptation measures needed as well as policies. The lack of this assessment is due to lack of data/information, lack of expertise as well as methodology. It is not clear how much adaptation in Indonesia will cost as there are weaknesses in the methodology in estimating the costs. DNPI has commissioned a study in North Sumatra, but failed to produce a satisfactory result. There have been some efforts by BMKG, UNDP, PU, etc. to fill this gap, to enable Indonesia to develop its national action plan by 2014.

While there is no specific national budget for adaptation, there are budget allocations for adaptation in sectoral departments, such as in Ministry of Public Works, Ministry of Agriculture, Ministry of Forestry, Ministry of Environment, etc. A total of about Rp 60 trillion in APBN 2010 for adaptation in all sectors. These are more reactive adaptations and attributive rather than planned adaptation.

4.2 NEED TO SUPPORT AN ENABLING ENVIRONMENT

Effective disaster risk reduction will require various level of enabling environment to make any DRR measures to work better to reduce vulnerability. With its very diverse environment, culture and economic development, and many stakeholders with different interests, there require a sustainable forums for dialogues. The formulation of planning

30 See, for example: FCCC/TP/2008/4, 21 November 2008, Technical Paper: Integrating practices, tools and systems for climate risk assessment and management and strategies for disaster risk reduction into national policies and programmes. Also, ISDR Briefing Note 01: Climate Change and Disaster Risk Reduction, Geneva September 2008.

31 Climate change mitigation is a human measure to reduce the sources or enhance the sinks of greenhouse gases (IPCC). It differs from disaster mitigation which means Structural and non-structural measures undertaken to limit the adverse impact of natural hazards, environmental degradation and technological hazards. (Source: ISDR)

documents at national and regional levels needs to be synchronized to ensure consistency with the GOI's overall implementation framework for disaster risk reduction.

This will require the development of substantive guidelines and training materials to support the dissemination and implementation of government policies and legislation for DRR.

4.3 NEED TO SUPPORT MULTI-STAKEHOLDER ENGAGEMENT

The establishment of DRR platforms to engage multi-stakeholder dialog in DRR activities at both the national and sub-national level is still at an early stage, and will require further development and strengthening. The National platform for DRR or PLANAS has been established in 2008 with the support from UNDP and UNISDR and is mirroring the global platform. PLANAS include representatives from government, academia, media, the private sector, the international community and civil society (NGOs). Some sub national platforms have been established subsequently.

The National Platform for DRR and local platforms potentially could play a role in achieving a common vision of risks, DRM, DRR and CCA and facilitating close collaboration between all stakeholders and development partners through multi stakeholders dialogue. The Planas has recently struggled to keep its focus against a need to derive income from the involvement in projects, as it can't receive direct funding from the government. They have a potentially important role to play in accelerating progress in DRM, DRR and CCA and facilitating close collaboration between all stakeholders and development partners, for instance to support the monitoring of the implementation of the NAP and the development of the HFA report.

4.4. NEED TO INVEST IN CAPACITY AND INSTITUTIONAL DEVELOPMENT

To date BPBDs have been established in all 33 provinces and most recently in 361 out of 497 districts and municipalities³² and over 8,000 persons will need to undergo capacity building. These agencies are staffed by officials coming from other sectoral ministries and/or other professional associations with generally no DM or DRR background. This professional development of staff in terms of their capacity for planning and implementing disaster management programs, includes the systematic mainstreaming of risk reduction considerations into preparedness, emergency response and post-disaster recovery programs, has been identified as a key priority by the government and other stakeholders³³.

Capacity development is insufficiently prioritized and budgeted for, the budget and resources available for disaster risk reduction are still very limited at provincial and district levels and rely heavily on funding allocation from the national level (BNPB). The biggest portion of the budget is still allocated to programs related to emergency response and recovery. Some regions use APBD (the local budget) primarily to fund staff costs, with only 30 percent left for the program.

32 Indonesia is administratively divided into 33 provinces 497 districts, 98 cities 6514 sub districts and over 70,000 Villages
33 BNPB, National progress report on the implementation of the Hyogo Framework for Action (2009-2011)

Most current programs having a capacity building component focus either at the national, provincial level or at community level, for instance through CBDRM, leaving a significant gap at District level.

Capacity development goes beyond training and will require a strategic and systematic approach to provide an enabling environment, including the development and dissemination of regulations, mechanisms, guidelines and standard operating procedures that are definitive, clear and accessible. Such policies and practices need to further be disseminated and implemented especially at District level. Actors will need to harmonize their approach with BNPB and other initiatives (such as JICA AIFDR, GFDRR and UNDP) to avoid duplications and overlaps, and support the implementation of an overarching institutional development plan for BNPB. The road map for capacity development of BNPB and BPBDs, jointly formulated by BNPB and UNDP, represents a first step forward.

Improved coordination mechanisms, in particular for disaster response, will also be needed to coordinate the sectors and relevant stakeholders. While some districts and provinces have their own disaster preparedness mechanisms, contingency and response plans, or SOPs, many are neither integrated nor well-structured and some still require more effective coordination by the BPBDs. A lack of integration among sectors and institutions has led to a sense of insecurity in utilizing disaster management budgets and there is the need to integrate and standardize the competence of the broad range of actors and field personnel working for different agencies.

4.5 OPPORTUNITY TO SUPPORT DISASTER PREPAREDNESS

Disaster preparedness remains a priority and will act as a catalyst to shift the paradigm from response to risk reduction. While some progress has been made in integrating DRR into development plans and budgets, preparedness and emergency responses remains a priority in disaster prone Indonesia. Investment in preparedness will also constitute a critical step to assert BNPB's credibility as the lead agency for coordinating both preparedness and response as well as long term DRR plans under the National Action Plan for DRR. In this regard, capacity development of government staff at all levels, and effective coordination before and after disasters, remain a priority and will require short and long term investments and a transformation of working culture towards more collaborative and inclusive approaches.

There is a need to support BNPB in the development of a comprehensive disaster response system. An assistance program launched in 2005 by the French government, as part of bilateral assistance to Indonesia for the tsunami recovery, consisted in the establishment of Emergency Operation Centers (EOC), designed to enhance more integrated disaster response systems in Indonesia at provincial and national levels. Jakarta, Aceh and West Sumatra (Padang) were selected as pilot areas. The program was implemented through the cooperation between the French and Indonesia governments, the French Red Cross and PMI. Activities consisted in the construction of the centers, the formulation of guidelines and standard operating procedures, training of EOC managers and key staff. The program was subsequently expanded in 2008 by the French Red Cross in coordination with the GoI and BNPB to include Bali (Denpasar), Yogyakarta and Jambi provinces. A third phase, supported by AIFDR in cooperation with BNPB, the French Red Cross, the Australian Red Cross and PMI is under way to include three additional locations in Eastern Indonesia, most likely

South Sulawesi, East Nusa Tenggara, and East Java The EOCs were initially set up as part of bilateral aid for the French government then by the French Red Cross and the GoI in several regions. AIFDR and BNPB are now planning to expand the geographic scope. However the program seems to be limited to the construction of the centers and provision of equipment and limited training to EOC staff.

4.5 NEED TO PUT MORE EMPHASIS ON GENDER

While mainstreaming gender is a development priority that is consistent with DRR, it has been consistently raised as a major gap at global (GAR 2011) and national levels. Lessons learned from the mid-term review of the Hyogo Framework for Action highlight the importance of community women's groups as a mechanism for sustainable DRR. Basic activities, such as collecting sex disaggregated data, or gender analysis are not systematically conducted.

SECTION 5

RECOMMENDED OPTIONS FOR USAID/INDONESIA DRR PROGRAM

5.1 GENERAL

The principal recommendations below are distilled from the findings put forward in the previous sections. This assessment highlights country status, gaps, opportunities related to national policies, strategies, plans and activities with regard to the management of natural hazards in Indonesia. This focus extends to the enabling environment for a comprehensive risk management approach to natural hazards and the effect of climate change and the capacity to undertake such a comprehensive approach, including institutional arrangements, human resources, public awareness, information.

Indonesia already has established policies, institutions, systems, and related structures to address DRR/CCA challenges. Several programs are ready to be enacted however, there are significant gaps in the 5 key HFA priority areas and climate change discussed. Additionally, while some efforts have been made to address certain issues, others (capacity development, multi-stakeholder engagement, coordination, disaster preparedness) persist.

The table below provide a summary of gap analysis across HFA and from the national to community levels, taking into account GoI priorities, and current external programs and funding support.

Table 5 - Summary of gap analysis

Gap analysis	Institutional Devpt	Risk analysis	Education	Mitigation	Disaster Preparedness	Community inclusive approaches
National	medium	medium	low	low	low	low
Provincial	medium	medium	high	medium	high	low
District	high	high	high	N/A	high	high
Community	medium	high	high	N/A	medium	high

In narrowing the field of opportunities, additional sets of two filters or criteria have been applied. The first set of criteria helps select those opportunities that achieve the following:

- Are likely to produce tangible results within three years (2012-2014);
- Are likely to have longer-term sustainable benefits;
- Address risk reduction directly; and
- Have in-country commitment, champions, and/or institutional arrangements to promote implementation.

These opportunities for investment were then subjected to a second filter of opportunities already or likely to be supported by the government, other donors and agencies. The intent of applying this criterion is to see where USAID can add value in a coordinated and harmonized manner in terms of other actors in the country.

5.1.2 PROGRAMING PRINCIPLES

The following core and operational principles are suggested to guide USAID assistance to reduce the risk of disasters and the adaptation to climate change:

Align programs with US strategy for meeting the MGDs: The United States' Strategy for Meeting the Millennium Development Goals emphasizes the role of disaster risk reduction as a driver of sustainability and preservation of development gains³⁴. Risks from natural hazards need to be factored into development policy, planning and program implementation.

Integrating risk reduction will enable appropriate measures to be taken to reduce disaster risk in all development sectors. It will also help to ensure that development assets are protected against potentially negative impacts from hazards and that development programs do not create new forms of vulnerability or erode traditional methods of resilience. The strategy puts the emphasis on building the learning partnerships that facilitate the transfer of knowledge and skills to developing countries and nurture a local capacity for innovation in those countries;strengthening Monitoring, Measurement and Evaluation - promote a culture of impact evaluation, high quality process evaluation, and evidence-based policy and developing new ways to deliver existing solutions to more people, more cheaply, and more quickly.

Align programs with the Hyogo Framework for Action and Government plans (NAP and DM plans). National organizations and institutions, civil society, the scientific community, media and the private sector all have a role in the implementation of the Hyogo Framework for Action. The Indonesian government has already developed their own national action plans and forums for disaster risk reduction.

HFA emphasizes the following

- A multi-hazard approach can improve effectiveness;
- Capacity development is a central strategy for reducing disaster risk;
- Effective disaster risk reduction requires community participation;
- Gender is a core factor in disaster risk and in the implementation of disaster risk reduction;
- Public-private partnerships are an important tool for disaster risk reduction;

³⁴ CELEBRATE, INNOVATE & SUSTAIN Toward 2015 and Beyond - The United States' Strategy for Meeting the Millennium Development Goals, p13 http://www.usaid.gov/our_work/mdg/USMDGStrategy.pdf

- Disaster risk reduction needs to be customized to particular contexts and sectors;
- Disaster risk reduction must be integrated into development activities.

All USAID DRR programs should contribute to the HFA reporting process by referencing in their proposals to HFA priorities and when possible to relevant indicators³⁵. Specifically USAID/Indonesia programs should refer to OFDA risk reduction principles of preparedness and mitigation. Linkage with OFDA Asia regional DRR two strategic objectives³⁶ to “improve national and regional capacities for disaster risk reduction and response “and to “increase and strengthen the resiliency of vulnerable populations to prepare for and recover from disasters”. This will ensure a continuum throughout the disaster management cycle and facilitate linkages when relevant of OFDA emergency response and recovery programs with on going USAID DRR/CCA programs but also implementing partners.

Refer to USAID Climate Change Adaptation Guidance: depending on funding sources sought for the implementation of USAID programs, those seeking GCC funding in Adaptation will need to be designed in reference to USAID CCA guidance and corresponding program categories:

- **Science and analysis for decision making** refers to investments in scientific capacity, information management and dissemination, evidence based analysis for decision making such as developing tools for climate information, supporting modeling and research on climate impacts in specific regions;
- **Effective governance for climate resilience:** refers to investments in capacity to use climate information for governance, such as strengthening government and communities’s capacities to use hydro-meteorological data for decision making or building the capacity of public health systems to response to climate risks;
- **Implementation of climate solutions** refers to investments in adaptation strategies for infrastructure, health water, agriculture, DRR, natural rescue management and other sections. This includes broad and community based natural hazards management programs.

Reaffirm USAID policy and approaches on gender equality and integration³⁷. Programs should ensure that a gender-sensitive approach is taken to implementing program, given the different roles of men and women in contributing to preparedness for, and recovery from disasters.

5.2 PROGRAM STRATEGY AND APPROACH

5.2.1 STRATEGY

³⁵ see for reference UNISDR Guidance on Measuring the Reduction of Disaster Risks and the Implementation of the Hyogo Framework for Action http://www.preventionweb.net/files/2259_IndicatorsofProgressHFA.pdf

³⁶ http://www.usaid.gov/our_work/humanitarian_assistance/disaster_assistance/regional/files/asia_drr_strategy.pdf

³⁷ http://www.usaid.gov/our_work/cross-cutting_programs/wid/about.html

This proposed strategy builds on current the technical expertise of USAID and other US Government departments to assist the government of Indonesia to build its capacity to reduce disaster risk and adapt to climate change.

The proposed approach is to consolidate, possibly expand the work currently undertaken by USAID, by strengthening linkages across USAID programs under IR2 but possibly across the entire country strategy and by strengthening linkages with GoI and other donors funded initiatives.

Three outcomes are proposed to guide USAID activities in Indonesia for the period 2011-

Outcome 1: Improved Capacities for Disaster Risk Management and Climate Change Adaptation

Outcome 2: Strengthened Resilience of Vulnerable Communities to Prepare for and Recover from Disasters and Adapt to Climate Change

Outcome 3: Integrated Disaster Risk Reduction in USAID Programs

2014:

5.3 PROGRAM COMPONENTS

The principal features proposed to include in USAID/Indonesia strategy are:

OUTCOME 1: IMPROVED CAPACITIES FOR DISASTER RISK MANAGEMENT AND CLIMATE CHANGE ADAPTATION

1.1 Improved Capacity for Risk Analysis

RECOMMENDED - Support BNPB to improve its disaster accounting system (DIBI) and expand the system to provincial and district level.

The various gaps in risk analysis identified in section 4 refer to a lack of common understandings and vision of risks, insufficient social economic vulnerability analysis as well as climate change vulnerability analysis, and lack of human resources to conduct the analysis.

These gaps have not yet been meaningfully addressed by other stakeholders. Comprehensive understanding of risks is the entry point for effective disaster risk reduction and it is a strategic mean to influence overall DRR measures by the government and stakeholders. Integrating climate change into disaster risk analysis will also pace way for climate change adaptation which will be increasingly important in the future.

Risk analysis should be treated as short term as well as longer term investments.

In the mid term, USAID could support BNPB to improve its disaster accounting system (DIBI) and expand the system to provincial and district level. This could be undertaken with the deployment of an expert within BNPB or through the funding support to SC-DRR phase II (see 1.3).

Key recommended activities include:

- Developing a common framework and set of standards for DIBI to make it easier to share and merge electronic data from diverse sources including climate and poverty indicators.
- Before installing DIBIs at the sub-national level, ensure local governments meet a set of minimum requirements, including active support from senior government officials, adequate telecommunication links and electronic hardware, and technical staff with appropriate skills in ICT.
- Support BNPB and BPBDs to set up DIBI systems at the sub-national level in locations that are suitably prepared, and train staff in operating and maintaining the system and producing risk maps that also incorporate information on the climate change, location of poor and vulnerable communities.
- Enhance or develop training manuals and guidelines for technical staff and decision makers for analyzing and interpreting DIBI information as inputs for DRR policy and LAP-DRRs.

Other options components include:

- Promoting the creation of common understanding of disaster and climate change risk through institutional and programme support to the National Platform (PLANAS) to enable them to play their role as a independent national facilitator for dialogs between different DRR stakeholders, including those of climate change adaptation. (see also 1.4) PLANAS is strategically placed to promote the integration of climate change adaptation and disaster risk reduction.
- Promoting the contribution of social economic science to the understanding of disaster risk by increasing the awareness and interests of social economic scientists to disaster management and climate change (e.g. research funding, academic seminars, scholarships, etc.). USAID could support universities, existing university or social scientist networks, the National Platform, the University Platform, existing programme (e.g. USAID Scholarships), to achieve this objective.

Timeline: The estimated timeline for completing this component is two years. (2012-2013)

1.2 Improved Capacity for Disaster Response

RECOMMENDED: Expand ICS Training provided by ICITAP.

This component aims at providing government to government capacity building program supporting the establishment of a disaster response system at national, provincial and district levels. The main objective is to integrate relevant and adaptable component of the US National Incident Management System to Indonesia context, increase capacity of the GoI and ensure the sustainability and institutionalization of the system.

The capacity development of government agencies at national, provincial and district levels, especially those of newly established BNPB, BPBDs fits well with the decentralized approach promoted by the Incident Command System and build on recent work undertaken by ICITAP. While the support from ICITAP has grown organically from its initial scope of targeting National Police forces to include recently established BPBDs, much remains to be done.

BNPB has requested the support from the US government to integrate the Incident Command System (ICS) into the disaster response system of Indonesia, to ICITAP and through ASEAN as ICS has been adopted by member states under the ASEAB Agreement for Disaster Management and Emergency Response (AADMER) and USFS is currently leading on the adaptation of ICS in three pilot countries (Brunei, Thailand, the Philippines).

Building on past experience³⁸ the proposed program components are as follows:

1- System Review and Adaptation

Partnership - While GoI 's main responsibility for disaster response lies with BNPB, the program would also need to involve MOHA who is directly responsible for the BPBDs.

Review - A comprehensive review of all existing initiatives for disaster response systems, including ICS, EOCs, SOPs, disaster plans, response plans has yet to be conducted. Such review jointly conducted with BNPB, could highlight possible duplication or incoherences, but also opportunities for synergies and support a more systemic approach for response at national, provincial, district levels. This would include a review of (1) recent ICITAP supported ICS training of BPBDs, including review of ICS material and (2) relevant SOPs developed for the EOCs, recently established by BNPB or with the support from other donors (e.g. French Govt/French Red Cross, AusAID) ; the result of the review could lead to a revision as relevant of existing ICS training and support material used by ICITAP. The review could be conducted by an independent ICS expert or by a technical working group gathering BNPB, USG/ICITAP, TNI, PMI, and relevant non governmental and UN agencies.

Road Map- Consultations with senior BNPB officials, relevant UN agencies (UNOCHA), ICITAP and other stakeholders would As SC DRR is supporting BNPB to develop a road map for capacity development of BNPB and BPBDs staff until 2015, the USAID program could constitute one of its sub component focusing on ICS capacity development, related timeframe, resource target beneficiaries at national, provincial and district level for collaborative activities. Besides the development or adaptation of training curricula for BNPB/BPBDs, the program could also envision supporting regional EOCs which aim to be used as resource and training centers.

2 - Conduct Formal Master Training Course

Depending on the result of the review existing training material would have to be revised and/or further developed and a training plan developed and implemented. The number of master trainers at BNPB and in selected provincial/district BPBDs will have to be jointly determined with BNPB.

³⁸ USFS Disaster Mitigation Program - Illustrative Program Design for International G2G Programs to Build Capacity for Disaster Management

As BNPB is in the process of establishing regional EOC/training centers, the possibility to assist with the development of curriculum and training of trainers on ICS will have to be explored. .

3- Support BNPB and BPBD on the implementation of the new system

This phase consist in providing technical support to assist the establishment of systems and incident management teams at provincial level as well as simulation exercises. The program would also work with provincial BPBD to select districts for pilot and replication.

4- Institutionalization

This phase will aim at supporting BNPB to develop national and provincial guidelines, SOPs for disaster response. In addition BNPB has already started receiving the support from UNOCHA for the field coordination (UNDAC training) and expressed the interest to adapt OFDA Field Operation Guide for provincial and district BPBDs.

Timeline: The estimated timeline for completing this component is one to two years. (2012-2013).

1.3 Improved capacity of GoI for Disaster Risk Reduction at national and subnational levels.

RECOMMENDED: Provide funding support to SC DRR

Developed jointly with Bappenas and with increasing involvement of BNPB, UNDP led SC-DRR program phase II provides a holistic approach to address number of gaps, through a combination of support at national, provincial, district and community levels.

SC DRR Phase II plans to collaborate with BNPB in designing a programme of intensive and extensive on site support to enhance staff capacity. UNDP has already conducted a capacity assessment of BNPB and is in the process of conducting a similar exercise for the provincial BPBDs. The capacity development of BPBDs, including staff training, policy development, could be ensured through the funding support to programs such as intensive support to other departments of the provincial government, districts (kabupaten and kota), sub-districts (kecamatan), village administrations (desas) and their urban counterparts (kelurahan). The purpose is to enhance functional linkages between actors at each level and to build an integrated network of key institutions throughout the province to serve as a model for DRR management that can be replicated in other provinces.

To reinforce capacity development of the BNPB and the BPBDs, Phase II plans to expand technical assistance to cover the planning and budgeting process with particular attention to performance budgeting. While this is not widely practised at present, particularly at the sub-national level, this has proven to be an effective method of improving inter-departmental coordination for multi-sectoral activities such as DRR, and facilitating better use of resources focused on specific targets and outputs.

Also important is the need to raise awareness and improve understanding of the issues involved among senior government officials and members of elected assemblies, particularly the DPRD, since their approval is need for local government plans and budgets for DRR. Building awareness and capacity will also be needed for many other groups, including for example, research institutes, university departments that may be called on to provide training,

NGOs and CSOs to be contracted to support communities in preparing disaster management plans.

SC DRR Phase I initially covered five provinces (Bengkulu, West Sumatra, Central Java, Yogyakarta (DIY) and Nusa Tenggara Timur (NTT)) and one municipality (Palu in Central Sulawesi), but recently started work in three other provinces (Bali, North Sulawesi and Maluku). Phase II will add up to two more provinces with highly vulnerable communities as determined by the Steering Committee.

As phase I is coming to an end, UNDP expect to launch phase II for the period 2012-2015 with a total budget of US\$ 15 million.

Timeline: The estimated timeline for completing this component is four years. (2012-2015)

Table 6 - SC DRR Phase II Proposal - Outcomes & Outputs (Appendix 11)

OUTCOMES	OUTPUTS
1 - National and local government policy and regulatory framework for enabling DRR in target areas is designed and implemented.	1.1: Policies and legislation are enacted to mainstream in the development process actions to reduce risks related to natural disasters, climate change and emerging infectious diseases.
	1.2: Changes and additions to legislation and regulations are issued by central government ministries for DRR in specific sectors or locations.
	1.3: Actions are implemented to improve preparations for disasters.
	1.4: DRR Trust Fund strategic document is formulated to provide analytical and strong basis for establishment
2- Disaster Management and related agencies in selected areas are effectively functioning and	2:1 Coordination, collaboration and partnerships among organisations responsible for DRR are strengthened.

OUTCOMES	OUTPUTS
utilize risk assessment for DRR initiatives in partnership with multi-stakeholder DRR forums.	2.2: Expanded systems for managing information on disaster risks are used by agencies responsible for DM to prepare risk maps and plans for DRR.
	2.3: Mechanisms for monitoring and evaluating implementation of DRR initiatives are established and yield relevant information.
	2.4: Fiscal resources for DRR are used efficiently.
	2.5: Local government plans and budgets are better focused on achieving specific goals and results for DRR.
	2.6: Improved management structures and operating procedures enable BNPB and the BPBDs to fulfil their mandates more effectively.
	2.7: The professional staff of the BNPB and the BPBDs are better able to undertake the tasks assigned to them.
	2.8: DRR Forums operate more effectively in supporting government policy and plans for DRR.
3- DRR principles and techniques to minimize disaster risk are adopted and applied by communities.	3.1: An evaluation of the cost-effectiveness of strategies to promote awareness of disaster risks is used to determine priorities for Phase II.
	3.2: Programmes to promote public awareness of DRR reach key audiences and produce tangible results.
	3.3: Districts and communities (including schools) make efficient use of resources in preparing and implementing action plans for DRR.
	3.4: Support to communities for preparing and implementing disaster management plans is mainstreamed by BPBDs and other organisations based on lessons learned from SC-DRR pilot demonstration projects.
	3.5: Lessons learned on measures to reduce disaster risks are documented and disseminated widely.

1.4 Promote Dialog to Create a Shared Understanding of Disaster and Climate Change Risks at National and Sub-national levels

RECOMMENDED : Provide support to PLANAS (direct funding and/or indirectly through SC DRR)

The National Platform for DRR or Planas PRB was set up in 2008 as an independent voluntary forum that supports and facilitates dialog among key actors in disaster risk reduction. Planas helps to coordinate advisory, policy and planning activities at the central level and supports the implementation of the Hyogo Framework of Action in Indonesia.

The Platform’s main activities are, or have included, support to the national-level DM and DRR planning processes (NAP 2010-2012) and launching ISDR’s 1 million safer schools and

hospitals campaign. The platform has also taken a leading role in organizing a dialog on DRR and Climate Change (1st DRR – Climate Change (PLANAS_DNPI) workshop Nov 2009 and follow-ups in 2010.

However since its inception in 2008 the Platform has not yet been able to fully engage its members in a routine of regular activities and structured meetings. External observers have criticized Planas for deviating from its initial mandate to become an ‘implementing agency’, partly due to the need to raise funds and planas by law cannot receive funding from BNPB or the GoI. The main challenges faced by Planas is structural as it does not have full time personnel in executive board. Boards members being appointed on a voluntary basis and demonstrate limited commitment of availability.

BNPB is also actively promoting the establishment of provincial-level platforms. So far four platforms have been set up in Padang, Central Java, Yogyakarta and Eastern Nusa Tenggara. Regional Platforms are members of the National Platform and can draw from, and contribute to, the expertise of Planas but they are completely independent. Regional Platforms typically are a bit closer to realities on the ground and engage in somewhat more tangible activities such as joint contingency planning, the development of standard procedures, and the sharing of human and other resources. Experience has shown that it has been easier to mobilize people to participate in regional level activities compared with work at the national level.

There is a need to enhance the leadership of DRR forums at national (PLANAS) and sub-national levels to enable them to play a more effective role.

Lessons from SC-DRR and elsewhere indicate that four factors affect the performance of DRR forums: (a) They need a dynamic local champion as leader; (b) they require adequate resources to undertake the tasks expected of them and authority to decide how to use them; (c) members should perceive clear personal benefits from their participation; and (d) the forum needs intensive administrative and technical support, since most members are volunteers only.

Recommended activities include :

- assessing the activities and achievements of the Planas at the national level and other DRR Forums at the provincial, district and community levels, to determine factors which affect their performance, drivers of sustainability, and to recommend actions to enhance their performance at each level.
- assesses factors that enhance or undermine prospects for sustainability of the Forums, the extent to which they receive funding from government or other sources, the need for providing technical support, and potential sources of this support.
- review from other countries and the global platform, existing models which could be adapted in Indonesia
- support BNPB and BAPPENAS at national, MOHA at provincial/district level to develop or update guidelines for empowering DRR Forums, including model terms of reference
- assess and recommend financial models to ensure sustainability of DRR Forums -
- Support BNPB to monitor and evaluate the performance of Forums, and to provide guidance on improving performance.

Timeline: The estimated timeline for completing this component is two to three years. (2012-2014)

OUTCOME 2 - STRENGTHENED RESILIENCE OF VULNERABLE COMMUNITIES TO PREPARE FOR AND RECOVER FROM DISASTERS AND ADAPT TO CLIMATE CHANGE

RECOMMENDED: Expand CADRE for a second phase

It is widely acknowledged that more engagement across all levels, from national decision makers to the communities, must be encouraged. Participation of local government, communities, civil society, and the private sector are essential for DRR/CCA success.

Increased funding is needed to replicate initiatives in other high-risk regions. A big task for the government will be to consolidate progress achieved to date and expanding DRR initiatives across the country in accordance with national plans³⁹. These plans call for the expansion of current disaster management activities to all districts in the country that have been identified as particularly vulnerable to natural disasters.

For community centered programs including CBDRM, the CADRE Programme is one of the contributions of USAID to the implementation of the Hyogo Framework for Action 2005-2015 (HFA) and to Climate Change Adaptation.

CADRE's current objectives are to (1) increase and strengthen the resiliency of vulnerable populations to prepare for and recover from the effects of disasters and climate change, and (2) improve Indonesia's capacities for disaster risk reduction as well as climate change adaptation among civil society organizations, the government and the private sector.

The team recommends that USAID evaluate CADRE's current programs and expand it as a flagship program for community driven DRR and CCA, and launch a CADRE II in parallel or after the completion of the first phase with a stronger geographic focus on the most multi-hazard prone areas, including coastal and climate sensitive communities (e.g. those depending on agriculture and fisheries) possibly in urban areas, for climate risk management.

³⁹ These include the DRR component of the Medium Term Development Plan 2010-2014, the National Disaster Management Plan 2010- 2014, and the National Action Plans for Disaster Risk Reduction (NAP-DRR), including the current one covering the period 2010 – 2012 and the next one planned for 2013-2015

The new program should essentially aim at strengthening community and local governments' preparedness, response and mitigation measures in some of the most vulnerable areas. The key element of this programme is establishing linkages between at-risk communities, government and civil society plans and capacity building of government institutions in disaster mitigation, preparedness and recovery. Provincial and district institutions (such as planning agency BAPPEDA, BPBD) should be directly involved in the planning process to ensure sustainability of these initiatives. A wide representation of women should be envisaged in selected projects. Projects and partners should work closely with relevant government departments and institutions at the village, district, provincial (and national levels) during the implementation. Learnt lessons from this program should be fed into BNPB and Planas at the national level, and the global knowledge base on disaster risk management.

USAID should prioritize initiatives implemented through/by local actors and promote tools and methodologies for sustainability (e.g. encouraging contributions from authorities and the private sector, accrued ownership of local actors etc.), including monitoring, evaluation and

Policy, institutional capacity and consensus building for disaster management (HFA1)

The focus should be on institutional, legal and resource frameworks, in particular at district and provincial levels. Projects should look at supporting the implementation and dissemination of the new DRR National Policy and legislative framework at community and district levels, in a standardized and coordinated manner, for effective communication to the national and international level and support newly established BPBDs and district DRR platforms when relevant, ensuring in particular the participation of broad stakeholders. One particular area is the support of capacity development in risk assessment including consideration of climate risks.

Disaster risk assessment and monitoring (HFA2)

Risk analysis. All projects should incorporate a risk analysis as a basis for programming. Risk analysis should be systematically referred to or conducted as part of a broader monitoring system rather than as a project baseline, and should be used as a basis for programming including discussion on impact of climate change in target areas.

Improvement of early warning system (EWS). one of the main need is the establishment of end to end early warning system, in particular in effectively linking communities to district authorities. Warning systems are complex because they link many specialties – science and engineering, governance and public service delivery, disaster risk management, news media and public outreach. The development and maintenance of a warning system demands the contribution and coordination of a wide range of individuals and institutions. Having been newly established, local BPBDs and other governmental agencies will need support in understanding their role in local preparedness planning, therefore on early warning systems.

The focus here should to support the development and implementation of clear guidelines and systems that define an effective chain between (national) provincial and local level for early warning system. This could be achieve through the review of existing pilots or implementation of additional pilot projects which can be replicated and upscaled within the district or province.

other impact measurement processes or tools.

Projects under this phase should have a clear perspective of hand-over and replication mechanisms, their integration into development planning through up-scaling measures.

As in phase I, DRR and CCA projects should cover some or all of the following areas of concentration but with a more explicit reference to the Hyogo Framework for Action priorities and reference to climate change (examples are suggested in the box below)

Programs implemented in coastal areas should refer to USAID DRR guide on coastal resilience⁴⁰ and refer to MoMA's new initiative, coastal village resilience (Berkat) (see also section 3.3.), as it is potentially an effective vehicle for wider replication.

Whenever possible and relevant, collaborative strategy formulation and planning among potential USAID partners, but also jointly with other interested DRR agencies, in a region of operation should be encouraged. Collaborative planning should give rise to joint actions (consortia) or to joint activities implemented through a series of projects. Cross-visits, exchange of experience and similar promotional activities should be encouraged within Indonesia and when relevant within the region.

Activities of documenting, disseminating and integrating lessons learned and good practices aiming at improving strategies beyond the project perspective, at country and regional levels.

Timeline: The estimated timeline for completing this component is two to three years. (2012-2014)

OUTCOME 3 - INTEGRATED DISASTER RISK REDUCTION IN USAID PROGRAMS

Natural disasters can undermine decades of investments and economic development in an instant. There is a global consensus that there can be no sustainable development without mainstreaming risk reduction in all sectors of development. Alleviating poverty and reducing disaster risk vulnerability are inextricably linked, as are the targets of the Millennium Development Goals and the HFA.

RECOMMENDED - A step by step approach

While this component does not consist of a program, the following practical steps are suggested to be taken by USAID/Indonesia to ensure that disaster risk reduction and climate change are appropriately integrated in the program cycle, from design, implementation and monitoring of programs and individual activities:

a- Awareness Raising and Capacity Development

- Build USAID staff capacity as relevant to understanding the policy framework (HFA) how disaster risk relates to all development assistance and to integrate disaster risk considerations into programming and monitoring and evaluation, through the development of tools and training and the provision of technical support.

40 USAID Asia, US Indian Ocean Tsunami Warning System Program: "How resilient is your coastal community a Guide for evaluating Coastal Community Resilience to tsunamis and other Hazards" 2007
<http://apps.develebridge.net/usiotws/13/CoastalCommunityResilience%20Guide.pdf>

- Review ongoing programs to identify opportunities for integrating disaster risk reduction and risk sensitivity.
- Build partner government capacity, where appropriate, to support integration into policies, planning and programs.

b - Design and Planning

- Assess whether target implementation areas are located in environmentally sensitive locations (coastal zones, protected areas or wetlands), climate-sensitive areas (dry land, flood-or drought-prone areas) or a hazard-prone region (earthquake, tsunami, volcano or cyclonic region). Collect hazard information and conduct a risk analysis and risk assessment in terms of the environment, climate change and natural disasters.
- Review recent and relevant reports and assessments done by other stakeholders on environmental issues in target areas (provinces, districts) or Indonesia. Program teams should identify whether there may be significant impacts to be considered in the design or the current program and identify opportunities for increasing the sustainability of program outcomes.
- Seek advice from USAID (OFDA) thematic advisers, on concept notes and design documents and through program peer reviews. Decide whether to include an external technical specialist
- Ensure that the program design adheres to GOI's policies and laws on the environment, disaster management and climate change, and make reference to the DM plan 2010-2014 priorities.
- Determine and evaluate costs associated with addressing environmental issues, climate change and disaster risk reduction
- include indicators to monitor outcomes in terms of reducing disaster risk, managing climate change impacts and ensuring environmental sustainability.

c - Implementation

- Use extensive consultation with partner governments and key stakeholders to review whether and how disasters, climate change and the environment have been considered in the development programs to date, and whether these issues should be considered for the remaining implementation period.
- Review and incorporate new information on, for example, the incidence of disasters, climate science and changes in environmental data. This could be using BNPB managed DIBI disaster database

d - Monitoring & Evaluation

- Include indicators in the monitoring and evaluation framework that measure how the environment, disaster risk and climate change are being addressed by the program.
- Ask partners and key stakeholders whether/how disaster risk, climate change and the environment have been considered in the program to date, and whether this has been effective.
- Ensure that the sustainability question in the Quality at Implementation report adequately reflects new or emerging environmental, disaster risk and climate change considerations.

Sectors from USAID country strategy

Some examples of how disaster risk reduction can be integrated into USAID programs in a range of sectors are presented below:

Education

RECOMMENDED. In the Education sector the principal recommendation is to link USAID Education program and partners to the Consortium for Disaster Education (CDE). Education is one of the most potential and effective ways to reduce vulnerability to disasters, especially targeting children and their families. Nationally, the education sector has significant budgets and many interests, thus there is potential for wide implementation.

There is also an ongoing effort to mainstream DRR into education, e.g. through the One Millions Safe Schools and Hospitals campaign. The campaign is relatively well established with a safe school model that has been developed by various stakeholders (UNESCO, Kerlip, Plan International, etc. who group in CDE) and well supported by BNPB and the Ministry of Education. However, the campaign needs more support to bring it down further to the provincial and district level. The campaign is also lacking a strategic and programatic approach, i.e. number of vulnerable schools in which locations that need to be targeted, and amount of budget that needs to be allocated from the national and local governments. USAID could fund research regarding vulnerable schools and use the results to inform advocacy and the program.

Other considerations include:

- Incorporating disaster risk reduction modules into school curriculum and higher education;
- Promoting hazard resilient construction for new schools;
- Introducing features into schools to allow their use as accessible emergency shelters.

Livelihoods⁴¹

Agriculture is one of the most disaster-sensitive sectors. Communities that are dependent on agriculture are increasingly vulnerable to harvest losses, destroyed plantations, salinization, and loss of livestock due to disaster and disease. As a sector that is heavily dependent on natural phenomena, largely uninsured, the agriculture can derive great benefit from even minimal investment in disaster risk reduction.

Examples of integration of DRR into programs include:

- Promoting contingency programs, including crop planning and crop diversification
- Ensure appropriate crop selection (test and introduce new varieties, encourage the planting of drought/saline/flood resistant crops and quick-growing crops) and alternate farming with animal breeding. Agriculture and Veterinary colleges play an important role in research and pilot programs in this regard.
- Promote livelihood diversification. This can include small-scale enterprise development, introducing new farming activities (small-scale livestock, fish ponds, new crops of higher

41 Sectoral Capsule Series -- Promoting investment in disaster risk reduction. Cross Sectoral Strategies for Risk Reduction - Project Concern International - USAID <http://www.mainstreamingdr.net/sites/default/files/USAID%20-%20Why%20DRR%20for%20Agriculture.pdf>

market value). Introducing effective insurance and credit schemes to compensate for crop damage and loss to livelihood.

- Implementing social protection mechanisms such as for those who have or acquire impairments as a result of a disaster.
- Promote post-harvest management (storage, food drying, food processing) keeping in mind the disaster profile of the area. Community based and government/private sector supported initiatives such as grain banks, locally managed food-processing units and market linkages can help efficient preservation and distribution of farm products.
- Encourage the development of water control infrastructure, rainwater harvesting; water conservation techniques; afforestation/reforestation and agroforestry. Technical Institutions and NGOs may take initiatives with the community on water management.
- Assess the role of agriculture, livestock, fishery and forestry line departments in disaster risk preparedness and linkages with other relevant institutions.
- Hold trainings on developing specific infrastructural measures like raised seeds beds, check dams, wind breaks, fire breaks; proofing of storage facilities; soil erosion control structures, routine clearing of drainage system; seed and fodder reserves; drought resilient strategic water points and developing traditional coping mechanisms.
- Help farmers link with risk sharing and transfer instruments like crop/ livestock/ fishery insurance, compensation and calamity funds, micro-credit and cash transfers;
- Disseminate and demonstrate good practices for disaster risk reduction from sectoral and cross-sectoral perspectives to increase the resilience of existing farming systems.

5.4 SELECTION OF LOCATIONS

As discussed in the above sections, there is a lack of common understanding about disaster risk in Indonesia. As such, there is no common agreement on the prioritization of districts and provinces that are most vulnerable to disasters. For example, the National Action Plan on Disaster Risk Reduction 2010-2012 (RAN-PRB) and the National Disaster Management Plan 2010-2014 (RENAS PB) provide different lists of districts at risk of disaster (see Appendix 11).

The rationale for the selection of locations should be based on current understanding of disaster risk and climate change impacts, as well as reflecting the priority of GoI in disaster risk reduction and climate change adaptation. As reported by GoI and stakeholders, on the observed and projected climate change and impacts, climate change will have impacts on the frequency and magnitude of hydro-meteorological hazards as well as the vulnerabilities and capacities of people to cope with disasters. Locations (provinces/districts) that have such characteristics, such as existences of hydro-meteorological hazards (floods, drought, etc.) should be prioritized. Low levels of development indicate low levels of capacity to manage disaster risks, either due to competition over limited resources (development vs DRR) and/or the impacts of disasters on development gains.

This report selected the prioritized locations using the following criteria:

- a. Provinces and districts prioritized by GoI and the stakeholders. Provinces and districts are derived from the priority lists as in the National Disaster Management

Plan 2010-2014 and the National Action Plan for DRR 2010-2012, only taking account of locations at risk of hydro-meteorological disasters (land movements, floods and droughts). According to this combined list, all provinces are at risk of the 3 hydro-meteorological disasters.

- b. High vulnerability to hydro-meteorological disasters. This selection uses historical hydro-meteorological disaster impacts as a proxy indicator of vulnerabilities against climate related hazards. Disaster impact parameters used are: mortality, evacuated population, destroyed houses, damaged houses, affected populations, financial losses and damage to farming, derived from government maintained database (DIBI by BNPB, 20 years period 1990-2009). The value of impacts are scored 1 to 4 (lowest, low, high, highest).
- c. Level of development, in terms of the provincial level Human Development Index (2008), MDG index (2007) and percentage of poverty (2009). The values of the index are scored 1 to 4.

Appendix 12a and Appendix 12b provide the detail calculations with final result presented in tables 7 and 8 as follow:

Table 9 - Selection of target areas - Preparedness

LOW PREPAREDNESS NEEDS, HIGH DEVELOPMENT:	HIGH PREPAREDNESS NEEDS, HIGH DEVELOPMENT:
South Sumatra, West Sumatra, North Sulawesi, Riau, Kepulauan Riau, East Kalimantan, Central Kalimantan, Jambi, DI Yogyakarta, Banten, Bangka Belitung, and Bali	North Sumatra, South Kalimantan, Central Java, West Java, and DKI Jakarta
LOW PREPAREDNESS NEEDS, LOW DEVELOPMENT:	HIGH PREPAREDNESS NEEDS, LOW DEVELOPMENT:
Southeast Sulawesi, Central Sulawesi, West Sulawesi, Papua, West Nusa Tenggara, North Maluku, Maluku, Lampung, West Papua, Gorontalo, Bengkulu	South Sulawesi, East Nusa Tenggara, Nanggroe Aceh Darussalam, West Kalimantan, and East Java

The results show that Nanggroe Aceh Darussalam, East Java, East Nusa Tenggara and South Sulawesi are provinces with high impacts of hydro-meteorological disasters and relatively low levels of development (below national average, where there may be competition in allocating limited resources to address both development issues and disaster reduction). These provinces are recommended to be prioritized for DRR-CCA intervention.

The level of development in Riau, West Java, Central Java, Banten and South Kalimantan province are in between low and high level while the risks to disaster are high. These provinces should be in the second priority.

The third priority is provinces in the low impact and low development groups: Bengkulu, Lampung, Bangka Belitung, Nusa Tenggara Barat (NTB), and Kalimantan Barat, Central Sulawesi, Gorontalo, West Sulawesi, Maluku, North Maluku, West Papua, and Papua.

However, different aspect of disaster management (here divided into (a) preparedness (table 7) and (b) reducing deeper vulnerabilities(table 8) may be targeted differently as shown in Appendix 12.

Table 8 Selection of target areas - disaster impact

<p>LOW DISASTER IMPACTS, HIGH DEVELOPMENT:</p> <p>North Sumatra, West Sumatra, Riau, Jambi, South Sumatra, Kepulauan Riau, DI Yogyakarta, Bali, Kalimantan, Central Kalimantan Timur, North Sulawesi</p>	<p>HIGH DISASTER IMPACTS, HIGH DEVELOPMENT:</p> <p>DKI Jakarta, West Java, Central JAva, Banten, South Kalimantan</p>
<p>LOW DISASTER IMPACTS, LOW DEVELOPMENT:</p> <p>Bengkulu, Lampung, Bangka Belitung, West Nusa Tenggara, Kalimantan Barat, Central Sulawesi, Sulawesi Tenggara, Gorontalo, Sulawesi Barat, Maluku, North Maluku, West Papua, Papua</p>	<p>HIGH DISASTER IMPACTS, LOW DEVELOPMENT:</p> <p>Nanggroe Aceh Darussalam, East Java, East Nusa Tenggara, South Sulawesi</p>

5.5 PROGRAM COORDINATION AND RELATIONSHIPS

The following recommendations are subject to existing relationships and coordination mechanisms internally within USAIF and externally with GoI partner entities :

Internal coordination

- The USAID environment office will play a critical role in coordinating USG DRR activities under this program framework, especially with other units (education, health, livelihoods) for the DRR mainstreaming component. The suggestion here is to establish a cross sectoral program management team for DRR and CCA within USAID (or other USG) programs led by the environmental unit that will coordinate the implementation of the overall work plan for DRR (outcomes 1 to 3) including the review of new proposals.
- In particular, clarification co-ordination and implementation arrangements with ICITAP and DOD civil affairs teams if the option of ICS training is retained

External coordination

Donor Coordination - Apart from the monthly UNOCHA-led NGO and donor coordination meeting, there is not a periodic formal or informal donor coordination forum for DRR and for CCA. Some donors are more actively engaged in sharing information (AusAID, ECHO) but donor coordination should be enhanced, possibly expanded to include: information exchange, systematic division of labor, and a common process of performance monitoring at macro-economic and sectoral levels.

1. **Information Exchange:** The most basic type of coordination, usually involving regular meetings of donor representatives working in a particular sector. It may or may not include representatives of the host government (Bappenas and BNPB have expressed reluctance to chair yet another coordination forum). Such a forum could give the opportunity to develop relationship with the ICCTF, and discuss jointly DRR and CCA with other donor agencies.
2. **Division of labor under the DM plan 2010-2014:** this is particularly relevant with AIFDR for disaster preparedness work if USAID retains the option to support ICS training to BNPB and BPBD. A close coordination from ICITAP or selected USAID partner with AIFDR partners involved in the establishment of EOCs will be the key to avoiding overlap and ensuring complementarity and integration of various initiatives.

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