

FINAL REPORT



Consultancy Project on the Development of a Public Private Partnership Framework and Action Plan for Disaster Risk Reduction (DRR) in East Asia

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Glossary

ADRC	Asian Disaster Reduction Center
AMCDRR	Asian Ministerial Conference on Disaster Risk Reduction
BC	Business Continuity
BCAO	Business Continuity Advancement Organisation
BCP Business	Continuity
CAT bond	Catastrophe bond
CDRN	Corporate Disaster Response Network (Philippines)
CDP	Carbon Disclosure Project
CSR	Corporate Social Responsibility
DfID	UK Department of International Development
DM Disaster	Management
DMC	Disaster Management Denter
DRM	Disaster Risk Management
DRR	Disaster risk reduction
HFA	Hyogo Framework of Action
IDNDR	International Decade for Natural Disaster Reduction
IDRN	India Disaster resource Network
INGO	International Non-Governmental Organisation
MEP	Ministry of Environmental Protection of People's Republic of China
MOU	Memorandum of Understanding
NDCC	National Disaster Coordinating Council (Philippines)
NDMCC	National Disaster Management Coordinating Committee (Sri Lanka)
NGO Non-governmental	organisation
NPO Non-profit	organisation
NSN	Nokia Siemens Network
PPP Public-private	partnerships

PPPSD	Public-Private Partnerships for Service Delivery
PPPUE	Public-Private Partnerships for the Urban Environment
PVOP	PETRONAS Volunteer Opportunity Programmeme
SASAC	State-Owned Assets Supervision and Administration Commission of the State Council in China
SNAP	Strategic National Action Plan
SOE State-owned	enterprise
SPP	School Preparedness Programme
SRPW	School response preparedness workshops
SWW	School Watching Workshop
TCCC	The Coca-Cola Company
TREIF	Taiwan Residential Earthquake Insurance Fund
PSNDM	Private Sector Network for Disaster Management (Philippines)
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNISDR	United Nations International Strategy for Disaster Reduction
WEF	World Economic Forum

1. Scope of the review and summary of key findings

As a follow up to the 3rd Asian Ministerial Conference on DRR (AMCDRR), the UNISDR commissioned a review of the current status and framework for public-private partnerships (PPP) for disaster risk reduction (DRR) in East Asia.

The objective of the review was to develop a common action plan that would facilitate such partnerships based on an evaluation of PPP case studies and consultations with stakeholders. The expected outputs of the review included

- a report of the current state of PPP for DRR in East Asia including a list of companies and their activities and partners,
- recommendations for strengthening PPPs for DRR, and
- an action plan and preliminary budget for promoting PPPs for DRR in the East Asian region.

The review sought to contribute to the *Kuala Lumpur Initiative on Public-Private Partnerships for Disaster Risk Reduction*.

Since evidence of PPPs in the East Asian region are few the geographical scope of the review was expanded to include the following other Asian countries: Bangladesh, Bhutan, Cambodia, India, Japan, Korea, Malaysia, Myanmar, Nepal, Philippines, Thailand, Vietnam, Singapore, and Sri Lanka.

The short timeframe of the review represented a challenge in gathering information and in conducting consultations with stakeholders. Consultation with stakeholders was conducted in two ways, i.e. telephone interviews and questionnaires. A large number of stakeholders decided to provide their insights through the questionnaire but a substantial number of questionnaires have not been submitted to date.

Little evidence was found of successful PPPs for DRR in the region. In many cases information on such partnerships was rather anecdotal or not available in English. During consultations the language barrier was mentioned as a significant drawback in exchanging best practice examples in the region.

Examples of PPPs evaluated mainly focused on relief and building disaster response preparedness. Few examples were found of companies contributing to DRR in terms of reducing the causal factors of disasters such as reducing exposure to hazards or vulnerability of people and property in communities at large. This is mainly due to a lack of awareness and understanding of the concept of DRR and the potential role business can play in this area. There are also few examples of companies working in collaboration with governments. When it comes to community-based projects companies usually decide to work with local non-governmental organisations (NGOs).

Countries in the region have progressed in setting up frameworks for multi-stakeholder cooperation in DRR but only few have achieved a stage where these frameworks are used in promoting collaborative action on DRR. In many cases other stakeholders such as UN organisations, non-profit organisations (NPOs) or corporate networks are the focal points of businesses who are seeking to get involved in DRR.

To strengthen PPPs for DRR in the region there is a need to raise awareness of the importance of PPPs for DRR and to build understanding of such partnerships. Further there is a need to demonstrate the business case for private sector involvement in DRR and to help business understand its potential role in DRR. It is also important to improve

understanding on the side of the public sector and to establish a realistic view of the contributions of business in DRR. Hence, private sector views and expertise need to be channelled into DRR processes at all levels. There is a clear need to set up institutional homes for private sector engagement at regional and national level in order to provide leadership, focus and continuity to collaborative efforts between the public and private sector.

The action plan for mobilising private sector engagement in DRR builds on the following three objectives

- Raising awareness of the importance of PPPs for DRR and building understanding of such partnerships: this involves an agreement on the objectives and scope of PPPs for DRR, priority areas to work on and priority sectors to engage, ideally this would happen on a country level;
- Raising awareness and understanding of the role of businesses in DRR and channelling private sector views and expertise into DRR processes at all levels; and
- Identifying pivotal stakeholders and setting up institutional homes for private sector engagement at regional and national level.

The action plan outlines necessary processes and resources to be put in place over a time period of 3 years which include

a national multi-stakeholder consultation process and regional roundtables,
publication of principles for private sector involvement in DRR and of guidelines for PPPs,
launch of an interactive online database that allows sharing and access to information on case studies and stakeholders across the region,
the establishment of two demonstration PPPs to highlight the business case for private sector involvement in DRR
integration of PPPs for DRR streams into established conferences at regional and national level,
the establishment of industry-specific working groups on PPPs for DRR at regional level, and
generally a range of reporting and communications initiatives.

A preliminary budget has been outlined for the action plan which totals US\$ 534,000.

2. Introduction

According to the reinsurer company Swiss Re's *Sigma Report No.2/2009* natural catastrophes and man-made disasters caused 240,500 fatalities with economic losses of up to USD 269 billion in 2008 making it one of the most costly years for catastrophes in history. The hardest hit area was Asia where tropical typhoons, cyclones and an earthquake claimed more than 228,400 lives including cyclone Nargis in Myanmar, typhoon Fengshen in the Philippines and the earthquake in China's Sichuan province. According to the report at USD 124 billion, the Sichuan earthquake represented the largest single loss of 2008.

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In a focus report on disaster risk financing, Swiss Re highlights that the impact of natural catastrophes on societies and economies has increased considerably over the last two decades and is likely to grow further as a result of two complementary trends: climate change is expected to increase the scale and frequency of major weather-related events and the economic severity of natural catastrophes is growing due to a rise in both population and economic activity in areas with high risk exposure.

Natural disasters have a significant financial impact on individuals, business and insurers but also on the public sector which is responsible not only for cost of relief efforts but also for rebuilding public infrastructure. The rising impact of natural catastrophes is driving up the cost of disaster relief and reconstruction for the public sector. In Asia's smaller and developing countries with less financial resources, a catastrophic event can result in higher public deficit and debts. ²It is hence required for the public and private sector to join forces and bring together resources, expertise and experience in implementing effective DRR activities.

The topic of corporate sector involvement in DRR has been discussed for several years and gained prominence during the United Nations International Decade for Natural Disaster Reduction (IDNDR, 1989-1999) which called upon national governments to "encourage their local administrations to take appropriate steps to mobilize the necessary support from the public and private sectors and to contribute to the achievement of the purposes of the Decade". ³

It seems, however, that DRR has remained a relatively new area for public-private partnerships (PPPs) and experiences are only now beginning to be documented and shared. To date, private sector involvement in disaster management has focused largely on response and relief. There is a great need to extend the scope of private sector involvement to include DRR. Businesses have the potential to bring in core competencies for shaping innovative and sustainable solutions and therefore play a vital role in DRR efforts. They should feel compelled to engage not only for reasons of corporate social responsibility, but also out of their own business interests.

There is a particular role to play for companies with global operations which face increased risks of supply chain disruptions. These companies have a stake not only in formulating business continuity plans but in extending core business practices and competencies towards ensuring the overall stability of the economic environment.

⁴Companies of all sizes

and in all sectors have a role to play raising disaster risk awareness and enhancing

¹Swiss Re, 2009b

²Swiss Re, 2008

³UN General Assembly, 1989

⁴Swiss Re, 2008

response readiness by education and communication campaigns for their employees and the communities they operate in.

With the second Kyoto commitment period approaching businesses are putting more attention on climate change adaptation and thus on climate change risks and vulnerabilities and extreme weather events leading to droughts, heat waves and floods. This provides a unique opportunity to involve businesses in DRR and in finding ways to align corporate climate change adaptation efforts with broader DRR programmes.

In the aftermath of the Indian Ocean tsunami of 2004 and the Wenchuan earthquake in China's Sichuan Province of 2008, the international humanitarian and disaster relief community witnessed the increasing willingness of the private sector to engage in activities related to natural disaster management. Though the bulk of that engagement focused on emergency response and relief, a number of companies took the chance to move into more strategic involvement in disaster risk management and committed significant resources to longer-term efforts.

A high degree of technical integration and global economic interdependence has increased uncertainty regarding where risks begin and end, with seemingly minor events having the potential to cascade into full blown crises. Concerns have arisen over the capabilities of governments to respond adequately to large scale disasters and highlighted the need for new forms of partnership between governments, the private sector and individuals to prepare for crises in advance and to redistribute the burdens they incur.

⁵ As disaster

complexity and costs rise, there is a need to bring expertise and resources together at regional level and to develop a common action plan to better promote PPPs across the region. For the action plan to be effectively implemented an active bottom-up multi-stakeholder participation is crucial.

In this context, new frameworks and initiatives for PPPs are emerging in Asia that seek to solicit private sector involvement in DRR. Most efforts, however, are still at any early stage and are mainly individual partnerships between a corporate sector actor and a public entity. Within the scope of the present research report there was no evidence found for an industry or cross-industry wide initiative.

⁵ OECD, 2009

3. Private sector involvement in DRR

To date, private sector involvement in disaster management seems to have focused on disaster response and relief. There is great need and potential extending this engagement to DRR. The following sections show in which direction the current discussion on PPPs is headed, build the business case for corporate sector involvement in DRR and provide an overview of the strengths and expertise of key business sectors for DRR activities. Case studies of PPPs for DRR in Asia are evaluated in terms of the business drivers for private sector engagement in DRR and lessons learned with regard to the key challenges and ingredients of successful PPPs.

3.1. The current discussion on PPPs

There is no clear definition of PPPs for DRR or a clear outline of how such partnerships should be built up and on what kind of issues they should focus. The discussion of PPPs for the provision of basic services and infrastructure has a much longer history and findings from this discussion can be transferred to the field of DRR.

The United Nations Development Programme (UNDP), through its *Public-Private Partnerships for Service Delivery* (PPPSD, formerly PPPUE) facility, has been exploring and addressing the issue of private sector and other non-state providers' (NSPs) involvement in the delivery of basic services ⁶ to the poor at the local level for some time.

The World Bank Institute is looking at a similar area through its *Public-Private Partnerships in Infrastructure* (PPPI) programme which provides systemic training, and skills enhancement leading to the development of a cadre of capable and knowledgeable public sector professionals adequately equipped to deal with complex PPPs transactions. The aim of the programme is to "support developing countries' efforts to establish a sound regulatory and business environment conducive to the development of public-private partnerships for the provision of affordable and sustainable infrastructure services". ⁷

UNDP understands PPPs as a "complementary approach available to the public sector to ensure delivery of public services through the formal engagement of the private sector and/or other non-state actors." It regards PPPs as "a formal long-term working relationship established between a responsible public authority and one or several non-state actors to jointly fulfil a public basic service delivery expectation by the general public".

are seen as one measure (out of a few) to provide public service access to the poor and not as a goal in itself. UNDP does not view PPP as "privatisation", for it acknowledges the fact that under a PPP arrangement the public sector - although it engages private operators and/or other non-state actors into the delivery of a selected public service for the population - remains solely responsible and is kept accountable for the provision of the given service

⁸ Clearly PPPs

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⁶ Basic public services such as primary education, health care, clean water supply and distribution, waste water collection and removal and treatment (sanitation), solid waste collection and removal, and energy supply.

⁷ <http://web.worldbank.org/WBSITE/EXTERNAL/WBI/WBIPROGRAMS/PPPILP/0,,contentMDK:20271509~menuPK:461109~pagePK:64156158~piPK:64152884~theSitePK:461102,00.html>

⁸ Batdelger Luuzan, UNDP/BDP/PPPSD, 30 March 2009

⁹ Whereas, under "privatisation" the public sector not only sells off a public asset to a private purchaser but also consciously disengages itself from the responsibility and accountability for the provision to its populace of the service associated with that particular asset.

The UNDP is working toward an evolution of the PPP concept to make it work for the poor. Potentially, pro-poor PPP is intended to deliver basic services to the poor and, most likely, by the poor themselves, thus, enhancing their access to adequate affordable services while providing them with economic and livelihoods opportunities. Moreover, such an approach can potentially empower the poor and catalyse their effective participation and representation and expand their choice for the service level, its provider, its planning, investment, service tariff setting and its adequacy.

PPP arrangements are employed in an increasing number of local initiatives to upgrade basic infrastructure and provide basic services to the poor. The projects developed span a wide spectrum with different partners and varying aims. More inclusive partnerships involve a range of partners, from local government, community-based businesses, and communities to the wider civil society. The strengths of these partnerships lie in their ability to bring together the skills and resources of diverse actors in joint initiatives, in a way that all actors are achieving more than acting on their own.

The UNDP sees three major actors in PPPs all playing their particular role in enabling a PPP to provide equitable and sustainable access to basic services, i.e. the private partner who brings in efficiency and innovation to maximise profits, the public partner who enables, monitors and regulates PPPs and sets standards, and civil society which facilitates, harmonizes, and oversees PPP processes and outcomes. For PPPs to be successful it is important that the interests of all partners are being met (including commercial interests of the private sector) in a way which benefits consumers and in particular the poor. Then PPPs have the potential to generate 'creative synergies' and develop innovative mechanisms to resolve specific development issues.

In a publication on "Linking Disaster Risk Reduction and Poverty Reduction" the UNISDR highlights that poverty is a major factor increasing disaster risk, by increasing vulnerability to disasters and reducing existing coping capacities. Concerns of the poor are therefore important to be integrated into considerations of PPPs for DRR. The question, hence, should be how businesses can be engaged in DRR in ways that do not only contribute to the disaster preparedness and resilience¹¹ of the business itself but also of the community it operates in and possibly of the society at large.

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In developing a regional action plan for mobilising private sector engagement in DRR it is important to draw upon the knowledge and expertise accumulated by UNDP through its PPPSD programme, to allow DRR activities to be implemented in an equitable and sustainable manner which contributes to protecting those most vulnerable to and less capable of coping with the impacts of disasters.

¹⁰ UNISDR defines vulnerability as "the characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard", UNISDR Terminology on Disaster Risk Reduction 2009

¹¹ UNISDR defines resilience as "the ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions", UNISDR Terminology on Disaster Risk Reduction 2009

3.2. The business case for corporate sector involvement in DRR

In the aftermath of most of last year's catastrophes we can see the increasing willingness of the business sector to engage in disaster management activities. However, the bulk of that engagement has focused mainly on disaster relief and immediate response through donation of funds and relief goods as well as through mobilizing company volunteers.

The United Nations International Strategy for Disaster Reduction (UNISDR) defines DRR as follows

"The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events." (UNISDR Terminology on Disaster Risk Reduction 2009)

There is a strong business case for extending private sector resources to work in DRR, i.e. to contribute to pre-disaster activities that reduce exposure to hazards, lessen vulnerability of people and property, wisely manage land and the environment, and improve preparedness for adverse events. While disasters cannot be prevented, disaster risks can be mitigated and disaster impacts can be reduced in pre-disaster times.

Swiss Re argues that risk avoidance and mitigation strategies must be the first priority in managing natural disasters, in order to reduce the extent of any loss and thus also the required funding.¹² Various studies have indicated high potential returns for DRR. It is estimated that every dollar invested in DRR not only saves lives but that also between 2 and 4 dollars are returned in terms of avoided or reduced disaster impacts. The World Economic Forum (WEF) points out that DRR engagement offers to businesses a "greater scope for involvement, more opportunities to leverage core private sector competencies, and a more sustainable paradigm for engagement than traditional response and relief".¹³

Swiss Re points out that the effective reduction and financing of catastrophic risks requires a combined response by private and public sector players. Particularly in developing countries, which, have fewer funds and also bear the brunt of the effects of global warming, single organisations can no longer meet the challenge of the rising complexity and costs of natural catastrophes on their own.¹⁴

There is a strong business case for private sector involvement in DRR particularly in developing regions, which are establishing their presence in global value chains. With a substantial increase in investment and economic activity in developing countries corporations are becoming more vulnerable to eventual disaster losses in cases where countries are prone to disasters, such as the Chinese Coastal Zone with its high concentration of manufacturing and its exposure to typhoons.¹⁵ Higher interdependencies in the production process have increased the likelihood of business interruptions following a flood or a storm. For companies with global operations and those operating in the affected regions there is clearly a need to look at their own risk exposure, and to identify appropriate ways of reducing this exposure through investments in hazard monitoring, risk mitigation,

¹² Swiss Re, 2008

¹³ WEF, 2006

¹⁴ Swiss Re, 2008

¹⁵ WEF, 2007

and building resilience.¹⁶ These companies have a stake not only in formulating business continuity plans but in extending core business practices and competencies towards ensuring the overall stability of the economic environment.

There is a clear business case for corporate sector involvement in DRR not only to minimise disaster risks to businesses themselves but also to reduce the vulnerability of communities in which they operate or to which goods and services are sold to. Damaged communications and transport infrastructures, disturbance in the supply chain and employees unable to get to work can significantly affect businesses. Hence, business continuity planning can only be successful if it also considers the vulnerability of infrastructure, utility services, employees and customers. Collaborating with governmental and intergovernmental actors provides the opportunity to businesses to find innovative ways in which their own long-term self-interest will be served while also fostering more resilient communities and economies.

3.3. The role of the private sector in DRR

Accordingly Twigg (2004) argues that

"the scale, frequency and complexity of disasters as physical and social phenomena can only be addressed by deploying a wide range of knowledge, skills, methods and resources, both in development and emergency programming. This means that risk reduction initiatives must be multi-disciplinary partnerships involving a range of stakeholders. Such partnerships should be vertical (between national and local actors) and horizontal (between government, the private sector and civil society). The need for such an approach is becoming ever more urgent with the rising number of disasters and their increasing impact on vulnerable people." (Twigg, 2004)

Companies are well staffed and equipped to handle disaster response and recovery activities. Their expertise and capacities, however, need to be further mobilised for collaborative efforts for pre-disaster risk reduction. In doing so, companies need to think not only of their own security but "outside the fence" of how they can contribute to coordinated and integrated disaster risk management in surrounding communities as shown in the previous sections.

The UNISDR publication "Living with Risk: a global review of disaster reduction initiatives" outlines the following fields of action for the DRR framework:

- risk awareness and assessment including hazard analysis and vulnerability/capacity analysis,
- knowledge development including education, training, research and information,
- public commitment and institutional frameworks, including organisational, policy, legislation and community action,
- application of measures including environmental management, land-use and urban planning, protection of critical facilities, application of science and technology, partnership and networking, and financial instruments, and
- early warning systems including forecasting, dissemination of warnings, preparedness measures and reaction capacities.

¹⁶ WEF, 2006

¹⁷ UNISDR, 2002

In line with the above listed fields of action the WEF sees four areas of opportunity for the private sector to contribute to DRR which are listed in the following and further described in Figure 1 below: monitoring hazards and communicating risk, socio-physical strengthening, sharing financial risk, and disaster preparedness.¹⁸

As can be seen from Figure 1 below, the areas of opportunity clearly go beyond a company's own security and preparedness and also include early warning systems for the general public as well as public campaigns to raise awareness of risks and the inclusion of the disaster management concept into education and curricula.

Potential Losses	Areas of Opportunity			
	Monitoring Hazards & Communicating Risk	Socio-Physical Strengthening	Sharing Financial Risk	Disaster Preparedness
Natural & environmental resources and buffer zones	Forecasting, loss modeling, satellite reporting, diffusion of information and links to communities	Dams/sea walls, watershed and floodwater management, irrigation services, environmental standards	Weather derivatives	Flood management, GIS databases
Built environment	Automatic alarm systems, community warning systems, reporting and public transparency for infrastructure risk assessment	Land use planning, building codes, construction standards & oversight, retrofitting, sewerage draining, community classification	Disaster insurance pools, catastrophic bonds, mandatory catastrophe insurance for business and homeowner loans	Contingency service plans, coverage drilling, desalination plants, protection of power sources
Business & economic continuity	Business information kiosks	Supply chain resilience, disaster proof screening of investments/loans	Index based insurance, risk swaps, micro-insurance	Staff training, market for redundancies, diversification of communications technologies
Human & social capacity	SMS warnings to mobile users, diagnostic kits, inclusion of disaster management into education and curricula	Campaigns for vaccinations and against slash-and-burn agriculture (forest fire prevention) and terracing in rural areas	Reporting/public transparency for infrastructure risk assessment, micro-insurance	Early warning alarms and systems, shut-down and evacuation plans, emergency facilities, online inventory of emergency supplies, digital platforms for disaster management

Figure 1: Examples of opportunities pertaining to potential losses (source: Dalberg Development advisors in WEF, 2008)

In communicating disaster risk the private sector plays an important role in raising risk awareness among employees and in the communities it operates in. To raise awareness among peers and competitors it is crucial for companies to document and disseminate best practices and link them to a corporate strategy for building resilience.

company's own business interest as it also serves to raise the visibility of a company's efforts in DRR.

¹⁹ This is only in a

Companies need to integrate disaster impacts on business and their associated costs into their business strategies and communications in order to increase their own understanding of the business implications of disasters as well as public awareness. The Carbon Disclosure Project (CDP), an independent NPO which holds the largest database of corporate climate change information in the world, sends annual information requests, issued on behalf of institutional investors, purchasing organisations and government bodies to the world's largest businesses.

²⁰ The CDP information request includes information on the expected physical and financial risks of climate change impacts to businesses and corporate strategies to reduce these. Businesses in Asia, however, have only started to think about the

¹⁸ WEF, 2008

¹⁹ WEF, 2008

²⁰ More information can be found on the CDP website

<http://www.cdproject.net/>

impacts of climate change on their operations and have not yet developed sufficient expertise in order to incorporate these into their business strategies.

The World Economic Forum (WEF) facilitated a year-long series of dialogues in New York, New Delhi, Cape Town, Washington DC and Geneva involving a total of approximately 200 participants from corporations, governments, academia and civil society. Based on these dialogues and consultations the WEF drew together recommendations for key industries to take, in collaboration with governments and civil society, in order to strengthen "the global capacity to withstand disasters" with the aim of deepening industry engagement in DRR and for catalysing innovative PPPs for this purpose. The following sections bring together recommendations from the WEF dialogue process with insights gained from interviews with experts and practitioners relevant to the region and from desk review results. In general it seems that there has been a lack of analysis of how individual business sectors can contribute to DRR and how effective PPPs in this area can be set up. The WEF evaluation focused on four key industries, i.e. insurers and reinsurers, engineering and construction, ICT and telecom, and utilities and transportation. Recommendations of how these sectors can be better involved in building resilience to natural disasters mainly deal with business contingency and disaster response preparedness.

3.3.1. Finance and insurance services

According to the UNISDR

"Insurance is a well-known form of risk transfer, where coverage of a risk is obtained from an insurer in exchange for ongoing premiums paid to the insurer. Risk transfer can occur informally within family and community networks where there are reciprocal expectations of mutual aid by means of gifts or credit, as well as formally where governments, insurers, multi-lateral banks and other large risk-bearing entities establish mechanisms to help cope with losses in major events. Such mechanisms include insurance and re-insurance contracts, catastrophe bonds, contingent credit facilities and reserve funds, where the costs are covered by premiums, investor contributions, interest rates and past savings, respectively." (UNISDR Terminology on Disaster Risk Reduction, 2009)

The 2008 hurricane Ike led to an economic loss of US\$ 40 billion in the US of which US\$ 20 billion were insured loss (50 percent). The 2008 Sichuan Earthquake in China led to an economic loss of US\$ 124 billion of which only US\$ 1.3 billion was insured loss (1 percent).²¹ These figures are indicative for the underdeveloped non-life insurance markets in low- and middle-income countries which in many cases can be ascribed to low non-life insurance penetration, inadequate awareness of catastrophic risk exposure, and limited ability to pay insurance premiums due to low incomes. But there is also a failure of many governments in developing national disaster risk management programmes, which could facilitate the emergence of risk financing solutions.

Insurance and reinsurance companies provide risk-transfer tools with solid business rationale including:

- micro-insurance solutions that can protect previously uninsured individuals and small enterprises from the catastrophic financial consequences of weather-related risks, and

²¹ Swiss Re, 2009b

macro-insurance instruments, a new generation of sovereign insurance instruments that can make it easier for local and national governments to cope with disasters.

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There is great potential to expand micro-insurance solutions for low-income households through PPPs as these can "smooth individual incomes, provide greater financial security and reduce potential distress for small farmers or entrepreneurs who live from hand to mouth in developing countries". This could be done, for example, by enabling small farmers to borrow against insurance as collateral or to ensure themselves against droughts by securing additional payments to supplement animal pasture with animal feed.

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Macro-insurance instruments are gaining increasing awareness in Asia with rising costs of disasters for the public sector. Post-disaster financing strategies generally have high opportunity costs for developing countries and there is therefore a critical need to develop ex-ante funding programmes that are more efficient in meeting disaster needs and fostering disaster risk management efforts.

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Swiss Re argues that "transferring catastrophic risk has to be a key element in the financial strategy of every disaster-prone country or region in order to enable and sustain growth" and that "several recent risk transfer solutions offer a model for governments, development banks and relief organisations to access pre-event financing and use their relief funds more efficiently through insurance and capital market instruments".

25 It sees financial and

insurance markets playing a key role in preparing for the impact of extreme natural events and in helping spreading risks through pre-event risk financing instruments including setting up financial reserves, contingent debt agreements, insurance and alternative risk transfer solutions. Swiss Re sees a great opportunity for insurance companies in working with the public sector and in particular with governments in Asian countries where the insurance penetration is still rather low and where risks have not been efficiently transferred.

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With the absence of widespread insurance coverage in Asia's developing countries, disaster related economic losses can only be addressed with significant public sector funding. Many Asian countries maintain compensation funds or establish ad hoc funds to financially assist people who have suffered loss. Such a post-event approach places a significant burden on public budgets. Further criticism about payments from such post-disaster funds include

payments may suffice to cover only a portion of total damages and are often poorly targeted;

payments are not always conditioned upon taking pre-emptive risk reduction

measures in future (such as securing a building's foundation or waterproofing);

payments may contribute to moral hazard, for example, building or buying homes in proximity to earthquake fault lines or in flood plains; and

the provision of disaster assistance may serve a social goal in time of crisis, but it reduces incentives to purchase private insurance.

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Swiss Re argues that in less developed countries the government may need to play a more active role as an enabler ? and sometimes even as a risk taker, if the insurance market is not yet able to absorb disaster risks. It argues that new forms of PPPs can help absorbing the financial impact of large disasters and allow governments, semi-governmental agencies,

²² Swiss Re, 2008

²³ Ibid.

²⁴ Cummins and Mahul, 2008

²⁵ Swiss Re, 2008

²⁶ Andreas Bollman, Swiss Re, 12 March 2009

²⁷ OECD, 2009

development banks, aid organisations and NGOs to manage disaster expenses more efficiently through pre-event financing. It has been in communication with Asian governments on risk transfer solutions and carried out a number of models in the region (see case study in section 3.4.5).

Swiss Re sees a huge potential for such solutions and expects this sector to grow significantly with an increasing number of public players and Development Foundations showing interest in new innovative financial risk transfer products in the region. There are, however, challenges impeding the distribution of risk transfer products including

- a limited understanding of the importance and potential of risk transfer solutions,
- lacking availability of funds (due to opportunity costs considerations in developed countries and general lack of funds in developed countries),
- lack of long-term government commitment and, in some cases, political instability hindering sustainable solutions, and
- slow decision processes and multitude of departments to be included on side of governments.

Swiss Re regards transferring disaster risks as a key element in the financial strategy of every disaster-prone country in order to enable and sustain growth. A new generation of macro-insurance and micro-insurance products provide benefits to governments, for example in form of

- insuring the availability of funds for disaster recovery and rehabilitation as well as for the compensation of victims,
- protecting public budgets and reducing financial vitality, and
- reducing income volatility for individuals in developing countries, e.g. through credits for farmers with little income diversification by allowing them to borrow against insurance as collateral.²⁸

An interesting insurance product in this regard is index-based insurance which emerge both at the micro (farmer) and macro (government) level. Index-based insurance products offer new opportunities for commercial agriculture insurance in low- and middle-income countries. They rely on the measurement of an objective and independent proxy and allow transferring systematic components of crop losses caused by droughts, low temperatures or extended floods. This type of insurance, however, is cost-effective only for specific crops, perils, and geographical areas. In Asia it is currently piloted for livestock in Mongolia and yet has to demonstrate sustainability and scalability, particularly in low-income countries.

29

Weather indexed risk management products which represent a newly developed alternative to the traditional crop insurance programmes for smallholder farmers in the emerging markets. These products are based on local weather indices and ideally highly correlated to local yields. Indemnifications are not triggered by actual yields but instead by pre-specified patterns of the index, i.e. factors beyond the control of farmers. This reduces the typical risks and difficulties linked to traditional insurance products such as moral hazards, adverse selection, or the need for field visits and thus speeds up claim settlement and significantly reduces costs. One of the biggest benefits is that the insurance is based on a reliable and independently verifiable index and thus can be reinsured, allowing insurance companies to transfer part of their risk efficiently to international markets.³⁰

30

²⁸ Swiss Re 2008, Swiss Re 2009a and interview with Andreas Bollman, 12 March 2009

²⁹ Cummins and Mahul, 2008

³⁰ UN, 2007

Other interesting macro-level insurance instruments for developing countries include sovereign risk financing which allows countries to secure access to financial capacity when a disaster hits and regional catastrophe insurance pools which offer developing countries access to international reinsurance on competitive terms and new business opportunities to the reinsurance industry. In general only few catastrophe insurance programmes have been successfully implemented in developing countries. Cummins and Mahul state that "despite the increasing involvement of the international donor community, only a few developing countries have developed affordable, effective and sustainable catastrophe insurance programmes without heavy public subsidies. Many insurance pilots, particularly in agriculture, face technical, operational and institutional challenges when they are scaled up". There is therefore a great need for the public sector to work together with insurance and reinsurance companies to further explore the potential of such insurance solutions and to develop new innovative solutions that particularly meet the needs and conditions of developing countries.

The WEF considers insurance companies as the natural leaders of DRR strategies and sees them as best positioned to assess and evaluate risks. Insurance companies are also the most direct beneficiary of any reduction in losses and widespread usage of risk transfer tools³¹ and have a vested interest in reducing disaster risks. They thus play a role in lobbying governments to ensure the development and enforcement of adequate building standards and in encouraging property owners to increase the disaster resilience of their properties. There is potential for stronger involvement of insurance companies in community outreach, public education and advocacy. Insurance and reinsurance companies are the principal sponsors of disaster reduction research work and some individual companies contribute through own publications such as Munich Re with its annual review of natural catastrophes or Swiss Re with its latest focus report on "Country risk management: Making societies more resilient.". Through these publications they significantly contribute to raising disaster risk awareness and bringing the DRR discussion forward.

According to WEF insurers and reinsurers have a special role to play in that they can help spur other industries to build resilience by linking all the relevant measures they have taken to insurance policy premium discounts. This directly benefits the insurance sector as the more other industries are mobilised, the more the sector will reduce its own future disbursements.³²

With regard to the role of financiers, the WEF (2008) argues that they "should incorporate considerations related to natural-disaster resilience in lending arrangements" and that an evaluation of natural-disaster management plans when private banks consider financing investment opportunities will help establish the link between business sustainability and resilience. WEF provides the example of the International Finance Corporation which requires disaster risk insurance for all of its investments and loans, helping to set industry standards.³³

³¹ WEF, 2007

³² WEF, 2008

³³ WEF, 2008



Global Facility for Disaster Reduction and Recovery (GFDRR)

In partnership with the United Nations, the World Bank established the Global Facility for Disaster Reduction and Recovery (GFDRR) in 2006 to facilitate comprehensive disaster prevention, risk management, increased investments in prevention and preparedness, and risk financing. Several major donors have joined this partnership among them the government of Australia, Canada, Spain and UK as well as the European Commission.

As part of the Sustainable Development Network, GFDRR is the World Bank's global initiative to enhance national capacities to reduce vulnerability by integrating risk reduction in country development strategies. It is supporting a number of catastrophe risk financing projects, including the Pacific Catastrophe Risk Pool Initiative. In particular, GFDRR financial and technical assistance supports the development of national strategies and capacity-building interventions to enhance investment in risk reduction and risk transfer mechanisms.

With increasing support from the international donor community and the World Bank, GFDRR provides financial and technical assistance through co-funded projects in more than 54 low and middle income countries in Africa, East Asia and the Pacific, Europe and Central Asia, Latin-America and the Caribbean, Middle East and North Africa and South Asia.

GFDRR helps governments implement ex-ante risk financing strategies through the development of probabilistic risk assessment platforms, creation of disaster risk atlases, and establishment and improvement of loss model tools. By making more reliable data collection and new data management systems available, low- and middle- income countries create an enabling environment for better functioning insurance markets that use of competitive and cost-effective risk financing instruments.

In the aftermath of a catastrophic event, governments of developing countries face a shortage of funds as emergency funds are not always immediately available. In addition, due to insurance market imperfections and high volatility of insurance premiums, some governments are often deprived of natural disaster insurance. With this in view, GFDRR supports World Bank ex-ante catastrophe risk financing/insurance products, which can address the immediate liquidity needs of clients and can help manage and transfer catastrophe risks to the insurance and reinsurance markets.

The GFDRR has entered a number of partnerships with insurers and re-insurers with the aim to forward insurance and risk transfer schemes worldwide. Projects in Asia include

China catastrophe risks assessment and the development of disaster risk management strategies

(ongoing project since 30 January 2008): The primary objective is to identify peak urban catastrophe risks in China, to quantify potential direct and indirect losses, to develop appropriate risk management strategies and to engage both national and city level governments in the formulation of those strategies. The project is part of a larger project planned between the World Bank and China Insurance Regulatory Commission (CIRC), the Chinese insurance supervisor.

Pacific Islands Pacific catastrophe risk pool feasibility study (ongoing project since 30 January

2008): The specific objective is to develop a menu of market-based financial solutions, including the creation of a regional catastrophe risk pool, for the financing of government's short term liquidity needs caused by natural disasters.

Bangladesh agricultural risk insurance feasibility study (ongoing project since 30 January 2008):

The study aims to develop an institutional framework based on a public-private partnership for the development of agricultural insurance in Bangladesh, and particularly the financing of agricultural catastrophic losses.

These projects are still at an 'initial' stage and activities are focussing around risks assessments and feasibility studies. They are being implemented in close partnerships with relevant government agencies and private sector partners such as consultants and insurance companies. In all three projects key stakeholders will be involved through key stakeholders an advisory group to the GFDRR.

Source: Personal conversation with Gaetano Vivo, Disaster Risk Management Analyst at GFDRR and information from the GFDRR website <http://gfdr.org/index.cfm?Page=home&ItemID=200>

3.3.2. Engineering and constructions

WEF sees engineering and construction firms playing a critical role in building resilience since a majority of lives lost are often a result of building collapse. The sector has the capacity to lend its technical expertise towards building more resilient infrastructure and in establishing rules for land use planning and construction standards. The sector can make a crucial contribution by developing new product and business lines and by reducing liability and increasing reputation for quality.

Challenges faced by the sector in building resilience include

- increased competition with a tendency to "rush to rebuild" following a natural disaster which may lead to compromised safety measures to ensure contracts are in place,
- economic recessions which may reduce the number of projects that increase safety, and
- lack of commitment and will to participate on the side of governments as well as government participation.

WEF concludes that to date there has been limited interest of engineering and construction companies in other areas such as risk sharing and monitoring for hazards and risks.

34

3.3.3. ICT and telecom

Information communication technology (ICT) plays a crucial role in hazard monitoring, emergency communications and coordination. ICT and telecommunication companies can provide important systems and services for organizing and accelerating response and expediting the management of natural disasters in general.

There are a large number of ICT and telecom systems and services that can be broadly applied in disaster management to improve outreach to unconnected rural communities, promote resilience through advertising, disseminate emergency information and build early-warning systems, pool online donations, and create real-time databases for use by decision makers and the general public.

35

Since May 2005, DRR activities in Korea have received significant support from the IT and communication infrastructure industry. Private telecommunication companies have contributed real-time disaster information to more than 30 million citizens enabling rapid and efficient dissemination of disaster information through Cell Broadcasting Service.

36

The India Disaster Resource Network (IDRN) is a nation-wide electronic inventory of essential and specialist resources for disaster response, covering specialist equipment, specialist manpower resources and critical supplies. It is an example of an online inventory of emergency resources that was build up through a collaborative effort between multiple stakeholders. It helps mobilizing specialised equipment and skilled human resources for timely disaster respond.

37

In Bangladesh satellite radios for emergency alerting have been developed as a technology that is robust and effective in communicating disasters to remote communities. Vista

³⁴ WEF, 2008

³⁵ WEF, 2008

³⁶ Korea National Emergency Management Agency, 2008

³⁷ <http://www.idrn.gov.in/>

Communications Company has joined hands with WorldSpace Corporation to find means to commercially sustain the technology and to maintain its operational continuity. The digital satellite radio provides crucial services including advanced disaster bulletin and advanced emergency alert in far-reaching areas including the country's coastal belt.

38



International Telecommunication Union (ITU)

An important stakeholder in leading ICT companies in DRR is the International Telecommunication Union (ITU).

ITU is the leading United Nations agency for information and communication technology issues and the global focal point for governments and the private sector in developing networks and services. ITU coordinates the shared global use of the radio spectrum, promotes international cooperation in assigning satellite orbits, works to improve telecommunication infrastructure in the developing world, and establishes the worldwide standards that foster seamless interconnection of a vast range of communications systems.

ITU plays a key role in leading companies in how they can contribute to tackling global challenges such as climate change mitigation and adaptation. In the field of disaster management it contributes through providing standards and handbooks on the use of IT in climate monitoring and prediction and for emergency communications.

1

Source: Alexandre Vassiliev, International Telecommunication Union, 17 March 2009

3.3.4. Utilities and transportation

Business continuity of the utility sector's physical plants and infrastructure such as dams, pipelines, power plants and roads is critical for all other industries and society to continue to function after a disaster and in order to reduce exponential damage. The water sector, for example, is an important sector to both the industry and the general public. It provides fresh water supplies to residential areas and agriculture as well as cooling water for the electric utility sector. Business contingency plans and early warning systems are crucial in building the resilience of this sector. In countries where the sector is not largely privatized this represents an increasing challenge for the public sector.

39

It seems that DRR activities and disaster preparedness plans of the utility and transportation sector are not well documented or published. Evidence of several logistics companies was found that have contributed towards both disaster relief and preparedness. Within the scope of the present review no evidence of more strategic involvement of this sector in DRR was found.

³⁸ <http://irneasia.net/2008/06/bangladesh-to-use-satellites-for-disaster-risk-reduction-its-logical/>

³⁹ WEF, 2008

According to the FedEx website, FedEx provides relief and lifesaving aid to victims of disaster. It works with global NPOs to assist in relief, recovery and disaster-preparedness planning. Some of FedEx's efforts in Asia are listed in the following but do not provide any evidence of the company being involved in building disaster preparedness:

40

donating more than \$300,000 in cash and \$500,000 of in-kind shipping to support relief efforts in China and Myanmar, including a FedEx MD-11 charter flight with more than 250 pallets of critically needed medical supplies;

working with more than 20 government and relief organizations to deliver more than one million pounds of supplies following the tsunamis in Southeast Asia; and

transporting relief supplies for victims of earthquakes in Pakistan, Afghanistan, and India.

In 2005, DHL entered a strategic partnership agreement with UNDP and UN OCHA to help build capacities in countries for disaster response and risk reduction. DHL provides in-kind services and has built up a global network of disaster response teams composed of specially trained DHL employee volunteers who will help manage crucial logistics operations at airports close to affected regions.

41



World Business Council for Sustainable Development (WBCSD)

The WBCSD is a CEO-led, global association of some 200 companies dealing exclusively with business and sustainable development. Members are drawn from more than 35 countries and 20 major industrial sectors.

WBCSD provides a platform for companies to explore sustainable development, share knowledge, experiences and best practices, and to advocate business positions on these issues in a variety of forums, working with governments, non-governmental and intergovernmental organizations.

The Council has a broad work program which explores a wide range of sustainable development issues ranging from energy efficiency to climate change and water. Sector projects, which are supported and run by at least five or more member companies, currently include projects for electric utilities and sustainable mobility. Within the framework of these projects WBCSD has, for example, outlined sustainability challenges and principles as they are relevant to these specific industry sectors.

WBCSD has also been co-organizing side-events at important climate change conferences and talks, such as the Poznan Business Day in December 2008, to help channel business perspectives and contributions into the climate change debate.

There is a great potential to cooperate with the WBCSD in raising the disaster risk awareness of business worldwide and in developing industry sector-wide approaches to DRR.

Source: Website of the WBCSD at <http://www.wbcd.org/>

⁴⁰ http://about.fedex.designcdt.com/corporate_responsibility/philanthropy/disaster_relief/relief_support

⁴¹ http://www.enebuilder.net/focalpoint/e_article000556413.cfm?x=b11,0,w

3.3.5. Pharmaceuticals and health

The pharmaceuticals and health sector plays an important role in reducing human and social losses from disasters for example through the provision of early warning diagnostic kits to communities (e.g. to detect safe water sources), vaccination, online inventory, micro insurance, and in building knowledge hubs related to specific diseases.

⁴² The most critical

role pharmaceutical companies can play in building preparedness towards natural or man-made disasters is to focus on health care capacity building to reduce risk of widespread diseases after a disaster. Whilst the supply of medication and equipment is welcomed by disaster ridden communities, education and awareness is equally vital to all communities.

The Bristol-Myers Squibb Foundation has been working in Asia to support a variety of disease education and vaccination efforts. The Foundation has plans for building health care capacity in partnership with local NGOs, governments and the medical community, as well as for developing other support services at community level.

⁴³

Pfizer has set up a Disaster Management Programme that addresses mental as well as physical health needs, preventative education as well as disease management, logistical as well as healthcare capacity building. Pfizer regards its Disaster Management Programme as unique in that it addressed mental as well as physical health needs, preventative education as well as disease management, logistical as well as healthcare capacity building.

⁴⁴

3.3.6. Media and entertainment

Media companies play a vital role in education and awareness towards DRR. Media can be used in communicating disaster risks and mitigation and preparedness measures to the broader public as well as in disseminating information on best practice case studies of companies contributing towards DRR. Media and entertainment companies are also important players when it comes to raising funds and resources. Media support is crucial in organising and running multi-stakeholder dialogue forums for example for bringing together important stakeholders, raising public attention, and disseminating information on the outcomes of the event.

⁴² WEF, 2007

⁴³ <http://www.bms.com/foundation/>

⁴⁴ http://www.pfizer.com/pfizer/subsites/corporate_citizenship/report/manufacturing.jsp

3.4. Case studies of private sector involvement in DRR activities

As it seems to be the case across the region, companies are often willing to provide donations or in-kind support to emergency relief and response, but are not yet strategically involved in long-term DRR activities aiming to build disaster preparedness or mitigate disaster risks. There seem to be a number of success stories of PPPs in the region but they have not been well documented and language barriers present an obstacle in sharing information and best practice examples. The following sections outline the most successful case studies of business sector involvement found in the Asian region within the scope of the present review and summarise key lessons learned in terms of challenges and key ingredients for setting up successful PPPs for DRR.

3.4.1. PETRONAS, Malaysia: employee volunteer programme



Petroleum Nasional Berhad (PETRONAS) is wholly-owned by the Malaysian government and is vested with the entire ownership and control of the petroleum resources in Malaysia through the Petroleum Development Act 1974. The fully-integrated oil and gas corporation has ventured globally into more than 32 countries worldwide.

The company has initiated and supported various social, environmental and community projects, in partnership with non-profit organisations in order to help the community gain from economic and social opportunities and a better quality of life.⁴⁵

PETRONAS entered a partnership with the Malaysia-based NPO Mercy Malaysia shortly after the Tsunami in December 2004 as the company felt that it could expand its contribution and impact by entering a 'strategic alliance' with a professional humanitarian aid organisation. In the aftermath of the Tsunami PETRONAS contributed its expertise in identifying and assessing safe water sources and its network of warehousing and logistics.

While the company had been engaged in disaster relief efforts before the Tsunami, the Tsunami can be considered as the trigger towards a structured volunteer programme. As a result of the company's partnership with MERCY Malaysia the company has built up the PETRONAS Volunteer Opportunity Programme (PVOP) with the aim of developing a pool of volunteers trained in total disaster risk management and exposed to the area of humanitarian relief efforts in the Middle East and Asia. Further internal aims of the volunteer

⁴⁵ Petronas corporate website at <http://www.petronas.com/>

programme are to inculcate the spirit of volunteerism and to contribute to leadership development as well as personal and professional competency development and character building. The programme provides a platform for PETRONAS employees to contribute their time, skills and experience for the benefit of the community through specialised humanitarian relief programmes conducted by partners such as MERCY Malaysia.

Within the partnership MERCY Malaysia trains PETRONAS employee volunteers in disaster readiness and engages them in its own disaster response teams. Volunteers are for example deployed in post-disaster activities for traumatised and distressed children as well as in acute response activities which provide initial care and medical and social support. Launched in April 2005 the PVOP has since enlisted over 350 staff members and deployed and trained a total of 100 volunteers on various humanitarian missions, locally and internationally. Approximately 150 volunteers have also undergone specialized trainings. PETRONAS volunteers are, for example, deployed in MERCY Malaysia's disaster-related activities throughout the Asia region in countries ranging from Iran and Pakistan to Malaysia and Indonesia.

With a growing understanding of the importance of pre-disaster risk reduction activities PETRONAS is seeking for new areas of involvement. The company is exploring the possibility to get engaged in pre-disaster activities under a school preparedness programme (SPP) which has been developed by MERCY Malaysia and which aims to promote a culture of disaster preparedness and increase the capacity of schools and students to respond to disasters. Target beneficiaries of this programme are secondary school students and primary and secondary schools teachers.

Activities proposed for the SPP include

- school watching workshops (SWW) which seek to raise awareness about disasters and disaster preparedness using a hands-on risk assessment methodology, and
- school response preparedness workshops (SRPW) which aim to form and train student taskforces to respond in the event of a disaster or emergency.

To date, MERCY Malaysia has conducted six SWWs for students and eight training-of-trainers workshops for teachers with a total number of 297 students and 406 teachers participating. PETRONAS has just started getting engaged in this programme and so far only one member of the PVOP participated as a trainer in the pilot SWW in Muar, Malaysia in November 2007.

The company sees a major success criterion for its partnership with MERCY Malaysia in the common values being shared by both parties, namely integrity, professionalism, and beneficiary focus. The partnership has evolved over time and allowed PETRONAS to develop a deeper understanding of the disaster management concept and thus open opportunities for new areas of engagement. PETRONAS is now further exploring ways of strategically contributing its expertise in infrastructure construction and design for long-term DRR activities. ⁴⁶

⁴⁶ Sri Ganesh Gopal, PETRONAS, 10 April 2009

3.4.2. UEM, Malaysia: employee volunteer programme



UEM Group Berhad started out as United Engineers (Malaysia) Berhad in 1966 and since then has developed to one of Malaysia's leading conglomerates in the building of infrastructure. The Group is a wholly owned subsidiary of Khazanah Nasional Berhad, one of the government's investment arms. UEM's core businesses include expressways, engineering and construction, healthcare, environmental services, property, manufacturing, information, communication and technology and logistics. The Group is committed to making significant contributions to the development of human and intellectual capital as well as towards enhancing the quality of life.

UEM is very well informed of the Hyogo Framework of Action (HFA) and regards 'preparedness for effective response' as an area where corporations can effectively work together with government agencies and NGOs. UEM sees itself and industry peers playing an important role in addressing DRR through this priority area due to the valuable expertise and services that infrastructure building companies can contribute.

UEM is currently involved in DRR initiatives in Malaysia in partnership with the NPO Mercy Malaysia. Prior to this, the Group was more involved in disaster relief efforts locally in Malaysia, in partnership with NGOs such as Mercy Malaysia and Malaysian Red Crescent, as well as in Indonesia shortly after the Tsunami. In the long term, UEM sees that partnerships in DRR will continue where UEM Group will continue to participate as part of our Corporate Social Responsibility initiatives.

Since 2007 UEM has raised awareness of DRR within the company and within the partnership UEM provides volunteers and pledges funds to Mercy Malaysia for a volunteer training and development programme. Mercy is further given the opportunity to utilize UEM facilities for running the volunteer development programmes. Trained UEM employees are then enrolled as UEM ALERT volunteers in various humanitarian relief and response preparedness programmes.

UEM ALERT was created as a platform for UEM Group employees to contribute their time and skills through volunteering. The idea to establish UEM ALERT was first initiated during the Johor Floods of December 2006 when UEM Group employees came together and contributed volunteer time, food and donations for those in need. UEM Group and Khazanah Nasional, the investment holding arm of the Government of Malaysia, immediately pledged RM 1 million in funds and resources to provide emergency relief assistance. Based on this experience UEM soon recognised that it could make valuable contributions in a more strategic manner drawing from its dedicated employees with multiple skills crucial in DRM,

its company culture of systems and processes for long term effectiveness, and economies of scale in resources.

UEM Malaysia sees a possibility for the partnership project to be replicated in other areas of the country and for getting other companies on board. UEM is also exploring the opportunity to get more strategically involved in DRR activities such as through a community flood preparedness project.

The volunteer programme is regarded as a win-win situation which contributes to UEM being seen as an attractive employer. The programme is therefore being incorporated into the Group's Human Capital Development Programme with the aim of utilising UEM Alert in order to facilitate programmes for all employees in humanitarian and charitable causes and to channel group efforts.

According to UEM the main success factors of its partnership with MERCY Malaysia included

- clear responsibilities assigned to both partners and clear understanding of each other's aims and needs in the partnership,
- confidence in each other's contributions, and
- historic link between the NGO and the company as UEM Group is a Khazanah Group company which has been a key sponsor of Mercy over a long time.

Through the partnership with the NPO UEM was able to develop a deep understanding of the DRR concept and to make more sustainable contributions by getting involved more strategically in long-term projects.

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3.4.3. Nokia Siemens Networks: rebuilding of Nanba primary school



Nokia Siemens Networks (NSN) is a leading provider of communications services with global operations and a complete portfolio of mobile and fixed network solutions. NSN states to attach great importance to social performance through activities such as uniting communities, disaster relief and preparedness, and education initiatives. NSN believes corporate social responsibility to be part of NSN's every day business, which generates a positive impact on society through harnessing its communication power.

In response to the Wenchuan Earthquake, NSN and UNDP China signed a memorandum of understanding (MOU) in August 2008 to cooperate in disaster rehabilitation and reduction as well as other activities that NSN excels in within the framework of its corporate social responsibility initiatives, e.g. environmental performance, improving access to education and connecting communities. NSN made a first donation of 600,000 RMB Yuan to support the rebuilding of Nanba Primary School in Pingwu County, Sichuan Province, focusing on provision of teaching equipments, teacher training, psychosocial support and volunteer activities for teachers and students. Right after the earthquake in Sichuan, NSN initiated an emergency plan ensuring emergent communications services. Initially having pledged a

⁴⁷ Mohd Azman Sulaiman, UEM Malaysia, 12 March 2009

donation for earthquake relief Nokia and NSN was soon interested in supporting long-term recovery and rehabilitation efforts through the partnership with UNDP. rehabilitation project is part of UNDP's cooperative project with the Chinese government on "Using distance education and ICT to improve teacher quality in poor areas of western China". Based on NSN's long-term commitment to this partnership, the current project activities are part of an initial first project phase which runs from September 2008 to December 2009. UNDP and NSN are seeking to develop a long-term project contributing to the future development of the school. The UNDP country office sees a great potential for this partnership to incorporate elements of DRR into the project activities such as training and deploying company volunteers in disaster preparedness programmes for the school.

⁴⁸ The school

With the partnership UNDP aims to bring together the development experience of UNDP, the commitment of the Chinese government, and innovative force of Nokia Siemens Networks. Nokia seeks to engage more strategically with communities over the long-term and to contribute to enhanced productivity, healthcare and education through its products, services and expertise. ⁴⁹

3.4.4. Dow Chemical: promoting safer operations and emergency preparedness



Dow Chemical Company is a diversified chemical company that delivers a broad range of products and services to customers in around 160 countries, connecting chemistry and innovation with the principles of sustainability to help provide everything from fresh water, food and pharmaceuticals to paints, packaging and personal care products.

In December 2008 the United Nations Environment Programme (UNEP), the Ministry of Environmental Protection of People's Republic of China (MEP) and Dow Chemical (China) Investment Company Limited (Dow) signed a joint project document to collaborate on promoting chemical safety and emergency preparedness in the chemical industry in China. The partnership aims to promote safer production, chemical safety and emergency preparedness in the value chain of the chemical sector in China, and to demonstrate the benefits of adopting a multi-stakeholder approach to the development of integrated emergency plans. It will also assist the MEP and relevant organisations in improving local awareness and preparedness for industrial environmental emergencies. Pilot enterprises will experience the benefits of improved chemical safety including fewer accidents, safer production, fewer employees' injuries, fewer environmental emergencies and improved preparedness of the local community and of the local industry and its value-chain or buyers. Dow brings in its expertise in developing training materials and capacity building activities for pilot enterprises in the chemical industry and its value-chain. With this partnership, which builds upon Dow's long-term commitment in China to promote the safe management of chemicals, Dow aims to make a positive and lasting impact on a wide range of people, and Chinese society as a whole. UNEP seeks, through this two-year demonstration project, to support the capacity development of local authorities and the broader chemical industry in China, as well as the development of a National Center for Safer Production.

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⁴⁸ UNDP and NSN, 2008

⁴⁹ Yu Hua, UNDP China Country Office, 16 April 2009 and Qi Yue, NSN, 16 April 2009

⁵⁰ UNEP press release 2008 and Vivan Lu, Dow, 17 April 2009

3.4.5. Swiss Re: catastrophe bond for Taiwan

Swiss Re



In September 1999, following the Chi-Chi earthquake, the government of Taiwan initiated the idea of setting up a Taiwan Residential Earthquake Insurance pool scheme. To enable this scheme the insurance law was amended and three regulations and five directives promulgated. This allowed the government to set up a residential insurance fund and non-life insurance companies to underwrite residential earthquake risks.

The Taiwan Residential Earthquake Insurance Pool was created by the Insurance Bureau in April 2002 and administered by the state-owned reinsurer Central Reinsurance Corporation with the aim of sharing earthquake risk between private insurance companies and the government. In December 2005 the Taiwan Residential Earthquake Insurance Fund (TREIF) became the pivotal organization of the Taiwan Residential Earthquake Insurance Scheme and most of the operation and handling of the scheme has now been transferred to the TREIF.

The policy covers residential fires and earthquakes with TREIF only providing basic earthquake cover. Clients can purchase additional and expanded earthquake cover from the non-life insurance companies.⁵¹ The total limit of the scheme was initially set at TWD 50 billion, but has increased to TWD 60 billion since January 2007. As a result of the insurance scheme the take-up rate of earthquake insurance has increased from only about 1 percent before the Chi-Chi earthquake to nearly 25 percent of residences in 2008.

In August 2003, in an effort to complement TREIF's reinsurance programme and diversify sources of reinsurance capacity, the Taiwanese government issued a landmark USD 100 million catastrophe bond (CAT bond) covering the entire Taiwanese territory. The three-year bond operated with an indemnity trigger of TWD 20 billion and expired on June 30, 2006. Under this first CAT bond in emerging Asia, Swiss Re structured and reinsured earthquake coverage for the Central Reinsurance Corporation. During the three year contract period the CAT bond was not triggered and the transaction was not renewed in 2006.

The main reasons for issuing the CAT bond were to gain experience and expertise of alternative risk transfer solutions, to maintain high credit quality and to provide a stable and diversified source of capacity. The purpose of issuing the CAT bond was to link insurance risks with capital markets, thereby creating an alternative source of financing. About 53 percent of the CAT bond was sold to a dedicated catastrophe bond fund, 31 percent to

⁵¹ Warren Chang, TREIF, 16 March 2008

⁵² <http://www.gccapitalideas.com/2008/12/28/taiwan-catastrophe-reinsurance-market-2008/>

⁵³ Andreas Bollmann, Swiss Re, 12 March 2009

hedge funds, 11 percent to money managers, and 5 percent to reinsurers. 95 percent of Taiwan's earthquake risks were successfully transferred to the international capital market.

According to TREIF complicated procedures and high expenses were among the reasons for not renewing the CAT bond and for deciding to utilize traditional reinsurance solutions. The CAT bond is nevertheless considered as a significant achievement and as an important milestone in the development of the financial insurance industry in Taiwan.

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3.4.6. ICICI Lombard and BASIX: weather insurance initiative for India



The ICICI Lombard and BASIX partnership project became the first weather insurance initiative in India and also the first farmer-level weather-indexed insurance offered in the developing world.

Agricultural productivity in India is at risk of severe losses from high temperatures, increased drought, and flooding which can cause large-scale crop failure as well as slower productivity losses due to soil degradation. More than two thirds of the Indian workforce relies on agriculture for their income, and weather patterns constitute a risk that needs to be effectively managed.

Traditional crop insurance typically has not been available to help Indian farmers overcome weather-related risks, because contracts are expensive to administer and therefore not commercially viable in most Indian rural settings. A key cost in this regard is the expense of assessing crop damage for large numbers of small farmers. An alternative are insurance contracts that have payouts pegged to a particular weather parameter, like rainfall levels. This kind of "index-based" insurance uses the strong correlation between crop yields and rainfall to trigger insurance payments to policy holders when rainfall is below a certain level, and therefore does not require insurance companies to assess crop damages for individual farmers. This can dramatically cut transaction costs and make insurance more affordable.

In 2003, ICICI Lombard General Insurance Company formed a partnership with BASIX, a Hyderabad-based micro-finance institution, to pilot the sale of such rainfall index insurance contracts to small farmers in Andhra Pradesh, India. The Commodity Risk Management Group (CRMG) of the World Bank provided technical support.

The initial launch of the scheme was rather small with about 230 participants and a focus on crop-specific risks. But by 2005, the scheme had graduated to considering the risk exposure of an entire district to climate variations. During the 2005 monsoon, BASIX sold 7,685 policies to 6,703 customers in 36 locations in six states. This was only possible due to strong

⁵⁴ Warren Chang, TREIF, 16 March 2008

existing delivery channels, strategic planning, effective and transparent communications with farmers and a complementary partnership with local organizations.

As a result of the project farmers developed an understanding of insurance products. With customer feedback being channelled back ICICI was able to customise its product designs to suit different local conditions and needs. BASIX's high staff number of 1,281, meant that adding weather insurance to its comprehensive set of livelihood services created many economies of scale. By offering various bundled micro-finance services for example, BASIX was able to maximize staff productivity, improve cost-effectiveness, and have a stronger impact on farmers' livelihoods.

Among the main success factors of the project was BASIX's existing presence in more than 10,026 villages in seven states across India. Strong partnerships and the use of BASIX as the intermediary agent between the ICICI and rural farmers were fundamental to the scheme being trusted and scaled up. Detailed qualitative and quantitative research of rural markets and farmers needed to be carried out, and new weather monitoring stations had to be installed to measure rainfall levels, activities that aided in improving the company's image in front of the farmers. Moreover, innovative features like doorstep delivery and quick payouts when index triggers were reached also greatly aided in the smooth and effective expansion of the programme.

3.4.7. The Coca-Cola Company: disaster preparedness and relief project in Thailand



The Coca-Cola Company (TCCC) aims to make a positive difference around the world by being responsive to the needs of the communities where the company operates. For this purpose the company works with various local communities and governmental and nongovernmental organisations on customized local initiatives focused on those areas where TCCC feels it can make a unique and sustainable difference. Disaster relief - and to an increasing extent disaster response preparedness - is one of these areas. In 2007 TCCC made charitable contributions of US\$ 99 million of which US\$ 4 million supported disaster relief activities worldwide.

TCCC and its local bottling partners provide both financial and in-kind donations for relief and reconstruction partnership efforts and contribute its large distribution network and employee volunteers to deliver aid materials and other necessities to communities, in particular those in remote and not easily accessible locations. The company further supports relief efforts by engaging its bottling companies in providing safe drinking water in the

⁵⁵ Manuamorn 2007 and UNEPFI 2006 in SIDA et al. 2009

aftermath of disasters. In Aceh, Indonesia, the company helped enable long-term provision of water supply and public sanitation facilities to some of the villages impacted by the tsunami.

Over the years TCCC has gained profound experience and expertise in disaster relief activities and developed a good understanding of disaster response concepts. The company acknowledges the important role of building preparedness in pre-disaster times and has started a pilot project on disaster preparedness and relief in Thailand. The pilot project builds on a partnership between The Coca-Cola Foundation Thailand (established in 2003 by Coca-Cola (Thailand) Ltd, ThaiNamthip Ltd and Haad Thip PCL) and the Thai Red Cross Society and was initiated in September 2007. As part of this project around 1,700 Coca-Cola system employees across the country are receiving intensive training every year on first aid and disaster-relief basics from the Relief and Community Health Bureau of the Thai Red Cross Society with the aim to be prepared for a decentralized rapid-response deployment in emergencies. The Coca-Cola system's nationwide distribution system is also being used to deliver effective and timely support to disaster relief efforts including the provision of clean bottled water, tents, and other equipment for relief efforts. The project is expected to benefit over 200,000 Thai households with over 2.5 million bottles of 'Namthip' water. The first phase of this four year project runs from 2007 to December 2010 during which lessons learned will be gathered and a possible replication of the project in other areas of the region will be explored. According to TCCC the project is part of the company's enduring commitment to Thai communities and builds on the long history of both financial and in-kind support from the Coca-Cola system in Thailand and globally on disaster relief. TCCC seeks to formalise this partnership for the future in order to make the company's response more effective and meaningful. TCCC considers the partnership to leverage the core competencies of the Coca-Cola system e.g. its nationwide distribution system (trucks, warehouses); its employee volunteers and its products (especially its 'Namthip' bottled water) to support the Thai Red Cross Society in providing effective and timely support to disaster relief efforts nationwide.

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Lieutenant General Dr. Amnat Balee, M.D., Director of the Thai Red Cross Society's Relief and Community Health Bureau comments that, "*Experience has taught us not only that public-private sector partnerships can play a substantive role in disaster response but that the best time to start planning is before the next disaster occurs. Working on this project with a world-class business like Coca-Cola ? with good processes and systems, an extensive distribution network, and most importantly, team members who care and commit to take action ? supports our overall mission. We hope that this partnership with Coca-Cola will be a best practice for other disaster preparedness and relief partnerships in Thailand.*"

TCCC was able to develop a deeper understanding of disaster management and public-private partnerships through a unique and innovative partnership with UNDP Regional Centre in Bangkok in November 2005. At that time TCCC's Public Affairs Manager for Asia, Stuart Hawkins, was seconded to the UNDP Regional Centre in Bangkok for one year. The aim of this "loaned executive" assignment was to build and manage new partnership activities for longer-term tsunami reconstruction efforts. This unusual secondment was a new experience on both sides and indicates TCCC's and UNDP's openness to a more creative and innovative approach to public-private partnerships. It has allowed both parties to learn from each other and to deepen their collaboration. For Stuart Hawkins the secondment assignment has been "a great entrance into the world of the UN and the world of development".

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⁵⁶ Stewart Hawkins, TCCC, 8 April 2009

⁵⁷ <http://www.un.org/Pubs/chronicle/2006/issue3/0306p50.htm>

3.5. Evaluation of case studies

Examples of private sector engagement in DRR activities in the region are few and most of them have already been featured in a UNISDR publication on "Private Sector Activities in Disaster Risk Reduction - Good Practices and Lessons Learned" in 2008

⁵⁸ . Case studies

featured in this publication have not been incorporated into the present report but have been evaluated in order to derive conclusions as they are relevant to the region and to compare these conclusions with findings from the case studies described in the previous sections of this report.

An evaluation of best practice examples of private sector engagement in DRR in Asia as published by the UNISDR and national best practice examples published by Cabinet Office of the Government of Japan in 2007⁵⁹ show that many partnerships between the private and public sector are addressing business continuity and business disaster response preparedness rather than contributing to long-term DRR benefitting communities. This was confirmed during consultations with key stakeholders in the region and by the case studies described in the report. The UNISDR publication features 17 international best practice examples of private sector engagement in DRR in the areas of advocacy and awareness raising, social investment and philanthropy, and so-called core business partnerships of the 17 examples are particularly located in Asia, nearly half of them in Japan, and most of them fall under the category of advocacy and awareness raising partnerships. Only a few of these examples are actually led by businesses themselves and focus on DRR activities that benefit the community rather than just the company itself. Among these examples are

⁶⁰ . Nine

Allianz SE's micro-insurance work in partnership with the NGOs CARE International and Planet Finance in India and Indonesia⁶¹,

Tokyo Gas Company's work in Japan to promote the safe use of gas and enhance disaster management capacities of local communities in Japan (in particular its customers),

Sompo Japan Insurance Inc.'s puppet show which engages employee volunteers and aims to raise the public awareness of Tsunami disaster reduction and earthquake preparedness,

UNDP's and Tata Steel's masons training programme in India which aims to educate masons in building better and more resilient structures which could withstand the impact earthquakes, and

Asahi Glas Company's "Glass Power Campaign" in Japan which seeks an update to the building code to make laminated glass mandatory in all emergency shelters.

With the exception of Sompo Japan Insurance Inc., all these examples showcase companies contributing particular expertise in raising the disaster awareness and preparedness of the general public and building a direct link between business and DRR activities.

An increasing number of companies are contributing funds, employee volunteers and company assets to disaster response and relief. The review of case studies has shown that once a company has gained experience in this field and developed a deeper understanding

⁵⁸ UNISDR, 2008

⁵⁹ Nishikawa, n.d.

⁶⁰ In core business partnerships private and public sector partners collaborate to create employment and foster entrepreneurship, contribute to economic growth, generate tax revenues, implement social, environmental or ethical standards and provide appropriate and affordable goods and services. (UNISDR, 2008)

⁶¹ The partnership also works in Columbia, Egypt, Senegal, Cameroon and Madagascar.

of the disaster management concept it usually sees the opportunity to get engaged in DRR activities and to thus better leverage its expertise and capacities while improving the effectiveness and return of resources invested. There is a strong need to raise the awareness and understanding of opportunities and the business case for private sector engagement in DRR for example through regular publications of successful case studies.

A number of business representatives have stated that the partnerships they have entered into not only allowed them to enhance the impact of their contributions but also served to enhance coordination with other stakeholders' contribution in case of large scale disasters and as an opportunity to learn more about DRR. Clearly PPPs can serve as channels for knowledge exchange and learning on both sides of the public sector and the private sector. Other drivers of business engagement in DRR included:

Most of the business representatives interviewed stated a strong wish to make a difference on the ground as the decisive driver behind their involvement in DRR activities. Reputation management, brand building or stakeholder pressure were not mentioned but rather the aim of demonstrating the company's responsibility as a good corporate citizen. This in return could be related back to reputation and brand building. The motive of "doing good" is often dismissed as being unsustainable as it is usually driven by a single champion within the company. The interviews, however, indicated that this motive plays a central role in a business' decision to engage in partnerships for DRR and is usually built on a profound understanding of the DRR concept. PPPs in the area of DRR are seen as an opportunity to bundle knowledge and resources and thus enhance the impact made on the ground.

Another strong driver for business involvement in DRR activities mentioned by interviewees is the aim of engaging employee volunteers. Employee volunteer programmes are seen to contribute to employee morale, improved teamwork, enhanced company image and increased workplace skills and as playing a crucial role in retaining staff and attracting new talents.

A number of business representatives mentioned their wish to learn from partnerships in order to enhance the understanding of the DRR concept and the impact of the company engagement in DRR activities.

Only in a few cases business representatives mentioned that through their partnerships they can demonstrate the reliability and quality of their business services and products which might help in building ties to national government agencies.

3.5.1. Challenges of PPPs for DRR

Review of case studies and consultations with experts in the region have shown that there is a strong business case for private sector involvement in (DRR) activities. The potential diversity and extent of private sector involvement in DRR activities has, however, not been fully leveraged in the region leaving significant opportunities untapped. In the following the main challenges faced in setting up and successfully running a PPP for DRR as identified through the review and consultations are described:

Businesses themselves are not well prepared for natural disasters and awareness of hazard risks is low. While climate change and its impacts have been under discussion for years, businesses still lack understanding of how they could adapt to climate change and prepare themselves to impacts such as freak weather events. Guidance on the link between corporate climate change adaptation and DRR is lacking.

Though the potential and importance of PPPs for DRR are increasingly

acknowledged, there is no generally accepted definition of such partnerships. There is little understanding of what partnerships between the public and private sector mean in practice and how to go about it on both sides, i.e. on the side of the government and the corporation. The formula for joint activities between companies and governments therefore remains elusive.

Commitment from the public and

corporate sector is often not strong enough in order to move from a discussion of collaborative action to action on the ground. This can be related to the lack of understanding of how to set up PPPs for DRR that provide mutual benefits.

The business case for private sector

involvement in DRR has not been appropriately demonstrated and communicated in order to convince companies that building disaster resilience in the communities they operate in would be beneficial for their business. Explanation and empirical evidence of what role the private sector might play in DRR is also lacking. Many case studies only provide superficial promotional information and fail in the demonstration of the impact of the partnership.

Attitudes and perceptions on both sides are significant obstacles where the private

sector is being seen as a source of funding only and the government as solely responsible for dealing with the impact of disasters on society. There is also a lack of understanding on the part of the general public which might not want to see "public goods in the hands of profiteers".

There is a lack of government commitment and resources with many countries just

being in the process of setting up a legal and institutional framework for a multi-stakeholder approach toward DRR.

Reliance on public sector funding (government and aid agency funding) is a

significant restraint in increasing PPPs for DRR in particular in developing countries which lack financial and technical resources on the side of the government. Corporate funding for collaborative initiatives can most likely be tapped into where there are direct benefits for the companies. Twigg (2001) argues that the more likely the benefit the more likely the chance of funding. Hence corporate funding might be easy to gain for joint publications and research that contributes to increasing the visibility of company efforts. It will be more difficult to raise corporate funding for broad-based long-term initiatives as corporate financial support is strongly affected by a company's business performance and profit levels. Here government and aid agency funding remain crucial. NGOs led by corporate members play a significant role in mobilising corporate funding in the form of membership fees in order to support comprehensive long-term initiatives

Demonstrating the business case: HIV/AIDS

According to Twigg (2001) the corporate sector is quicker to act where business interests and broader social concerns coincide. A notable example is business response to HIV/AIDS, an epidemic regarded as having significant implications for individual businesses through its impact on the workforce and on the environment in which the business operates, e.g. by reducing market demand. The Global Business Coalition on HIV/AIDS, Tuberculosis and Malaria provides a prominent example for a collective international response in the form of an entirely business comprised NGO which applies the private sector's special capabilities to the fight against HIV/AIDS, tuberculosis and malaria.

3.5.2. Key ingredients of successful PPPs for DRR

The UNDP has published a step-by-step guide for setting up a pro-poor PPP for the provision of basic urban services. While this guide deals with a very specific case of PPPs general conclusions can be transferred to the case of PPPs for DRR. Figure 2 below shows the step-by-step process of setting up pro-poor PPPs as outlined by the UNDP and which can be applied to the case of PPPs for DRR:

Accordingly building a PPP for DRR starts with developing an understanding of the main goals of the partnership, the partners' individual drivers and the operational mode of the PPP.

In a second step the context of the PPP needs to be analysed which means analysing the service characteristics (e.g. early warning), the financial flows around the service, and the policy and legal framework which is important in forming a better idea of what PPP arrangement is possible.

Then the initial PPP model is to be developed which involves exploring different PPP options (service contract, BOT arrangement etc.), assessing risks and incentives, considering financing, and outlining the PPP structure and mode of operation.

Eventually, the PPP process is to be designed by working out the consultation, intervention points and additional support needed to prepare a business plan for the PPP.

Most of the case studies described in section 3.4 above have developed over time and their initial goals have changed with growing experience and DRR expertise of the individual partners. The process described by UNDP therefore needs to be understood as a guide in initially setting up a PPP and certain steps will have to be repeated as the PPP develops over time, e.g. with changing goals of the PPP over time the PPP structure might need to be adapted.

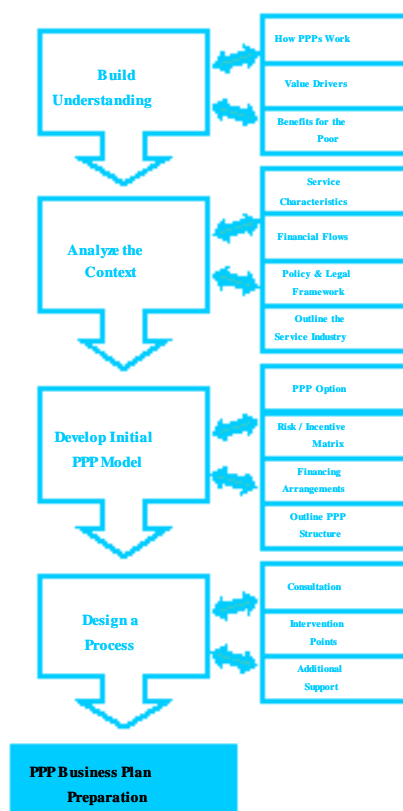


Figure 2: UNDP step-by-step guide for pro-poor PPPs (UNDP, 2006)

⁶² UNDP, 2006

In the following key ingredients for successful PPPs for DRR are listed and briefly explained. The list does not provide a complete overview of success factors but mainly highlights issues that were raised during the expert consultations supplemented by findings from the desk review. The main ingredients of successful PPPs for DRR include:

Decisive and transparent definition of the partnership: All parties need to

acknowledge the drivers and triggers that have brought the other side to the partnership. Naturally the common purpose, agenda and scope of the partnership need to be agreed upon and be based on a synergy of benefits for both parties. Capacities and limitations of both parties need to be clearly identified and communicated in order to avoid excessive ambitions and disappointments including the resources, skills and capacities brought to the table. Based on this there must be a clear agreement on the respective roles of each party and a clear division of responsibilities. While businesses play a significant role in raising funds for DRR activities in countries with limited government capacities, funding needs should be placed within a wider strategic approach of a partnership that considers a comprehensive and strategic involvement of the business. With companies coming from different backgrounds with different *modus operandi* issues of transparency, communication and accountability are crucial. Appropriate organisational and legal structures need to be put in place, which contribute to meeting common objectives.

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A step-by-step approach contributes to gathering lessons learned and mutual understanding and trust before initiating more challenging and extensive efforts. This is also valuable in learning how to deal with shifting contexts in a partnership activity due to external influences.

Acknowledging that PPPs are built upon a learning process: Setting up

successful PPPs for DRR is based on a learning process for both the private and public sector partners. Trust can only be developed over time as well as a mutual understanding of the aims, needs and operational mode of each partner. While it is necessary for the private sector to develop a better understanding of the DRR concept in order to identify potential areas of business engagement the public sector needs to develop an understanding for the business drivers linked to DRR activities. This suggests that effective business engagement in DRR might best be considered as a long-term goal and that partnerships might best start with "operational" projects that serve to gain experience and build relationships before more ambitious long-term "investment" projects are developed. This is demonstrated for example by the case studies of PETRONAS, UEM Group and TCCC which have started in the field of disaster response and relief and are now becoming engaged in DRR activities.

Leadership: According to Twigg (2001) business tends to prefer joining in rather than leading. Hence, committed leadership is crucial in initiating, maintaining and developing corporate sector involvement in DRR. For partnerships to be successful they need a driving force that convinces businesses to take part and leads the process. Such leadership can come in the form of corporate networks or from outside the corporate sector from pivotal government institutions or other influential organizations such as Mercy Malaysia. Business leadership is most likely to come from those business sectors that are most closely linked to issues of disaster risks and have a large commercial stake in DRR.

⁶⁴ In terms of single PPPs between a company and a public sector stakeholder it is important to have a champion leading the partnership, rallying different stakeholders involved around a common goal and aligning interests. It is important for these business leaders/champions to have a thorough understanding of DRR and a clear vision of the potential of private sector

⁶³ UNAIDS, 2000

⁶⁴ Twigg, 2001

involvement. The unconventional "loaned executive" assignment between UNDP and TCCC showcases a way of developing the capacity of a business representative for DRR with the aim of strengthening the PPP in the long-term. Highly visible and vocal business champions are very influential in encouraging other businesses to follow suit. While good long-lasting relationships between the public sector and business champions can be crucial in increasing business involvement in DRR they bear the risk of such initiatives to vanish with personnel changes at corporations. While identifying and engaging experienced, committed, well-connected and well-placed business leaders plays a decisive role in PPPs for DRR broad buy-in across the company and business sector is necessary for those partnerships to be sustainable.

Collective initiatives: Collective initiatives by business associations such as NGOs with business memberships play a key role in initiating and leading collaboration between the private and public sector as they devote time, resources and energy on behalf of their member companies. Though complicated to set up business-created NGOs have several advantages over direct business involvement in projects: i) free from commercial pressures they can concentrate on the job, ii) they are intended to have a strategic long-term approach that is not affected by policy changes according to company interests and resources, they provide an opportunity for businesses to work collectively which generates additional resources for risk reduction initiatives and provides a broad platform of support, and iii) they allow companies to operate at arm's length, supporting the NGO's programmes as members or donors without needing to become directly involved in them. With PPPs for DRR being a relatively new field of collaborative efforts between the public and corporate sector attitude and perception can be major obstacles in building up successful partnerships. Both parties need to gain credibility with the other side which might be easier where businesses are represented by corporate member-based NGOs. Such NGOs are likely to have credibility with both businesses and the public and civil society: with businesses as they are seen to come from businesses themselves and to thus be aware of business interests and needs and with civil society because they are operating on a non-profit basis.

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⁶⁵ Twigg, 2001

Stakeholders in the region with potential for pushing collective initiatives of private sector engagement in DRR



Mercy Malaysia is a NPO focusing on providing medical relief and sustainable health related development for vulnerable communities. Its strategic partnership program is being joined by an increasing number of companies that are seeking to strategically contribute to disaster relief and response preparedness. Mercy Malaysia is actively involved in the Kuala Lumpur Initiative for PPPs for DRR and had organised a pre-conference event on such partnerships at the 3rd AMCDRR. It advocates the importance of collaborative action for DRR among and together with its corporate partners.



The Corporate Network for Disaster Response (CNDR) is a network of business groups, associations, corporations and corporate foundations in the Philippines whose objective is to rationalize and institutionalize disaster management efforts of the business community. The CDRN is among an increasing number of networks in the Philippines that are getting involved in DRR. Other networks include the Private Sector Network for Disaster Management (PSNDM) and the Philippine Business for Social Progress (PBSB) both set up by corporations as well as the Disaster Risk Reduction Network Philippines (DRR NetPhils) which was formed by civil society organizations involved in community-based disaster risk management.



The Asian Disaster Reduction and Response Network (ADRRN) has been built up by local and national NGO members from across the region. Its main aim is to promote coordination, information sharing and collaboration among NGOs and other stakeholders for effective and efficient disaster reduction and response in the Asia-Pacific region. There is a potential for the ADRRN to play an important role in initiating such partnerships with member NGOs taking the lead in their respective countries.

Ask park for logo



The Disaster and Safety Network in Korea, set up by different membership organisations, is an important national stakeholder in raising resources for disaster relief and response. There is an opportunity to expand the role of this network towards raising awareness and understanding of the importance of private sector engagement in DRR.



The International Telecommunication Union (ITU) is the global focal point for governments and the private sector in developing networks and services. It plays a key role in leading ICT and telecom companies in how they can contribute to climate change adaptation and DRR through the publication of standards and handbooks.

Indonesia Business Link (IBL) is a not-for-profit foundation which was established in the wake of the Indonesian economic crisis with the aim to contribute towards the creation of sound and ethical business practices in the country. IBL is in the process of developing a DRR strategy in collaboration with the Indonesian National Disaster Management Agency (BNPB). IBL is also consulted by BNPB in setting up the National Platform for DRR.

4. Current legislative and institutional framework for PPPs for DRR

Governments increasingly recognise the need for a comprehensive multi-stakeholder and multi-sectoral approach towards DRR in order to effectively reduce, prevent and manage the impact of natural hazards.

A review of national progress reports on the implementation of the HFA and processes reported to the Asian Disaster Reduction Center (ADRC) in a number of Asian countries has provided useful insights into new developments, ongoing challenges and practical models with regard to setting up an effective framework for a multi-stakeholder approach which promotes the involvement of the broader society including the corporate sector. The review focused on the extent of a multi-stakeholder approach and the level of private sector involvement. Countries evaluated in the review included Bangladesh, Bhutan, Cambodia, India, Japan, Korea, Malaysia, Myanmar, Nepal, Philippines, Thailand, Vietnam, Singapore, and Sri Lanka.

The review has shown that almost all countries reviewed have a legal and institutional framework established that promotes a multi-stakeholder approach toward DRR. Across all countries there is a strong recognition to work in a multi-stakeholder manner and to engage the community at large including the corporate sector but in many cases countries have not yet achieved a stage where the legal and institutional frameworks are efficiently used in promoting PPPs for DRR.

Most countries have a national platform for DRR which serves as a multi-sectoral organization functioning regularly to coordinate the activities of all stakeholders for disaster management. Variations come in the form of constituent bodies that form part of the overall framework for DRR. Some countries are more developed within their framework such as India whilst others are still at the beginning of setting up constituents as it is the case in Laos, Bhutan and Cambodia.

Most countries have gained institutional commitment to incorporate disaster management within their development framework but achievements are neither comprehensive nor substantial when it comes to a multi-stakeholder approach. More importantly not all countries have mandates or a firm commitment to engage with the private sector and in most countries there is little documentation of policies. In particular of practices that effectively promote or mobilise private sector involvement. The private sector seems rarely included in discussions on DRR initiatives at a national level and no evidence of incentives from governments to promote PPPs for DRR could be found.

The role of the broader media is recognized as an important component regarding the education and awareness raising of DRR to stimulate a culture of disaster resilience, with outreach to urban and rural communities and in particular to the more vulnerable communities . Collection, collation, analyses and dissemination of DRR information occurs at varying degrees of collaboration between multi-stakeholders. By many countries this has, however, been recognized as a significant limitation. This has, however, been recognised as a significant limitation by many countries. For example, Nepal reports to have no designated or fully functional central or district level data clearance house in place. ⁶⁶

The regulation of private sector involvement seems to be a challenging task for governments across the region and relatively few country examples revealed active involvement of businesses in DRR. While many governments seem to be committed to cooperate with the private sector the technical expertise and effective tools to do so seem to be lacking. There

⁶⁶ Nepal Disaster Management Section, Ministry of Home Affairs, 2008

is a clear need to exchange experiences and best practices in developing an enabling and supporting legal and institutional environment for private sector engagement in DRR. Individual country examples providing successful approaches to enabling and promoting collaborative action for DRR are briefly outlined in the following sections.

The following sections outline interesting initiatives and practical measures implemented in the reviewed countries that promote an involvement of the private sector in DRR activities.

4.1. Country case study: China

In December 2007, the State-Owned Assets Supervision and Administration Commission of the State Council in China (SASAC)⁶⁷ issued a notification titled "The Guideline on Fulfilling Social Responsibility by State-Owned Enterprises".

Addressing managers of State-Owned Enterprises (SOE) this document outlines guidelines, overall requirements, and principles of social responsibility as they are considered relevant for state-owned enterprises. As one of the main "requirements on fulfilling social responsibility" SASAC states the participation in activities of public welfare.

"State-owned enterprises shall actively participate into community building activities, encourage employee volunteer activities, and support charity, donation, and other activities for public welfare such as those for promoting education, culture, and public hygiene. In the case of serious natural disasters or sudden events, state-owned enterprises shall provide financial, material, and human resource aids and supports to those suffered from such natural disasters or sudden events." (SASAC, 2008)

This document clearly calls upon SOEs to incorporate disaster considerations into their corporate social responsibility strategy. However, it does not provide any guidance on how SOEs should go about this and fails to stress the importance of DRR and the opportunity for companies to get strategically involved before a disaster strikes. It rather asks enterprises to contribute to disaster response "in case of serious natural disasters or sudden events". Within the scope of the present research no evidence could be found for a SOE being involved in DRR activities in China.

4.2. Country case study: India

India's vision is

"to build a safer and disaster resilient India by developing a holistic, pro-active, multi-disaster and technology-driven strategy for disaster management through collective efforts of all Government Agencies and Non-Governmental Organisations." (Website of the National Disaster Management Authority⁶⁸)

In order to translate this vision into policy and plans, the National Disaster Management Authority (NDMA) has adopted a mission-mode approach involving a number of initiatives with the help of various institutions operating at national, state and local levels. The central

⁶⁷ SASAC is a special commission of the People's Republic of China, directly under the State Council. It is responsible for managing state-owned enterprises, including drafting laws related to state-owned enterprises.

⁶⁸ <http://ndma.gov.in/wps/portal/NDMAPortal>

ministries, states and other stakeholders have been involved in the participatory and consultative process of evolving policies and guidelines.

On 23 December 2005, the Government of India (GoI) took a defining step towards holistic disaster management (DM) by enacting the Disaster Management Act, 2005. This represented a paradigm shift from a response and relief-centric approach to a proactive, and comprehensive mindset towards DM covering all aspects from prevention, mitigation, preparedness to rehabilitation, reconstruction and recovery. The Disaster Management Act mandates the NDMA to lay down policies and guidelines for the statutory authorities to draw their plans. In essence, the NDMA will concentrate on prevention, mitigation, preparedness, rehabilitation and reconstruction and also formulate appropriate policies and guidelines for effective and synergised national disaster response and relief. It will coordinate the enforcement and implementation of policies and plans. The NDMA recognizes the Indian corporate sector as one of the key stakeholders and envisages the involvement of this sector in awareness generation, disaster preparedness and mitigation planning through sensitization, training and co-opting of the corporate sector and their nodal bodies in planning process and response mechanism.

NDMA's objectives for corporate sector involvement in disaster management are

- to identify the roles of various corporate entities in different areas of disaster management, including disaster preparedness, mitigation, emergency response (relief, rehabilitation, reconstruction) and recovery,
- to explore the potential roles of trade associations for mobilizing the corporate sector in disaster management,
- to explore the full potential of CSR and PPP in disaster management in India for professionalizing various aspects of governance, and
- to set up a national corporate task force on disaster management.

Key activities carried out to achieve these objectives include consultations of various chambers of commerce and business associations in establishing a CEO's Roundtable on and workshops on Public Private Participation in Disaster Management, to explore the potential roles of trade associations in disaster management initiatives and to make strategies for setting up of a Corporate Task Force for Disaster Management. In September 2006 the 'National Conference on the Role of the Corporate Sector in Disaster Management' was held in New Delhi in partnership with local chambers of commerce and business associations. ⁶⁹

The Corporate Disaster Resource Network (CDRN) is a logistics, administrative and financial coordination tool operated under the auspices of the National Disaster Management Authority, Corporate Task Force. It helps coordinating company contributions in form of funding, product donations or employee volunteers to be used by NGOs for emergency response and preparedness. A similar system was used during Hurricane Katrina and Hurricane Gustav and proven to efficiently bring together required resources in time.

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It seems that there are a large number of initiatives in India that contribute to engaging the business sector in DRR activities. It is not clear in how far these initiatives are coordinated and who the key stakeholders are. While for the purpose of this report interviews with several Indian stakeholders were conducted it was not possible to gain a complete picture of private sector involvement in DRR.

⁶⁹ Website of the National Disaster Management Authority of the Government of India

⁷⁰ <http://www.cdroidmatrix.org/> and Prof. Dhar Chakrabarti, India National Institute of Disaster Management (NIDM), 12 March 2009

4.3. Country case study: Japan

The Business Continuity Advancement Organisation (BCAO) is a specified NPO which was organised in order to disseminate good business continuity practices and which strives to mitigate economic and social damage and enhance disaster preparedness and crisis management of the business sector.

BCAO understands business continuity (BC) as an essential

"management strategy for corporations and organization to facilitate the rapid recovery and restoration of services and operations with minimum interruption in the aftermath of an accident or disaster. This is achieved through Business Continuity Management (BCM) for the development, execution, drilling and review of Business Continuity Plans (BCP)." (Homepage of the BCAO at <http://www.bcao.org/en/index.html>)

The BCAO provides seminars and lectures and disseminates publications on business continuity, conducts research on this subject and acknowledges leading businesses and organisations in business continuity planning through its annual "BC Awards". The last BCAO Annual Award Laureates were recognised in March 2009 and included three large companies, i.e. Panasonic, NEC, and Tokio Marine & Nichido Fire Insurance Company (a major insurance company in Japan). Also recognised were one medium-size manufacturing business, Riken Corporation (manufacturer of precise engine piston rings) and three local initiatives, i.e. Tokushima Prefecture Group (partnership between the local government and the Tokushima University for promoting BCP in Tokushima), Shizuoka Prefecture Group (partnership between the local government and the Fuji-Tokoha University for promoting BCP in Shizuoka), and Kashiwazaki Chamber of Commerce (initiative by the local Chamber of Commerce to involve various local businesses to adapt business continuity planning). This BCAO award is aimed at demonstrating the business case for business continuity planning and disseminating best practice examples.

The awarded BCP initiative of Tokushima Prefecture Group which was developed and implemented in cooperation with Tokushima University and the local government aimed to build a better understanding of BCP among private sector members. The university, government and BCAO supported in particular small and medium sized enterprises (SMEs), consultants firms, and financial companies in formulating their BCPs through continuous technical advice.

National Guidelines for Business Continuity Planning were published by the Central Disaster Management Council (secretariat Cabinet Office) in August 2005. These guidelines regard cooperation with local communities and securing safety of the employees and customers as indispensable elements of BCP. The guidelines for example state that companies play a key role in helping communities recover after a disaster and that it is "desirable" for companies to provide support "using the assets of the company, such as dispatching engineers and volunteers". This is acknowledged by an increasing number of companies which are working together with local communities in developing their BCP approaches.

companies are DAIKIN (major manufacturer of air conditioning systems), Aishin Seiki Co. Ltd (major manufacturer of automobile equipments), and Mitsubishi Estate (major commercial office supplier) which are organising disaster mitigation and preparedness exercises involving the communities these companies operate in.

⁷¹ Among these

⁷¹ Central Disaster Management Council, Cabinet Office of the Government of Japan, 2005

Besides this private business focused approach, the Central Disaster Management Council, in April 2006, issued the *Basic Policy for Promoting Nationwide Movement for Disaster Reduction*, which focuses on engaging various sectors and professional groups in DRR initiatives.⁷²

4.4. Country case study: Korea

In 2006, the Disaster Mitigation and Countermeasures Task Force was established. It invited private sector contribution in the area of disaster causes analysis and survey. Forums were held that brought together local government officials and experts from the private sector to commonly find better ways to minimize disaster risks in Korea.⁷³ This one year task force developed recommendations to the government to improve disaster related laws and regulations.⁷⁴

In 2004, the Korea Disaster and Safety Network was established which is set up by 18 different membership organisations including among others the Occupational Safety Association, the Volunteering Association and rescue organisations. Many of these organisations have corporate members which they represent at the Network. The objectives of the network are to convene regular meetings to formulate government policy input, provide opportunity for disaster information exchange, coordinate activities of members for disaster response and preparedness, and to provide training, education and research. The network has been very successful in mobilising and coordinating resources for effective disaster response. During a huge oil spill at Korea's west coast in 2007 the network mobilised 1.5 million people and exceeded government expectations. The network also plays an important role in raising the awareness of disaster risks of the private sector through providing forums and campaigns that engage companies.⁷⁵

The National Emergency Management Agency (NEMA) was established in 2004. Through the execution of 12 laws including the Disaster and Safety Management Basic Law, it is taking the lead in national disaster management with the aim of protecting the lives and property of the people from the large-scale disasters. Its mission is to

- strengthen policy deliberation and general coordination through the unification of disaster-related working system,
- improve disaster-prevention awareness and to strengthen preventive investment in particular from businesses,
- strengthen on-the-spot-action systems such as rescue and relief,
- strengthen local self-governing bodies' disaster management and civil-governmental cooperative systems, and
- to establish a system of preventive activities to make the people more safety-conscious.⁷⁶

To date NEMA has carried out few campaigns to engage the private sector in DRR discussions.⁷⁷ There is a potential for NEMA to better utilise its position to promote PPPs for DRR for example through launching joint events with the Korea Disaster and Safety Network.

⁷² Satoru Nishikawa, Director of Water Resources Policy, MLIT, 19 March 2009

⁷³ National Emergency Management Agency of the Republic of Korea (2008)

⁷⁴ Dugkeun Park, 14 March 2009

⁷⁵ Ibid.

⁷⁶ NEMA website

The Private Enterprise Supporting for DRR Act was submitted in 2008 which allows companies with adequate business continuity plans in place to be certified and thus makes them eligible to tax reductions, credits et al.. The aim is to improve the awareness and understanding of the private sector of disaster risks and to increase their disaster preparedness. ⁷⁸

The key industry sector involved in DRR activities in Korea is the IT sector. IT companies provide disaster management computer systems including disaster data compilation systems for effective disaster management. Since May 2005, telecommunication companies have provided real-time disaster information to more than 30 million citizens enabling rapid and efficient dissemination of disaster information through so-called Cell Broadcasting Service. ⁷⁹ In most cases the government has approached these companies and offered procurement or service contracts. ⁸⁰

4.5. Country case study: Nepal

In Nepal, UNDP PPPSD together with the UNDP country office has been active in pro-poor PPP concept dissemination, building consensus around the concept and its institutionalisation, which led to the creation of an enabling legal and policy environment for the private sector and other non-state-actors' participation in the delivery of basic services. As a result, local entrepreneurs are now effectively managing the solid waste of Kathmandu Metropolitan Area under a PPP arrangement (lease agreement); public toilets are being built and maintained through Build-Operate-Transfer arrangements; and drinking water supplied to peri-urban communities through service contracts with user groups and community-based businesses. Many of the country's municipalities are considering or are already in their processes of replicating these practices, while the "unleashed" entrepreneurs are now bidding for new contracts in new replicating towns. ⁸¹

PPP sponsors in Nepal work closely with national and local business organisations. This cooperation enables companies to better understand PPPs and associated opportunities. For example, a PPPUE sponsored national programme to support local pro-poor PPPs was managed by a PPP Unit jointly funded and staffed by the national government, local government as well as businesses. Local branches of national business associations were utilised to spread the concept of PPPs and similar PPP committees were set up in pilot cities. As a result of this programme the awareness and understanding of PPPs of various stakeholders was increased and an enabling environment for PPP deals set. The main success factor of the programme was a multi-stakeholder approach that engaged local governments, local business chambers and other key stakeholders.

Another success factor in initiating new PPPs were so-called exposure visits which served to showcase successful PPP projects, transfer practical knowledge and provide inspiration. PPP stakeholders and practitioners visited operating pro-poor PPPs in India and several Nepalese cities and as a result a range of new PPP projects was initiated.

PPP projects in Nepal are supported by an enabling policy framework; A national policy for local PPPs was passed based on extensive consultation which helped built the

⁷⁷ Dugkeun Park, 14 March 2009

⁷⁸ Dugkeun Park, 14 March 2009

⁷⁹ National Emergency Management Agency of the Government of Korea, 2008

⁸⁰ Dugkeun Park, 14 March 2009

⁸¹ UNDP, 2007

understanding of PPPs. The policy gives local governments a clear signal and framework within which to work. In addition, the national law governing local governments was also amended to make sure supportive PPP measures were in place. ⁸²

4.6. Country case study: Philippines

Multi-stakeholder dialogue including INGOs, NGOs, academics, and government has helped facilitate the development and planning of DRR being incorporated both into the national local policy making resulting in the drafting of "Strengthening Disaster Risk Reduction in the Philippines: Strategic National Action Plan (SNAP) 2009-2019" as well as the "Strategic Plan on Community-Based Disaster Risk Management (SP-CBDRM) 2007-2011." Mobilization of resources has been enabled through partnerships between non-governmental/private volunteer organizations, the government apparatus and communities.

Non-government entities entitled to partnerships with National Disaster Coordinating Council (NDCC) are limited to the Philippines Red Cross, however in spite of this limitation, the private sector, civil society, and academics have participated in NDCC's activities such as consultation workshops and seminars. In 2007 and 2008, the "National Multi-stakeholder Dialogue on DRR" provided a forum for multi-stakeholders to assess progress although this has not been institutionalized. Network organizations from the private sector including the Private Sector Network for Disaster Management (PSNDM) and the Corporate Disaster Response Network (CDRN) participated in this forum.

The private sector has had very little involvement nationally in protecting economic activities and productive sectors. Whilst the crop insurance facility via Philippine Crop Insurance Corporation (PCIC) is available to farmers in this region, awareness is lacking and more education seems important to progress.

The Hazards Mapping and Assessment for Effective Community-Based Disaster Risk Management Project" (called READY) is a UNDP, AusAID funded project drawing on local stakeholder efforts to produce hazard maps and establish community-based early warning systems. Manila Observatory a private non-stock, non-profit and scientific research institution supported this project towards helping produce hazard maps and establish community-based early warning systems

The media with support from international NGOs, the European Commission's Humanitarian Aid Office's Disaster Preparedness Programme (DIPECHO), NDCC, and the Center for Community Journalism and Communication (CCJC) organized round table discussions on DRR reporting as the Department of Education (DepEd) sees to incorporate DRR into the education sector. Collaborative forums like these allow room for all stakeholders to participate. ⁸³

⁸² UNDP, 2006

⁸³ Philippine Office of Civil Defence, National Disaster Coordinating Council, 2008

4.7. Country case study: Sri Lanka

The Disaster Management Center of Sri Lanka reports in the 2008 HFA progress report that some progress has been made in terms of community participation in DRR and decentralisation, but systematic policy and/or institutional commitment is lacking. In response to government appeals the private sector contributes to disaster relief but is not yet adequately involved in the formulation and implementation of policies and plans except for INGOs and NGOs which play an active role.

A national multi-sectoral platform for DRR was established in October 2007, i.e. the National Disaster Management Coordinating Committee (NDMCC) which is composed of senior executives from public and private sector organizations, media, academics, I/NGOs and Research Institutes and serves to coordinate the activities of all stakeholders. Businesses are not involved directly but through a industry association (Can you provide the name of the association?). This institutional commitment has not yet led to comprehensive nor substantial achievements. The NDMCC has not yet developed a programme on its own but rather monitors work programmes of individual members to avoid duplications and assist mutually for implementation.

The Disaster Management Center (DMC) has signed a Memorandum of Understanding (MOU) with mobile telephone service providers to set up a disaster early warning system. The system was developed and financed by a group of telephone service providers, a national University and a software company. Warnings issued by the DMC are being broadcasted and disseminated across the country using various technologies such as mobile phone messaging.

The DMC has plans to engage further business sectors including industries operating in flood prone areas in building community flood preparedness and insurers and reinsurers in piloting micro insurance schemes.⁸⁴

4.8. The role of the government in PPPs for DRR

A widely acknowledged role of the government in disaster risk management is to set standards and objectives and assign mandates and responsibilities to different actors. It further has the responsibility to create incentives and/or disincentives in form of taxes, penalties, tax breaks, subsidies, grants, etc. that will either reward or punish.

effectiveness of legislation rests upon the administrative capacity of a country, acceptance and awareness of the legislative system by the society are equally important and hence require some extend of public participation in its formulation.

Governments play an important role in stimulating corporate sector involvement in DRR activities and their commitment is vital in keeping initiatives going. This is a challenge for governments with limited capacities in developing countries. While in these cases the private sector is a valuable part in developing DRR activities, businesses still tend to rely on a supporting and enabling framework established by the government. Often the government is expected to provide public support and to be solely responsible for public concerns such as

⁸⁵ While the

⁸⁴ Sri Lanka Disaster Management Center, 2008 and interview with Dr. Park from the National Emergency Management Agency (NEMA)

⁸⁵ UNDP, 2008

the impact of natural disasters on the society. Such views present a major obstacle in increasing private sector involvement.⁸⁶

The WEF regards governments and other public sector stakeholders (NGOs and multilaterals) as important in enabling stronger private sector engagement. They see a need for these stakeholders to engage in the design of precise risk maps, assessment of the risks, prioritization of efforts, clarification of the economic benefits and specification of required inputs for effective strategies. They need to lead the process of increasing the available pool of information related to disaster risk as one of the key obstacles to private sector involvement is the availability of information.

Governments, multilaterals and NGOs also play a fundamental role in analysing in detail the specific losses, available mitigation tools, commercial interest of specific industries and strengths and weaknesses of each involved organization. This is important in identifying the most effective role of each entity in DRR.⁸⁷

The government also carries the main responsibility for raising financial and material resources for disaster risk management. Though the private sector is increasingly seen as source of financial or material support there is no evidence of major corporate investments in this area. The donor community provides more significant assistance but often fails to provide similar support for risk reduction. Hence, it is to no surprise that there is often little political will or financial incentive to invest resources into disaster mitigation and risk reduction.⁸⁸

With an increasing number of countries seeking for PPP arrangements in the field of DRR, there is a need for governments to enable and regulate private sector involvement in DRR activities. This implies institutional transformations, capacity development and a change in perceptions at different levels in order for the government to effectively perform this new role. Non-state actors need to be considered as significant partners and new forms of contractual arrangements to enable their effective involvement need to be investigated.

⁸⁶ Twigg, 2001

⁸⁷ WEF, 2007

⁸⁸ Mitchell and van Aalst, 2008

5. Recommendations for strengthening partnerships

The following sections outline recommendations for strengthening PPPs for DRR based on insights gained from expert consultation and the evaluation of case studies.

5.1. Link to the climate change adaptation agenda

With the second Kyoto commitment period approaching businesses are putting more attention on climate change adaptation⁸⁹ and thus on climate change risks and vulnerabilities. This provides a unique opportunity to involve businesses in DRR if a way is found to align corporate climate change adaptation efforts with broader DRR programmes.

Global climate change escalates the risk of extreme events such as heavy rainfall, droughts, high sea levels, and possibly cyclones, with direct implications for disaster risk. The Stern Review on the Economics of Climate Change states that about two thirds of disasters are caused by climate hazards and these are increasing in number and severity due to climate change. The overlapping objectives of DRR and adaptation are reflected in existing programmes and initiatives:⁹⁰

DRR features prominently in the Bali Action Plan⁹¹, which recognizes the need for enhanced action on adaptation, including "disaster reduction 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".

The HFA explicitly integrates the need to anticipate changing risks due to global climate change and states that regional and international organizations and other actors should commit to promoting "the integration of risk reduction associated with existing climate variability and future climate change into strategies for the reduction of disaster risk and adaptation to climate change, which would include the clear identification of climate-related disaster risks, the design of specific risk reduction measures and an improved and routine use of climate risk information by planners, engineers and other decision-makers."

National level initiatives such as the National Adaptation Programmes of Action (NAPA) commonly include DRR projects and prioritise 'early warning'.

In a review for the UK's Department of International Development (DfID) Mitchell and van Aalst (2008) argue that there is significant overlap between the objectives, practice and theory of DRR and climate change adaptation. Both seek to build people's resilience in the face of hazards. The main overlap between the two is the management of hydro-meteorological hazards, where DRR needs to take account of changing hazards, and adaptation needs to build resilience to their impacts.⁹²

⁸⁹ Here defined as "An adjustment in natural or human systems in response to actual or expected climate stimuli or their effects, which moderates harm or exploits benefit opportunities" (IPCC, 2007)

⁹⁰ Mitchell and van Aalst, 2008

⁹¹ The Bali Action Plan charts the course for a new negotiating process designed to tackle climate change, with the aim of completing this by 2009.

⁹² There are also two key distinctions outlined: DRR tackles the risks of geophysical hazards (like volcanoes and earthquakes), whereas adaptation does not. Adaptation rather considers the long-term adjustment to changes in mean climatic condition, including the opportunities that this can provide, whereas DRR is predominantly interested in extremes. (Mitchell and van Aalst, 2008)

Due to limited coherence and convergence in institutions, organisations and policy frameworks DRR and climate change adaptation are often isolated from each other within multilateral, bilateral and national institutions. This has led to duplicated activities, ineffective use of resources, confusing policies and a lack of incorporation of both into regular development planning. This does not only hamper DRR and adaptation efforts, but also compromises the overall effective use of resources. Mitchell and van Aalst argue that hence

"opportunities for joint work towards the common objective of reducing risk to development must be seized wherever feasible. At a more technical level, the growing climate change efforts may waste time and impact reinventing the wheel if they neglect existing 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 defences provide a false sense of security, but will fail to provide lasting protection against rising flood risk." (Mitchell and van Aalst, 2008)

DRR is an essential part of adaptation and "the first line of defence against climate change impacts". DRR expertise and humanitarian experience is essential in climate change adaptation programmes. In turn, longer term changes in the climate and the shifting hazard burden that this may cause are gaining more attention in DRR programmes.

Increased collaboration and communication can potentially lead to 93
a reduction of climate related losses through more widespread implementation of
DRR measures linked with adaptation
more efficient use of financial, human and natural resources
increased effectiveness and sustainability of both adaptation and DRR approaches.

The DRR lobby in climate change debates is however very low impeding a possible collaboration process. In order to bring about a comprehensive risk management approach and better manage limited sources of funding there is a clear need for the DRR community 94
to ensure that all DRR policies, measures and tools account for new risks and the
aggravation of existing risks posed by climate change,
to engage more effectively in UNFCCC negotiations and to demonstrate and promote
the role of DRR in climate change adaptation policies and practice at all levels,
to support the generation of integrated knowledge, experience and guidance,
to promote the integration of DRR and adaptation teams in bilateral, multilateral and
civil society organisations, and
to encourage convergence in national governments and coordination mechanisms.

⁹³ Paul Venton and Sarah La Trobe, 2008

⁹⁴ Ibid.

5.2. Raise awareness and advocacy

It is crucial to further build understanding of the DRR concept among companies and to show them ways of getting engaged. The business case for PPPs for DRR needs to be disseminated. This would also help organisations and institutions already working with the corporate sector on community investment or disaster relief to expand their partnership. It is also required to increase the understanding of decision makers and the general public regarding the importance of corporate sector involvement in DRR.

There is a need to better disseminate best practices at all levels (regional, national, municipal) and of showing effective ways in initiating and running PPPs for DRR. A valuable tool in doing so is the UNISDR publication of 2008 entitled "Private Sector Activities in Disaster Risk Reduction: Good Practices and Lessons Learned". The content of the publication should be widened to provide more guidance for collaborative action between the public and private sector. It is important to develop this publication into an annual series and to distribute it to a wide audience including public stakeholders and decision makers as well as individual companies, business associations and networks. It is crucial for the publication to stress the business case for corporate sector involvement in DRR and to show ways to companies of how to get involved (e.g. country focal points need to be listed).

Business champions need to raise the public visibility of their involvement in DRR and promote it as part of business advertising. This could happen as part of public outreach campaigns where companies have signing ceremonies with local officials or involve SMEs in the implementation of their activities⁹⁵ or corporate CSR communications. A good example is Asahi Glass Group's corporate website which actively engages the public in their DRR activities.

In order to gain more corporate buy-in in DRR activities it might be helpful to build a culture of risk awareness. A strong perception of risks by stakeholders is essential to gain high levels of commitment, investment and alignment. One method to improve local awareness and understanding of disaster risks, though controversially discussed, are disaster hazard maps. Hazard maps are key tools that help individuals, businesses and communities conceive of risks in spatial and probabilistic terms and that illustrate the consequences of inaction. There are, however, issues of illegality of identifying the location of vulnerable population groups, fear of creating public panic or that the information could be deliberately misused to attack assets that protect vulnerable zones.⁹⁶

5.3. Leverage ongoing processes for setting up a multi-stakeholder framework

A number of processes have started across countries worldwide in order to set up a legislative and institutional framework for disaster risk management based on a multi-stakeholder approach. Those with a good potential to be utilised in promoting PPPs for DRR include National Platforms (NPs), the local government alliance for DRR and the Strategic National Action Plans (SNAPs).

To date, the local government alliance and SNAPs do not exhibit any good practice examples of corporate sector engagement in DRR in Asia. The focus is currently more on building up the basic structures.

⁹⁵ WEF, 2008

⁹⁶ OECD, 2009

There is a clear need for governments and the UNISDR to better utilize the potential of NPs, the local government alliance for DRR and SNAPs in bringing multiple stakeholders together to develop joint DRR initiatives. This should ideally lead to the formulation of country-specific priority areas where collaborative action between the public and private sector can make substantial contributions.

To facilitate this country best practice examples need to be gathered and systematized in terms of identifying and distributing key processes, methodologies, techniques, lessons and experiences gained. This would allow best practice examples to be incorporated in the process of setting up frameworks for multi-stakeholder based DRM.

5.4. Set up efficient institutional homes for mobilising collaborative private sector engagement

The benefits and opportunities provided by collective or collaborative private sector initiatives have been discussed in section 3.5.2 **Error! Reference source not found.** A dedicated institutional home is crucial in this regard as it provides leaderships, focus and continuity to collaborative efforts between the public and private sector.

While there is no ideal solution and institutional models clearly need to be customised to pay tribute to local conditions the review has identified best practice examples that could be considered for wider use. Among these are the business-led NGOs such as the Corporate Network for Disaster Response in the Philippines. Such institutions, however, do not have to be within the business sector. It is rather important to identify pivotal stakeholders in mobilising corporate involvement in very country and to involve them in setting up the institutional framework. In the case of Malaysia, the NPO Mercy Malaysia has developed to a trusted partner of both the government and the corporate sector. An increasing number of corporate seeking to contribute to DRR or disaster response are approaching Mercy Malaysia. The key role of Mercy Malaysia should be further leveraged and capacities for leading companies in DRR activities be expanded. In other countries it might be the Red Cross and Red Crescent societies that bring forward company involvement in DRR. At regional level UN agencies with similar missions are well places to provide such a home, provided that they are adequately resourced. For all these institutional models industry support is crucial as well as the ability to raise funds.

5.5. Channel private sector views and expertise into DRR processes at all levels

Business expertise and views need to be channelled into national disaster platforms and strategies as well as into regional DRR forums. On side of the businesses it is needed to set up an institution to gather and distribute this input, e.g. in form of a private sector advisory group. On side of the government it is required to set up a single focal point or institutional home to liaise with companies.

For the third AMCDRR Mercy Malaysia organised a pre-conference event entitled "Engagement of the Private Sector in DRR". The event brought together corporations involved in DRR activities in the region with the aim to

- highlight how DRR can be an integral part of corporate responsibility (CR),
- share experiences from the Asian region of private sector involvement in DRR
- share the challenges in PPPs at the national and local level
- reinforce the imperative for the private sector to embrace DRR and for the public sector to engage the private sector, and

highlight that private sector engagement can be scaled from the local level (small businesses) upwards, and compile recommendations on the engagement of the private sector in DRR.

5.6. Set up industry-specific working groups

There is a need to establish regional and national platforms to discuss corporate sector involvement in DRR. These platforms should be multi-stakeholder platforms bringing together businesses, civil society organisations, governments and others to discuss and forward private sector involvement in DRR. Over the time these platforms should provide the opportunity for sectoral discussions in forms of sectoral task forces to mobilise all sectors and lead them in developing specific expertise and services that contribute to DRR.

Three sectoral working groups on health, food and agriculture, and logistics were set up in Nepal 1994 following the 1993 Terai flood disaster. The goals of these working groups were to assist in the development of a national disaster management plan and to establish a channel between the government and the international community with which to provide technical and financial support. Due to growing emphasis on conflict-related issues and weak support from the highest levels of government these groups became less active in the late 1990s. UNDP is now seeking to reinvigorate two of the groups, i.e. the logistics and food and agriculture group. UNDP regards these groups as valuable in developing long-term capacity development tools and in encouraging action through peer pressure.

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5.7. Development of pilot PPPs

Priority areas for pilot projects need to be identified at sub-regional, national, and sub-national levels in every key location in order to consider a whole region's specific disaster hazards and development issues.

In developing countries engaging media and ICT and telecom companies in building disaster response preparedness and disaster risk awareness might be of utmost importance. Developed countries with larger government capacities and resources might be interested in gaining experience with innovative risk transfer schemes and building partnerships with insurance and reinsurance companies.

Some countries in the region outline priority areas of action for adapting to climate change impacts such as freak weather events in their National Adaptation Plans of Action (NAPAS) or their climate change strategy and action plans. The Bangladesh Climate Change Strategy and Action Plan 2008, for example, has identified the following priority areas in building a comprehensive disaster management:

- improvement of flood forecasting and early warning,
- improvement of cyclone and storm surge warning,
- awareness raising and public education towards climate resilience, and
- risk management against loss on income and property.

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Pilot projects help in gaining valuable experience and lessons learned before scaling up to strategic long-term partnerships. The aim of pilot projects is twofold: a) to provide an entry

⁹⁷ UNDP, 2008

⁹⁸ Government of the People's Republic of Bangladesh, 2008

point for business into DRR activities and b) to direct attention and resources to highly vulnerable areas.

In the first case it is important to demonstrate the business case for private sector involvement in DRR. In the second case it might be helpful to call on the corporate responsibility of large enterprises operating in vulnerable communities.

In the following section, some areas for pilot projects are briefly outlined that also provide opportunities to get small and medium size enterprises involved. In general action-oriented PPPs for DRR activities on the ground need to be developed that employ a company's core resources, competencies and capacities and allow testing mechanisms and models. Pilot projects should be carefully evaluated in terms of lessons learned and lead to a thorough impact assessment as they are usually demonstrated and showcased in order to get more companies engaged. To initiate business sector action for DRR and to "prime the pump" seed funding for pilot projects is helpful.

5.7.1. Incorporation of hazard mitigation into post-disaster recovery

The review of case studies has shown that disasters have often stimulated subsequent company engagement in disaster risk management. A number of companies that have initially made contributions to disaster relief and rehabilitation have moved to a more strategic involvement in building response preparedness. Also a number of broader initiatives have risen from a disaster context such as the Philippine CNDR. The unfortunate reality is that often a disaster must strike before resources for mitigating future losses are mobilised. The higher willingness of action in the immediate aftermath of disasters provides an opportunity to demonstrate the incorporation of mitigation activities into rehabilitation projects in order to stimulate corporate sector recognition of the need for pre-disaster preparedness and mitigation efforts. This is particularly important with climate change increasing the likelihood of certain types of natural disasters.

Pilot projects that aim to incorporate hazard mitigation into post-disaster recovery can provide entry points for companies with less experience in and understanding of DRR.

5.7.2. Linking DRR and climate change through pro-poor adaptation

The need to link DRR to the climate change agenda has been discussed in section 5.1. In order to mobilise business engagement in building the resilience of highly vulnerable communities in developing countries the link between DRR and climate change needs to be demonstrated. The climate change agenda is much more prominent and better understood by many companies than DRR. With the second Kyoto commitment period approaching companies are putting more attention on climate change adaptation and this is likely to include elements of DRR. Some companies are not only looking at adapting their own operations to the impacts of climate change but also to contribute in helping vulnerable communities to adapt. This is in particular the case of large enterprises operating in highly vulnerable communities.

Pilot projects in this area can help leading companies with building community resilience towards hydro-meteorological hazards. Key demonstration projects can show how a multi-stakeholder approach to DRR through PPPs may be capable of leveraging further commitments to other aspects of DRR.

5.7.3. Continuity planning `outside the fence'

Business continuity expertise could usefully be applied more widely in building community resilience toward disasters as part of their corporate CSR or community investment strategies. The strong business case for companies to think about continuity `outside the fence' in order to protect key lifelines that will benefit businesses and communities alike has been outlined in section 3.1. The challenge is to find effective ways to communicate it.

Pilot projects in this area are crucial in promoting the collaboration between public and private sectors at local level to protect `lifeline infrastructure and services' within a community. While this is not a project that contributes to making the entire community disaster resilient it clearly contributes to such an objective and is crucial in raising the awareness of disaster risks. It can be used as an initiative to mobilise corporate sector involvement in increasing community resilience to disasters and in gathering important lessons learned for a more outward view of business continuity planning. For this initiative to be successful it is important to achieve business ownership, i.e. the initiative must be initiated and managed by local businesses themselves for example through corporate networks such as the CNDR in the Philippines.

6. Action plan and preliminary budget for mobilising private sector engagement in DRR

In the following an action plan for mobilising private sector engagement in DRR is outlined. The action plan covers a time period of three years and identifies processes that need to be put in place as well as a preliminary budget.

The action plan builds on three major strategic objectives

- Raising awareness of the importance of PPPs for DRR and building an understanding of such partnerships: This involves an agreement on the objectives and scope of PPPs for DRR, priority areas to work on and priority sectors to engage. Ideally this would happen at a country by country level within the region.
- Raising awareness and understanding of the role of businesses in DRR and channelling private sector resources, capacity and expertise into DRR processes at all levels.
- Identifying pivotal stakeholders and setting up institutional homes for private sector engagement at regional and national level.

The timeline for the action plan is outlined in Figure 3 below

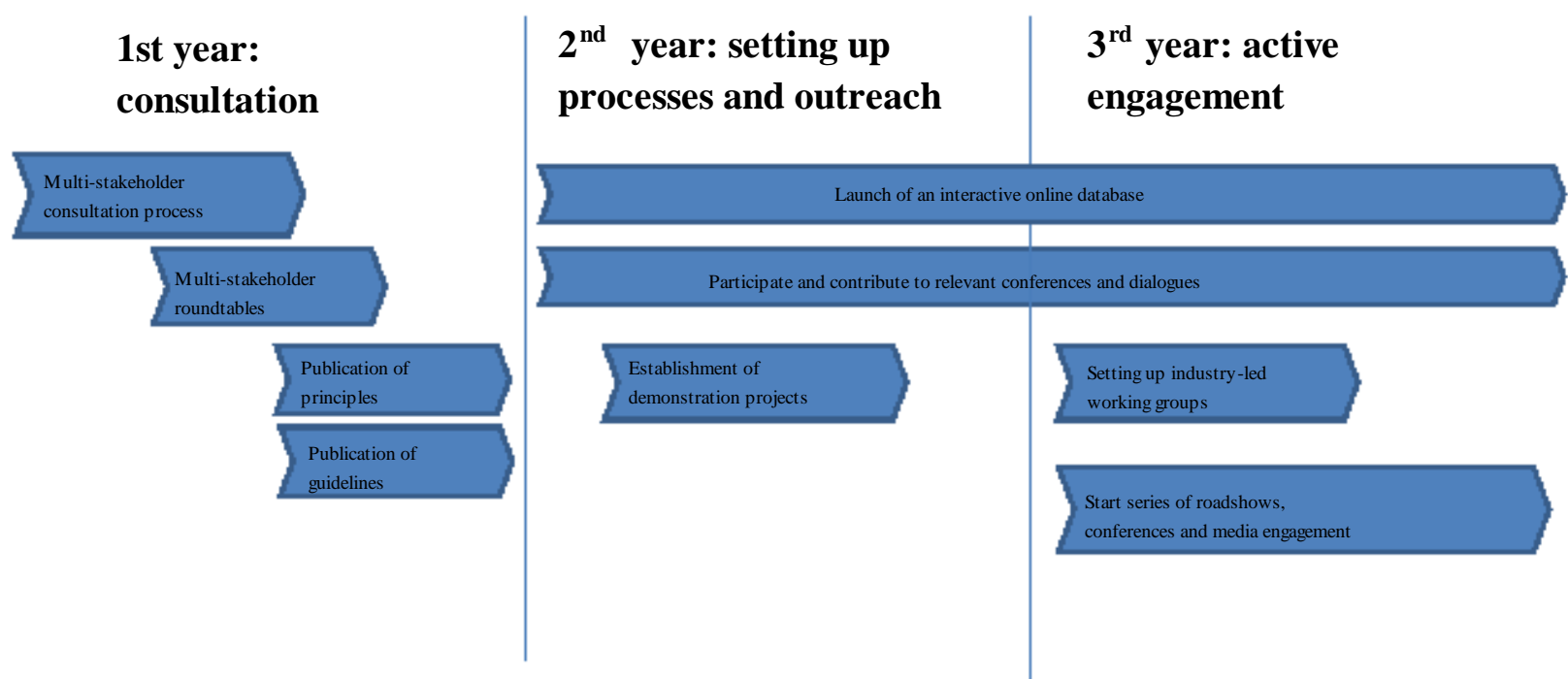


Figure 3: timeline of action plan for mobilising private sector engagement in DRR

6.1. First year: Consultation (total budget: US\$ 116,000)

6.1.1 Carry out a multi-stakeholder consultation process

Cost: US\$ 30,000

Timeline: 60 days within 4 months

Actions: Telephone interviews on country by country basis in order to identify potential capacity, expertise and resources for building PPPs for DRR. Stakeholder will be engaged across a range of organisations including government, multilateral agencies, NGOs and the private sector. The methodology will be based on establishing strengths, weaknesses, opportunities and threats (SWOT analysis) as well as undertaking a comprehensive needs analysis and gap analysis.

Result: Stakeholder consultation report with a focus on potential capacity, resources and expertise to tackle needs and gaps in DRR and potential for PPPs.

6.1.2 Convene regional multi-stakeholder roundtables

Cost: US\$ 20,000
(for planning and organisation, excluding travel expenses and daily allowances)

Timeline: 40 days within 3 months

Actions: 3 roundtables of 30 key, strategic delegates at a regional and sub-regional level bringing national stakeholders together to examine potential for synergies and opportunities for cooperation at the regional level, tackling regional DRR PPP opportunities and capabilities.

Result: General scope and objectives of PPPs for DRR identified with a focus on the role of businesses. Initial scoping of areas for regional cooperation involving a range of stakeholders identified in 6.1.1 above.

6.1.3 Publication of principles for private sector involvement in DRR

Cost: US\$ 6,000

Timeline: 12 days

Actions: Formulate principles from discussions held at the roundtable. Principles will outline the commitments to be made to DRR through PPP and will target stakeholders and institutions that have a role to play in providing resources, expertise and capacity. Principles will form a unique Declaration in the style of other UN-led Declarations that set out roles and responsibilities for stakeholders in PPPs for DRR. A high profile signing ceremony involving leading stakeholders will be held to publicise the need for DRR and demonstrate the private sector's role.

Result: Principles formulated and published and signed off by key stakeholders and institutions (e.g. business, government, NGOs, multilateral agencies).

6.1.4 Publication of comprehensive guidelines for PPPs for DRR

Cost: US\$ 60,000

Timeline: 120 days within 5 months

Actions: Consultation with business champions, writing and evaluation of unique case studies and formulation of comprehensive guidelines for the private sector's involvement in PPPs for DRR. The emphasis will be on providing practical and effective guidance for all stakeholders involved in potential PPP processes. This initial guideline published and available online will feed-in to the development of the website in 6.2.1 below. We envisage a comprehensive 100 page publication.

Result: A guiding publication demonstrating the business case for private sector involvement in DRR, evaluating best practice case studies, and showing ways of operationalising DRR activities within businesses

6.2. Second year: Setting up processes and reaching out (total budget: US\$ 220,000)

6.2.1 Launch of an interactive online database

Cost: US\$ 100,000

Timeline: 200 days over 2 years

Actions: Develop and launch database, maintain database and oversee its update. The database will contain key stakeholder contacts by region, country and identifying particular capacities and capabilities. This will link to expertise in different forms of DRR for the region. The database will be searchable by location, type of disaster risks, sector specific characteristics, capacities and capabilities that might be offered for a PPP, previous involvement and experience

Result: Interactive, regularly updated online database providing information on case studies and all DRR-related stakeholders. Database is accessible to up-load and search relevant information. Stakeholders and case studies can be searched by key words, country, disaster type, etc.

6.2.2 Participate and contribute to relevant conferences and dialogues

Cost: US\$ 20,000 (US\$ 2,000 per conference and 10 high profile conferences over two years, excluding travel expenses and daily allowance)

Timeline: 40 days in total within years 2 and 3

Actions: Regional DRR spokespersons to attend and actively engage at climate change and CSR conferences and processes and to channel information back into the DRR community. The emphasis will be on targeting conferences with significant private sector involvement making the case for their engagement in PPPs for DRR.

Result: DRR streams introduced into established conferences and PPPs for DRR linked to climate change and CSR agenda. Profile raising and the active involvement of the private sector in DRR PPPs.

6.2.3 Establishment of two demonstration PPPs for DRR

Cost: US\$ 100,000 (US\$50,000 per PPP)

Timeline: 100 days within year 2 for each demonstration projects for identifying, engaging and organising partners and facilitating meetings and tracking and reporting on progress

Actions: Identify suitable partners in two sub-regions to take part in PPPs for DRR on the basis of demonstrations projects. Facilitate initial meetings and formulate plans for two PPPs. Engage the various stakeholders and organise productive PPPs, track progress and report on outcomes. Demonstrate, in particular, a business case for private sector involvement in DRR. One PPP will concentrate on DRR in the context of pro-poor development and the other will be a DRR linked to climate change related DRR.

Result: Two demonstration PPPs, tracked and with results reported and published so as to demonstrate the power and opportunities in PPPs for DRR and to encourage further productive partnerships and involvement in the active involvement stage in year 3.

6.3. Third year: Active engagement (total budget: US\$ 198,000)

6.3.1 Setting up six industry-led working groups at sub-regional levels

Cost: US\$ 150,000 (US\$ 25,000 per working group)

Timeline: 3 months per working group based on 50 days for partner identification, development, organisation, engagement and facilitation per group

Actions: Identifying suitable organizations or business champions to run business-led working groups and guiding them in setting up and launching working groups in different parts of the region. Some groups may develop specific skills around certain DRR issues or priority areas

Result: Working groups for priority business-sectors and regions established and industry specific dialogues initiated. Key skill sets identified and active PPPs established alongside the working groups.

6.3.2 Start series of roadshows, conferences, media engagement and briefing events

Cost: US\$ 48,000 (US\$ 24,000 for materials e.g. pull-out banners, posters, interactive presentations and US\$ 24,000 for organisation of events including active engagement with local media i.e. US\$ 4,000 per event)

Timeline: Mostly throughout year 3 as other materials and initiatives have been developed

Activity: Providing interactive booth at key conferences and holding regular business briefings at private sector events. In conjunction with this the training and engagement with the media at the events and engagement more generally across different media modes.

Result: Visibility raised and entry points for 'newcomers' established

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